

DERBYSHIRE COUNTY COUNCIL

**MEETING OF CABINET MEMBER - HIGHWAYS, TRANSPORT AND
INFRASTRUCTURE**

25 July 2018

Report of the Strategic Director – Economy, Transport and Environment

**CODE OF PRACTICE FOR WELL MANAGED HIGHWAY
INFRASTRUCTURE – APPROVAL OF TECHNICAL STRATEGIES AND
PLANS**

- (1) **Purpose of Report** To seek Cabinet Member approval for Highway Infrastructure Asset Management Technical plans and strategies, in support of the Council's implementation of the New Code of Practice Well-Managed Highway Infrastructure, subject to Cabinet approval on the 26 July 2018.
- (2) **Information and Analysis** The Council has been developing and improving its approach to the Asset Management of the highway infrastructure across the County.

The recent changes to the Code of Practice Well-Managed Highway Infrastructure were originally announced by the Department for Transport (DfT) as a refresh, but evolved into a rewrite moving away from the prescriptive methodologies set out in Well Maintained Highways to a risk based approach with no prescription in the new Code of Practice Well-Managed Highway Infrastructure. The new Code was launched in October 2016 with a recommendation that it be adopted by all highway authorities within two years.

The risk based approach requires the Council to develop its own approach to the Code of Practice setting out a policy, strategy, plan, processes and evidence chain to ensure that it can be clearly and transparently demonstrated that the Council is considering risk in delivering its services in accordance with asset management principles, thus ensuring an optimised approach and delivering the greatest value for the funding and resources available.

Over the last 18 months, work has been underway to develop the supporting documentation, principles and processes for a risk based approach to be delivered and sustained, and these work streams have led to the development of a number of key documents (see figure 1 below).

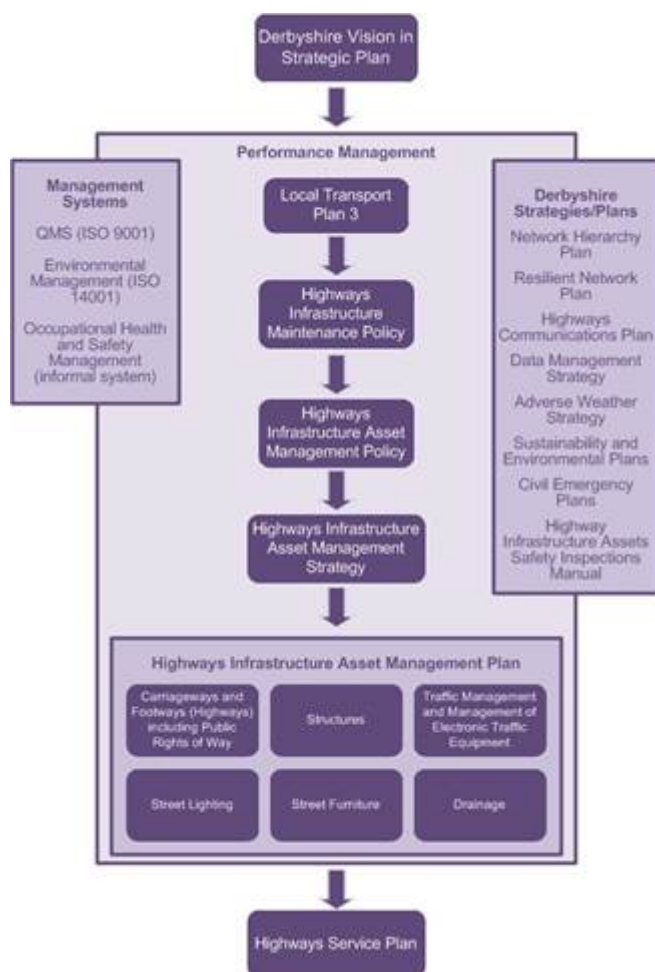


Figure 1 – key documents and context

At its meeting on 26 July 2018, Cabinet approval is being sought for a Highway Infrastructure Asset Management Policy. This is a brief document outlining the Authority's commitment to sound Asset Management principles, in the management of its highway infrastructure, aligned with the Corporate Vision.

Cabinet is also being requested to approve that the development, approval and implementation of the plans and strategies that support this policy, be delegated to the Cabinet Member, in conjunction with the Strategic Director – Economy, Transport and Environment.

Subject to Cabinet's approval of the above, the Cabinet Member's approval of the following plans and strategies, attached as appendices, is sought:

- A Highway Infrastructure Asset Management Strategy and Plan** – this document sets out how the Highway Infrastructure Asset Management Policy will be delivered by the Council. This document provides the strategic overview to the Highway Infrastructure Asset Management Plan and sets out the overall Highway Infrastructure Asset

Management Strategy and Framework, and the aims and objectives for each of the main asset groups. These groups include: carriageways and footways, structures, traffic management and management of electronic traffic equipment, and street lighting.

