

1.0 Transport Asset Management Plan 2023-24

1.1 Executive Summary

1.1.1 Background

Highway authorities exercise their duties to maintain, operate and improve their highway assets (physical things such as roads and bridges) under increasing pressures including limited budgets and resources, mature networks with significant backlogs of maintenance, accountability to funding providers and increasing public expectations.

ADEPT (Association of Directors of Environment, Economy, Planning and Transportation) has adopted the following definition for the purpose of their framework document and for application to UK highway networks.

“Asset Management is a strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future customers.”

Recent drivers for continuing development have been:

- Introduction of the Prudential Code
- Progressive establishment of whole government accounts
- HMEP asset management guidance 2013 and other HMEP products
- Incentive element DfT Highways Block Grant funding formula
- Spending Review 2021 for 3-year settlement 2022/23/24/25

Future Drivers:

- Budgetary pressures
- Expected revision of Incentive Fund for 2024-25
- Climate change targets
- Local Council Roads Innovation Group (LCRIG)

The contents of the plan reflect the Highways Capital Programme for 2023/24/25/26 and the changing strategic corporate framework.

1.1.2 Highways Maintenance Efficiency Programme (HMEP)

HMEP was a sector-led transformation programme designed to maximise returns from highways investment and deliver efficient and effective services. It was aimed at the local highways sector and was sponsored by the Department for Transport (DfT).

The programme provided a series of ‘products’ to help inform highway authorities of best practice examples and recommendations that should lead to improved outcomes for all road users and better value for money for taxpayers.

Both the pothole review (April 2012) and asset management guidance (May 2013) issued by HMEP recommend that authorities should employ an asset management approach. They advise adoption of the principle that ‘prevention is better than cure’ in determining the balance between structural, preventative, and reactive maintenance

activities in order to improve the resilience of the highway network and minimise the occurrence of potholes in the future.

Ideally, this would require assets to be maintained to a planned regime based on the effective life of treatments. Currently this is unaffordable. We have adopted a pragmatic asset management approach whereby we are 'sweating' the asset and heavily using cheaper intermediate treatments, typically surface dressing, to maximise our network length treated. Thereby protecting past investment and postponing further capital expenditure. This has allowed us to minimise the decline on some asset types and improve others in highway condition in a time of significantly falling resources

1.1.3 What we have achieved and future intentions

Norfolk's first Transport Asset Management Plan was approved in spring 2005. It superseded the Highways Maintenance Plan and sought to extend asset management principles to all aspects of transport investment with the objective of improving value for money. We use the asset management guidance from HMEP to inform its development.

The 2023-24 document represents part of a continuing process of development. It will continue to be developed annually over the next few years and incorporating any new national guidelines.

The plan pulls together all the relevant strategies, goals, objectives, plans and methods in use within the Community and Environmental Services department of the County Council for managing the highways and transportation assets.

The Norfolk TAMP contains three parts:

Part 1 - Transport Asset Management Policy and Strategy

Provides the background to asset management, service levels, asset data performance, risk, valuation, and forward programmes. Available on our website.

Part 2 - Lifecycle Plans

For each individual asset. These are for highway officers use.

Part 3 - Technical Appendices

Provides useful technical details and guidance. Available on our website.

We are a member of the CSS/CIPFA support network, NHT efficiency and Customer Satisfaction benchmarking clubs, and the Future Highways Research Group. The Eastern Highways Alliance has established a 'maintenance and asset management' group together with a 'benchmarking' sub-group. We are also a member of LCRIG. These ensure that we are aware of best practice both nationally and regionally.

For the DfT incentive fund self-assessment questionnaire we consider ourselves a level 3 authority for 2023-24.

The Norfolk TAMP was approved by Cabinet on the 6th March 2023.

Transport Asset Management Plan 2023-24

Part One - Transport Asset Management Policy and Strategy

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1.0 Transport Asset Management Plan

1.1 Introduction

1.1.1 Purpose of the Transport Asset Management Plan

The purpose of this document is to set out an approach for Norfolk County Council for the management of its transport and highway assets.

The Transport Asset Management Plan (TAMP) pulls together all the relevant strategies, goals, objectives, plans and methods in use within the County Council and the Community Environment Services (CES) department for managing the transport and highway assets in the County.

The plan enables an asset management system to be developed for managing transport and highway assets on a long-term basis, using whole life costing within a framework of statutory requirements, customer expectations and available funding. The processes will continue to adapt to changing circumstances and advances.

The Norfolk TAMP contains three parts:

- **Part 1: Transport Asset Management Policy and Strategy** – which provides the background to asset management, service levels, asset management data performance, risk, valuation, and forward programmes. Published on our website
- **Part 2: Lifecycle Plans** – for each individual asset. These are for the use of our highway officers.
- **Part 3: Technical Appendices** – which provides useful technical details and guidance. Published on our website

1.1.2 What is Asset Management

Asset management builds on existing processes, management systems, data, and tools to form a continuous improvement framework that complements and supplements existing practice.

Asset management means different things to different people. ADEPT (Association of Directors of Environment, Economy, Planning and Transportation) has adopted the following definition for the purpose of their framework document and for application to UK highway networks.

“Asset management is a strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future customers.”

The definition brings together themes that define an asset management approach:

- Strategic Approach - A systematic process that takes a long-term view
- Whole of Life - The whole-life/lifecycle of an asset is considered
- Optimisation - Maximising benefits by balancing competing demands
- Resource Allocation - Allocation of resources based on assessed needs
- Customer Focus - Explicit consideration of customer expectations

1.1.3 Why Asset Management?

Transport infrastructure is vital to the economic well-being. For most local authorities, their road network is the most valuable community asset under their control.

Highway authorities exercise their duties to maintain, operate and improve their transportation and highway assets under increasing pressures that include:

- Inadequate budgets
- Limited resources, both staff and skill shortages
- Mature networks, with a significant backlog of required maintenance
- Increased accountability, to customers and funding providers
- Increasing public expectations, the public are increasingly informed and demanding.

the implementation of asset management principles will deliver better outcomes to customers.

1.1.4 Drivers for the use of Transport Asset Management

1.1.4.1 Funding

Both capital and revenue grants from government saw significant restrictions following 2010-11 to 2020-21 in the 'period of austerity'.. This helped inform our asset management strategy.

From 2016-17 the 'needs'-based element of the DfT highways funding block was reduced and supplemented with a 'Permanent Pothole Fund' and an 'incentive' element based upon a self – assessment questionnaire to be signed-off by the local Section 151 officer. A section of the questionnaire relates to asset management and poor performance will lead to a loss of grant. Norfolk CC have self-assessed itself at level 3. The questionnaire will be reviewed for 2024-25.

Additional funding opportunities for specific proposals either new build, integrated transport, or structural maintenance, have been made available on a competitive bidding basis dependent upon successful businesses cases.

Occasionally throughout this period, the Government has provided additional in-year capital grants for structural maintenance, such as 'winter damage' and 'National Productivity Fund.' Whilst useful they have not helped longer term planning.

In recent years we have been dependent upon annual government settlements, which again not helped longer term planning.

The Government Spending Review in 2021 provided a 3-year settlement for 2022-23, 2023-24 and 2024-25. It was a flat settlement with no uplift for future inflation which is challenging, particularly after the start of the Ukraine/Russian conflict in 2022. The Government choose to supply further one-off funding for 2023-24 in their March 20233 budget and may choose to similar for 2024-25.

1.1.4.2 Whole of Government Accounts

The government is working towards the production of Whole of Government Accounts (WGA). WGA will be commercial-style accounts covering the whole of the public sector including local authorities. WGA will be produced on an accruals basis and will use Generally Accepted Accounting Principles (GAAP), adapted where necessary for government. This form of accounting is known as Resource Accounting and Budgeting (RAB). Under these requirements local authorities will be required to value their highway assets.

In 2010 CIPFA published Code of Practice on transport infrastructure assets Guidance to Support Asset Management, Financial Management and Reporting.

The Code was developed in collaboration with the Highways Asset Management Financial Information Group (HAMFIG), whose work was supported by a number of government funded research projects.

The purpose of this Code is to support an asset management plan (AMP) based approach to the provision of financial information about local authority transport infrastructure assets. The intention is that each authority should develop a single set of financial management information about these assets that is robust and consistent between transport authorities and supports:

- Good, evidence-based asset management, including the development of more cost-effective maintenance and replacement programmes
- Delivery of efficiency savings and service improvements
- Long-term financial planning and budgeting
- Corporate capital planning and the operation of the Prudential Code
- Performance assessment and benchmarking
- Resource allocation, locally, at regional level and nationally
- Production of transparent information for stakeholders on the authority's management of its highway assets
- Production of financial information that is compliant with International Financial Reporting Standards (IFRS) and meets the needs of Whole of Government Accounts (WGA) and National Accounts
- Any future move to current value financial reporting of the assets in local authorities' own accounts

1.1.4.3 The Prudential Code

The government has introduced the Prudential Code to govern the way in which local authorities manage their assets. The code requires local authorities to have explicit regard to option appraisal, asset management planning and strategic planning when making capital investment decisions and to demonstrate that their plans are affordable, prudent, and sustainable.

The code enables authorities to choose between revenue and capital-intensive options for service delivery, undertake 'spend to save' capital schemes and undertake additional self-funded capital investment where they can afford.

The code, therefore, enables the introduction of more sophisticated application of asset management than is possible under the previous financial regime. A robust asset management plan will be a valuable tool to any authority wishing to explore the potential benefits that the code enables.

1.1.4.4 The Code of Practice for Well-Managed Highway Infrastructure

A new code of practice was published in Sept 2016. It references the 2013 Asset Management Guidance and the recommendations within it. We have adopted this code.

1.1.4.5 Norfolk County Council - Departmental and Corporate

The development of an Asset Management Strategy was one of the actions generated by our 2002 Best Value Review of Highway Management and Network Management function. Achieving value for money from our funding remains a priority.

1.1.4.6 Highways Maintenance Efficiency Programme (HMEP)

HMEP was a sector-led transformation programme designed to maximise returns from highways investment and deliver efficient and effective services. Aimed at the local highways sector, it was sponsored by the Department for Transport (DfT).

The programme provided a series of 'products' to help inform highway authorities of best practice examples and recommendations that should lead to improved outcomes for all road users and better value for money for taxpayers.

Both the pothole review and asset management guidance issued by HMEP recommend that authorities should employ an asset management approach. They advise adoption of the principle that 'prevention is better than cure' in determining the balance between structural, preventative, and reactive maintenance activities in order to improve the resilience of the highway network and minimise the occurrence of potholes in the future.

It was produced in accordance with national guidance provided by the Highway Maintenance Efficiency Programme (HMEP), accessible below:

- [download the 'UKRLG Highway Infrastructure Asset Management Guidance' of 2013](#)
- [download 'Prevention and a Better Cure' Potholes Review of April 2012](#)

Many of these 'products' are referenced within the DfT 'incentive fund' encouraging their use.

1.1.4.7 Local Transport Plan, Asset Maintenance Policy, and Strategy

Our transport plan describes the council's strategy and policy framework for transport and is used as a guide for investment priorities as well as being considered by other agencies when determining their planning or delivery decisions.

Our new Local Transport Plan (LTP) covering the period 2021-2036, was adopted at the full County Council meeting of 19 July 2022. The new plan replaces the previous version of the plan adopted in 2011. Chapter 10 details "A Well-Managed and Maintained Transport Network". You may [view the Local Transport Plan on NCC's website](#).

Our Asset Management Policy and Strategy (See sections 3.0 and 4.0) was reviewed in 2022 and is designed to minimise deterioration of the network. The focus for capital spend will continue to be on maintaining and managing the higher status roads to ensure that the most important routes are kept in the best possible condition given funding constraints.

1.1.5 Benefits of Transport Asset Management Plans

Asset management facilitates better decision-making by supplementing instinctive engineering judgement and supposition with analysis (financial, economic, and engineering). It thereby enables an authority to better understand and manage the relationship between cost and performance.

This will deliver an improved level of service for the resources available, i.e.,

- The same or better level of service at a reduced cost
- A better level of service at the same or marginally increased cost
- Or where, owing to budgetary constraints, it is not possible to maintain the level of service, the effects of the reduced level of service is mitigated through the efficient use of resources.

Specific benefits of an assessment management approach are:

- Reduced life-cycle costs
- Defined levels of service
- The ability to track performance
- Improved transparency in decision making
- The ability to predict the consequences of funding decisions
- Decreased financial, operational, and legal risk
- Ability to discharge statutory valuation and financial reporting responsibilities

1.1.6 Scope of the Transport Asset Management Plan

This document represents an evaluation of asset management practices in the County and sets out a way forward.

The Highway Infrastructure Asset Management document was published May 2013 and contains a framework which comprises the activities and processes that are necessary to develop, document, implement and continually improve asset management. These activities and the approach to their delivery should be clearly documented and accessible to relevant stakeholders.

