HIGHWAY INFRASTRUCTURE MAINTENANCE PLAN

July 2018

Contents

Executive summary

The 'Well-Managed Highway Infrastructure: A Code of Practice' (WMHI) was published on 28th October 2016. It is designed to promote the adoption of an integrated asset management approach to highway infrastructure, linked to its 36 recommendations, based on the establishment of local levels of service through risk-based assessment.

This document is Nottinghamshire's approach to the adoption of these principles and acts as a reference between the WMHI and the County Councils existing suite of highway documentation. These documents have been reviewed as part of this process.

The table below shows a summary of the progress made against each recommendation and any further work that needs to be carried out.

Summary of progress against the 36 recommendations		
Recommendation	**Progress**	**Further work required**
1. Use of the Code	Adoption of the Code	
2. Asset Management Framework	Approach developed for NCC	
3. Policy and Strategy	Policy and strategy developed	Needs to be published.
4. Engaging with Stakeholders	Engagement strategy developed	Website need to be utilised.
5. Consistancy with other authorities	Engagement with other authorities	Ongoing engagement through MSIG and other groups.
6. An Integrated Network	Whole street approach	
7. Risk-based approach	Policy and strategy developed	
8. Information Management	Secure infrastructure developed	
9. Network Inventory	Asset inventory developed	
10. Asset Data Management	Asset data regularly reviewed	
11. Asset Management Systems	Accessible to relevant people	
12. Network Hierarchy	Network Hierarchy developed	
13. Whole Life Maintenance	Lifecycle planning embedded	The HIAMP details the means of assessment that needs to be applied to the whole of the highway network. This will establish an overview of the maintenance treatment band for every street section and from this how each street fits in with the Life Cycle plan.
14. Risk Management	Risks/mitigation of assets reviewed	This is a continuous process involving risk consideration at many levels. The day to day risk management aspects are detailed in the HIRM whereas the more strategic risk associated with the resilience of the network are considered in the HIAMP.

Recommendation	Progress	Further work required
15.Competencies and Training	Information captured	Roles identified. Training as detailed in the HIAMP needs to be disseminated through the organisations to ensure the staff involved meet the required competency.
16.Inspections	Risk based approach developed	
17.Condition Surveys	Risk based approach developed	
18.Management systems & claims	Dashboard developed	Continuous process based on audits of both data and working practices to ensure accuracy and standards are being maintained across the various service areas.
19.Defect Repair	Risk based approach developed	
20.Resilient Network	Network identified	Ongoing Partner engagement through MSIG and other groups.
21.Climate Change Adaption	Risk based approach developed	
22.Drainage Maintenance	Risk based approach developed	
23.Emergency Planning	Emergency plans developed	
24.Communications regarding Emergency ~~Planning~~	Communications strategy developed	
25.Learning from events	Emergencies rehearsed & reviewed	
26.Performance Management	Framework developed	
27.Performance Monitoring	Monitoring framework developed	
28.Financial Plans	Financial plans in place	Continuous process balancing the needs of the network against the available funding and keeping key stakeholders aware of the impact investment level has on the highway network.
29.Lifecycle Plans	Principles adopted	
30.Cross Asset Priorities	Whole street approach	
31.Works Programming	2-year programme developed based on a Candidate List of sites	Develop a 5-year programme based on a Candidate List of sites.
32.Carbon	Implications considered /acted upon	Working towards BSI 14001.
33. Consistency with character	Treatments empathetic with the site	Continuous Partner engagement through design process.
34.Heritage Assets	Heritage assets recorded & mapped	
35.Environment Impact, Conservation	Treatment empathetic with issues	
36.Minimising Clutter	Redundant street furniture removed	Continuous review required through design process

Foreword

The publication of 'Well-Managed Highway Infrastructure: A Code of Practice' (WMHI) in October 2016, has given Nottinghamshire the opportunity to review what is required from its highway management functions and the levels of service the County Council wishes to promote.

A risk based approach to managing the Authority's Highway Assets allows us to reconsider how we manage the risks associated with the management of a large and varied dynamic highway network. It is important that Nottinghamshire maintains its highway network in a condition which is safe, resilient and free-flowing for all road users and remains a well-connected place to live, work and visit.

The development of this document has allowed us to review how the Authority may incorporate and engage with the recommendations contained in the WMHI. This has allowed us to implement the guidance contained in the new code, considering local needs, priorities and cost of the service.

This document outlines Nottinghamshire's approach to the adoption of risk-based principles in accordance with the guidance contained in WMHI and acts as a response to the code of practice and interface the County Councils existing highway documentation.

- Highway Network Management Plan (HNMP)
- Highway Infrastructure Asset Management Plan (HIAMP)
- Highway Inspection & Risk Manual (HIRM)

We have drawn on the 36 Recommendations of the WMHI and linked these to the relevant areas of Nottinghamshire's policy, strategy and plan, for the Highway Service. Development of this document has led to a review of the above documents to ensure they meet the guidance being promoted, whilst also being in keeping with Nottinghamshire's needs.

Cllr John Cottee

Chairman of Communities & Place Committee

Nottinghamshire County Council

Introduction

The 'Well-Managed Highway Infrastructure: A Code of Practice' (WMHI) was published on 28th October 2016. It applies to the whole of the United Kingdom and is designed to promote the adoption of an integrated asset management approach to highway infrastructure, based on the establishment of local levels of service through risk-based assessment. Recognising that many local authorities require time to consider the implications of the WMHI, a phased 2-year period of introduction has been allowed which comes to an end on 31st October 2018.

This WMHI replaces the previous Codes of Practice for Well Maintained Highways, Well-lit Highways, Management of Highway Structures and Management of Electronic Traffic Equipment; which previously provided local authorities with guidance on highways management.

The intention of this WMHI is that Authorities will develop their own levels of service and hence the code provides guidance for authorities to consider when developing their approach in accordance with local needs, priorities and affordability.

Changing from reliance on specific guidance and recommendations in the previous Codes to a risk-based approach determined by each Highway Authority has involved appropriate analysis, development and gaining of approval through authorities' executive processes.

This document is Nottinghamshire's approach to the adoption of these principles and acts as a signpost between the WMHI and the County Councils existing suite of highway documentation.

- Highway Network Management Plan (HNMP)
- Highway Infrastructure Asset Management Plan (HIAMP).
- Highway Inspection & Risk Manual (HIRM)
  (Renamed following developments associated with the WMHI)

This document draws on previous publications recognising that the 'Highway Infrastructure Asset Management Guidance' (HIAMG - May 2013) set out a national approach to Asset Management which is developed further locally in Nottinghamshire's Highway Infrastructure Asset Management Plan (HIAMP – updated July 2018). As the WMHI refers extensively to the HIAMG and is intended to be useful additional guidance; it is logical that Nottinghamshire's HIAMP and this Highway Infrastructure Management Plan (HIMP) are intrinsically linked. Topics covered in the above documentation are referred to, but not repeated in the HIMP.

During the development of the framework for Nottinghamshire's HIMP, the plan was directly linked to the 36 recommendations in the WMHI and use the HIMP as a reference to where the different recommendations are covered in Nottinghamshire's existing documentation. This resulted in a review and analysis of the above, to ensure through associated development, they met the guidance being promoted, whilst also being in keeping with Nottinghamshire's own requirements.

1. Use of the Code

This Code, in conjunction with the UKRLG Highway Infrastructure Asset Management Guidance, should be used as the starting point against which to develop, review and formally approve highway infrastructure maintenance policy and to identify and formally approve the nature and extent of any variations.

Well-managed Highway Infrastructure – A Code of Practice: Recommendation 01.

The Nottinghamshire Approach

Whilst 'Well-managed Highway Infrastructure' (WMHI) is not a statutory document it is recognised that it provides Highway Authorities with guidance on highways management and will be used as a basis for our approach in Nottinghamshire.