- **A Network Hierarchy Plan** - This forms the foundation for a risk based approach and has been developed to allow a more dynamic update and a regular review to reflect changes in network characteristics, thus ensuring that strategies reflect the current situation. The Network Hierarchy has been developed to provide a hierarchy that prioritises the maintenance of Derbyshire's most used roads, thus reflecting the risk to the greatest number of users. In developing the Network Hierarchy, a number of opportunities were identified that would aid in future reviews i.e. a strategic programme of gathering, infilling and updating traffic count data. In addition, a review of footway and cycleway hierarchies was identified and will require further work and will be subject to a future Cabinet report. The existing Road User Hierarchy will remain in operation until the appropriate back office changes to adopt the Network Hierarchy have been carried out and tested. This will align with the adoption of the revised Highway Infrastructure Assets Safety Inspection Manual to meet the October 2018 launch of the Code of Practice Well-Managed Highway Infrastructure.
- **A Resilient Network Plan** has been developed that identifies key parts of the highway network that will receive priority through maintenance and other measures, thus helping to safeguard its integrity and support key economic activity and access to key services during disruptive events.
- **A Data Management Strategy (DMS)** –The DMS is a key component of the suite of Derbyshire Highway Infrastructure Asset Management (HIAM) documents, setting out the broad approach to how all asset related information and data will be managed and maintained, how asset data will be collected, together with data quality considerations.
- **A Highway Infrastructure Assets Safety Inspection Manual** – This is a revision of the existing Highways Inspection Safety Manual (2013) to reflect the adoption of a risk based approach. This manual is intended for employees involved in the safety inspections of Derbyshire's highway network, and the incorporation of the Network Hierarchy and Resilient Network, to ensure maximum benefit to road users. The adoption of the new Highway Infrastructure Assets Safety Inspection Manual will meet the October 2018 launch of the Code of Practice Well-Managed Highway Infrastructure. However, the existing Highways Safety Inspection Manual will remain in force until the appropriate back office changes to adopt the Highway Infrastructure Assets Safety Inspection Manual have been carried out and tested.
- **Highways Communications Strategy** – The overarching aim of this document is to ensure that stakeholders are kept informed and aware of the work on the highway, using the most suitable communication

channels, whilst ensuring that there are appropriate opportunities for feedback from users.

These work streams and the policies, processes and documentation provide the basis of the Council's approach to meeting the requirements of the new Code of Practice Well-Managed Highway Infrastructure and provide the wherewithal for an efficient and effective risk based and transparent approach to managing the carriageways and footways, structures, street lighting, traffic management, drainage and street furniture. Delivering the remaining key documents that support the Asset Management Framework will be subject to a future report to the Cabinet Member in Autumn 2018.

The proposals are set out to deliver a level of service that will be safe, sustainable and deliverable within current budgetary constraints across the highway network. Safety will remain the Council's key driver in delivering a safe and reliable network. However, levels of service across the network will remain dependent on the available budget, using asset management processes to ensure the most efficient and effective spend.

(3) **Financial Considerations** The delivery of levels of service will remain, subject to budgetary availability.

(4) **Legal Considerations** The Council has a duty under Section 41 of the Highways Act 1980 to maintain publicly maintainable highways. Section 58 of the Act provides a defence to actions resulting from failure to maintain a highway where the Council is able to prove it has taken such care as is reasonably required to prove it ensure that the highway in question was not dangerous to traffic.

Developing and setting out the Council's risk based approach will enable the Council to deliver its services in line with existing statutory and national best practice, and will provide a firm foundation in defending claims made against the Authority.

(5) **Human Resources Considerations** The development and implementation of a risk based approach, as set out in this report, can be accommodated within the existing staff resource.

(6) **Social Value Considerations** A risk based approach to the maintenance and management of the Highway Infrastructure Network will enable the businesses, residents and visitors of Derbyshire to benefit from a safe and reliable network.

Other Considerations

In preparing this report the relevance of the following factors has also been considered: prevention of crime and disorder, equality and diversity, environmental, health, property and transport considerations.

(7) **Key Decision** No.

(8) **Call-In** Is it required that call-in be waived in respect of the decisions proposed in the report? No.

(9) **Background Papers** Held on file within the Economy, Transport and Environment Department. Officer contact details – Neill Bennett, extension 38659.

(10) **OFFICER'S RECOMMENDATIONS** That the Cabinet Member:

- 10.1 Approves the Highway Infrastructure Asset Management Technical plans and strategies forming the basis of this report and attached as background papers.
- 10.2 Notes that updates to the plans and strategies have been delegated by Cabinet to the Cabinet Member for Highways, Transport and Infrastructure and the Strategic Director – Economy, Transport and Environment.
- 10.3 Agrees to receive further reports to approve the New Code of Practice once remaining plans and strategies are finalised.