It states ‘Authorities should build on the work they have already done and use this Guidance and its recommendations to further augment the implementation of asset management.

The Framework is presented in three parts:

- Context – Describes the context for highway infrastructure asset management, the organisation, and the environment within which the local highway service is delivered, and is covered in Part A.
- Asset Management Planning – Describes the key activities, processes for asset management planning, and gives advice on how these should be applied to highway infrastructure assets, as covered in Part B.
- Asset Management Enablers – Describes the enablers that support the implementation of the Asset Management Framework and is covered in Part C

As our TAMP is reviewed annually it will evolve to include reflect government and industry development of best practice.

A lifecycle approach to asset management and our developing TAMP is based on:

- Best available, current information
- Condition sample
- Existing service levels
- Calculating cash flow predictions for asset maintenance, rehabilitation and renewal based on local knowledge
- Providing service performance measures against which service could be monitored
- Contrast existing approaches with opportunities for improvement
- Seek the views of asset group users on appropriate service level

1.1.7 Aim of Norfolk's Transport Asset Management Plan

We are seeking to enhance our current approach to transport asset management, thereby becoming more effective and improving our ability to meet national and local objectives and customer needs. Our members annually approve the Highways Capital Programme consisting of a 3-year programme, the first year of which will be in some detail and the latter two being indicative. In addition, we hold a greater forward programme of structural maintenance proposals.

As the plan is developed it will:

- Be regularly reviewed and updated
- Include all highway and transportation assets
- Adopt best practice where affordable
- Monitor the condition and performance of assets
- Provide value for money by optimising the long-term lifecycle costs of assets and through improved system and practices
- Continue to identify improvements in the information and systems necessary to refine this process
- Use optimisation tools to develop options for current and future service delivery, forward financial planning and investment and asset renewal programmes
- Achieve corporate objectives
- Enable the County Council to meet the government's requirements for financial planning and accounting for transport
- Demonstrate effective management of assets on behalf of customers and stakeholders
- Planning for future asset requirements based on projected demand and service levels
- Seek the views of asset group users on appropriate service levels
- Increase the horizon and confidence in future planning and programmes

We have adopted a pragmatic asset management approach prevention is better than cure'. We predominantly use cheaper intermediate treatments, typically surface dressing, to maximise our network length treated'.

This protects past investment and postpones further capital expenditure, as opposed to using more robust treatments using a 'worst first' approach but over a lesser network length. This has allowed us to minimise the decline in highway condition in a time of significantly falling resources.

It also minimises the use of carbon in the lifecycle.

1.0 Transport Asset Management Plan 2023-24

1.2 Strategic Corporate Framework

On 29 November 2021, Norfolk County Council adopted the refreshed strategy Better Together, for Norfolk 2021-25 as part of its Council Policy Framework.

It contains our vision, “In Norfolk, we cherish our heritage, we embrace opportunity, and offer an extraordinary place in which to spend a lifetime.

- We want Norfolk to be the place where everyone can start life well, live well and age well, and where no one is left behind”.
- We want our economy to be vibrant, entrepreneurial, and sustainable, supported by the right jobs, skills, training, and infrastructure.
- We want our communities to feel safe, healthy, empowered and connected, their individual distinctiveness respected and preserved.

The strategy outlines the Council’s definition of “levelling up” in Norfolk and is structured around these five key strategic and interlinking priorities:

- A vibrant and sustainable economy – this priority is about growing the economy inclusively, so that everyone has opportunities to thrive. It is about growing the skills the County needs and creating high value jobs; drawing down investment; and developing our infrastructure and digital connectivity
- Better opportunities for children and young people – this priority is about raising educational standards and attainment in our County, improving the lives of families and children, and creating better employment opportunities for young people
- Healthy, fulfilling, and independent lives – this priority focuses on the themes of levelling up health, ensuring people who face disadvantage and poor health can live well, and have access to better services where they live
- Strong, engaged, and inclusive communities – this priority focuses on improving the relationships between communities and public service provision, so that people and communities are supported, empowered, and enabled to help themselves, and have a voice in how services are designed and delivered
- A greener, more resilient future – this priority recognises the critical importance of climate change and the environment, as well as the role that our physical and social infrastructure play in creating stronger communities that people can be proud of

Our Corporate Delivery Plan details the most significant activities happening across the Council which support the delivery of the Better Together, for Norfolk strategy.

1.2.1 The Corporate Delivery Plan

The Corporate Delivery Plan is structured by the 5 strategic priorities outlined in the corporate strategy document and will be focused on NCC’s most significant “big ticket” activities, which:

- Support the delivery of the outcomes and objectives in our strategy, and our Medium-Term Financial Strategy
- Are business critical

In the context of the Corporate Delivery Plan, “significant activities” are:

- Areas of significant service activity (e.g. transformational changes in service delivery and business change projects, new services etc.)
- Significant commissioning activities for infrastructure (e.g. highways, property, digital infrastructure) and people services (e.g. children’s, adults, and public health services)
- Capital delivery (e.g. delivering new education, property, and community assets in our capital programme)
- Strategy and policy development (e.g. new strategies, responding to changes in national policy and lobbying)

The Corporate Delivery Plan is not intended as an exhaustive guide of everything we do, but instead provides a clear sense of how the Council will respond to changes in our operating environment to deliver significant activity successfully. Essential day-to-day service delivery continues to be captured in our departmental plans (divisional/service business plans) and plans on a page.

In addition to the 5 strategic priorities in our strategy, the Corporate Delivery Plan also contains a section on Operational Effectiveness, which describes that significant activity which aim to transform the Council - our property, technology, ways of working, engagement, and workforce. These activities are essential for strategic and corporate services and often require a cross-cutting approach across the Council. The detail of how and when activity in the Corporate Delivery Plan will be achieved will continue to sit in underpinning documents, such as business cases and programme/project plans

1.2.2 Community and Environmental Services - Service Plans

Community and Environmental Services Department’s suite of operational Service Plans focus on the key things its individual services aim to achieve over a period in support of the County Council objectives. They do not attempt to identify everything each service does. These set out more detailed objectives, targets, and performance measures. They are condensed on our plans on a page, for individual services

1.2.3 Local Transport Plan

Local Transport Plans (LTP’s) are the overarching documents setting out the plans, policies, and programmes for transport across an area. They are statutory documents required by legislation (the Transport Act 2000, as amended by the Local Transport Act 2008).

Our transport plan describes the council’s strategy and policy framework for transport and is used as a guide for investment priorities as well as being considered by other agencies when determining their planning or delivery decisions.

Our new Local Transport Plan (LTP), covering the period 2021-2036, was adopted at the full County Council meeting of 19 July 2022. The new plan replaces the previous version of the plan adopted in 2011.

1.2.4 Transport Asset Management Plan

Our Transport Asset Management Plan supports these plans:

- It prioritises **improvements** to the network as described in section 8 to support the implementation of the:
 - **Local Transport Plan – Connecting Norfolk** in particular prioritises improving accessibility and road safety,
 - **Strategic Economic Plan** developed for the ‘New Anglia’ Local Enterprise Partnership and in conjunction with the
 - **Management of statutory network management duties**
- It allocates available funding for **planned maintenance** based on condition data and priorities agreed annually by Members, to maintain assets based on whole life costing principles to ensure available funds are invested to minimise future costs.
- It sets out the standards for **routine maintenance** that meet the Council’s legal responsibilities to keep routes available and safe for the passage for the travelling public.

It is delivered by Norfolk County Council staff, working in collaboration with Tarmac, WSP, and Dynniq, who were all successful in securing long term contracts with the County Council from April 2014 until March 2026.

1.0 Transport Asset Management Plan 2023-24

1.3 Norfolk County Council's Transport Asset Management Policy

1.3.1 Corporate Vision and Strategy

The Norfolk County Council Plan - "Together for Norfolk – an ambitious plan for our County 2019-2025" - was agreed in May 2019 and updated in 2021.

The plan outlines how we will invest in Norfolk's future growth and prosperity by:

- Focusing on **inclusive** growth and **improved social mobility**
- Encouraging **housing, infrastructure, jobs, and business** growth across the County
- Developing our **workforce** to meet the needs of the sectors powering our local economy
- This way we can help Norfolk have a **growing economy**, full of **thriving people** living in **strong communities** we are proud of

The plan highlights that a strong infrastructure is important for our growing economy. This is reflected in our service plan which is reviewed on an annual basis.

It supports the Council's business plan, Together, For Norfolk, and its strategy 'Better Together for Norfolk' 2021-25. The Highways Capital Programme contributes directly to the strategic priorities of:

- A Vibrant and Sustainable Economy.
- Strong, Engaged and Inclusive Communities; and
- A Greener, More Resilient Future.

Key outcomes for the Highway Capital Programme are:

- A well-managed highway network that enables everyone to travel the county freely and easily; and
- A strong infrastructure for our growing economy.

1.3.2 Service Plans

Based upon the Council's Strategy each Service produces a service plan which outlines the vision, outcomes, and priorities for the coming year.

Service committees were commissioned by Policy and Resources Committee to develop Committee Plans which will set out objectives for the year, and specifically demonstrate how each area of the Council's work will change to deliver our Norfolk Futures strategy. An extract from the Highway and Waste Service Plan 22/23 is shown below.

1.3.2.1 Vision

Manage, maintain, and develop Norfolk's highway network, deliver effective services and a strong infrastructure to support our growing economy and quality of life for residents.

1.3.2.2 Outcomes

- A well-managed highway network that enables everyone to travel the county freely and easily
- A priority road network free from ice and snow

- Strong infrastructure to support our growing economy
- Reduction in Waste and increase in recycling
- Maintain and apply local flood risk management strategy
- An integrated passenger transport service which allows informed travel choices

1.3.2.3 Priorities

- Maintain the highway at agreed service levels and ensure improvement and maintenance programmes are delivered to time and budget
- Major projects to secure successful funding bids to deliver better infrastructure
- A47 advocacy
- Reduce number and severity of road casualties
- Deliver winter maintenance services
- Reduce flood risk and investigate flood reports
- Deliver new recycling centres for Norwich in 2021 and improve countywide network
- Upgrade Caister/King's Lynn Waste Transfer Stations
- Safe aftercare of closed landfill sites
- Delivering transport for our commissioned services in the most cost-effective way
- Rebuild public transport use post-Covid
- Implement the National Bus Strategy and deliver public transport improvements

1.3.3 Norfolk's Transport Asset Management Policy

This policy sets out how we manage the asset in accordance with the Councils strategy and as outlined in our service plan.

Norfolk County Council recognises that the need for the highway service is universal amongst all its residents, providing access for business, services and promoting well-being. An effective network is essential for a successful economy and society. A value-managed service is essential to ensure the financial sustainability of the Council.

Enabling our Councils strategy and vision, together with achieving the priorities in the County Council Plan requires a focus on the availability, capacity, condition and quality of the highway network and associated assets.

The key to this will be the ability to make good, informed decisions; utilising a risk-based approach and optimising the contribution to the service provided by the infrastructure.

The principles of which are:

- To deliver the statutory obligations of the authority
- To be responsive to the needs of users' and the community
- To utilise the available funding to minimise whole life costs
- To support effective delivery of the statutory network management duty
- To support and add value to local transport objectives
- To support and add value to wider corporate policy objectives

This policy was presented to the Select Committee for Infrastructure and Development on 12 July 2022 and approved by our Cabinet as part of the Transport Asset Management Plan 2023-24 on 6 March 2023.

This followed the outcome of the Governments' Comprehensive Spending Review in the autumn of 2021.

Previously policy was endorsed by the Select Committee for Infrastructure and Development on 7th July 2019 in response to the paper on Highway Asset Performance. The Transport Asset Management Strategy was also endorsed at this time.

Both documents were again reviewed by the committee on the 13th November 2019 in response to the paper incorporating them into the Transport Asset Management Plan 2020/21- 2024/25. The Transport Asset Management Plan was approved by Cabinet on the 13 January 2020 and refreshed again on the 8 March 2021 for 2021-22 and again on the 7 March 2022 for 2022-23.

Previous to that policy was adopted by the Environment Development and Transport Committee on 8th July 2014 in response to the paper on Highway Asset Performance. The Transport Asset Management Strategy was approved at this time and refreshed on 14 Oct 2017.

When our policy is refreshed as part of its approval by members, we realign it with the current corporate and service plans.

1.0 Transport Asset Management Plan 2023-24

1.4 Transport Asset Management Strategy 2023

1.4.1 Main Components

The Transport Asset Management Strategy is built around three main components.