GUIDANCE HIERARCHY
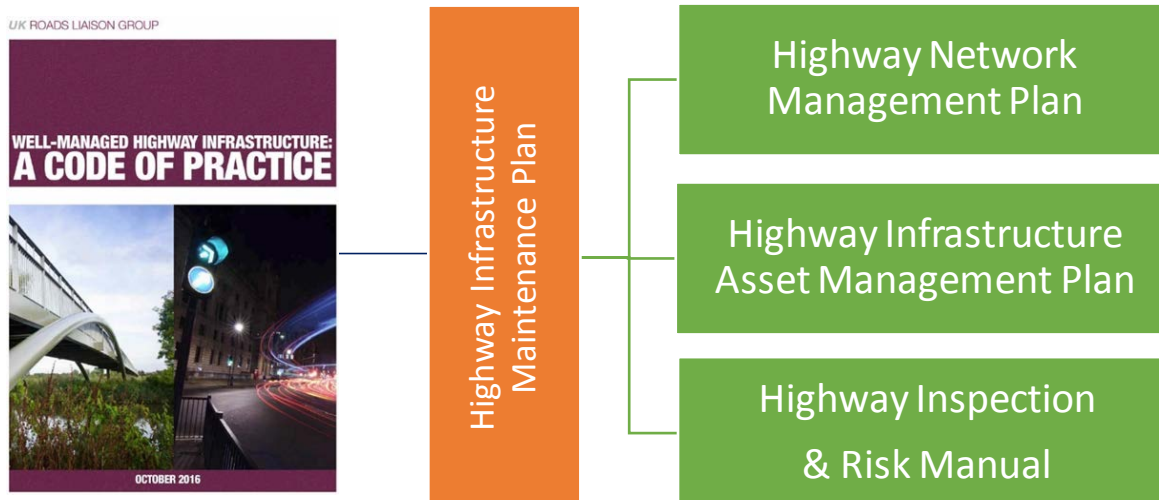
TERMINOLOGY

As per the WMHI, publicly understood definitions are used for the major parts of the highway. There are also differences in definitions across the various legal systems in the UK that would be inappropriate to repeat at length. In such cases the English term is used.

The main relevant definitions are:

- The term 'highway' is used to include roads, streets, footways, cycleways and verges and other associated aspects of the highway infrastructure.

- The term 'authority' is used to include all forms of national and local authorities having responsibility for highway infrastructure management.

- The term 'carriageway' is used for facilities used by motor vehicles.

- The term 'footway' is used for that part of a highway over which the public have a right of way on foot only, e.g. segregated surfaced paths used by pedestrians. 'Footway' includes the commonly understood use of the term 'pavement'. The term 'remote footway' is used where a footway is not immediately adjoining a carriageway. The term 'housing footway' is used for those footways serving predominantly housing areas which may be unadopted as public highways but have established public rights of access and may be maintained separately by the housing authority. Users will make no distinction and will consider the footway network as a whole.

- The term 'footpath' is used for the majority of Public Rights of Way (PROW).

- The term 'cycle route' is used as the collective term for facilities used by cyclists. These include cycle lanes on carriageways, cycle tracks adjacent to or away from carriageways, on carriageway provision with cycle symbols and shared use facilities.

- The industry term 'running surface' is used as the collective term for all hardened surfaces within the highway, including carriageways, footways and cycle routes. The industry term 'pavement' as a construction of running surfaces, particularly for carriageways is included in the term 'running surface'.

RELATED ACTIVITIES

'Well-managed Highway Infrastructure' identifies many related functions that are not dealt with in detail by this document, but which could affect and be affected by highway infrastructure maintenance activity. These functions are integrated in Nottinghamshire where practicable as follows:

- Network Management and Traffic Management duties being integrated.

- The highway development control function being linked with highway infrastructure requirements to ensure additional funding is secured where possible.

- Maintenance activities are coordinated with the District Councils cleansing and litter picking functions to maximise the potential to undertake the works at the same time under shared traffic management.

MAINTENANCE PRACTICE

'Well-managed Highway Infrastructure' identifies that types of maintenance contribute in varying degrees to the core objectives of safety, customer service, serviceability and sustainability. Levels of service and delivery arrangements in Nottinghamshire are focussed on outcomes.

The main types of maintenance are as follows:

- Reactive – responding to inspections, complaints or emergencies.
- Routine – regular schedule, generally for lamp replacement, patching, cleaning, grass cutting and landscape maintenance, drainage.
- Programmed – flexibly planned schemes primarily of reconditioning or structural renewal.
- Regulatory – inspecting and regulating the activities of others.
- Winter Service.
- Resilience and emergencies.

LIMITATIONS TO THE CODE OF PRACTICE

The Code is not intended as a detailed technical reference for all aspects of highway infrastructure maintenance or to repeat technical guidance available elsewhere.

Areas referred to but not dealt with in detail include:

- Highway improvement and new construction.
- Network management, including management of utilities.
- Management and maintenance of Public Rights of Way.
- Management of street cleansing.

2. Asset Management Framework

An Asset Management Framework should be developed and endorsed by senior decision makers. All activities outlined in the Framework should be documented.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 02.

Highway Infrastructure Asset Management Guidance – Recommendation 01.

The Nottinghamshire Approach

Details of the Asset Management Framework for Nottinghamshire are contained in Section 4 of Nottinghamshire's Highway Infrastructure Asset Management Plan. This was adopted by Nottinghamshire County Council in 2015 and has been updated as part of this review to reflect the changes in Lifecycle Planning, risk management and the review of the road hierarchy.

[Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan](#)

3. Asset Management Policy and Strategy

An asset management policy and a strategy should be developed and published. These should align with the corporate vision and demonstrate the contribution asset management makes towards achieving this vision.
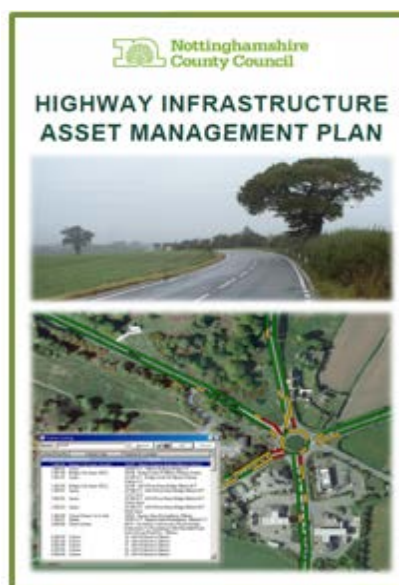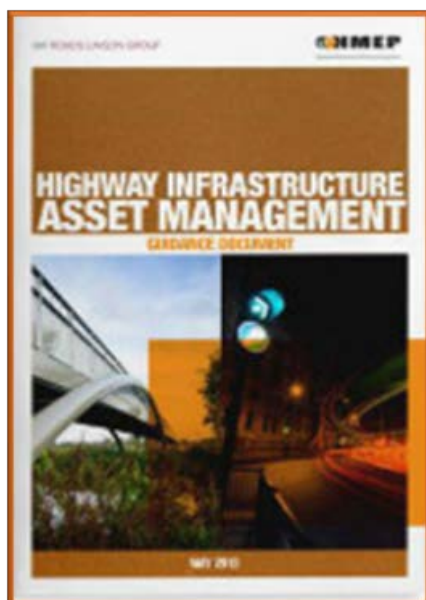
Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 03.

Highway Infrastructure Asset Management Guidance – Recommendation 03.

The Nottinghamshire Approach

Details of the Asset Management Policy and Strategy for Nottinghamshire are contained in Section 6 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

[Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan](#)

1. The County Council recognises that Nottinghamshire's highway network and its associated infrastructure plays a crucial part in supporting the local authority's Strategic Plan 2014-18

   Priority One - Supporting safe and thriving communities: The Authority will maintain roads in a serviceable condition and seek to change behaviour through engineering measures, awareness raising and enforcement.

   Priority Two - Protecting the environment: By maintaining the condition of roads and footways the Authority will deliver a road and transport infrastructure that seeks to meet the needs of the county's residents, visitors and businesses.

2. Nottinghamshire County Council is committed to the continued implementation of Asset Management principles in the maintenance of the county's highway network, delivering the greatest amount of community and business benefit with the funds available. These principles are directly linked to the 14 recommendations in the Highway Maintenance Efficiency Programme (HMEP) and promoted by the DfT in its Capital Maintenance Funding Programme 2015 - 2021.

3. The County Council's Asset Management Strategy and Plan will set out how Highway Infrastructure Asset Management will be delivered in Nottinghamshire. This strategy will consider current and predicted future financial scenarios and will determine how funding and resources should be utilised to maximise the benefit to Nottinghamshire stakeholders.

4. The County Council's Asset Management Strategy will also seek to support the three key transport goals set out in the authority's Third Local Transport Plan.