Mike Ashworth
Strategic Director – Economy, Transport and Environment

HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT STRATEGY AND PLAN

JUNE 2018

AN ELEMENT OF THE HIGHWAY INFRASTRUCTURE
ASSET MANAGEMENT SYSTEM

Document Information

Title Highway Infrastructure Asset Management Strategy and Plan

Author: Teri Ford

Reviewed: Neill Bennett

Document Issue Status

TABLE OF AMENDMENTS					
NO	APPROVAL DATE	SECTION	PARAGRAPH	DETAILS	AUTHOR
0	xx/xx/20xx	All	All	First Issue	

TABLE OF DEFINITIONS	
TERM	DEFINITION
ADEPT	Association of Directors of Environment, Economy, Planning and Transport
AMX	Asset Management eXpert for Bridges and Structures
BOATs	Byways Open to All Traffic
BSCI av	Bridge Structural Condition Indicator Average
BSCI crit	Bridge Structural Condition Indicator Critical Element
CMS	Central Management System
DCC	Derbyshire County Council
DLO	Direct Service Organisation
DNO	Distributor Network Operators
DMS	Data Management Strategy
FCI	Footway Condition Index
HARRP	Highway Asset Review and Reduction Programme
HMEP	Highways Management Efficiency Programme
LED	Light Emitting Diode
MHA	Midland Highways Alliance
MSIG	Midlands Service Improvement Group
PCI	Pavement Condition Index
RUPPs	Road Used as a Public Path
UTMC	Urban Traffic Management and Control
VRS	Vehicle Restraint System

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FOREWORD

The highway network is used every day by the residents and businesses of Derbyshire, together with the many visitors that visit our beautiful County, and as such is fundamental to all economic and social activity in Derbyshire. This Highways Infrastructure Asset Management Strategy and Plan sets out the Council's overarching approach for managing the highway infrastructure asset, ensuring that asset management principles are embedded to ensure a safe and reliable network. Our highways teams are committed to managing our highway infrastructure assets for the benefit of all of our users and we look forward to working closely with all stakeholders to take this strategy and plan forward.



Mike Ashworth

Strategic Director of

Economy, Transport and Environment



Cllr Simon Spencer

Cabinet Member for

Highways, Transport and Infrastructure

INTRODUCTION

The Importance of Derbyshire's Highway Infrastructure

Derbyshire's highway infrastructure supports private, public and business transport needs in a diverse environment, from the heights of the Dark Peak to the lower levels surrounding the River Derwent.

Highway infrastructure is the largest and most visible asset the Derbyshire County Council (DCC) is responsible for and it is fundamental to the delivery of the Council Plan. It includes over 5,000km of road network, as well as supporting public transport through cycle routes, public rights of ways, canals, bus stations and shelters, on-street parking, school buses and vehicle fleet. It reflects the character and quality of the local areas that it serves and makes an important contribution to the wider Council priorities, including regeneration, social inclusion, education, employment, recreation and health. In order to deliver these aims and strengthen local communities, it is crucial that it is maintained to enable safe, reliable and sustainable journeys.

The Case for Asset Management

Asset management has been widely accepted by central and local Government as a means to deliver a more efficient and effective approach to the management of highway infrastructure assets through the longer term planning and the optimal allocation of resources. It enables DCC to manage risk and meet performance requirements in the most efficient and sustainable manner.

DCC has been implementing good Asset Management practices over a number of years. This Strategy document builds on that work and will outline how Highway Infrastructure Asset Management will be achieved. It follows a review of the previous strategy document and replaces the previous Highway and Transport Asset Management Plans and the Strategy produced in 2015. It will enable the Council to continually review its approach, develop its asset management practices for its integrated highway network and where necessary, identify and quantify efficiency improvements.

Derbyshire's approach to Asset Management has been developed using the recommendations made within the 2013 Highways Management Efficiency Programme (HMEP) Highway Infrastructure Asset Management Guidance and is the basis of the Council's approach to delivering best practice, as set out in the 2016 Code of Practice for Well-Managed Highway Infrastructure. These require local authorities to adopt a risk based, integrated asset management approach to maintaining highway infrastructure by October 2018. These approaches are supported by the new funding models for local authority highway maintenance.

HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT FRAMEWORK

Highway Infrastructure Asset Management Framework in Derbyshire

The Highway Infrastructure Asset Management Framework identifies the activities and processes that are necessary to develop, document, implement and continually improve asset management. It highlights the relationships between asset management, national and local factors and dependencies that influence the ability to deliver these services and support continual improvement in highway infrastructure asset management. An Asset

Management Strategy Framework has been produced based on good practice guidelines and this is shown in the figure below:

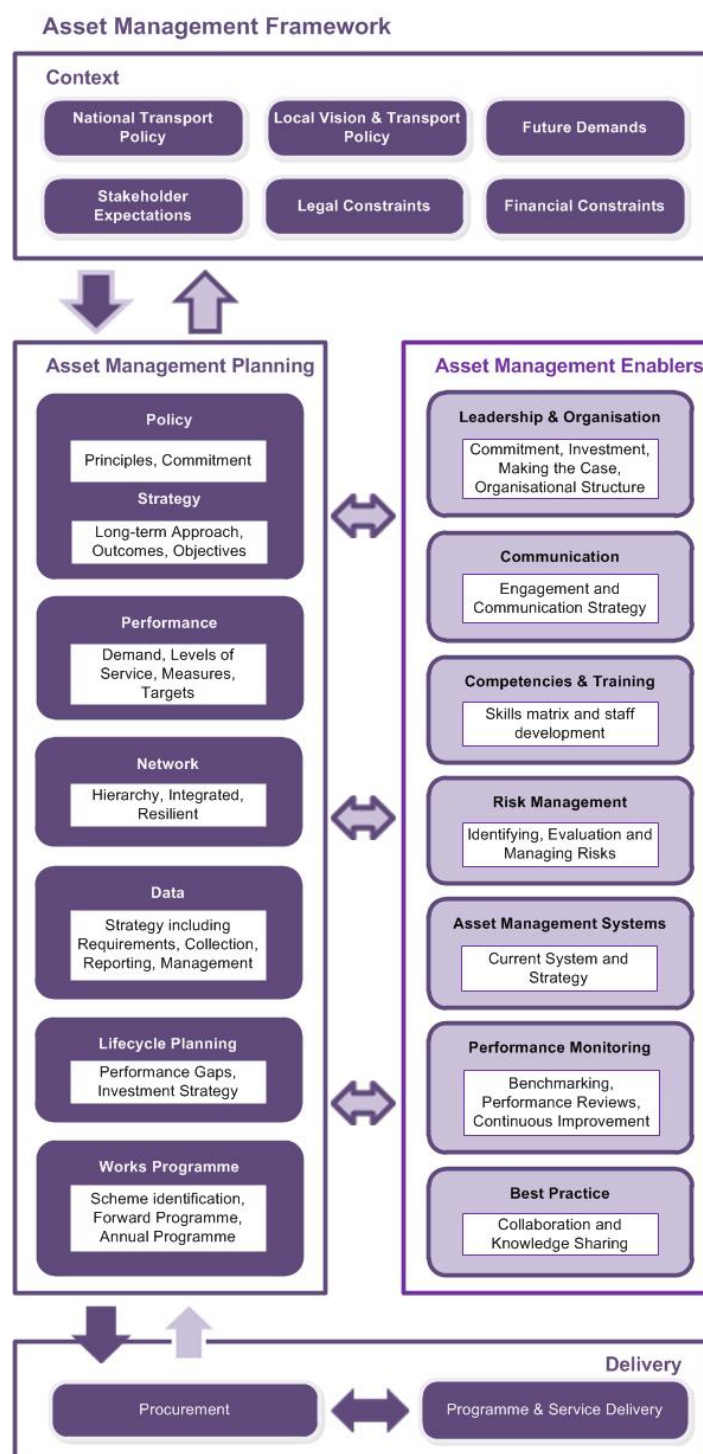


Figure 1 – Asset Management Framework

CONTEXT

This establishes the context for highway infrastructure asset management which includes a variety of factors that need to be taken into consideration when determining the Council's expectations for the highway service.

Key Drivers for Highway Infrastructure Asset Management

- Meeting national policy, guidance and codes of practice
- Delivering Council goals – including maintenance policy and Local Transport Plan
- Supporting Council Vision
- Complying with legal duties, including Highways Act 1980, Traffic Management Act 2004 and The Equalities Act 2010
- Enabling effective whole Government accounts and local financial reporting
- Managing Stakeholder expectations – DCC readily engages with stakeholders through Elected Members, the National Transport and Public Satisfaction Survey, the DCC website, officer workshops and Midland Service Improvement Group (MSIG).
- Understanding future demands of the highway infrastructure assets
- Making the best of financially constrained budgets
- Delivering efficiency and value for money
- Delivering long term improvements to the condition of the network
- Providing a safe and reliable network

The delivery of good practice embedded highways infrastructure asset management, aligns with ISO 55000 – the international standard for asset management. It is not the intention of the Council to seek accreditation at this time, however, this will be evaluated as a development opportunity in future reviews of this strategy.

HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT PLANNING

These are the key activities that are undertaken as part of the asset management planning process.

The Asset Management Policy, Strategy and Highway Infrastructure Asset Management Plans provide a clear line of sight from the local and national policies that shape the future direction of the DCC to the delivery of highway services. Figure 2 overleaf illustrates the key documents within the process and their links within the wider context of national and council policies.

Highway Infrastructure Asset Management Policy

The Highway Infrastructure Asset Management Policy is a high level document that endorses the County Council's commitment to highway infrastructure asset management and demonstrates how this approach aligns with the Council Plan. It is set out in the Highway Infrastructure Asset Management Policy and follows a review of the previous 2015 policy.

Highway Infrastructure Asset Management Strategy

The Highway Infrastructure Asset Management Strategy outlines how the Highway Infrastructure Asset Management Policy will be delivered and how it is informed by the adoption of the Highway Infrastructure Asset Management Framework.

Highway Infrastructure Asset Management Plan

The Highway Infrastructure Asset Management Plan states how the Policy and Strategy will be delivered. This public explanation document provides the strategic overview to the Highway Infrastructure Asset Management Plan and sets out the overall Highway Infrastructure Asset Management Strategy and Framework and the aims and objectives for each of the main asset groups. These groups include: carriageways and footways (highways), structures, traffic management and management of electronic traffic equipment, street lighting, street furniture and drainage and is public facing and available on the DCC's website.