- A defined hierarchy for all elements of the network
- The legal framework and robust policies and objectives for the service
- A detailed Inventory of all relevant components of the asset

To be effective, these key components are supplemented by the following:

- A comprehensive management system for inspecting, recording, analysing, prioritising, and programming maintenance works to optimise their asset management contribution
- Arrangements to finance, procure and deliver maintenance works, in accordance with the principles of sustainability and best value
- Arrangements to monitor, review and update as necessary, each component of the strategy and the performance of the strategy
- A risk management strategy clearly identifying and evaluating the risks and consequences of investment decisions and measures to mitigate
- A proactive approach to the implementation of innovations and best practice in collaboration with our contractors and other councils
- Maintain a knowledgeable and robust client to engage with other councils and contractors

1.4.2 Detailed Strategy for Transport Asset Management

The detailed elements of the strategy are to:

- Maintain the condition and preserve the value of our Assets.
- Utilise asset management practices to ensure protection of the highway infrastructure through the implementation of the Transport Asset Management Plan.
- Based on whole-life costing to ensure value for money we utilise a preventative approach, investing a greater proportion of the available budget to treat roads in the early stages of deterioration.
 - This targets assets that are not currently in need of full structural renewal and proposes to extend the assets whole life by arresting/delaying deterioration.
 - This protects the existing investment, extends the lifecycle, and postpones higher cost rehabilitations.
 - Minimises the risk of the highway and transportation asset deteriorating.
- Carry out repairs to the most appropriate standards and methods.
- Identify needs against National Codes of Practice and survey data.

- Allocate resources based upon assessed needs basis, to
- Continue to identify improvements in the information and systems necessary to refine this process.
- Seek required funding by demonstrating the maintenance needs, through the Local Transport Plan, for maximum Government support
- Seek additional funding through the County Council's strategic planning and budget cycle.
- Seek to optimise the benefits of maintenance works by incorporating any appropriate safety, availability or accessibility improvement works at the same time.
- Co-ordinate works to reduce disruption.
- Treat as a priority those hazards that could lead to personal injury or damage to vehicles.

1.4.3 Strategy for Main Asset Groups

It is recognised that present levels of funding make maintaining the current condition challenging, and that in most circumstances the strategy will be to manage deterioration.

The levels of Government grants from the DfT (Needs, Incentive, Pothole) have only been determined in the spending review of Oct 2021. We have a 'flat' 3-year settlement from 2022/23 to 2024/25. In our projections we have assumed this delivered and no more, together with the impact of inflation.

Pressures can be demonstrated with Members supporting part of the Integrated Transport grant being used to support structural maintenance, which in turn is supporting work previously undertaken using revenue funding such as patching

1.4.3.1 Carriageways

Carriageways (roads) are by far the largest of the Council's assets and account for an estimated 85% of the total highway asset value (ignoring land value).

Key strategic points:

- Extensive utilisation of intermediate treatments such as surface dressing, joint sealing, re-texturing, and machine patching. This protects the existing investment, extends the lifecycle, and postpones higher cost resurfacing.
- Use of poly-modified binders and Dense Stone Mastic Asphalt (SMA) to increase the robustness of both surface dressing and resurfacing.
- Consider the use of recycling to add strength to rural roads and in fenland reduce weight of the pavement.
- Innovation to examine the use of new techniques.
- Scheme selection and Programme development informed by an intelligent client.
- Specification informed by our Norfolk Laboratory.
- Full condition survey of the network.

1.4.3.1.1 Planned outcome

Performance targets have been established in the Local Transport Plan (LTP) for the 'A' road network and in the performance framework for all road classifications. These showed a slight decline over the period to 2021-22. We have now adjusted the targets based upon 2021-22 results.

Road type	2021-22 Actual	2022-23 Target	2023-24 Target	2024-25 Target
'A' roads	4.3%	4.47%	4.82%	5.16%
'B' roads	6.05%	7.58%	7.83%	8.17%
'C' roads	6.21%	6.93%	7.41%	7.8%
'B' & 'C' Roads	6.37%	7.03%	7.39%	7.86%
'U' roads	6.1%	6.54%	7.02%	7.49%

1.4.3.1.2 Investment Strategy

We utilise the HMEP asset management toolkit on an annual basis to iteratively improve our investment strategy using the latest condition data. We have modelled projections by road class. In practice, we have found we are outperforming the predicted results.

The DfT needs based grant is partly calculated on road length for differing classes of road with a local highway authority. The higher classification generating a higher grant per length.

We spend more per length the higher the function of the road i.e. more on A roads than B roads. This is reflected in proportionally greater percentages of resurfacing on the higher-class roads in the lifecycle necessitated by the heavier use by traffic and goods.

As the 3-year settlement is flat and significant inflation is expected we will modify our treatment over the 3-year period.

The investment in our A roads for 2022-23 is; Resurfacing £2.006m , Surface Treatment £1.8m, Reclamite £0.214m & miscellaneous £0.188m. This represents a budget split between Resurfacing 46% and Surface Treatment of 66%. This will be replicated in the following 2-years. Beyond the budgets will uplifted for inflation.

The investment in our B roads for 2022-23 and beyond is; Resurfacing £0.539m & Surface Treatment £1.06. This represents a budget split between Resurfacing 33% and Surface Treatment of 66%. Beyond this the surfacing value will be maintained but the surface dressing uplifted for inflation.

The investment in our C roads for 2022-23 and beyond is; Resurfacing £1.25m & Surface Treatment £0.54m. This represents a budget split between Resurfacing 23% and Surface Treatment of 77%. The Resurfacing investment takes the form of Fen Road repairs (medium and shallow recycling) and small, localised machine patching schemes. In the following 2-years whilst the surface dressing will be uplifted with inflation the surfacing element other than Fen repairs will diminish and be replaced with localised patching.

The investment in our U roads for 2022-23 and beyond is; Resurfacing £0.4m & Surface Treatment £4.55m. This represents a budget split between Resurfacing 9% and Surface Treatment of 91%. The Resurfacing investment takes the form of Fen Road repairs (medium and shallow recycling) and small, localised machine patching schemes. In the following 2-years whilst the surface dressing will be uplifted with inflation the surfacing element other than Fen repairs will diminish and be replaced with localised patching

1.4.3.2 Footways including shared use

These are the second largest of the Council's assets and account for an estimated 7% of the total highway asset value (ignoring land value).

Key strategic points:

- Utilisation of intermediate treatments such as slurry seal and machine patching to protect the existing investment, extend the lifecycle and postpone higher cost resurfacing.
- Use of Hot Rolled Asphalt (HRA) to increase the robustness of resurfacing.
- Innovation to examine the use of new techniques
- Scheme selection and Programme development informed by an intelligent client
- Specification informed by our Norfolk Laboratory.
- Full condition survey of the network

1.4.3.2.1 Planned outcome

Performance targets have been established and these show a slight decline over the next 3-year period to 2021-22.

Category	Service Level	2021-22 Actual	2022-23 Target	2023-24 Target	2024-25 Target
Cat 1	12.5%	11.5%	11.4 %	11.5%	11.6%
Cat 2	25%	27%	29.6%	30.7%	32.4%
Cat 3	30%	29.6%	31%	32%	33.1%
Cat 4	30%	30.1%	30.6%	31.2%	31.5%

1.4.3.2.2 Investment Strategy

We utilise the HMEP asset management toolkit on an annual basis to iteratively improve our investment strategy using the latest condition data.

For 2022-23 we allocated funding of £2.895m; £2.334 for resurfacing/Reconstruction representing longer-term treatments (82.5%) and £0.558m for slurry seal representing intermediate treatments (19.2%). Beyond 2022/23 we will endeavour to uplift these with inflation.

1.4.3.3 Highway Structures (bridges)

These are the third largest of the Council's assets and account for an estimated 5% of the total highway asset value (ignoring land value).

1.4.3.3.1 Planned outcome

Vehicle type	Service level	2021-22	2022-23	2023-24	2024-25
HGV	91.92	89.04	88.91	88.83	88.78
Non-HGV	88.93	89.25	88.99	88.83	88.73
Culverts	95.04	93.2	92.93	92.77	92.67
Strengthen or impose weight restrictions	0	5	5	5	3

There is a small strengthening programme. Rungays bridge is in our 5-year programme for 2023-24 and 4 structures are undergoing feasibilities.

Performance targets have been established and these show a slight decline in Bridge Stock Condition Index (BSCI) score over the next 3-year period to 2024-25

1.4.3.4 Traffic Signals

This is a rolling programme with the intent to manage the level of controllers older than 20 years.

1.4.3.4.1 Planned outcome

Performance targets have been established and show managing the asset at similar levels as now but from 2019 demand will grow as millennial assets reach their 20-year term.

2021-22	2022-23	2023-24	2024-25
13	20	27	34

1.4.3.4.2 Investment Strategy

Annual investment of £535,000 in the replacement programme.

1.4.3.5 Street Lighting

Our street lighting is managed using a Private Finance Initiative (PFI). As a result, we do not receive support from the DfT maintenance needs grant.

1.4.3.6 Drainage schemes

In valuation terms drainage is part of the carriageway asset and agreed formulas make an allowance for this.

1.4.3.6.1 Investment Strategy

Our funding for maintenance schemes is £0.6m pa and £0.876m pa for small scale repairs. Additionally, there is funding of £0.5m per annum for schemes by our Council.

Additionally, a small allocation of £0.075m is provided for match funding of bids, typically by our Flood and Water team to the Environment Agency. We will bid to the EA for smaller schemes in-year particularly in those cases of internal flooding by surface water.

1.4.3.7 Sudden Asset Failures

Whilst the Strategy advocates a planned and risk-based approach to Asset Management, there may be exceptional circumstances in which a particular asset fails rapidly - beyond prediction.

No separate reserve is held for these, and the any occurrence will be dealt with on a case-by-case basis. Members may sanction the use of reserves, alternatively our structural maintenance programme across all asset types could be adjusted to meet new priorities.

The condition of Fen roads is particularly difficult to predict as they can be significantly affected by weather conditions. Fenland areas have soils which are "susceptible to cyclic shrinkage and swelling". This is exacerbated in periods of unusually high or low rainfall and this movement can aggravate cracking and subsistence along roads in affected areas. This can change priorities within 6 months. To have some resilience part of the maintenance fund is ring-fenced for fen road repairs but only allocated to sites in-year to ensure that the changing priorities can be dealt with. We are maintaining this annual allocation to £0.5m from 2022-23.

1.4.3.8 Capital Improvements

The Norfolk Infrastructure Delivery Plan 2018-28 (County and its partners Districts and LEP) was reported to and endorsed by the EDT committee on the 10th November 2017. It identifies the key infrastructure needed to deliver economic growth in Norfolk. It is a working document that will be reviewed on a regular basis as information becomes available and projects progress through to delivery. The Plan will help Norfolk County Council and partners to

co-ordinate implementation, prioritise activity and respond to any funding opportunities.

Integrated transport funding covers all expenditure on new infrastructure such as improvements at bus interchanges and rail stations, local safety schemes, pedestrian crossings, footways, traffic management, route and junction improvements and cycle paths. It used to be largely funded by the DfT Integrated Transport block Grant. It is now heavily supplemented by other funding sources such as Local Growth Fund, City Cycling Ambition, National Productivity Investment, Community Investment Levy, and Housing Infrastructure Fund.

These significant supplementary funding sources enabled the EDT Committee 18th Jan 2019 to approve, from 2020-21 the DfT integrated transport grant would be used to implement a £1.3m programme mainly low-cost improvement schemes including the parish partnership programme, and contributions to developing major schemes. The remainder of the DfT £4.14m grant being allocated to structural maintenance. In 2019-20 this total £1.142m and in 2020-21 £2.842m.

1.4.3.9 Planning Considerations

Our Council understand the importance that growth and re-development has on the future of the local area and economy. There is a need to ensure that any new development / change of use promoted through the planning process fully consider the impact on the existing highway network and its future maintenance.

1.4.3.10 Data Management and Information Systems

In 2016 we implemented a new core Highway Management System. We will continue to seek opportunities to use technology to support the service and make efficiencies.

We have a Data Management Plan to ensure our asset data is reviewed, maintained and fit-for purpose to enable us to make informed decisions.

1.4.4 Performance Framework

A performance framework linked to the asset management strategy and the themes of:

- Condition or age as proxy for Main Asset groups
- Customer Satisfaction
- Serviceability
- Sustainability (Economic and Environmental)

This can be seen in Appendix H.

1.4.5 Approval

The Transport Asset Management Policy can be seen in Section 3.

This and the strategy together with performance framework was presented to the Select Committee for Infrastructure and Development on 12 July 2022 and approved by our Cabinet as part of the Transport Asset Management Plan 2023-24 on 6 March 2023.

Previously policy was endorsed by the Select Committee for Infrastructure and Development on 7th July 2019 in response to the paper on Highway Asset Performance. The Transport Asset Management Strategy was also endorsed at this time.

Previously the Transport Asset Management Strategy was approved by members on 17 July 2019 together with the Performance Framework, allied to the strategy for the main asset groups. It was part of a report on Highway Asset Performance.