Provide a reliable, resilient transport system which supports a thriving economy and growth whilst encouraging sustainable and healthy travel.

- Adopting an effective Asset Management Strategy will provide robust support to an ever developing transport system within Nottinghamshire. It will provide long term maintenance planning to help with co-ordination of expenditure, resources and third party network access whilst being flexible enough to respond to dynamic changes in the needs of businesses and the local economy. Asset Management will promote sustainable travel through efficient maintenance of cycling and walking routes, and their interaction with the network as a whole.

Improve access to key services, particularly enabling employment and training opportunities.

- One of the key features of a robust Asset Management Strategy is the priority given to the maintenance of a 'resilient network' which involves ensuring key transport corridors are kept safe and free flowing at all times. One element of this consideration is the maintenance of access routes to key services such as health facilities, schools, businesses, retail and community centres.

Minimise the impacts of transport on people's lives, maximise opportunities to improve the environment and help tackle carbon emissions.

- The County Council's Asset Management Strategy will seek to ensure a free flowing; resilient transport network which is available 24/7, thereby reducing carbon emissions from stationary traffic and encouraging healthier transport choices. The use of sustainable materials in maintenance will be promoted to reduce the authority's carbon footprint, minimising waste and landfill costs. The effects of climate change will be factored into the Asset Management Strategy to further safeguard Nottinghamshire's highway network for future generations

4. Engaging and Communicating with Stakeholders

Relevant information should be actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 04.

The Nottinghamshire Approach

Details of engagement and communication with stakeholders in Nottinghamshire are contained in Section 5 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

This details Nottinghamshire's approach for Elected Members, Stakeholder Liaison and how the Authority's Public Website is utilised for engagement and communication. The National Highways & Transportation Survey (NHT) is important for benchmarking of the Authority's services against other similar Shire Authorities and overall levels of performance for defined service areas.

For details of performance management and monitoring, see Section 26 and Section 27 of this document. In addition, performance is also reported to Communities and Place Committee on a quarterly basis, both at a strategic and operational level.

5. Consistency with other Authorities

To ensure that users' reasonable expectations for consistency are taken into account, the approach of other local and strategic highway and transport authorities, especially those with integrated or adjoining networks, should be considered when developing highway infrastructure maintenance policies.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 05.

The Nottinghamshire Approach

Nottinghamshire is fully represented at numerous local and national highway forums and benchmarking groups namely, the Midland Service Improvement Group (MSIG) the Chartered Institute for Public Finance Accounting (CIPFA Group) the Midlands Highways Alliance (MHA) and the Association of Directors of Environment, Planning and Transportation (ADEPT)

Further information on Nottinghamshire's approach to Benchmarking can be found in Section 17 of the Highway Infrastructure Asset Management Plan.

[Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan](#)

MSIG is a collective of Midlands and North-West County, City and Unitary Councils sharing best practice to drive improvements and efficiencies within the Highways and Road Safety Disciplines of Local Authorities.

CIPFA is the leading accountancy body for the public services providing education and training in accountancy and financial management.

The MHA delivers the regional procurement and implementation of highways maintenance, professional services and capital works through framework agreements.

ADEPT represents directors from county, unitary and metropolitan authorities, along with Local Enterprise Partnerships. ADEPT members work to maximize sustainable growth in communities throughout the UK, by delivering projects that are key to unlocking broader economic success and creating more resilient communities, economies and infrastructure.

Following Government's announcement on its intention to develop a 'major road network' (MRN) for England, Midlands Connect has employed consultants to identify what it considers to be the MRN for the Midlands Connect area. The County Council has therefore been working in partnership with the appointed consultants and all the highway authorities (including neighbouring highway authorities) that form Midlands Connect to identify a consistent and joined-up MRN across the region which will help in the future planning of the strategic road network (major roads and motorways managed by Highways England) and local authority A roads.

Nottinghamshire has a Cross-Boundary agreement in place with Nottingham City Council for the specific delineation of assets and liabilities between the two authorities. A similar approach is being considered for neighbouring authorities in line with both the adoption of a consistent approach between authorities and a clear delineation of responsibilities.

6. An Integrated Network

The highway network should be considered as an integrated set of assets when developing highway infrastructure maintenance policies.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 06.

The Nottinghamshire Approach

Nottinghamshire has detailed information on highway related assets on its network. These are listed in Section 8 (Asset Data Management) of the Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

Nottinghamshire has a 'Candidate List' of sites requiring maintenance, for consideration in future works programmes. These are discussed between teams who manage the various assets on the network with a view to shaping the integration, scope and timing of any potential works to ensure value for money efficiencies are achieved.

This includes, though not exclusively, street lighting, structures, drainage and any third-party assets such as those owned by utility companies.

Nottinghamshire's policy for the management of specific assets is contained in the Highway Network Management Plan.

Appendix 01 - Nottinghamshire's Highway Network Management Plan

Nottinghamshire has a 'Project Control' mechanism, endorsed by BSI 9001, which includes a Scheme Quality Plan. This is utilised for the feasibility and design stage of all projects in Nottinghamshire and this document is used to ensure consideration and compliance with both statutory requirements and local environmental, sustainable and conservation issues. This allows for a 'whole street approach' to the management of the highway network in Nottinghamshire and ensures the requirements for all highway users and stakeholders are fully considered.

7. Risk-Based Approach

A risk based approach should be adopted for all aspects of highway infrastructure maintenance, including setting levels of service, inspections, responses, resilience, priorities and programmes.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 07.

The Nottinghamshire Approach

Details of Nottinghamshire's approach to 'Risk-Based' management forms part of the overall policy and strategy for the county as contained in both the Highway Infrastructure Asset Management Plan and the Highway Inspection and Risk Manual.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

Appendix 01 - Nottinghamshire's Highway Inspection and Risk Manual

8. Information Management

Information to support a risk based approach to highway maintenance should be collected, managed and made available in ways that are sustainable, secure, meet any statutory obligations, and, where appropriate, facilitate transparency for network users.
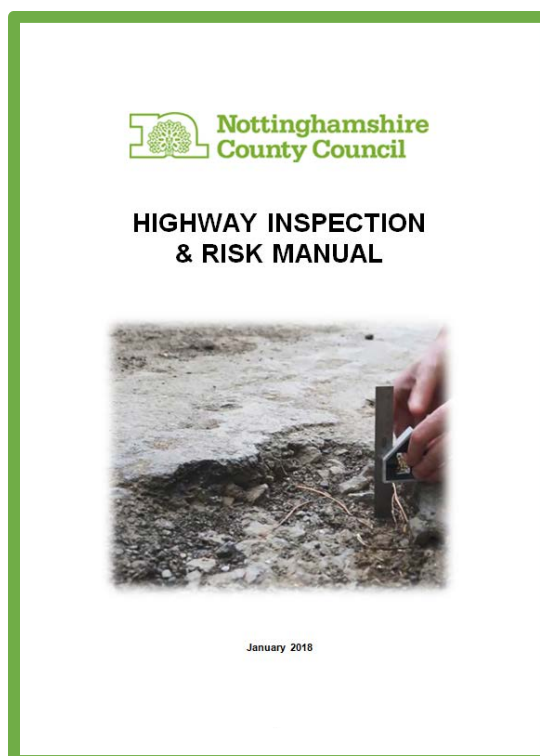
Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 08.

The Nottinghamshire Approach

Details of Nottinghamshire's approach to Information Management forms part of the overall strategy to engage with stakeholders as detailed in Section 5: Communications of the Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

The wider aspects of risk associated with the management and inspection of the highway are contained in the Highway Inspection and Risk Manual which is subject to routine review and endorsement by stakeholders.

Appendix 01 - Nottinghamshire's Highway Inspection and Risk Manual

Details of the highway asset are contained in the central asset register which forms one of the key modules of the Highway Asset Management System. This system is held in a secure environment with controlled access for users. Set ICT policies and security measures are in place for the management and use of ICT hardware, infrastructure, data and access. Mobile devices are utilised to allow direct data capture and work functions to be performed. These devices allow highway network condition information to be monitored and future plans to be available to the user.