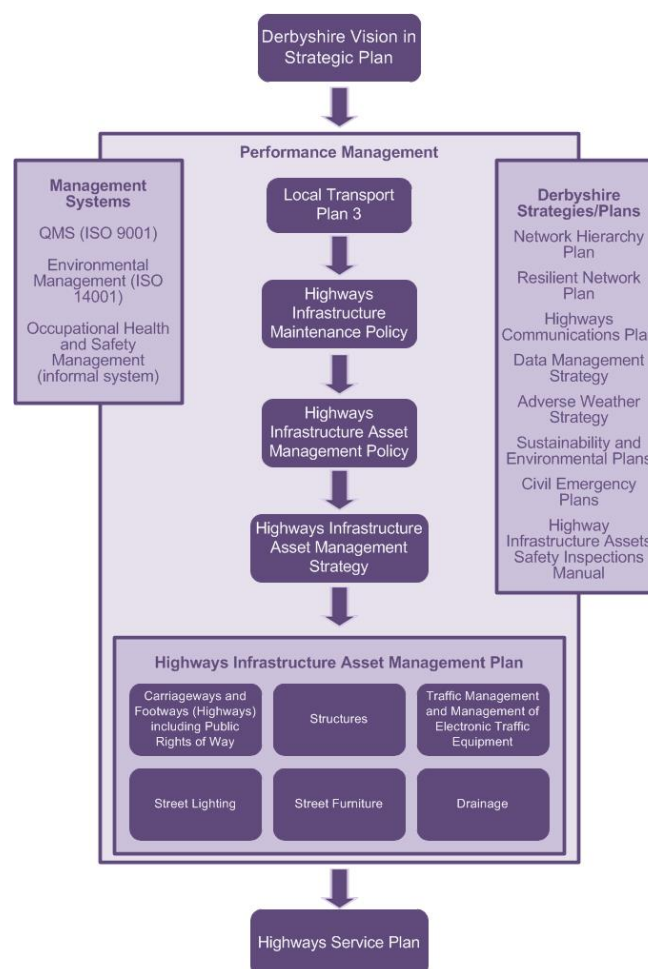


Figure 2 – Key Documents and Context

Performance

The demands placed on the highway network will change over time and consequently place greater or lesser pressures on highway infrastructure assets. Levels of Service are a simple and effective way of describing the service that is to be delivered by the Highway Authority. These can identify the way it is to be measured in a way that helps stakeholders understand what can be expected. It is therefore necessary to set Levels of Service to specify the standard of service that is to be delivered.

These Levels of Service must take into consideration statutory duties, national and regional guidance, the management and mitigation of risk both to the service user and DCC and the volume and type of traffic using the network.

Whilst Levels of Service for highway maintenance are primarily determined by the Council's statutory obligations as a Local Highway Authority, to mitigate risk to those using their network, the promotion of core corporate objectives of safety, serviceability and sustainability are also key determining elements. The requirement to provide a safe and reliable network in relation to its use underpins service standards namely; what, when and how highway maintenance is delivered. The overarching Levels of Service are shown in the table below:

Key Principle	Aim	Level of Service
Network Safety	Ensure that all highway assets are in a safe condition whilst reducing road traffic casualties	Complying with statutory obligations
		Meeting users' needs for safety
Network Serviceability	To manage the current network condition and improve where possible and required to meet Derbyshire County Council's service objectives	Ensuring availability
		Achieving integrity
		Maintaining reliability
		Resilience
		Managing condition
Network Sustainability	To ensure the cost of maintaining and operating the highway network over time, whilst supporting improvements to the environment and local communities	Minimising cost over time
		Maximising value to the community
		Maximising environmental contribution
		Maximising long-term availability
Customer Service	To deliver best value and locally focused solutions	Communication, consultation, levels of service, information

Network Hierarchies

The purpose of a Network Hierarchy is to recognise that the failure of certain routes or items of infrastructure would have a greater impact on the economy and communities than others. It is used as a tool to help ensure that highway maintenance activities are effectively prioritised. The Network Hierarchy is user defined, based on usage and not dependent on the current road classification system. The Network Hierarchy can be found in the document entitled Network Hierarchy Plan.

Critical assets have been identified for each main category of asset. These are assets where failure would result in significant impact to the local economy. A Resilient Network has been developed which will have the highest priority and contains the critical assets identified for each main category of asset, this can be found in the document entitled Resilient Network Plan.

Data

Good asset management relies on accurate, appropriate and current data in order to inform successful asset data management based decision making. It is therefore important to collect the appropriate data, maintain it in an effective system and ensure its accuracy and currency through regular audit and update processes.

A Data Management Strategy (DMS) has been developed that outlines the management of current and required data using a risk based approach and identifies business need, data owner, accessibility and date stamping, data collection, frequency of collection and updating, data management and disposing of data.

Lifecycle Planning

In line with current national guidance and good practice, Derbyshire is using a simplified network based approach to life-cycling but developing a more section based lifecycle approach to managing its carriageway, footway and structures maintenance activities. Considering how long specific maintenance treatments last, the relative cost of treatments and the levels of service to be provided are essential pre-requisites to good asset management.

A key component is maximising the life of an asset whilst minimising the budget and resource implications. The asset lifecycle plans consider the whole life costs using and the investment required to maintain the asset over the long term, i.e. 15 – 20 years for most highway assets. However, this will be over a much longer term for Highway Structures, dependent on the nature of the structure.

This approach enables planned maintenance to be carried out on the network at the right time in order to achieve value for money, delivering the agreed Levels of Service and achieving the performance monitoring objectives, providing opportunities for continuous improvement.