Both documents were again reviewed by the committee on the 13th November 2019 in response to the paper incorporating them into the Transport Asset Management Plan 2020/21- 2024/25. The Transport Asset Management Plan being approved by Cabinet on the 13 January 2020 and again on the 8 March 2021.

It will be refreshed again in 2024 or following the outcome of the future spending reviews by Governments' Comprehensive Spending Review or longer-term budgetary announcements.

1.4.6 Review Process Monitoring and Reporting

Highway Asset Performance is reviewed annually, and a report shared with members at committee. It covers planned capital structural maintenance of the assets only.

This report highlights:

- Performance against current service level
- Current service priorities
- Customer Satisfaction
- Funding levels and needs
- Options on policies strategies and reviews

This allows informed decisions by members.

1.0 Transport Asset Management Plan 2023-24

1.5 Service Levels, Performance Indicators, and Improvement Framework

1.5.1 Service Levels

These describe the quality of services provided by the asset for the benefit of customers.

They are a way in which a highway authority can determine whether it is meeting its expectations and statutory obligations in the delivery of the highway service. They enable the Highway Authority to:

- Document and measure the service provided
- Rationally evaluate service versus cost trade-offs
- Determine if adequate consideration is given to what's important to the customer
- Establish if operational activities support the achievement of strategic goals

In simple terms the requirements of the plan guide the development of the levels of service for assets and reflection of demands placed on the service.

The department establishes levels of service where appropriate often using performance indicators and occasionally service groupings.

We are currently managing the service around the PIs stated with the department's Local Transport Plan, Business and Service plan, the lifecycle plans in this document and the annual report to members on Highway Asset Performance. In addition, team level indicators may exist which are managed at that level. These are subject to annual review.

1.5.2 Legislative Requirements

There is a statutory duty to carry out most service work areas. In particular, the Highways Act requires us to maintain public highways. Common law also imposes a general duty of care on the County Council in the way it carries out its statutory functions.

Often when a statutory duty applies it is not an absolute duty but to set against statutory defence. For example:

- Highway Inspections – Section 58 Defence
- Precautionary Gritting and Snow Clearing - 'Reasonableness'
- Snow clearing - 'Importance of route and Resources'

There is no statutory duty to carry out public liaison but the consequences of not doing so are unacceptable to the public.

There is no statutory duty to insure against liability, but the potential consequences of not doing so are increased costs.

App A contains further information on legislative requirements.

1.5.3 Performance Management

With the changes in the national performance arena implemented by the coalition government,

There are some limited requirements for formal performance data reporting to central government in the single data set. Beyond this local government is left with the opportunity to implement its own, locally focused, performance framework.

We agreed with our members at ETD committee 14 Oct 2016 a set of performance measures to monitor our Asset Management Strategy (Section 3). These and current progress on the performance measures can be seen in App H. These are shared and updated with our Members at the annual Highway Asset Performance Report and were refreshed at the Service committee for Infrastructure and Development July 2019 and again in 2022, alongside the Highway Asset Management Policy and Strategy. They can be seen in Appendix H.

Monthly departmental performance reports are discussed at Departmental Executive Management Team meetings. Additionally, a range of key measures are reported monthly to Chief Officers and regularly to member overview and scrutiny panels and Cabinet.

As part of this process, we reappraise our lifecycle plans annually and the budget and programme for each service area established.

1.5.4 Benchmarking

1.5.4.1 Customer Satisfaction

We participate in the National Highways and Transport Network Public Satisfaction Survey

109 local authorities took part in the 2022 survey. Norfolk County Council achieved a ranking of joint 2nd out of ours peers, the 30 county councils that participated. Of those indicators contained in our Asset Performance Strategy Measures in Appendix H we ranked:

- Overall – 2nd (previously 2nd)
- KBI 11 - Pavements & Footpaths (overall); Joint 5th (56).
- KBI 13 - Cycle routes and facilities (overall); Joint 2nd (52).
- KBI 15 - Rights of way (overall); Joint 14th (55).
- KBI 23 - Condition of highways; Joint 4th (39).
- KBI 24 - Highway maintenance; Joint 3rd (48).
- KBI 25 - Street lighting; 13th (61).

The biggest gap between importance and satisfaction both nationally and in Norfolk, across all highway functions continues to be highway condition.

Our show overall performance is good compared to other County Councils the importance that residents place on the condition of the highway network

The County Council has adopted its third Local Transport Plan in 2011, which was been termed Connecting Norfolk.

Local Transport Plans (LTP's) are the overarching documents setting out the plans, policies, and programmes for transport across an area. They are statutory documents required by legislation (the Transport Act 2000, as amended by the Local Transport Act 2008).

Our transport plan describes the council's strategy and policy framework for transport and is used as a guide for investment priorities as well as being considered by other agencies when determining their planning or delivery decisions.

Our new Local Transport Plan (LTP), covering the period 2021-2036, was adopted at the full County Council meeting of 19 July 2022. The new plan replaces the previous version of the plan adopted in 2011. The authority has a customer contact recording system and customer contacts are directed via our website the Council's Customer Service Centre. The recording and handling of contacts and are a source of management information.

This includes a Highways Enquiry Tracker, which allows the public to track the progress of their enquiry through to completion via e-mail by following the services updates in status.

Customer views are also actively sought as part of policy development and improvement schemes, for example the extensive consultation around the major projects such as the 3rd River Crossing in Great Yarmouth currently under construction completing in 2023, and Norwich Western Link in development, together with significant programmes such as Transforming Cities

1.5.4.2 Efficiency

We are members of the NHT Efficiency Network looking at Customer, Quality and Cost to identify efficiency. We had previously participated in the Cost Quality Customer Frontier benchmarking project which has informed the development of the network. The CQC membership, is paid by the Eastern Highways Alliance and results shared regionally.

In 2022 some 93 English Highway Authorities submitted data for the period 2009/10 to 2021/22 achieving a theoretical 95% efficiency in 2021-22. This is how close you are to you 'Predicted Minimum Cost' (100%)

Since 2013/14 we have seen a relative efficiency improvement of 12%. This is the amount by which our adjusted annual expenditure has reduced, and we have improved your effectiveness through the adoption of more efficient practices. This has been achieved without loss of quality.

In 2023, senior managers across the highways and transport service took part in a Value for Money (VfM) assessment. This was an independent assessment offered to members of the

Future Highways Research Group (FHRG). FHRG members include around 40 highway authorities from across the country, each of which have been through a similar assessment, which then confidentially ranks each organisation on a number of key performance metrics. This independent assessment concluded that Norfolk County Council Highways and Transport service delivers very good value for money and that we are one of the top performers in the Future Highways Research Group (FHRG)

1.5.4.3 Performance Management Framework (PMF)

We have a Performance Management Framework linked to our Asset Management Policy and Strategy and reported in our members as part of our annual Highway Transport Performance Report.

We participate in the National Highways and Transport Network PMF

We participate in the Association for Public Service Excellence (APSE) Direct Management Group

1.5.4.4 Local Benchmarking

Liaison with the other local authorities in the region is an important component of performance management. The County Council participates in several groups:

- Eastern Highways Alliance (EHA) framework
 - Maintenance and Asset Management
 - Benchmarking (reporting sub-group) including CQC and NHT results

This enables rapid comparison of performance data with nearby authorities and may suggest areas of strength or weakness allowing corrective action. They also allow open discussion of working practices and understanding of requirements.

1.5.5 Improvement Framework

Asset management builds upon existing processes and tools to form a continuous improvement framework that complements and supplements existing practice.

In accordance with these principles there is a need to monitor progress, setting out improvements to demonstrate that the County has established performance measures, reviews results and sets goals.

This will be ensured by the following processes:

- Keeping abreast of developments.
- Legislation, governmental and corporate guidance, codes of practice and standards and innovative approaches. Reviewing and implementing what is appropriate.
- Transport Asset Management Plan annual review.

Dependent on the scope of the performance indicator and the improvement actions being implemented, there can be a significant delay before any outcomes are significantly

improved. In these instances, the annual trend in improvement needs to be documented through the review cycle in relation to the aim. If the format of performance indicators is modified too often the trend data becomes more difficult to assess and confidence in the ability to demonstrate improvement reduced.

Actions to address performance gaps can be summarised as follows:

- Perception
- Delivery
- More Funding
- Review service level

Our improvement plan can be seen in Appendix I.

1.0 Transport Asset Management Plan 2023-24

1.6 Management of Highway Infrastructure Asset Data

1.6.1 Objective

Asset data describes what highway infrastructure assets an authority has, where they are and how they perform.

It includes:

- Number
- Location
- Performance
- Financial values
- Public opinion

The overall objective of the asset data set is to: “Provide the data required to support the approach to asset management.”

Typically, data is used to support the overall requirements for asset management including:

- Defining network inventory and asset performance
- Supporting statutory requirements (if any)
- Making effective and informed decisions
- Understanding the impact of decisions on the asset and the subsequent level of service and performance
- Assessing and managing risk
- Determining investment requirements
- Assessing and reporting financial value
- Reporting performance

Effective asset management planning and decision-making relies on this data being available, appropriate, reliable and accurate

The management of all data must comply with Norfolk County Council’s Policy on Data Protection and the requirements of the Data Protection Act 2018 which implemented General Data Protection Regulation of the European Union.

1.6.2 Data Management Strategy

Our Data Management Strategy, approved by EDT committee 14 Oct 2016, documents the approach to the management of highway infrastructure data.

- Data need
 - A Business Case detailing
 - An assessment of the data requirements
 - Demonstrating how they meet the asset management strategy and necessary performance reporting
 - Risks associated with the data
 - Value for money

- Data owner
 - An “owner” is responsible for management of the data. This is typically the team manager.
- Data custodian
 - For managing the data day to day and reporting
- Data collection
 - Requirements for the accuracy, reliability, repeatability of data and value for money
 - Collaboration in procurement between authorities were beneficial
 - Frequency of collection and updating
 - A risk-based approach has been adopted, particularly where assets are low value and pose low risk to the performance and reporting
- Data management
 - Data storage and date stamping
 - Management and access rights to the data
 - Processing requirements
 - Reporting requirements and Performance Framework
- Data disposal
 - Informed by our corporate data retention policy with reference to Statute and regulation and Operational need.
- Data reviews
 - Regular reviews should be undertaken to ensure that data continues to support asset management and are still fit for purpose
- Data Management Plan
 - Details of each asset management data set - owner, host and secondary systems, custodian, uses, extent, reliability, confidence, tolerance, publish, cleanse, comments, renewal of data

1.6.3 Data Management Plan

This is live document for internal use and subject to regular review. For each data set the elements or the Data Management Strategy is detailed. Regular reviews are undertaken.

1.6.4 Network Referencing

Norfolk commonly uses three methods for network referencing

- National Street Gazetteer (NSG) for Streetworks Register
- UK Pavement Management System (UKPMS), link and section
- Geo-spatial co-ordinates for GIS

The joining of data using common features allows an integrated solution to reporting, where all attributes are not held in a common database.

1.6.5 Asset Registers

Asset registers are the repositories for all data associated with the asset. They are typically databases and in developed form are used to support maintenance management and the

management of defects, for an asset or group of assets. In their advanced form, they are integrated databases with geospatial referencing.

1.6.5.1 Highway Management System (HMS)

Our core register is the Highway Management System (HMS). It is used to manage our networks (National Street Gazetteer, other highway attributes), street works, highway inventory, routine maintenance, street lighting orders, compensation events and payments.

We migrated to the Yotta ‘Mayrise’ system in Feb 2016. It contains a comprehensive set of data (see 6.5.3) for 2016-17 and some limited historic data.

An NCC archive exists for data exported from the previous system. This can be accessed via reports.

The Yotta ‘Mayrise’ street lighting system has been used by the department and the PFI contractor (Amey) since the start of the contract in 2006. It stores the street lighting asset inventory as well as associated inspections, defects and works history.

1.6.5.1.1 Register: Highways Management System (HMS) Yotta (from Feb 16)

Both ‘Highway’ and Public Rights of Way together with permissive rights network ‘Trails’

Function	Tasks
Inventory	<ul style="list-style-type: none"> • Creation and maintenance of highway assets
Routine maintenance management	<ul style="list-style-type: none"> • Safety inspections • Defects • Routine rates • Works • Historic record • DLO works management • Reporting
National Street Gazetteer	<ul style="list-style-type: none"> • Creation and maintenance of the NSG network
Other highway centreline addition attributes	<ul style="list-style-type: none"> • Hierarchy • Reporting • R199B
Street works	<ul style="list-style-type: none"> • Street works register
Street lighting	<ul style="list-style-type: none"> • Residual highway assets • PFI • Reporting
Schemes ordering and invoicing	<ul style="list-style-type: none"> • Orders • Compensation events • Finals

1.6.5.1.2 Register: Pavement Management System (PMS) Yotta March

Function	Tasks
UKPMS	<ul style="list-style-type: none"> • Condition surveys • Reporting • Stats 130/1/2/3 • Valuation

1.6.5.1.3 Register: Auxiliary

The following table shows some of the systems, their functions, and tasks.