Confirm®
Enterprise Asset Management Solutions for Desktop, Cloud and Mobile
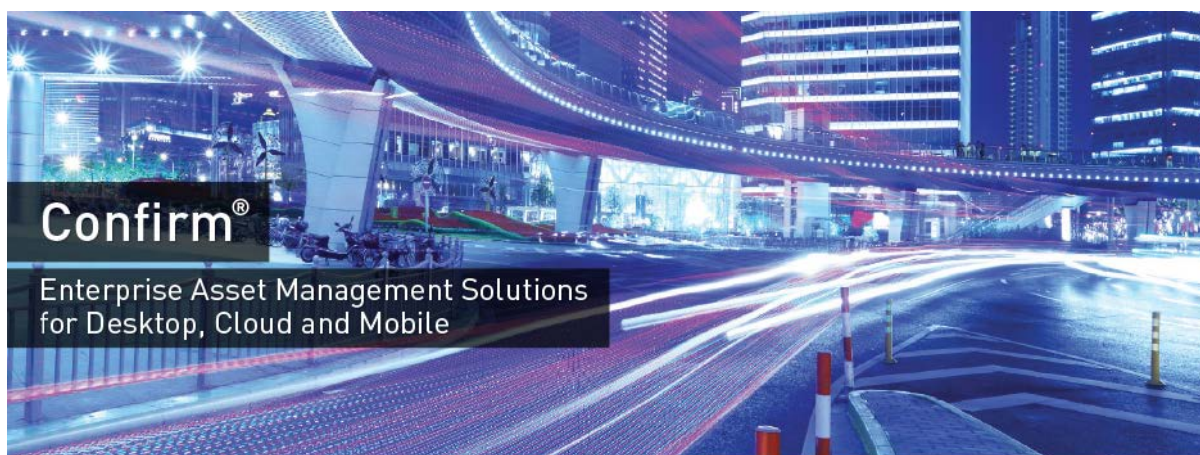
9. Network Inventory

A detailed inventory or register of highway assets, together with information on their scale, nature and use, should be maintained. The nature and extent of inventory collected should be fit for purpose and meet business needs. Where data or information held is considered sensitive, this should be managed in a security-minded way.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 09.

The Nottinghamshire Approach

Details of the Network Inventory for Nottinghamshire are referred to in Section 8: Asset Management Data and Section 15: Asset Management System of Nottinghamshire's Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

The Highway Asset Management System holds the Network Inventory as part of the Asset Register. This data is plotted geospatially to create a visual picture of the highway infrastructure and its associate assets.

10. Asset Data Management

The quality, currency, appropriateness and completeness of all data supporting asset management should be regularly reviewed. An asset register should be maintained that stores, manages and reports all relevant asset data.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 10.

Highway Infrastructure Asset Management Guidance – Recommendation 05.

The Nottinghamshire Approach

Details of Asset Data Management for Nottinghamshire are contained in Section 8 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

11. Asset Management Systems

Asset management systems should be sustainable and able to support the information required to enable asset management. Systems should be accessible to relevant staff and, where appropriate, support the provision of information for stakeholders.
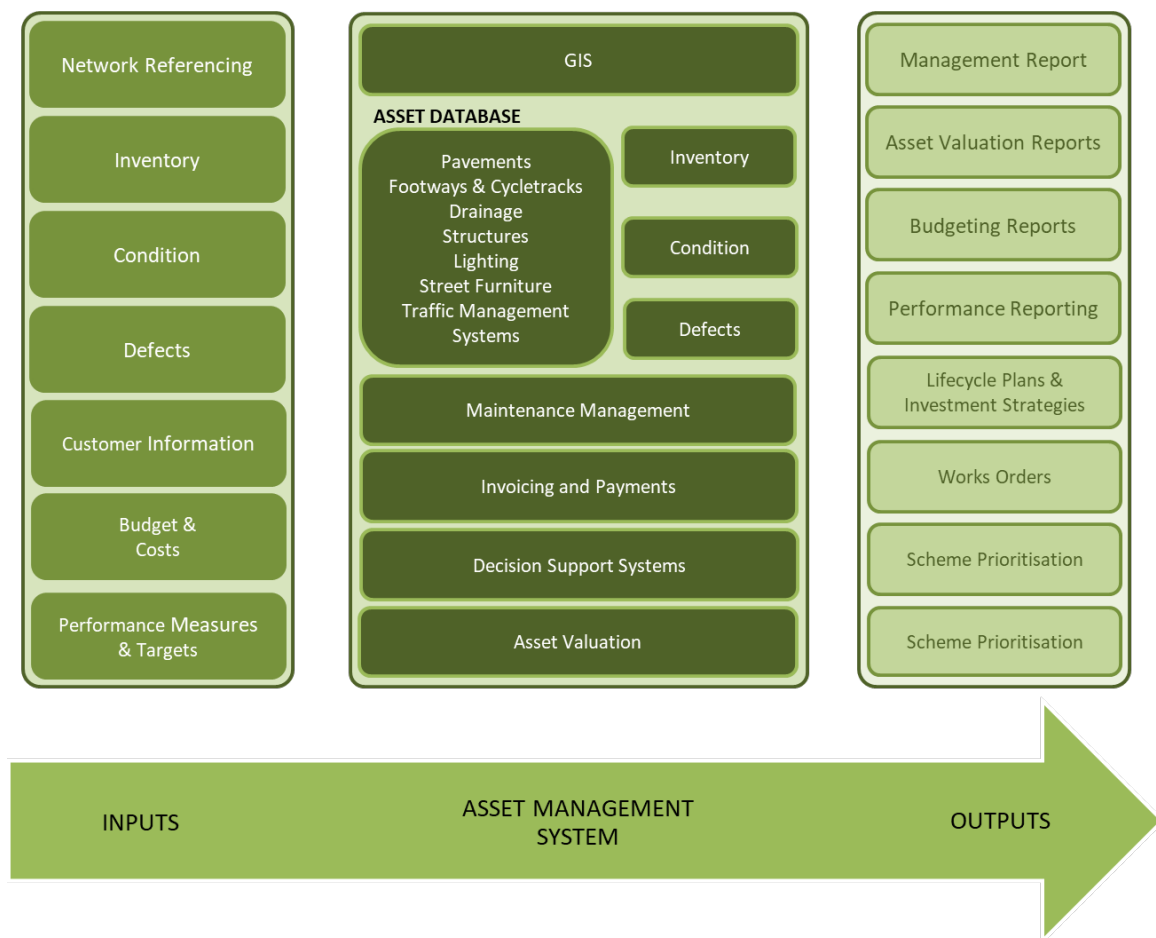
Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 11.

Highway Infrastructure Asset Management Guidance – Recommendation 12.

The Nottinghamshire Approach

Details of Asset Management Systems for Nottinghamshire are contained in Section 15 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

INPUTS	ASSET DATABASE / ASSET MANAGEMENT SYSTEM	OUTPUTS
Network Referencing	GIS	Management Report
Inventory	Pavements, Footways & Cycletracks, Drainage, Structures, Lighting, Street Furniture, Traffic Management Systems	Asset Valuation Reports
Condition	Inventory	Budgeting Reports
Defects	Condition	Performance Reporting
Customer Information	Defects	Lifecycle Plans & Investment Strategies
Budget & Costs	Maintenance Management	Works Orders
Performance Measures & Targets	Invoicing and Payments	Scheme Prioritisation
	Decision Support Systems	Scheme Prioritisation
	Asset Valuation	

12. Network Hierarchy

A network hierarchy, or a series of related hierarchies, should be defined which include all elements of the highway network, including carriageways, footways, cycle routes, structures, lighting and rights of way. The hierarchy should take into account current and expected use, resilience, and local economic and social factors such as industry, schools, hospitals and similar, as well as the desirability of continuity and of a consistent approach for walking and cycling.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 12.

The Nottinghamshire Approach

Nottinghamshire has developed a network hierarchy which utilises spatial data to place roads, footways, cycleways, lighting and other associated assets at a representative hierarchy level dependent upon traffic counts, property counts and aggregated densities for both domestic dwellings and commercial / industrial / retail sites. It also recognises significant locations such as emergency services, council depots, healthcare and educational facilities, some of which will contribute to the formation of a Resilient Network (Recommendation 20).

The outcome of this exercise is a hierarchy table which clearly demonstrates those factors and ranges of values which places each set of assets in their correct hierarchy category, as detailed in the Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

Traffic count data is collected by in-house teams. Property data is taken from the 'AddressBase' dataset, managed by District & Borough Councils.