Derbyshire has also developed a systematic approach to assessing if assets are still appropriate and required, or whether they should be decommissioned. This is being done through the Highway Asset Review and Reduction Programme (HARRP), focusing initially on road traffic signs but to be extended to all assets, where appropriate.

Works Programme

By developing financial models associated with lifecycle planning, this Strategy will enable a 1 – 3, 5, 10 and 15 year forward works 'strategic' budget to be identified for all transport assets.

It will also provide clear indications as to the nature of planned maintenance required to maintain the network, as a whole, by considering asset condition and lifecycle costs against the provision of the desired levels of service, and ultimately, deliver the budget and works programme.

The Forward Works Plan is currently focused on the Carriageway Asset Group, with a developing Footways and Structures Programme. Street lighting is subject to a Light Emitting Diode (LED) replacement programme and other assets are being captured and surveyed to be incorporated over time. The Forward Works Plan will provide a work bank that can be prioritised in the Highways Service Plan within the available budget.

The Forward Works Plan will show the collective works backlog, it shall make clear what level of funding is required to reduce the backlog and provide the agreed Levels of Service, Thus making a better case for additional funding to maintain this vital asset.

The prioritisation of the schemes identified within the forward programme will be determined annually by available budget, condition and risk through a Programme Development Board and consultation with Elected Members, and these will be the basis of the Annual Highway Maintenance Service Plan.

HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT ENABLERS

The Highway Infrastructure Asset Management Enablers are the supporting activities that support the implementation of the Asset Management Framework.

Leadership and Organisation

This document emphasises the importance for an asset management approach and the Council's commitment is shown in the statement contained in the Foreword to this document.

Additionally, the leadership has embedded asset management within the job descriptions of the following key positions within the Economy, Transport and Environment Department, Highways Division, making them all responsible for asset management and defining the asset owners:

- Service Director of Highways
- Head of Highways Strategy
- Head of Network Planning
- Head of Construction Design
- Head of Construction Services
- Principal Engineer – Traffic and Safety
- Principal Engineer – Highways Maintenance
- Senior Project Engineer – Structures Maintenance
- Senior Project Engineer – Traffic Signals
- Senior Project Engineer – Street Lighting

It is their responsibility as the asset owners, to implement the Highway Infrastructure Asset Management Policy, Strategy and Plan with support from the Head of Highways Strategy. Presentations have been made to Elected Members and staff regarding the case for asset management ensuring that all staff understand and are on board with the asset management approach.

A gap analysis has been undertaken to establish where improvements can be made, action plans have been developed to improve and embed asset management principles into day to day processes.

Communication

For an effective Asset Management approach to be seen as successful, it needs to be communicated clearly and prescriptively through the correct channels to ensure engagement at both strategic and local levels. Asset Management principles and methodologies will only be successful if key decision makers, such as Elected Members and those making use of the service/network, are on board and are able to visualise the long term benefits and savings to be made from this approach.

DCC's overarching Communication Policy and Stakeholder Engagement Plan is held within the Communications Division, however, the Highways Division has an individual communications and stakeholder engagement document entitled Highways Communications Plan.

DCC participates and utilises the information in the National Highways and Transport Public Satisfaction Survey to measure the public's satisfaction with the functions of the transport

network and what elements are of greatest importance to them. This information helps to inform our service priorities and communications approach.

Competencies and Training

Competency, skills and training are identified in the Workforce Development Plan for both individuals and disciplines which is under development. Part of this framework is a skills matrix for key staff involved with the asset management process to ensure that staff have the required competency. Any training requirements are identified and prioritised through the annual Corporate MY Plan process.

Risk Management

Risk Management requires a less prescriptive approach to asset assessment and allows decisions to be made using risk assessments on the needs and local variation to meet the demands of highway infrastructure asset management which are outlined in the context section of the Asset Management Framework. To ensure that users' reasonable expectations for consistency are taken into account, the approach of and, in particular, adjoining other local highway authorities has been considered.

The purpose of a risk based approach is the consistent application of a decision making process to:

1. Correctly evaluate the risk posed to highway users by all defects or deficiencies in the highway asset
2. Prioritise resources so that the risk is managed effectively
3. Ensure the efficient use of available resources
4. Understand performance and address any gaps in resources or performance
5. Ensure value for money
6. Enable monitoring of outcomes

Asset Management Systems

Data appertaining to the highway network and its Asset Register is held in the Single Asset Management System "Confirm", a Pitney Bowes product used by many local councils to manage highway and transport assets, customer services, maintenance and performance.

Apex systems are used to manage and monitor performance across the Highways Division, Economy, Transport and Environment Department and the Council.

Performance Monitoring

An Asset Management Performance Management Framework is being developed. Progress will be continually reviewed against this Framework and formal annual reviews will be undertaken. Performance will be monitored to identify where progress is being made and where changes are needed to ensure the asset is managed in the most efficient manner, and to ensure that there is continuous improvement.

Data is supplied annually to the National Highways and Transportation Survey which serves to provide details on levels of customer satisfaction with local authority services and practices. This helps target and publish information clearly and effectively to ensure members of the public and other highway stakeholders are as fully informed as possible about the current performance of our services. It drives our performance, identifying public perceived gaps, helps us analyse the public's understanding and will inform our communications approach.