Register	Function	Tasks
Capital Programme Management	Schemes Management Information System (SMIS)	<ul style="list-style-type: none"> • Extent • Milestones • Budgets • Documents
Works Programme Database (WPDB)	Forward ST MT Programme	<ul style="list-style-type: none"> • Extent • Planned • Specification • Benefits
Monitoring Surfacing Scheme Database (MSSD)	Surfacing records	<ul style="list-style-type: none"> • Extent • When • Specification
Surface Dressing Tool (SDT)	Surface dressing	<ul style="list-style-type: none"> • Extent • When • Specification
Asset Management	Bridges	<ul style="list-style-type: none"> • Asset management
Geo-Spatial CAD	Urban traffic control	<ul style="list-style-type: none"> • Layouts
Key Accidents	Accident data	<ul style="list-style-type: none"> • None
Financial Information Management System (FIMS)	Payment records	<ul style="list-style-type: none"> • Record of financial transactions
In-house developed database	Traffic counts	<ul style="list-style-type: none"> • Manual classified • Ped counts (OandD) • Ped counts (crossing) • Ped counts (school crossing) • Ped counts (footway) • Radar gun speed survey • Laser gun speed survey • Vehicle occupancy • Bus passenger counts

Register	Function	Tasks
INRIX	Traffic data	<ul style="list-style-type: none"> From navigation applications like Google Waze
ViDA	Road Assessment Programme (safety)	<ul style="list-style-type: none"> Online software
VIVACITY	Traffic data	<ul style="list-style-type: none"> Detection of traffic modes and analytics
Area office, Legal Dept.	TROs	<ul style="list-style-type: none"> Records
Area office system	Permits and licenses	<ul style="list-style-type: none"> Location Permit agreement
NHT website	Customer satisfaction	<ul style="list-style-type: none"> Question sets Benchmarking Spatial distribution
NHT website	Efficiency	<ul style="list-style-type: none"> Question sets Benchmarking

1.6.5.2 United Kingdom Pavement Management System (UKPMS)

This register holds the UKPMS network which is the national standard to run accredited condition surveys for roads and footways.

1.6.6 Auxiliary Registers

1.6.6.1 Schemes Databases

Scheme financial and programme information is held on our Schemes Management Information System (SMIS).

Various Microsoft Access databases and Geo-databases hold construction history and proposals on the network.

Our structural maintenance forward programme is held in our Works Programme Database (WPDB), this is an Access database.

A record of road treatments is held in Geo-databases. Our Monitoring Surfacing Schemes Database (MSSD) holds resurfacing and the surface dressing is held on a similar system.

1.6.6.2 Structures

The structure data set was moved to Asset Management Expert (AMX) in July 2013.

Currently the HMS Inventory records the location and, where possible, the reference number of all bridges and other structures.

1.6.6.3 Urban Traffic Control

UTC system is a specialist stand-alone system that has within it, its own traffic signal inventory. The system is maintained internally by UTC.

It is held on an Access database and is exported to SDE for geospatial display.

1.6.6.4 Public Rights of Way (PROW)

We use Yotta HMS to manage the 'Trails' and PROW records.

1.6.7 Asset Data Sets

1.6.7.1 Inventory

The elements of the highway inventory held in our Highway Management System, were collected for the whole county via specialist contracts between 1996 and 2001.

As well as providing a location-based listing of the component elements of the network, the highway inventory is needed to calculate the current value for each of the assets. Since the valuation requires knowledge of each assets deteriorated replacement value, we need to be aware of the governance of the inventory and condition data.

Data collection, storage, retrieval, integration, and analysis are fundamental requirements of asset management. A user guide and data management plan has been established to support these activities.

The Inventory is held in asset groupings and is used in different ways by a wide variety of users. Requirements from the Inventory and the level of detail needed can be quite different. Users can be divided into two principal types:

- Operational users – requiring access to data of varying accuracy, on an almost daily basis and for whom the inventory is an essential tool. e.g., UTC, street lighting etc.
- Strategic users – needing summary information on a less frequent basis, such as providing answers to occasional technical queries, analysis, or preparing annual budgets and maintenance programmes. This use also includes the preparation of the annual valuation report and carrying out the necessary annual adjustments relative to the changing condition of the asset.

The level of detail required for different users will dictate the level of detail that an inventory needs to hold, and thus the level of maintenance it will need to sustain its accuracy and quality. Risk assessments of frequently used or that of high value data will indicate its accuracy and maintenance needs.

Some items are difficult to identify upon initial site collection such as filter drains which may have been overgrown and hence are only a partial data set. Since its completion, the inventory within Norfolk was maintained using as-built drawings from schemes or routine works, this is no longer done. Relying solely on this system has caused some deficiencies to occur in the past due to non-supply of records and available resources. Whilst some routine activities such as gully emptying are linked to inventory items and regular feedback from the contractor helps verify records.

The current valuation guidelines recognise these circumstances and allows assumptions to be made, for example surface water drainage pipelines.

The inventory is subject to ongoing review as part of the Data Management Plan to ensure that all the necessary data is being collected and maintained to enable the plan to function efficiently, subject to risk assessment based upon value for money.

The extent, reliability and confidence levels of the inventory data have been assessed and are shown in tables within Appendix E.

The current inventory can be described as still fit for current purposes. It is not as complete as possible but still functions for users and no wholesale recollection is currently planned. There are, however, several opportunities for ad hoc inventory collection or validation whilst a site is being visited for other purposes.

An exercise to collect inventory data on our cycleways is underway and will be completed by the end of the 2023/24 financial year. This may lead to other collections using a similar method, but this is most likely to be determined by the Data Management Strategy.

Understanding what items and what attributes of those items is to be collected is also being assessed as there are data sets that are not used and therefore little value is seen in recollecting.

1.6.7.2 Road and Footway Condition

Road surface condition data is collected through programmed machine-based surveys SCRIM (based upon Norfolk policy) and SCANNER (classified roads), and unclassified roads from 2019-20 (previously Coarse Visual Inspections). It is regularly refreshed by a fully funded survey regime.

The frequency of Highway Inspection schedules for both safety and condition can be seen in Appendix D (i) and (ii). This gives Norfolk sufficient data to enable it to meet the requirements for asset management, reporting for the single data return and WGA see section 7 and Appendices E and F.

1.6.7.3 Auxiliary datasets

Many items are held that provide additional useful information and condition data on specialist assets and function. These support the basic inventory and condition data, although are primarily used for other purposes. These can also be linked to the network data, and therefore be easily accessible, enabling a comprehensive picture of the asset obtained through mapping and analysis.

1.6.8 Extent of Asset Data

The tables contained in Appendix E show the groupings, extent and completeness of the Inventory and condition data in relation to:

- Asset Inventory and Condition Data Held
- Asset Statistics Confidence Levels
- Asset Inventory Confidence
- Asset Inventory Data Collection
- Asset Condition Confidence
- Asset Condition Data Confidence

1.0 Transport Asset Management Plan 2023-24

1.7 Valuation of the Asset

1.7.1 Future Guidance

The Chair of the Highways Asset Management Financial Information Group (HAMFIG), Chris Allen-Smith, wrote to the DfT in 2019 to seek some clarification as to the direction Highways Valuation is likely to travel. Within the correspondence it was suggested that a continuation be proposed but with a simpler way to deliver but one that will support Asset Management. It is believed that most Highway Authorities support this view.

Since this letter Highway Network Asset toolkit, which was published and updated by CIPFA and HAMFIG, has been withdrawn and appears not to exist anymore. The requirement for the HNA within the WGA has also reduced and it is back to a simple figure with a depreciated result worked through by finance but not using the Road Condition surveys.

A task to look at the expected lives of assets is being undertaken by the Engineer (Asset Management) and the Capital Finance team which will give an auditable flow of information and one that can be updated on a 5-yearly cycle.

Auditors, Ernst Young, have conducted a review of the Capital Finance approach to this HNA and are not happy with the present way it is calculated. This is a Norfolk issue but a whole wider picture and one that hasn't an answer at the moment. The task mentioned above is hoped to take Norfolk close to having these accounts qualified and at present the Government have placed a work around that authorities are using; however, this is being removed after 2024.

1.7.2 Background

In July 2005, the CSS and the TAG Asset Management Working Group published a 'Guidance Document for Highways Infrastructure Asset Valuation' as a companion document to the 'CSS Framework for Highways Asset Management'.

Asset valuation is the calculation of the current monetary value of an authority's asset. The current monetary value is defined as the depreciated replacement cost (DRC), which is the gross replacement cost (GRC), less the accumulated consumption. The GRC is the cost of replacing the asset with a Modern Equivalent Asset, using standardised Unit Rates. Accumulated consumption

Accumulated consumption is the depreciation in value due to ageing, usage, deterioration, damage, reduced service levels and obsolescence.

- Emphasizing the need to preserve the highway infrastructure by placing a monetary value on it.
- Demonstrating good stewardship by monitoring the asset over time.
- Supporting WGA and promoting greater accountability, transparency, and improved stewardship of public finances.
- Supporting highway asset management.

When published, these documents were supported by HM Treasury, ODPM, DfT, CSS, TAG and SCOTS, but further work was deemed necessary in association with CIPFA and the HM Treasury.

On the 19 March 2010 the resulting Code of Practice on Transport infrastructure assets Guidance to Support Asset Management, Financial Management and Reporting was published. This was superseded in 2016 by the latest version and is now called 'code of practice on the Highway Network Asset'.

The purpose of this Code is to support an Asset Management Plan (AMP) based approach to the provision of financial information about local authority transport infrastructure assets. The intention is that each authority should develop a single set of financial management information about these assets that is robust and consistent between transport authorities and supports:

- Good, evidence-based asset management, including development of a more cost-effective maintenance and replacement programme
- Delivery of efficiency savings and service improvements
- Long-term financial planning and budgeting
- Corporate capital planning and the operation of the Prudential Code
- Performance assessment and benchmarking
- Resource allocation, locally, at regional level and nationally
- Production of transparent information for stakeholders on the authority's management of its highway assets
- Production of financial information that meets the needs of Whole of Government Accounts (WGA) and National Accounts

1.7.3 Whole Government Accounts Timeframe

1.7.3.1 Progress

We had been working to a timescale set out by HM Treasury and CIPFA which had been altered several times. The process began in 2010 and thresholds for information had gradually been increased for the Highway sector year on year.

However, in March 2017 the CIPFA/LASAAC code Board decided not to progress with the financial reporting requirements for local authorities. The Board decided that, currently and in the absence of central support for key elements of the valuation, the benefits are outweighed by the costs of implementation for local authorities. The Board determined that it would give further consideration to the issue only if provided with clear evidence that benefits outweigh costs for local authorities.

Therefore, the process has stalled, and the requirement diluted due to the above and fundamental issues with Accountancy laws (difficulty conforming to IFRS) which was unable to be mitigated. This has meant that the figures quoted below (7.2.1.3.) are submitted to Government as part of the Whole Government Accounts (a yearly exercise) but are not entered onto the Authorities General Ledger. At this juncture it is unclear whether a second attempt may be made in the future or whether the process will only be used as an information gathering exercise.

In July 2023 we calculated a GRC of £19,624,850,000 for the year 2022-23 and an accumulated depreciation closing balance of £1,098,056,000, using the methodology

and supporting information provided at that time and this gave us a DRC of £18,526,794,000 the current value of our asset.

An internal audit was started in 2016 which was due to proceed an external audit by Ernst Young (EY) in the same year; this was dropped although initial signs indicated that we were well prepared.

1.0 Transport Asset Management Plan 2023-24

1.8 Budgets

1.8.1 Funding types

Funding for Highway Maintenance covers two elements:

- Capital, used for renewal of assets
- Revenue, primarily used for day-to-day, routine maintenance (cleaning and servicing activities), together within promotional activities such as road casualty campaigns and walking and cycling.

The Government provides funding to local authorities for both. Additional funding can be undertaken by Highway Authorities and contributions from others for example developers.

1.8.2 Sources of Finance

Capital funding for transport schemes is largely provided by government:

- The Highways Maintenance block grant
- Integrated Transport block grant, both determined through government formula
- Transforming Cities 2019-20, 20-21, 21-22, 22-23 + 1 year extension
- Active Travel Fund
- Bus Service Improvement Plan (BSIP) 22-23, 23-24, 24-25
- Local Levelling up Fund

The block grant capital allocations are not ring-fenced for transport and may be used to fund other County Council services.

The Highways Maintenance Block formula 2023-24, consists of:

- Needs based element
- Incentive element
- Permanent Pothole Fund

The Local Levelling Up Fund enabled one bid based upon Transportation for the County Council as Highway Authority. In August 2022, we submitted a £24.1m bid to the Government's Levelling Up Fund. This funding would go towards the £26.8m King's Lynn Sustainable Transport and Regeneration Scheme (STARS). In January 2023, the Government confirmed our bid was successful, subject to further approvals.