A network hierarchy, using objective data from a variety of sources is the cornerstone of a 'risk-based approach' to all highway maintenance management activities as it allows the County Council to set levels of service commensurate with hierarchy levels and form an objective data-led base from which to make better informed decisions.

A data-based hierarchy determines the safety inspection frequencies, defect intervention levels, response times, condition survey strategies and works programming.

Nottinghamshire have worked extensively with neighbouring authorities as part of both the Midlands Service Improvement Group (MSIG) and the Midlands Highways Alliance (MHA) to ensure consistency between hierarchies across local authority boundaries.

The network hierarchy is detailed in Appendix 02

Further information on network hierarchy can be found in Section 5.1.6 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

Information on hierarchy tables and inspection frequencies are detailed in Nottinghamshire's Highway Inspection and Risk Manual.

Appendix 01 - Nottinghamshire's Highway Inspection and Risk Manual

13. Whole Life / Designing for Maintenance

Authorities should take whole life costs into consideration when assessing options for maintenance, new and improved highway schemes. The future maintenance costs of such new infrastructure are therefore a prime consideration.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 13.

The Nottinghamshire Approach

Information on Lifecycle Planning which is a key element in the study of whole life costing for all asset groups, can be found in Section 9 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

[Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan](#)

Whole life costing involves predicting the likely deterioration rate of assets based upon usage and material composition plus the treatment cost versus useful life calculations which give the most cost-effective medium and long-term asset maintenance plans.

Nottinghamshire works to design specifications contained in the 'Manual for Streets', the 'Highway Design Guide' (6 C's) and the Design Manual for Roads & Bridges. The authority's Development Control department enforces design guidance and procedures for new developments using the 'Highway Design Guide' (6 C's).

Manual for Streets:

https://www.gov.uk/government/publications/manual-for-streets

Highway Design Guide:

http://www.nottinghamshire.gov.uk/transport/roads/highway-design-guide

Design Manual for Roads & Bridges:

http://www.standardsforhighways.co.uk/ha/standards/dmrb/

14. Risk Management

The management of current and future risks associated with assets should be embedded within the approach to asset management. Strategic, tactical and operational risks should be included as should appropriate mitigation measures.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 14.

Highway Infrastructure Asset Management Guidance – Recommendation 11.

The Nottinghamshire Approach

Details of Nottinghamshire's approach to risk management are contained in Section 14 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

ESTABLISH RISK CONTENT
- Objective and appetite for managing risk
- Risk criteria, approach and process

IDENTIFY RISKS
- Identify risk groups
- Identify risk events and critical assets

EVALUATE RISKS
- Likelihood
- Consequence
- Overall risk assessment

MANAGE RISKS
- Reduction, Mitigation, Elimination
- Develop Risk Action Plan
- Risk Register

15. Competencies and Training

The appropriate competency required for asset management should be identified, and training should be provided where necessary.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 15.

Highway Infrastructure Asset Management Guidance – Recommendation 10.

The Nottinghamshire Approach

Information on Competencies and training for Nottinghamshire is contained in Section 13 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

An Asset Management Competency Framework has been incorporated in the HIAMP to ensure those involved with the management of the asset understand their role and the importance of good asset management.

16. Inspections

A risk-based inspection regime, including regular safety inspections, should be developed and implemented for all highway assets.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 16.

The Nottinghamshire Approach

The Inspection regime for Nottinghamshire is contained in the Nottinghamshire's Highway Inspection and Risk Manual.

Appendix 01 - Nottinghamshire's Highway Inspection and Risk Manual

This document details the regime for Highway Inspections associated with the main highway asset and is supported by Nottinghamshire's Highway Network Management Plan.

Appendix 01 - Nottinghamshire's Highway Network Management Plan

17. Condition Surveys

An asset condition survey regime, based on asset management needs and any statutory reporting requirements, should be developed and implemented.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 17.

The Nottinghamshire Approach

The current condition survey strategy is outlined in the County Council's Highway Infrastructure Asset Management Plan, Sections 10 & 18 and the Highway Network Management Plan, Section 5.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

Appendix 01 - Nottinghamshire's Highway Network Management Plan

Both documents represent a 'risk-based approach' to the gathering and use of highway condition data based upon the highway authority's current policies and strategies. The Highway Infrastructure Asset Management Plan was reviewed as part of the implementation of the recommendations in the new Code of Practice and a 'hierarchy-based strategy' has been developed for both the gathering of condition data and the prioritisation of work which will be based upon it. The Highway Network Management Plan will be reviewed in 2018.

Whilst a hierarchy-based technical survey strategy is important for ensuring resources are targeted to the right locations, the national requirement for reporting performance and the Whole Government Accounting process are not yet in line with the procedures encouraged in the Well Managed Highway Infrastructure: A Code of Practice.

Within Nottinghamshire, the current national reporting requirements will be adhered to, as well as the restructured approach to gathering condition data outlined in the WMHI document.

18. Management Systems and Claims

Records should be kept of all activities, particularly safety and other inspections, including the time and nature of any response, and procedures established to ensure efficient management of claims whilst protecting the authority from unjustified or fraudulent claims.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 18.

The Nottinghamshire Approach

Nottinghamshire's Highway Asset Register forms part of the Highway Asset Management System (HAMS) that is detailed in Section 15 of Nottinghamshire's Highway Infrastructure Asset Management Plan. The system is monitored using dashboard reports to ensure data consistency and accuracy. Audits are undertaken periodically of specific service areas and data sets. Nottinghamshire's Highway Inspection and Risk Manual and Highway Network Management Plan detail the inspection frequency for the various asset groups and list what is covered by each type of inspection.

The HAMS contains a Customer Relations Module (CRM) which interfaces with Nottinghamshire's Customer Service Centre (CSC) and the Public Webpages which provides an online reporting and feedback mechanism for the public. The HAMS contains a record of all enquiries and inspections undertaken since the system was introduced and provides a street history report which is utilised in the defence of 3rd party claims when necessary.

The condition of the highway asset and its characteristics are reviewed as part of the planned inspection regime. Data on the asset is collected through the inspection of the asset and implementation of the works programme to maintain the effective data set.

The inspection frequency is reviewed annually through the hierarchy development framework and through local assessment dependant on the asset type. The condition data contained in HAMS relating to technical surveys, inspector condition report, inspector observations and customer feedback are all considered as part of the programme formulation process for both short and long-term activities.

19. Defect Repair

A risk-based defect repair regime should be developed and implemented for all highway assets.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 19.

The Nottinghamshire Approach

The criteria for what is considered a highway defect in Nottinghamshire is detailed in the Nottinghamshire's Highway Inspection and Risk Manual, along with types of repair and make safe arrangements available. The intervention criteria for different types of defect considering the degree of risk is based on their depth, size, location, traffic levels, other adjacent works/activities, impact of traffic management and any associated factors which contribute to each location's specific hierarchy category.

Appendix 01 - Nottinghamshire's Highway Inspection and Risk Manual

The management of highway risk is fundamental to effective asset management and Section 14 of Nottinghamshire's Highway Infrastructure Asset Management Plan contains further details on the Nottinghamshire approach.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

20. Resilient Network

Within the highway network hierarchy, a 'Resilient Network' should be identified to which priority is given through maintenance and other measures to maintain economic activity and access to key services during extreme weather.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 20.

The Nottinghamshire Approach

Information on Nottinghamshire's resilient network is contained in sections 6 and 14 of the County Council's Highway Infrastructure Asset Management Plan

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

As part of the development of a revised data-based Network Hierarchy for Nottinghamshire, a Resilient Network has also been identified which pinpoints the location of key emergency, health and service assets and the infrastructure links which connect them all to the Strategic Road Network (Trunk Roads)

This includes the plotting of Police, Ambulance and Fire Stations plus key healthcare and industrial facilities which either need to be accessed at all times or they provide the means with which to maintain access to these key locations, particularly in times of crisis.

The risk of specific asset failure, to the extent that it leads to closure or restriction of the Resilient Network has been assessed as part of this exercise and has considered the likelihood of failure due to the asset's physical attributes and its location (design capability / capacity, condition, geology, catchment characteristics). The socio-economic consequences of failure have been considered in consultation with relevant stakeholders and include the potential for community severance, the ability to respond to further emergencies, the suitability and length of any diversion route, typical traffic types and volumes, repair / recovery cost and timescale, and damage to statutory utility plant.