This Strategy and our Highway Infrastructure Asset Management Policy will be reviewed annually and updated and re-published as appropriate.

Best Practice – Collaboration and Knowledge Sharing

The MSIG is a forum for adjacent/peer authorities to share knowledge and good practice. Derbyshire was one of the founding members and remains active in leading in innovation. Many of Derbyshire's processes that ensure the implementation of this Strategy, have been developed in conjunction with other local authorities within the MSIG.

DELIVERY

This section sets out how Highway Maintenance Services will be delivered.

The delivery of the on the ground Highway Maintenance Service is undertaken predominately by ALLRoads, the "in-house contractor"/Direct Service Organisation (DLO).

Additionally, procurement frameworks are in place, such as the Midland Highway Alliance (MHA) for services. It allows for prudent procurement of goods and services, and helps with achieving economies of scale for both of these, plus supply contract management. This was the first partnership of its kind in the UK which commenced in July 2007. The MHA delivers the regional procurement and implementation of highways maintenance, professional services and capital works through framework agreements.

HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT PLAN FOR THE MAIN ASSET GROUPS

General

This section summarises the existing highway assets, their current condition and a summary of the Maintenance Strategy to be employed for each main asset group in the future.

Although these strategies are stated individually for each asset type, they have been considered as part of the overarching integrated network. It states the overall aim, short term, medium term and long term desired outcomes, identifies the risk in not meeting these, and the identified funding gaps required to manage the asset.

CARRAGEWAYS AND FOOTWAYS (HIGHWAYS) INCLUDING PUBLIC RIGHTS OF WAY

Carriageway

The carriageway is the most valuable asset, receiving the greatest level of maintenance expenditure with a Gross Replacement Cost of £6.645 billion. There is a total of 5,305 km of carriageway with 481 km on the resilient network and 4,824 km on the non-resilient network.

Carriageways were the first asset for which lifecycle plans were developed resulting in the creation of several investment scenarios which have modelled current condition, investment levels and desired performance outcomes. This has enabled a greater understanding of where to target investments to achieve the desired Levels of Service. Historically, the condition of the asset was measured through scanner, scrim and deflectograph surveys. The scanner survey reported the carriageway condition through a road condition index. In 2016, the survey method was changed to an Annual Engineers Inspection which gathers the surface condition through a treatments option list and reports the carriageway condition through a Pavement Condition Index (PCI). This shows that the percentage of roads reported as “Need Maintenance Now” for resurfacing/reconstruction/surface dressing is 26% for principal roads, 43% for non-principal roads, and 19% for unclassified. This is then combined with the scrim and deflectograph survey data along with engineering judgement and the lifecycle planning process to prioritise the sites that require maintenance.

Planned maintenance is delivered by an annual programme which is capital funded. The risk based asset management approach has been endorsed by Elected Members and £5.349 million of funding has been committed for the period 2018-19. This funding is linked to defined performance outcomes that are measured and reported annually.

Management of potholes and other carriageway safety issues arising across the network is delivered using revenue funding and this has reduced significantly over the last decade. However, the revenue budget is expected to continue to be under severe pressure over the coming years. Using sound asset management principles and improving the coordination of road maintenance activity, we will continue to increase the value achieved in road maintenance, improve network resilience and reduce the burden on revenue budgets through the delivery of effective programmes of preventative work.

Overall Aim: To put in place a strategy delivering best value for money prioritised according to the network hierarchy.

Short-term desired outcome (1 to 2 years): To provide a rolling 5 year programme and deliver the current annual programme of works as efficiently and effectively as possible by using the right treatment at the right time to gain the optimum value for money.

Medium-term desired outcome (3 to 10 years): To embed lifecycle principles and support funding challenge bids to target investment in the road network. To further develop the right treatment, right time and prioritisation processes to ensure all resources are employed to deliver the best value for money.

Long-term desired outcome (11 to 20 years): Continue to use good asset management principles to inform and support funding of carriageway maintenance. To maintain and implement programmes of work delivering best value against the overall aim.

Identified Funding Gaps: to provide innovative treatment choices and extend the lifecycle of the carriageway network.

Footways and Cycleways

Footways and cycleways support access and mobility and encourage alternatives to the car, particularly for journeys in urban areas. Well maintained footways aid social inclusion, particularly improving accessibility for vulnerable people. It has a Gross Replacement Cost of £742 million.

There are 324 km of cycleways and greenways and in excess of 4,500 km of footway. The annual maintenance expenditure for 2018-19 is £2.159 million and this makes up nearly 16% of the available highway maintenance budget.

Footway condition has historically been assessed through a detailed visual inspection survey and reported the best value performance indicator for the footway. In 2018-19, it is proposed to change the survey method to an Annual Engineers Inspection which will report a Footway Condition Index (FCI). Due to the survey transitional period we are not able to report the current condition of the footways and cycleways. Therefore our ability to model a capital programme and lifecycle plan for our footways asset is limited for these reasons, but is being developed.

Overall Aim: The Council has a preventative strategy to improve the condition of the most-used footways. We will maintain other footways in a 'steady state'. We will assess rural/lesser-used footways to determine whether to maintain or allow to become rural paths and utilise surface treatments to prolong lifespan.