Revenue funding based on a formula is provided by the Government as part of the Formula Grant from the DCLG

Private sector funding is also available from developer contributions under Section 106 agreements, and the

Other sources of external funding can be from:

- District Council who may choose to promote Transport or Active Travel Schemes from their 'Town Deals'
- District Councils together with MP's may choose to promote Transport or Active Travel Schemes from their 'Local Levelling Up Bids'
- Community Infrastructure Levy (CIL) and Strategic Economic Plan (SEP)

The County Council may also choose to allocate funds for Capital Transport schemes both Maintenance and improvements from funds it raises through the Council Tax, other revenue grants and sources together with the sale of assets. It can also choose to fund Capital investment in transport schemes from borrowing.

The allocation of resources to the Community and Environmental Services Department and hence the highways budgets is decided annually by Members in the light of the Council Plan, Annual Performance Plan and Departmental Service Plans. The Department has delegated powers to allocate the overall highways budget to achieve best value and optimise the condition of the asset.

1.8.3 Recent and Future Funding

In the Government 2021 spending review they announced a flat 3-year settlement for 2022-3 to 2024-25.

Our Council can provide additional funding.

- In 2018-19 a £20m investment in Highways over a 4-year period. The investment was to be directed to integrated transport schemes. Some schemes from this programme are still in delivery.
- In 2021 a £10m investment in Highway Maintenance over a 4-year period.
- In 2021 a £1.5m comprising revenue and capital funding to resolve flooding issues, which was repeated in 2022/23. Support continues in 2023/24/25 with £0.5m pa for capital drainage works.

Whilst Government requires Councils to set budgets for at least 3 years, to reduce fluctuations in Council Tax levels, the actual allocation to Highway services may vary annually to enable response to changing priorities or budget pressures elsewhere in the Council or Government

Capital funding for highways is approved by our members annually as part of a report on the Highways Capital Programme 2023/24/25/26, a summary of planned spend can be seen in App G(iii).

Subsequently, government announced an additional £200m nationally for English local highway authorities in the March 2023 Budget, which equated to £6.356m for Norfolk County Council.

1.8.4 Allocation of Budgets

1.8.4.1 Routine Maintenance

The allocation is assessed to meet the standards contained within the lifecycle plans, contractual charges for energy, specialist maintenance such as traffic signals, gully emptying, street lighting, grass cutting, weed control and services such as weather forecasting, salt supply and road condition surveys.

Those budget elements where maintenance can be related to a frequency such as cleansing or have little public interaction, such as road studs, have been based upon our inventory, schedule of rates, assumptions on maintenance requirements to produce a budget based upon the frequency of treatment. This is also informed by risk-assessment. i.e., highway drainage gullies are cleaned at a higher frequency in areas of greater flooding risk.

The budgets for the remainder are based on historical data with variations from year to year to take account of variable weather, inflation, inventory increases and pressures in any particular area of work identified through customer demands, surveys, and inspections.

The budgets for routine maintenance in each area are allocated based on population demography. The budgets are kept under review through the year and changes in the allocations made to accommodate any specific pressures should they arise. Appendix G (i) shows the budget distribution for 2023-24.

The allocation for Public Rights of Way is based on historical information on expenditure and assessed need.

1.8.5 Structural Maintenance

The headline budget is informed by:

- Lifecycle plans for each asset type
- Available budgets
- Asset Management Strategy
- Pragmatic asset management approach to treatments

Annual reports are produced for members on:

- Capital Programme and TAMP on structural (capital spend) and standards - Jan/Feb
- Highway Asset Performance and TAMP report for comment on priorities, funding, and spending - July.

These form part of a 'Plan, Act, Do, Check' cycle.

The draft allocations and programmes are approved by our Cabinet member in September to enable schemes to be placed in early development for the following year. The allocation of the budget is subsequently formally approved by EDT

committee as part of the Highway Capital Programme. The allocations agreed by our Cabinet for 2023/24 as shown in Appendix G (ii).

Occasionally government may give later additional funding due to unusual circumstances. For example, 2023-24 Government made significant announcements in March 2023 for additional funding of £6.356m for 2023-24 which was reported by Delegated decision.

Recent Structural maintenance allocations to 2023/24 are displayed in App G(ix)

1.8.6 Integrated Transport

The LTP describes the County Council's transport strategy with the associated programme of schemes. The programme is developed to support local LTP objectives. The detailed improvement programme at scheme level is, where possible, linked to the Maintenance Programme to achieve better use of funds and minimise the impacts on the network.

Following central government funding reductions and local prioritisation towards structural maintenance, our members have approved the Integrated Transport spending from the DfT grant of £1.331m in 2023-24, with 2.8m going towards maintenance. However significant investment of £86.7m is available for integrated transport from other sources.

It is approved by our members as part of a report on the Highways Capital Programme, a summary of planned spend can be seen in App G(iii).

1.0 Transport Asset Management Plan 2023-24

1.9 Forward Programme and Optimisation

1.9.1 Development of Detailed Programmes

1.9.1.1 Maintenance

Asset management principles are used to assess budgetary options, distribute budgets between asset types and sub-types and multi-criteria analysis used to prioritise schemes within these budgets.

'A' and 'B' roads together with 'C' roads in Norwich City.

The programme is developed directly by the Asset team based on annual route inspections together with the UKPMS Condition Index analysis, and 'SCRIM' testing. The method of allocating the available funds to surface dressing, resurfacing and reconstruction is described below:

- Condition surveys organised
- Condition survey treatment recommendations displayed on Norfolk Mapping Browser
- Annual Route inspections to verify data, forward programme prioritisation and identify any new schemes
- Review condition data within scheme limits and recommend within treatments
 - Roads,
 - Intermediate - Surface dressing, 'Reclamite'
 - Long-life resurfacing, recycling, or reconstruction
- Core priority sites to confirm preferred pavement design.
- Consult Area, Laboratory, and delivery staff at Gateway 1 meeting.
- Confirm programme.
- On A roads only identify schemes with SCRIM values at or below investigatory level, investigate casualty record and add to the appropriate treatment programme, unless already identified in confirmed programme (within agreed time frame).

1.9.1.1.1 Remaining Roads and Footways

The programme is developed by the Area teams based on the locations identified by the engineering staff and their suggested remedial treatments, with review centrally to minimise variations in assessment of defects and appropriate remedial treatments. The process is described below:

- Condition surveys organised by Asset Team
- Condition survey treatment recommendations displayed on Norfolk Mapping Browser by Asset Team
- Inspections to verify forward programme prioritisation and identify any new schemes
- Review condition data within scheme limits and make recommendations for treatment
 - Roads

- Intermediate - Surface dressing, 'Reclamite'
 - Long-life - Resurfacing, recycling, or reconstruction
- Footway
 - Intermediate – Slurry Seal, Fine Cold Asphalt, Surface Dressing
 - Long Life - Resurface, Reconstruction
- Prepare draft programme to anticipated budget levels
- Consult Area, Laboratory, and delivery staff at Gateway 1 meeting
- Confirm programme

1.9.1.1.2 Drainage

The drainage programme is based on a priority assessment method which calculates a “score” considering:

- The extent and depth of flooding and where it occurs
- Category of road
- Traffic flows
- The type and number of properties flooded
- Whether the flooding results in splashing of property, cyclists, and pedestrians
- Alternative Routes

1.9.1.1.3 Area Managers Schemes

This small allocation is included to enable the four Area Managers and Norwich City acting as our agent to bring forward schemes based on the following criteria:

- Schemes that are too big for routine works
- Applies to all Marshall heads
- Likely to cost less than £11,000
- Should be easy to design and construct
- To cover some emergency works not contained in Routine
- Can be proposed by Member, Parish, customer, or Area staff
- Supported by local member and Area Manager
- Street Lighting and illuminated Traffic Signs
- This forms part of our PFI agreement.

1.9.1.1.4 Traffic Signals

The priority for replacement of older signal installations is based on a risk register which includes:

- Age of equipment
- Production status
- Scarcity of controller type
- Spares availability
- Whether installation is fully ducted with chambers
- Known replacement proposals
- Known maintenance problems

In addition, a User Risk Rating covering safety issues is applied where site maintenance ratings are identical. Schemes are ranked in priority order for bringing forward into the replacement programme.

1.9.1.1.5 Public Rights of Way

Work programmes are based on a risk assessment of the severity of the problem and the likelihood of its affecting others. Issue logged for attention as follows:

- High – if it affects a nationally, or regionally, promoted route
- Medium – if it affects a well-connected or well used path
- Low – if it affects only an isolated generally unused path or one that runs alongside another path

Defect response for PROW can be seen in Appendix (Dix).

1.9.2 Improvements

A process is in place to identify and prioritise various improvement schemes, taking account of:

- Service criteria
- Budgetary constraints
- Practical constraints

This provides a framework to assign proposals to either a longlist of schemes awaiting funding, or to the capital programme for delivery. The capital programme proposals are reported annually to members for approval.

In recent years, in addition to our annual LTP funding, a greater range of funding options has emerged (Transforming Cities Fund, Bus Service improvement Plan and Community Infrastructure Levy etc). The County Council keeps all available funding streams under review and submit bids where funding criteria are considered likely to be satisfied.

1.9.2.1 Footways

An assessment process is in place to suggest the relative priority for inclusion in the programme. The assessment includes the physical characteristics of the route, the availability and accessibility of safe areas off the carriageway, volume of pedestrian and vehicular traffic, age profile of pedestrians and accident data. In addition to the assessment score other factors such as proximity to schools, links to local services and public transport, condition survey and cost are considered in determining the programme.

1.9.2.2 Pedestrian Crossings

The initial assessment process identifies the need for a site to be assessed in more detail. The priority for these assessments is based on the level of expected use, the casualty history and the proximity to schools, homes for the elderly, local services, public transport, etc.

The inclusion of a scheme in the programme for construction is reliant on the outcome of the detailed assessment in terms of the form of the crossing, cost, and timescale for its construction.

1.9.2.3 Local road schemes

This covers delivery of:

- New and improved access roads
- New and improved junctions
- Road dualling and widening

Priority is given to the improvement of the agreed Route Hierarchy. The priority of potential schemes is based on casualty data, congestion delay, delivery costs and buildability i.e., are there any land constraints.

In some cases, improvements can be funded from the Local Safety Schemes Budget, but in most cases, this is not possible because the cost of the works results in a low cost/benefit rate of return. Other factors including the potential benefits for pedestrians and cyclist are considered.

1.9.2.4 Public Transport Improvements

Schemes are brought forward to achieve the priorities and targets within the Bus Strategy, Interchange Strategy, Rail Strategy and Demand Responsive Transport.

1.9.2.5 Cycling

The county Council has developed a cycling and walking strategy which provides a developing framework to promote this part of the network, and with a view to accessing suitable funding streams.

It is developing a 'Countywide' Local Cycling and Walking Infrastructure Plan (LCWIP). Some elements such as Greater Norwich, Great Yarmouth and surrounding villages, Kings Lynn, and Surrounding villages, and Dereham are more progressed and are going through a consultation and approval programme. In addition, a series of Market Town Walking and Cycling Studies have previously identified measures to develop networks within the towns, these will be brought forward in a similar way as funding permits.

Priority is given to those schemes that will generate increased cycle use, enable complete routes to be established, be completed within funding timescales and meet funding criteria if bid based.

1.9.2.6 Local Safety Schemes

Proposed improvement at cluster site locations that achieves a first-year rate of return of 200% or more are considered for inclusion in this programme. Priority is given to those achieving the higher rates of return but other factors such as the contribution to other LTP objectives, and timescales for implementation are considered when developing the programme.

1.9.2.7 Traffic Management

The programme contains small-scale schemes to introduce or modify speed limits, waiting restrictions and weight restrictions to deal with local concerns as part of our

local member funding stream. Larger scale improvements are included within the “other improvements” category.

1.9.2.8 Other Improvements

This category includes larger traffic management schemes and pedestrian priority schemes. These schemes implement elements of network improvement strategies and often linked to regeneration aspirations of Town and District Councils. This is often determined by the availability of external funding such as Town Deal available to District councils.

1.9.2.9 Traffic Calming

A detailed assessment method looks at accident rates and vehicle speeds. The County Council does not promote a ‘Traffic Calming’ programme, however it may be introduced as an element of another scheme type such as:

- Local Safety - Only schemes likely to reduce casualties are brought forward, and those are prioritised based on casualty reduction potential.
- Cycling – Were speed needs to lower
- Parish Partnership/Local Member Fund

1.9.2.10 Bridges

The purpose of the Bridge Strengthening programme is to enable the network to be accessible to all vehicles. Priority is given to those weak bridges on the Route Hierarchy network, although the actual programme has to reflect the priorities of the owners of rail or other private bridges.