As with other hierarchies, levels of service and maintenance will be created specifically for those assets which form part of the Resilient Network.

County Council departments, managers and key staff maintain a close awareness of the potential impact of severe weather. This knowledge is consolidated each year with a Winter Weather Workshop involving Highways, Via and Emergency Planning staff. There is an awareness of the crossings of the River Trent that may need to close during a flood emergency, and awareness of local roads that are liable to flooding. Managers have worked with Flood Wardens in five high risk flood communities to train and equip community volunteers to safely close roads when specific pre-identified triggers are reached indicating that the road is no safe for motorists to use.

21. Climate Change Adaptation

The effects of extreme weather events on highway infrastructure assets should be risk assessed and ways to mitigate the impacts of the highest risks identified.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 21.

The Nottinghamshire Approach

Nottinghamshire has a Carbon Management Plan and is a signatory to The Nottingham Declaration on Climate Change. This Declaration commits the County Council to tackling the causes and effects of climate change and encouraging all sectors in our local community to take the opportunity to adapt to the impacts of climate change, reduce their own greenhouse gas emissions and make public their commitment to action.

Nottinghamshire's Strategic Plan contains information reducing carbon dioxide emissions from its own estate and operations.

As part of the work to address the potential impacts of climate change the authority has also developed a local climate impacts profile for Nottinghamshire, which highlights some of the Council's vulnerability to extreme weather events.

Nottinghamshire County Council's Strategic Plan 2014-2018

Nottinghamshire County Council - Climate Change & Sustainable Energy

As part of the revised hierarchy, identification and development of the Resilient Network and those other parts of the highway which are at higher risk in terms of safety, usability or community isolation will be in line with both the over-arching strategy for Nottinghamshire as a whole and the specific levels of service required for assets in each hierarchy category.

In these locations, specific consideration over and above standard design guidance has been undertaken to ensure the potential effects of climate change can be mitigated as far as is practicable and any remaining risks carefully managed.

22. Drainage Maintenance

Drainage assets should be maintained in good working order to reduce the threat and scale of flooding. Particular attention should be paid to locations known to be prone to problems, so that drainage systems operate close to their designed efficiency.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 22.

The Nottinghamshire Approach

Nottinghamshire's drainage policy information can be found in Section 5.12.12 of the Highway Network Management Plan, whereas the authority's approach to drainage maintenance is covered in detail in Section 22 of the County Council's Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Network Management Plan

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

23. Civil Emergencies & Severe Weather Emergency Plans

The role and responsibilities of the Highway Authority in responding to civil emergencies should be defined in the authority's Civil Emergency Plan. A Severe Weather Emergencies Plan should also be established in consultation with others, including emergency services, relevant authorities and agencies. It should include operational, resource and contingency plans and procedures to enable timely and effective action by the Highway Authority to mitigate the effects of severe weather on the network and provide the best practicable service in the circumstances.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 23.

The Nottinghamshire Approach

Detailed information on Nottinghamshire's approach to planning for and dealing with civil and severe weather emergencies can be found on the authority's website at the following link:

http://www.nottinghamshire.gov.uk/planning-and-environment/emergencies-and-disruption

Emergencies that may affect Nottinghamshire include: flooding, severe weather, major transport accidents, industrial accidents, outbreaks of disease including flu pandemics and terrorist incidents.

To prepare for possible emergencies within the county the authority will:

- assess local risks in order to identify what needs to be planned for

- write and review emergency plans

- train and exercise with other key organisations to enhance the management of an emergency

- ensure that Nottinghamshire County Council has plans in place to deliver important services to the public during an emergency.

The County Council also helps to support the emergency services and other organisations with their emergency response in a number of ways:

- arranging emergency accommodation should members of the public be evacuated from their homes

- providing emergency transport to move members of the public from the scene of an emergency to a safe location

- co-ordinating services that the County Council provides which are required as part of the emergency response

- contributing to the running of assistance centres. Assistance centres will be set up in the aftermath of a major emergency to act as a focal point for information and assistance to families and friends of those missing, injured or killed, and to survivors

- providing information to the public

- providing advice and assistance to major sporting venues to ensure that they are prepared for emergencies

- providing guidance to Parish Councils and other community groups, to help communities prepare for emergencies

- providing emergency planning guidance to schools.

The County Council provides this as a key partner of the Nottingham & Nottinghamshire Local Resilience Forum (LRF), which is the multi-agency management group for the co-ordination of emergency planning within Nottingham and Nottinghamshire. The LRF is led by Nottinghamshire Police, and is made up of senior managers from the principal emergency planning and response organisations.

Multi-agency LRF emergency plans include overarching Generic Response Guidance, a 'Flood Emergency Plan' plus a 'Local Flood Response Plan' for each District/Borough Council area. All of these plans include appropriate reference to the roles of the County Council, as Highways Authority, and Via East Midlands as the County Council's Highways contractor. The LRF 'Flood Emergency Plan' includes a specific section on arrangements for closure of a major highway and local issues arising from difficulty in access/egress due to the highway being flooded and the need for suitable signage and diversions when highways are inundated.

Within the County Council, planning and preparation for major emergencies is coordinated by a 'Risk, Safety and Emergency Management Board' (RSEMB), the membership of which includes a senior Highways management representative.

24. Communications (Severe Weather & Civil Emergencies)

Severe Weather and Civil Emergencies Plans should incorporate a communications plan to ensure that information including weather and flood forecasts are received through agreed channels and that information is disseminated to highway users through a range of media.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 24.

The Nottinghamshire Approach

Nottinghamshire has a comprehensive plan in place for the communication of major incidents and disruptions, details of which can be found at the following link:

http://www.nottinghamshire.gov.uk/planning-and-environment/emergencies-and-disruption/current-disruption

The County Council uses its web pages, along with social media platforms, local radio and television stations to communicate information updates and advice when disruptions occur. This takes the form of both self-service, whereby people can check for information themselves, or sign up for updates as required.

25. Learning from events

Severe Weather and Civil Emergencies Plans should be regularly rehearsed and refined as necessary. The effectiveness of the Plans should be reviewed after actual events and the learning used to develop them as necessary.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 25.

The Nottinghamshire Approach

Nottinghamshire County Council is a full member of the 'Nottingham and Nottinghamshire Local Resilience Forum', more detail on which can be found at the following link:

http://www.nottinghamshire.police.uk/site-page/emergency-planning-preparing-nottingham-and-nottinghamshire

The strategic aim of the Local Resilience Forum is to establish and maintain effective multi-agency arrangements to respond to major emergencies, to minimise the impact of those emergencies on the public, property and environment of Nottingham and Nottinghamshire, and to satisfy fully the requirements of the Civil Contingencies Act.

Information on the Civil Contingencies Act can be found at the following link:

https://www.gov.uk/guidance/emergency-response-and-recovery

Recovering from emergencies is a complex and long running process that will involve many more agencies and participants than the response phase.

Recovery is defined as the process of rebuilding, restoring and rehabilitating the community following an emergency, but it is more than simply the replacement of what has been destroyed and the rehabilitation of those affected.

One of the key features of the above guidance and part of the Civil Contingencies Act is the 'Evaluation and Debrief process', during which lessons should be learned from the systematic analysis of the multi-agency response to emergencies and disruptions.

The Nottingham and Nottinghamshire LRF tests its' plans through periodic major emergency response exercises. These are fully debriefed afterwards and lessons are captured in an Actions Plan the completion of which is monitored by the LRF Resilience Working Group.

The scenario for these multi-agency exercises frequently includes a severe weather element, and a major flooding scenario is rehearsed on a three-year cycle of exercises. The fourth in this series (Exercise Diamond IV) took place in February 2018.

Debriefs following exercises and actual incidents are facilitated by officers trained in structured debriefing.

26. Performance Management Framework

A performance management framework should be developed that is clear and accessible to stakeholders as appropriate and supports the asset management strategy.