1.9.2.11 Parish Partnerships

This programme was established in 2012. Parish and Town Councils can bid for match funding to deliver small highway improvements which are a priority for local communities. Popular bids in recent years include ‘trods’ (unbound footways) and SAM” (flashing speed signs)

1.9.2.12 Transforming Cities

Is a DfT fund aimed to improve productivity by investing in public and sustainable transport infrastructure in English cities. Norfolk was one of the 10 successful authorities in applying for investment and have a 4-year programme in Greater Norwich which ran until 2022-23 and had a 1-year extension to 2023-24. This longer-term funding horizon has enabled the coordination of improvement and various types of maintenance works.

1.9.2.13 Bus Service Improvement Plan

In April 2022 Norfolk was one of just 31 Local Transport Authorities to receive funding to deliver measures outlined in their BSIP, which was one of the highest allocations in the country. The allocation is £49.55m over 3 years (April 2022 – March 2025) split between £30.9m for capital measures and £18.6m for revenue interventions.

1.9.2.14 Norfolk Strategic Infrastructure Delivery Plan (NSDIP)

Other significant major projects are being scoped using available funding sources but are not yet developed to enough detail or have confirmed funding to be included in the 2-year capital build programme.

These are part of the Norfolk Strategic Infrastructure Delivery Plan which is annually refreshed and was reported to the Infrastructure and Development committee on the 17th November 2021 and published December 2021. Those which would form part of our adopted road network are:

- North-east Norwich Link Road (Growth Triangle Road)
- Attleborough Link Road
- A10 West Winch Relief Road
- A140 Long Stratton Bypass
- Fakenham A148 Roundabout Enhancement
- Norwich Western Link
- A17/A47 Pullover junction, King's Lynn

[The NSIDP can be viewed on NCC's website.](#) This sets out Norfolk's high-level strategic infrastructure priorities for the next 10 years and has an [accompanying online map](#) presenting all the projects in the NSIDP as one vision for Norfolk.

1.9.3 Scheme Development

Improvement schemes are typically developed through the feasibility, preliminary and detailed design stages. Through these stages the optimum scheme is developed by consideration of the items listed below. The extent to which these items are considered varies from scheme to scheme depending on their complexity, cost, timescales, extent of public consultation etc.

Definition of the problem.

Identification of the opportunity or problem through LTP Strategy, surveys, network analysis, correspondence, or accident information. Details of any surveys that have been carried out, or required, together with standard assessment methods. Details of any inter-group discussions and liaison with the Laboratory.

- Define the stakeholders.
Define who is affected by the problem and who the likely beneficiaries are. List those persons who either need to input in the process or who should be advised of the outcomes.
- What are the constraints?
Define any constraints imposed by existing features e.g., SSSI's or listed buildings. List other constraints such as budgetary measures, programme requirements NRSWA requirements, any constraints imposed by other schemes in the area.

- What are the solutions available?
Look at all possible solutions to address the problem/issue having regard to any constraints.
- Are the solutions deliverable?
Carry out checks to ascertain delivery given any constraints imposed by outside factors. Can the constraints be overcome or alleviated by other measures?
- What are the costs associated with each solution?
Prepare detailed estimates of each solution outlining the certainty of cost and any items which may be subject to change?
- What are the perceived benefits from each solution?
List all benefit both in qualitative and financial terms. Financial benefits will include savings e.g., from predicted reductions in accidents following completion of an improvement scheme.
- Define and assess the risks associated with a scheme?
 - Assess the risk, particularly related to potential insurance claims based on advice from Insurance Section, of using different types of materials.
 - Assess the risks of completing and not carrying out the scheme.
 - Assess the risk of any stage completions and how these can be minimised.
- Define the solution from which the greater benefits can be derived.
Compare perceived benefits with the cost of each solution to arrive at optimum solution also having regard to any financial and programming constraints.

Maintenance schemes have more certainty of options and outcomes, with a palette of treatments depending upon key considerations regarding the asset strategy, condition, function, and network management. Planning and decision making can be advanced by undertaking road cores for surfacing proposals and trial holes for Drainage works.

1.9.4 Programme Development

1.9.4.1 Opportunities and Restraints

The ability to maintain and improve the assets depends on the level of funding available and the agreed forward of funding.

The proportion of these allocated to the asset groups and the effectiveness of the targeting of the resources based on the asset management strategy (see section 4), relevant lifecycle plan, condition or any other policies or priorities.

In 2014-15 the government announced a 6-year spending commitment. This concluded 2020-21. One-year settlements followed. In the 2021 spending review a flat 3-year settlement with no allowance for inflation, was announced for 2022-3 to 2024-25. In the March budget government gave an additional £6.4m for highway maintenance in 2023-24.

Every effort is taken by our Asset, Programme and Funding and Capital Team, who develop both maintenance and improvement programmes to coordinate these to optimise value for money and minimise disruption for the travelling public.

However, this is currently challenging as most of the improvement works are funded by bidding opportunities, with limited warning and limited lead-in times. In Norfolk recent large-scale investments have been made through the Maintenance Challenge Fund £10m, LEP (Growth Fund) £20m+, City Cycling Ambition Grants £16m, Transforming Cities Phase 1 £6m and Phase 2 £32.4m, and Bus Service Improvement Plan £30.9m (capital)).

In addition, Major projects such as the Norwich Northern Distributor Road £205m have been completed; being constructed namely the 3rd River Crossing Great Yarmouth £120m, recently approved Long Stratton Bypass or developed for example North West Link, West Winch Housing Access Road.

1.9.4.1.1 Traffic Management Act

The Traffic Management Act (TMA) requires us to change from our traditional role of asset providers and maintainers to one of network operator. As network operator we are required to minimise disruption for network users through better planning and coordination of all works, whether by utility companies or our own. Though this restriction could have implications on the cost of works, if contractors are unable to start works earlier than notified if resources are available, it ensures that those who live close to the works site or use the network are informed of our intentions and we consider their needs alongside our asset management needs. We are responding to the TMA by doing more detailed advanced planning to give earlier certainty of programming and will also make it easier for us to consider, understand and explain the consequences of programme changes to our network users and stakeholders.

1.9.4.2 Current Programmes

Currently the County Council has the following programmes:

- Maintenance
 - Indicative 5-year programme for A and B road maintenance works based on survey data. the Cabinet Member for Highways and Infrastructure, and then Members are consulted through annual Area Office surgeries. See Appendix G (v - vi).
 - Indicative 5-year programme of maintenance schemes for non-principal roads based on inspection data. The annual programme is agreed with the Cabinet Member for Highways and Infrastructure, and then Members are consulted through annual Area Office surgeries. See Appendix G (v - vi).
 - Budget distribution is approved by the Cabinet
 - Annual programme of smaller scale area manager schemes is agreed through consultation with local members and the Area Office.

- Improvements
 - A 3-year programme of named schemes is approved at Full Cabinet, with years 1 and 2 being more detailed See Appendix G (iii). This includes outside funding sources. Beyond this an indicative programme for the years 3 to 5 is also updated annually.
 - Parish Partnerships. Though contained at summary level in the above, the annual detailed programme is approved at a separate meeting
- A Street lighting replacement programme is delivered within the street lighting PFI contract.

1.0 Transport Asset Management Plan 2023-24

1.10 Adaptation to Climate Change and the TAMP

1.10.1 Introduction

Norfolk County Council has a key role in addressing the impacts of climate change on its services, in addition to any statutory obligations it has. Fundamental aspects to this responsibility are:

- Embedding climate impacts and risks across council decision making and delivery of functions.
- Implementing appropriate adaptive responses in all priority areas.
- Working with Partnerships to take a risk-based approach to managing major weather and climate vulnerabilities/opportunities across the wider local authority area.
- More recently (November 2019) the County Council adopted a comprehensive environmental policy that had stretch targets to achieve carbon neutrality by 2030 on its estate. While the focus on this is a reduction in emissions, that is mitigating the impacts due to the release of fossil fuels, there needs to be an understanding that adaptation to the inevitable changes that historic impacts have made also needs to be taken. This is implicit within a number of the themes within NCC's new policy.

1.10.2 Climate change – some background

1.10.2.1 Adaptation vs mitigation

Within the terminology used around climate change two are key terms – ‘Adaptation’ and ‘mitigation’.

- ‘Adaptation’ is the response to the impacts that are already happening, such as the impacts derived from the increased incidence of extreme weather events – across all seasons.
- ‘Mitigation’ is a term that addresses actions that are applied to reduce the causes of climate change.

1.10.2.2 Climate vs Weather

Weather is often confused with climate. The difference between weather and climate can be remembered as *‘climate is what you expect, weather is what you get.’*

Climate change is concerned with long term trends in weather - often over an average of 30 years or more of weather data. That way trends can be identified.

1.10.2.3 Inevitable climate change

Due to historic emissions of greenhouse gases and their lengthy atmospheric lifetimes, we are committed to an inevitable degree of climate change, irrespective of the mitigation measures we may put in place now. This is illustrated in the following diagram:

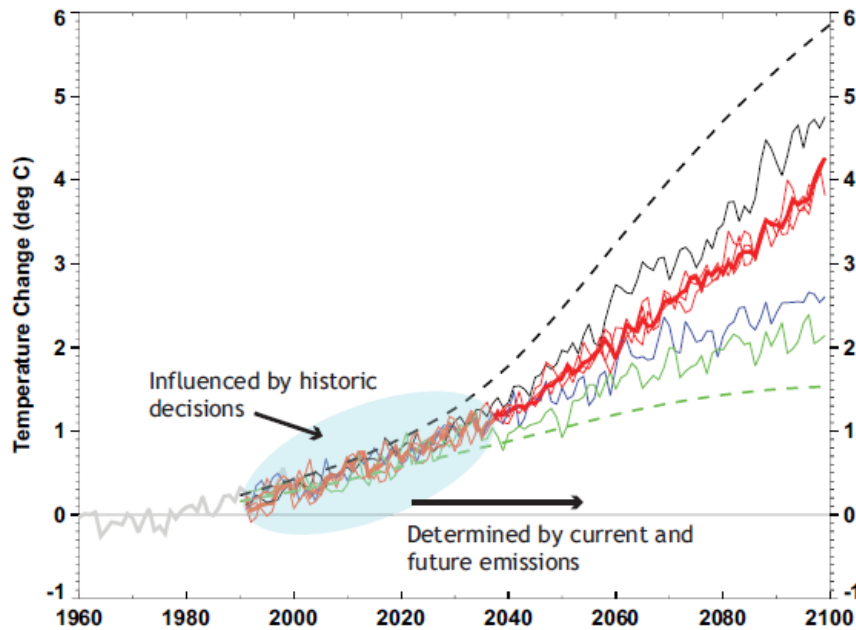


Figure 1 – Inevitable climate change. The shaded blue area denotes the amount of climate change to which we are already committed due to historic emissions and the atmospheric lifetimes of greenhouse gases (source: UKCIP, 2010). Note: for information on modelling future climate change and emissions scenarios, you may view [the UKCIP website](#).

Given the changes happening now, we will need to consider how we ensure this understanding is embedded in all key decision-making processes, not least the impacts on transport networks.

1.10.3 What can we expect in Norfolk?

In essence, the effects of future climate change can be divided into three distinct changes:

- Hotter, drier summers
- Warmer, wetter winters
- Coastal change

Inevitably due to these polarised seasonal changes. For example, more severe weather events such as storms or increased levels of rainfall are increasingly being seen. This will lead to on the ground impacts. As such this has required the Council to consider the risks to service delivery of any changes in the climate.

1.10.4 Top five risks for Highways and Transportation

Risk assessment work done to date has identified the following concerns impacting upon the highway:

- Increase in frequency and intensity of fluvial and surface water flooding of highways
 - Increases in the frequency and intensity of fluvial and surface water flooding events may result in flooding of the highways due to exceeding drainage capacity.
- Increased heat-induced damage to highways surfaces (e.g., bleeding, rutting, and tracking)

- Increases in the frequency and intensity of heat waves are expected to increase heat-induced damage to highways surfaces (e.g., bleeding, rutting, and tracking).
- Increased flood related damage to bridges and culverts
 - Increases in the frequency and intensity of fluvial and surface water flooding may result in increased flood related damage to bridges and culverts.
- Increased storm surge flooding of the highways network
 - Increases in frequency and intensity of storm surges may result in increased flooding of the highways network.
- Increased maintenance of soft estate
 - Warmer, drier summers and warmer, damper winters are expected to enhance rates of vegetation growth, resulting in a longer growing season.