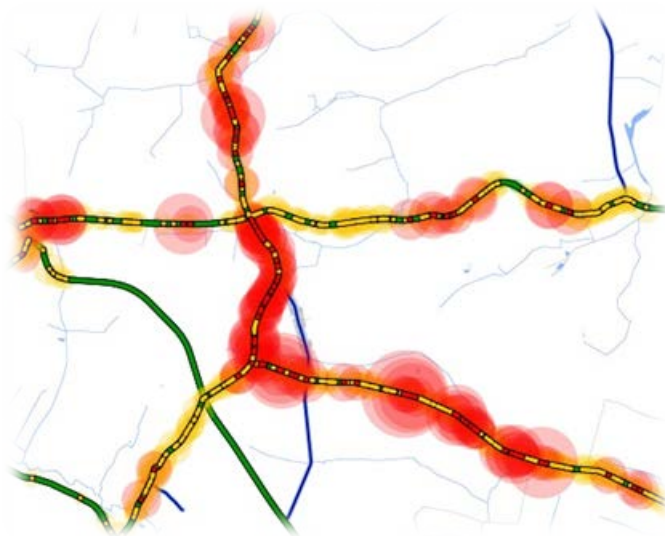Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 26.

Highway Infrastructure Asset Management Guidance – Recommendation 04.

The Nottinghamshire Approach

Details on the Performance Management Framework for Nottinghamshire is contained in Section 07 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

The Highways Service is delivered primarily through a joint venture company, Via EM, to the County Council for the benefit of the County's residents, visitors, businesses and highway users. There are a range of performance measures which support performance management for the company and County Council and these cover the large range of services provided, including road maintenance, casualty reduction, congestion and traffic management, street lighting and development control. Performance against these activities is reported to the Communities and Place Committee on a quarterly basis.

[Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan](#)

27. Performance Monitoring

The performance of the Asset Management Framework should be monitored and reported. It should be reviewed regularly by senior decision makers and when appropriate, improvement actions should be taken.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 27.

Highway Infrastructure Asset Management Guidance – Recommendation 13.
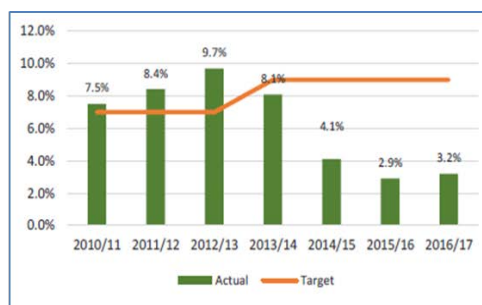
The Nottinghamshire Approach

Details on Performance Monitoring for Nottinghamshire is contained in Section 16 of Nottinghamshire's Highway Infrastructure Asset Management Plan.
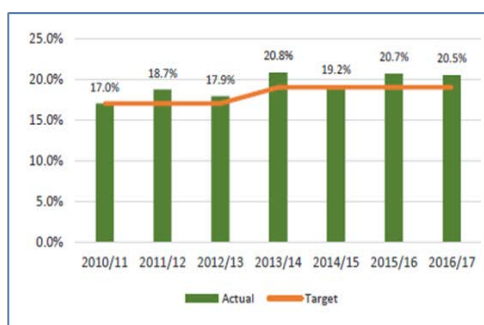
Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan


A Roads

B & C Roads

Unclassified Roads

28. Financial Plans

Financial plans should be prepared for all highway maintenance activities covering short, medium and long-term time horizons.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 28.

The Nottinghamshire Approach

Management and maintenance of the Highway Asset in Nottinghamshire is of paramount importance for sustaining the asset value and managing the level of investment through a planned maintenance strategy. The Department for Transport's 6 year highways funding model has created a period of stability through a planned capital allocation which will be in place until 2021. This capital funding combined with the Authority's Revenue allocations for maintenance creates a platform for year on year asset maintenance and replacement which is utilised for programming and planning purposes, and allows the formalisation of a maintenance strategy for highway assets.
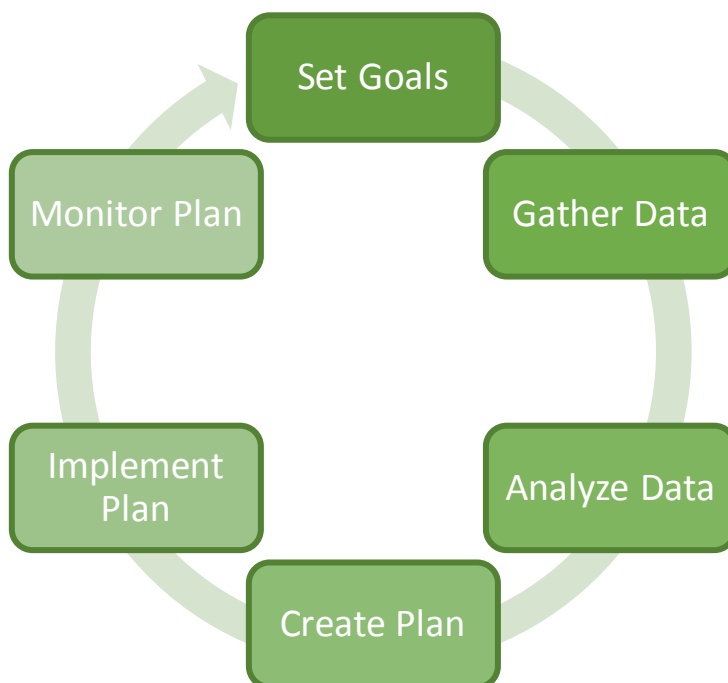
29. Lifecycle Plans

Lifecycle planning principles should be used to review the level of funding, support investment decisions and substantiate the need for appropriate and sustainable long-term investment.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 29.

Highway Infrastructure Asset Management Guidance – Recommendation 06.

The Nottinghamshire Approach

Details on Lifecycle Planning for Nottinghamshire is contained in Section 09 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

Lifecycle Planning Process

30. Cross Asset Priorities

In developing priorities and programmes, consideration should be given to prioritising across asset groups as well as within them.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 30.

The Nottinghamshire Approach

Nottinghamshire has a 'Whole Street Approach' strategy in place which aims to consider all assets in terms of lifecycle and condition and to pick the optimum time for works to be carried out whilst looking to consider other assets which may also be in or close to their respective maintenance 'window' and works on these can be brought forward in conjunction with the initial identified works to reduce the scale and frequency of disruption to the public.

Further information on the 'Whole Street Approach' can be found primarily in Section 19.3 of the County Council's Highway Infrastructure Asset Management Plan. It is also referenced in Sections 18.3 and 20.8 of the same document.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

Recommendation 6 of the Code of Practice, 'Well-Managed Highway Infrastructure' promotes an 'Integrated Network' whereby assets and their associated data are intrinsically linked to each other, thus helping the implementation of the 'Whole Street Approach'. This also applies to works by external bodies such as Statutory Undertakers and will help with the co-ordination of street works.

31. Works Programming

A prioritised forward works programme for a rolling period of three to five years should be developed and updated regularly.
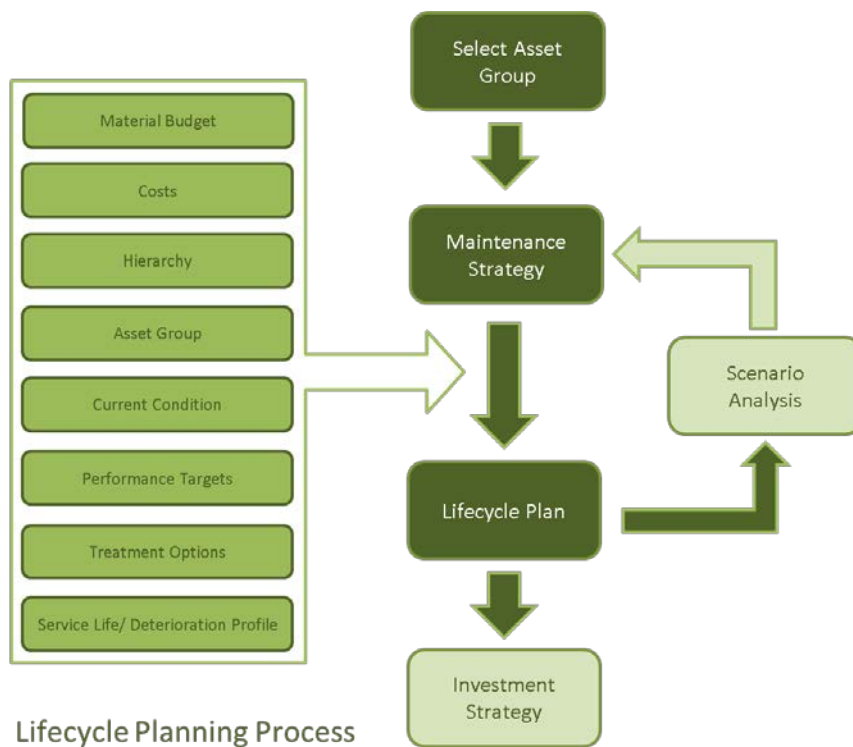
Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 31.