For the latest information with regarding climate change as it affects the East of England, check the UK Climate Impacts Programme on [the UKCIP Website](#)

1.10.5 What are the TAMP's adaptive options?

There can be any number of different adaptation options available for any given risk. As a guide there are five areas or types of adaptation that the TAMP could consider:

- Increase understanding about vulnerability (and opportunity) posed by climate changes e.g., conduct a risk assessment / keep abreast of changes in climate change science
- Adapt plans to ensure correct procedures are in place to cope with climate change risks e.g., business contingency plans
- Protect risk receptors financially by sharing the risk with insurance
- Enhance risk receptor in situ or move it away from vulnerability or towards opportunity
- Work with other organisations, especially where risk synergies exist, to share the costs and benefits of adaptation

For more information about adaptation options see the [UKCIP Adaptation Wizard](#).

These provide additional tools that can enable you to understand the issues involved and assist a strategic and operational approach.

1.10.6 Managing climate change risks

1.10.6.1 Business Continuity

We have completed some work to look at adaptation to climate change and business continuity links and we have encouraged departments to consider these links particularly when looking at risks to their service in the longer term.

1.10.6.2 Service Planning

It is important as part of any risk assessment process that managers are encouraged to consider how they can 'future proof' their services against climate change.

1.10.6.3 Strategic Planning

As an additional statutory requirement that can impact upon responses that factor in climate change, NCC has obligations under the Flood and Water Management Act 2010. Therefore, a Flood and Water Manager and SuDS engineer are available for advice on infrastructure issues pertaining to the highway.

NCC as a Lead Local Flood Authority (LLFA) is now statutory consultee in the planning process. Currently restricted to standing advice unless thresholds met.

1.10.6.4 Corporate Risk Management

Our corporate risk register does not currently hold long term risks. Therefore, our current position on dealing with long term risk, such as climate change, is to encourage departments to liaise with Business Continuity and Climate Change teams where appropriate, if they are uncertain as to what impacts are associated with their service area. Alternatively, they can explore impacts via UKCIP's 'Adaptation Wizard'. [Access via their UKCIP Adaptation Wizard website.](#)

1.10.7 Transport Network Resilience

The severe winter weather of 2013/14 had a major impact on national transport systems, including many local roads which were subject to localised flooding for prolonged periods e.g., Somerset Levels

As a consequence of this disruption, the Secretary of State for Transport commissioned a Transport Resilience Review, which was published in July 2014. The Department for Transport supported all 63 Recommendations.

A key recommendation of the 2014 Transport Resilience Review for Local Roads is "that Local Highway Authorities identify a 'resilient network' to which they will give priority, in order to maintain economic activity and access to key services during extreme weather."

In November 2015 the members of our ETD committee approve the 'Resilient' network see Appendix C(ix). This was reviewed in 2018 with the Broadland Northway (Norwich Northern Distributor Road) added upon its construction. It was again reviewed in 2020 and 2022.

The resilient network will be used as a basis for decision-making and included in the prioritisation criteria for relevant assets.

All risks associated with the resilient network will be documented together with mitigation and be subject to review.

1.10.8 Flood and Water Management

The Flood and Water Management team has completed the Preliminary Flood Risk Assessment (PFRA) for Norfolk. The PFRA is a high-level assessment of significant flood risk describing both the probability and harmful consequences of past and future flooding. It concentrates on the potential impact of flooding on people, business, and critical services (e.g., hospitals, energy/water supply). Areas of concentrated risk are prioritised for detailed studies such as through Surface Water Management Plans.

1.10.8.1 Surface Water Management Plans

A Surface Water Management Plan (SWMP) is a framework to help understand the causes of surface water flooding and agree the most cost-effective ways of managing

surface water flood risk. Surface water includes flooding from surface run-off, ordinary watercourses, and ground water.

The main outputs are a co-ordinated Action Plan to prioritise projects to reduce surface water flood risk and detailed mapping of areas prone to surface water flooding.

SWMPs have been undertaken in the Norwich Urban Area, sixteen settlements in the Borough Council of King's Lynn and West Norfolk and the Borough of Great Yarmouth.

A rolling programme of Flood Risk Assessments is underway to cover all other prioritised settlements of concentrated flood risk.

1.10.9 Further Flood Risk Studies

The PFRA highlighted areas of risk that needed further county-wide studies that stand outside the remit of SWMPs. These studies will look at the flood risk to the transport network, agricultural land, heritage sites, important habitat, and critical infrastructure. Further assessment of the flood risk from groundwater and ordinary watercourses will feed into these studies.

1.0 Transport Asset Management Plan 2023-24

1.11 Risk Management

1.11.1 What is Risk Management?

Risk management is the planned and systematic approach to the identification, analysis, evaluation, treatment and monitoring of risk. The main objective of risk management is to ensure that threats to achieving the organisation's objectives are appropriately managed. Risk management is an integral part of corporate management for Norfolk County Council.

More detailed information about the approach to risk management within Norfolk County Council can be found at [Norfolk's Risk Management webpage](#).

Risk management should be effectively used to minimise the negative effect of threats and maximise the benefits of potential opportunities. Therefore, risk management is about asking:

- What can go wrong?
- What are the consequences of something going wrong?
- What are we already doing about it?
- What more can we do about it?
- What level of risk can we tolerate?
- What opportunities can we capitalise on?

1.11.2 Benefits

Some of the potential benefits from risk management are:

- Increased likelihood of achieving our objectives
- Improved identification of opportunities and threats
- Raised level of awareness of the need to identify and treat risks
- Earlier identification of risk events
- Better compliance with relevant legal and regulatory requirements
- Improved levels of governance
- Enhanced public reputation
- Improved stakeholder confidence and trust
- More established and reliable basis for improved decision making and planning
- Improved levels of compliance and professional standards
- More effective allocation and use of resources dedicated to risk treatment
- Enhanced performance in areas such as health and safety, environmental protection and data protection
- Reduced claim costs, fines and penalties
- Improved loss prevention and incident management
- Improved organisational resilience

1.11.3 Types of Risk

The categories of risk that can be found within the Communities and Environmental Services department are:

- **Professional/Operational:** those associated with the particular nature of each profession.
- **Economic/Commercial:** those associated with financial planning and control and the adequacy of risk financing policy. Those affecting the ability of the council to meet its financial commitments.
- **Health, Safety and Welfare/Human Resources:** those related to possible breaches of Health and Safety legislation and to the well-being of all stakeholders.
- **Information/Project Management:** those associated with managing information including issues of data protection and freedom to information. Those related to IT/communications systems. Those related to management of projects.
- **Technological:** those associated with our capacity to deal with the pace/scale of technological change, or our ability to use technology to address changing demands.
- **Contractual/Partnership:** those associated with the failure of contractors/partners to deliver services or products to the agreed cost and specification. Those related to services provided by the council to external organisations.
- **Physical:** those related to fire, security and accident protection (for example hazards/risks associated with buildings, vehicles, plant, and equipment).
- **Environmental:** those relating to the environmental consequences of realising our objectives (e.g. in terms of energy, efficiency, pollution, recycling, climate change and sustainability).
- **Business Continuity:** those associated with the inability to continue delivering the services to the public to an acceptable level following the occurrence of an incident.
- **Reputational:** those associated with the public confidence and the image of the council that the public has of the services it delivers.
- **Political:** those associated with failure to deliver either local or central government policy, or to meet the local administration's targets.
- **Legal/Statutory:** those associated with the current or potential changes to legislation at national and international level.
- **Procurement/Commissioning:** those associated with letting large contracts and commissioning new services.
- **Fraud and Corruption:** those associated with theft, embezzlement, fraud, bribery, corruption and money laundering.

1.11.4 Risks and the Transport Asset Management Plan (TAMP)

Risk management has been included in the TAMP. It is possible to apply our corporate risk matrix to any planned activities, including:

- Highway defect response arrangements using these principles, see Appendix D (vii) and D (viii)
- Performance indicators and associated targets (see individual lifecycle plans)
- Frequency based operations
- Tasks
- Finance

Risks will commonly be described as being categorised as either Financial/Commercial or Professional/Operational within the corporate guidance.

1.11.5 Risk Score

The risk score (demonstrating its significance) is calculated using a matrix described in the corporate document "Well Managed Risk - Management of Risk Framework". The matrix can be

viewed in the following illustration and is used for scaling the severity of risk, by considering various factors, such as service delivery, and potential financial loss).

The following matrix shows how the corporate risk template has been used for the highway defect risk register.

Likelihood	Insignificant impact: 1	Minor impact: 2	Moderate impact: 3	Major impact: 4	Extreme impact: 5
Almost certain: 5	5	10	15	20	25
Likely: 4	4	8	12	16	20
Possible: 3	3	6	9	12	15
Unlikely: 2	2	4	6	8	10
Rare: 1	1	2	3	4	5

1.11.5.1 Matrix key

Risk score	Response type	Timeframe to manage risk
High risk (25)	A	2 hours
Higher medium risk (12-20)	B	Up to 4 days
Lower medium risk (5-10)	C	Up to 35 days
Low risk (1-4)	D	More than 35 days (repair during next available programme, schedule a more detailed inspection or review condition at next inspection)

1.11.6 Likelihood Score

- 1: Rare - The defect will mean an incident may occur only in exceptional circumstances
- 2: Unlikely – The defect will mean an incident is not expected to occur
- 3: Possible - The defect will mean an incident might occur at some time
- 4: Likely - The defect will mean an incident will probably occur in most circumstances
- 5: Very Likely - The defect will mean an incident is expected to occur in most circumstances

1.11.7 Impact Score

Descriptor	Level 1: insignificant	Level 2: Minor	Level 3: Moderate	Level 4: Major	Level 5: Extreme
Personal injury	Insignificant injury, a third party might stumble but not fall.	Minor injury, a third party might stumble and fall.	Personal injury that may result in a short-term recovery (less than a week no requirement for hospital treatment).	Personal injury that may take longer to recover (more than a week). Hospital treatment and possible medical treatment at location.	Serious injuries that may result in fatality or life changing injuries requiring long term hospitalisation. Medical attention at incident location.
Vehicle damage	Insignificant damage to a vehicle of any type.	Minor damage to a vehicle. Nothing that would require specialist mechanical intervention.	Significant damage to vehicle, requiring garage intervention	Extensive damage to a vehicle requiring long term garage repairs and extended hire costs.	Total loss of vehicle.
Property damage	Insignificant damage to property	Visible damage	Clear and attributable damage	More than one property suffering from damage	Temporary loss of use of property

1.11.8 Risk Registers

The department holds all its recorded risks in four levels of register. These are:

- Corporate – those of corporate significance that require monitoring at a County Leadership Team (CLT) level and reported to the Audit Committee quarterly.
- Departmental – Significant risks to the Department that need to be managed at a Departmental Management Team (DMT) level and reported to Committees quarterly.
- Service – risks affecting the service that need to be managed within the service.
- Project – held within individual project risk registers (note risks can be escalated on to the Departmental risk register)

(Monitored by Project Owners, Project Managers or Project Boards)

The Communities and Environmental Services Departmental Risk Register and Highway Service Risk Register contains risks (where relevant) and they are updated monthly/quarterly as appropriate. They focus on the real risks we face that will prevent us delivering a service or achieving an objective, along with what the outcome would be if the risk is realised.

Where areas of risk are common to more than one service, such as elements of financial/budgetary risk against service delivery it may be sufficient to hold a central risk on the

register owned by Finance or a similar support service. DMT will decide whether this approach should be taken.

Monitoring includes assessing whether the risk score is still accurate, updating progress and reflecting any new developments. Strategic corporate risks are reviewed centrally (by the Risk Management Function within Norfolk Audit Services) to help ensure that there is consistency across the Departments.

Risks can also be escalated or de-escalated to other registers (or removed from Registers) as the Risk Score, progress against mitigation measures and overall importance are monitored.

1.11.9 Business Continuity and the Transport Asset Management Plan

Business Continuity Management involves identifying critical services provided by Norfolk County Council and planning to minimise the likelihood of any disruption to these services. Where an incident does occur, pre-defined strategies aim to limit the time services are disrupted.

The TAMP covers assets without which we would struggle to provide many of our critical services – everything from emergency response, caring for the vulnerable and providing registrar services rely on a transport network capable of allowing movement of people, resources and waste. Highway services such as winter maintenance, emergency fault notification and repairs to the highway are themselves ‘critical activities’.

A key recommendation of the 2014 Transport Resilience Review for Local Roads is “that Local Highway Authorities identify a ‘resilient network’ to which they will give priority, in order to maintain economic activity and access to key services during extreme weather.” Norfolk established its resilience network in Nov 2015 and can use it to help manage risk and prioritisation of proposals.

Although our critical activities are focussed around those services which must be up and running 24 hours every day, the principles of forward planning and resilience are ones which have a much wider application.

In terms of the TAMP, Business Continuity Management (BCM) principles encourage thinking about the lifetime of any capital investment, considering future changes including potential impacts of climate change, economic and political shifts, energy security and sustainability.

More information about the BCM process can be found at [Norfolk's Business Continuity webpage.](#)