Highway Infrastructure Asset Management Guidance – Recommendation 07.

The Nottinghamshire Approach

Details on how works programmes are created in Nottinghamshire are contained in Section 10 of Nottinghamshire's Highway Infrastructure Asset Management Plan.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

32. Carbon

The impact of highway infrastructure maintenance activities in terms of whole life carbon costs should be taken into account when determining appropriate interventions, materials and treatments.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 32.

The Nottinghamshire Approach

Nottinghamshire has a Carbon Management Plan and is a signatory to The Nottingham Declaration on Climate Change. This Declaration commits the County Council to tackling the causes and effects of climate change and to encouraging all sectors in our local community to take the opportunity to adapt to the impacts of climate change, reduce their own greenhouse gas emissions and make public their commitment to action.

Nottinghamshire County Council's Strategic Plan 2014-2018

Nottinghamshire County Council - Climate Change & Sustainable Energy

Maintenance of the public highway includes removing some 'Tar' contaminated road construction material prior to resurfacing and transporting it to specialised and costly waste management disposal areas. In the 1970's and 1980's road surfaces were laid that contained coal tar, a by-product of town gas production from coal. It is classified as hazardous waste and as such must be disposed of correctly to avoid environmental contamination.

To manage safety concerns, costly and environmental land fill limitations, a cold recycled bound material process was developed and included as an alternative material in the 'Specification for Highway Works' series 900 clause 948.

The Environment Agency issued a position statement allowing the use of such material providing it met the specification.

In 2017/18, the cold mix process recycled 6,000 tonnes of contaminated material, thereby reducing the carbon footprint by less vehicle movements and re-use of existing materials.

Nottinghamshire's Highway Infrastructure Asset Management Plan refers to the above strategy and includes referencing to procurement and use of materials.

Appendix 01 - Nottinghamshire's Highway Infrastructure Asset Management Plan

33. Consistency with Character

Determination of materials, products and treatments for the highway network should take into account the character of the area as well as factoring in whole life costing and sustainability. The materials, products and treatments used for highway maintenance should meet requirements for effectiveness and durability.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 33.

The Nottinghamshire Approach

The overall street characteristics in conservation and other areas is important to maintain the heritage of a local area and its visual appearance and character. This can be tied to local street attributes, types of asset and materials used. Wherever possible, materials are maintained like for like in such areas with any changes being highlighted though the project control measures. This may involve consultation and incorporating defined requirements from other bodies or local considerations. Further details are available in Nottinghamshire's Highway Network Management Plan.

The priority for Nottinghamshire is to have a safe system of roads for the travelling public to use. If there is a conflict between safety and conservation, safety will be given a higher importance.

34. Heritage Assets

Authorities should identify a schedule of listed structures, ancient monuments and other relevant assets and work with relevant organisations to ensure that maintenance reflects planning requirements.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 34.

The Nottinghamshire Approach

Policy information on the maintenance of monuments and historic structures in or adjacent to the highway can be found in Section 5.10.3 of Nottinghamshire's Highway Network Management Plan.

Appendix 01 - Nottinghamshire's Highway Network Management Plan

A register of Historic Listed Buildings and Scheduled Ancient Monuments known as the 'Historic Environment Record' is maintained by the County Council, information on which can be found at the following link:

http://www.nottinghamshire.gov.uk/culture-leisure/heritage/historic-buildings

These assets are also spatially mapped on the authority's in-house mapping system for use by technical staff.

Public access to information on historic sites can also be done via the Heritage Gateway:

http://www.heritagegateway.org.uk/gateway/

35. Environment Impact, Nature Conservation, Biodiversity

Materials, products and treatments for highway infrastructure maintenance should be appraised for environmental impact and for wider issues of sustainability. Highway verges, trees and landscaped areas should be managed with regard to their nature conservation value and biodiversity principles as well as whole-life costing, highway safety and serviceability.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 35.

The Nottinghamshire Approach

Nottinghamshire has a statutory role as a Waste Disposal Authority, controlling the recycling, reprocessing, treatment and disposal of all local authority collected waste in Nottinghamshire. This equates to approximately 400,000 tonnes a year and includes waste collected by the seven district and borough councils and waste collected at the Recycling Centres.

Further information on this can be found at the following link:

http://www.nottinghamshire.gov.uk/waste-and-recycling/recycling-and-disposing-of-waste/how-we-deal-with-your-waste

Regarding highway-specific activities, Nottinghamshire has a Quality Plan, in line with BSI accredited activities relating to the ISO 14001 standard, embedded within the feasibility and design stage of all its highway projects. This Quality Plan provides an 'aide memoir' and checklist for all environmental issues which may be present at a particular site.

This includes a requirement to carry out specialist wildlife surveys if required at the feasibility stage and take any remedial action as necessary. It also considers Sites of Special Scientific Interest (SSSI), Conservation Areas and the provision of a Site Waste Management Plan for the environmental management of any material arisings.

Location information on Sites of Special Scientific Interest, Green Belt Sites, Local Wildlife Sites, Conservation Areas and Green Estates are all available on the authority's in-house Community Mapping system.

Routine maintenance activities such as grass cutting can have a significant impact on the management of SSSI sites and their planned care. Recognising this, managers and operatives involved in the activity are aware of the individual site requirements and appropriate maintenance practises. An example of this is the verges seeded with wild flowers, and the requirement to allow them to develop organically.

36. Minimising Clutter

Opportunities to simplify signs and other street furniture and to remove redundant items should be taken into account when planning highway infrastructure maintenance activities.

Well-Managed Highway Infrastructure – A Code of Practice: Recommendation 36.

The Nottinghamshire Approach

Nottinghamshire's approach for minimising clutter in the highway environment is contained in Section 5 of Nottinghamshire's Highway Network Management Plan. The specific sections that relate to the consideration of the impact of clutter on the urban environment are listed below:

- Section 5.5.3   - Bus Stops
- Section 5.7.3   - General Signing
- Section 5.7.14 - Banners on the highway
- Section 5.12.29 - CCTV Equipment on the highway

Appendix 01 - Nottinghamshire's Highway Network Management Plan

Courtesy of www.gov.uk

Appendix 01 – Policy and Strategic Documentation

Highway Network Management Plan (HNMP)

The following is a direct link to Nottinghamshire County Council's Highway Network Management Plan which is published on the NCC website.

[Nottinghamshire's Highway Network Management Plan](#)

Highway Infrastructure Asset Management Plan (HIAMP)

The following is a direct link to Nottinghamshire County Council's Highway Infrastructure Asset Management Plan which is published on the NCC website.

[Nottinghamshire's Highway Infrastructure Asset Management Plan](#)

Highway Inspection & Risk Manual (HIRM)

The following is a direct link to Nottinghamshire County Council's Highway Inspection & Risk Manual which is published on the NCC website.

[Nottinghamshire's Highway Inspection and Risk Manual](#)

Well-Managed Highway Infrastructure – A Code of Practice (WMHI)

The following is a direct link to Nottinghamshire County Council's website where a copy of the national document, Well-Managed Highway Infrastructure – A Code of Practice, is displayed.

[Well-Managed Highway Infrastructure: A Code of Practice](#)

Highway Infrastructure Asset Management Guidance Document (HIAMGD)

The following is a direct link to Nottinghamshire County Council's website where a copy of the national document, Highway Infrastructure Asset Management Guidance is displayed.

[Highway Infrastructure Asset Management Guidance](#)

Appendix 02 – Network Hierarchy

Carriageway	
R	Resilient Network
H1	Main Distributor
H2	Secondary Distributor
H3	Tertiary Distributor
H4	Local Access Road
H5	Local Road
H6	Minor Road
H7	Track
H8	Unsuitable for Vehicles
Footway	
F1	Primary Walking Route
F2	Secondary Walking Route
F3	Tertiary Walking Route
F4	Local Access Footway
F5	Rights of Way (footpath)
Cycleway	
C1	Cycleway on Carriageway
C2	Cycleway on Footway
C3	Remote Cycleway/Trails on Highway