Short term desired outcome (1 to 2 years): Review and finalise the footway and cycleway hierarchies

Medium term desired outcome (3 to 10 years): Implement the new Annual Engineers Inspection to derive the FCI and then develop lifecycle planning and forward prioritised works programme.

Long term desired outcome (11 to 20 years): Through the continuation of good asset management principles, continue to inform and produce cases for the funding of footway/cycleway maintenance in Derbyshire and to maintain and implement programmes of work delivering best value against Council and Highway Service objectives.

Identified Funding Gaps: Improving our information for future investment and further bids.

Public Rights of Way

Public rights of way are essential in providing access for all to health, education, recreation and work. It includes the following elements: footpaths, bridleways, byways open to all traffic (BOATs), road used as a public path (RUPPs), off highways cycle routes and countryside car parks. Within these, there are a number of fingerposts, stiles, bridges and fords that are maintained by the Council.

There are 4,509 km of footpaths, 557 km of bridleways, 63 km of restricted byways and 26 km of BOATs. Approximately, a third of these are contained within the Peak District National Park.

Overall Aim: We will continue to provide our service in line with our Rights of Way Charter and the Rights of Way Improvement Plan for Derbyshire.

STRUCTURES

DCC actively manages its structural assets in accordance with the principles set out in the UK Roads Liaison Group publication “The Management of Highway Structures, A Code of Practice”.

There are approximately 235 bridges, 79 km of retaining walls, 28 landslips and 57 rockfaces on the resilient road network with a Gross Replacement Cost of £310 million for bridges alone. The remaining road network has approximately 947 bridges, 903 km of retaining walls, 178 landslips and 8 rockfaces with a Gross Replacement Cost of £500 million.

The condition of the structures asset is measured primarily by two factors, Bridge Structure Condition Indicator Average (BSCI av) and Bridge Structure Condition Indicator Critical Element (BSCI crit) which are derived from general bridge and principal bridge inspections. In accordance with the national recognised indicators published by Association of Directors of Environment, Economy, Planning and Transport (ADEPT) and in common with most local authorities, there has been a slow reduction in the overall stock value which at present in Derbyshire, is within the range denoted ‘fair’. Out of this stock, 61 structures are rated below this level. This information is stored within Asset Management eXpert for Bridges and Structures (AMX), a bespoke database used to determine lifecycle planning strategies for structures.

All structures are maintained in a condition that is ‘safe to use and fit for purpose’. If safety critical components are identified as being deficient after inspections, immediate steps are taken to make them safe. At present, substandard structures are monitored to determine their structural performance and are managed in accordance with the code of practice.

Overall Aim: To ensure the highway structure stock is safe to use and fit for purpose. Asset management principles are used for prioritising maintenance spend. The Council will arrest progressive deterioration and deliver sustainable improvement in overall condition, subject to increased funding. The Council will put in place a preventative strategy, delivering best value for money, prioritised according to the Network Hierarchy.

Short term desired outcome (1 to 2 years): The asset management lifecycle plans show that 4 bridges on the Resilient Network will have life expired in the next 3 years. These will be replaced or repaired to avoid failure. The risk of not achieving this would be either loss of network or significant network restrictions.

Medium term desired outcome (3 to 10 years): To avoid the Resilient Network structures from being classified as poor condition, ie a BSCI av of below 65%. The risk of not achieving this would reduce the robustness of the Resilient Network and impose increased financial liabilities on DCC.

Long term desired outcome (11 to 20 years): To increase the BSCI av score network wide on both the resilient and non-resilient network.

Identified Funding Gaps: The following projects have been identified which require additional funding:

- Preventative retaining wall strengthening/repair/replacement
- Identify major maintenance schemes with values in excess of £1 million
- Increase resilience for the structures stock to resist climate change (flooding) on at risk structures

DRAINAGE

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

The current inventory of highway drainage assets across Derbyshire includes approximately 19,202 gullies and 30 culverts on the Resilient Network and 146,375 gullies and 247 culverts on the non-resilient network. We are continuing to improve the information for grips and drainage ditches.

These gully drainage assets are all proactively maintained through intelligent cyclic maintenance with a risk based approach. Outside of this maintenance, the current approach to repairs and improvements is predominately reactive. Information regarding these gully assets is comprehensive, however, only partial information regarding where they discharge to is available and this can be divided into locations where the information is either known, assumed or unknown.

To proactively maintain the entire drainage asset into the future, we will continue to build a complete inventory and good understanding of condition, including the associated risks that come with failure. This will enable us to undertake programmes of preventative maintenance whilst monitoring and reviewing performance.

Improving our knowledge of drainage infrastructure across the County will enable us to demonstrate evidence-based decision on drainage maintenance and support our ability to secure future funding investment, whilst demonstrating savings in revenue expenditure through efficient and effective maintenance.

Overall Aim: The Council will improve data collection to enable better management of assets and invest in positive drainage systems which prevent flooding and protect carriageways.

Approach: To continue proactive cyclic maintenance of known drainage assets (gullies, grips and ditches) in accordance with industry guidance. To continue to collect inventory and condition information for the remaining unknown drainage assets to enable clear lifecycle plans to be developed, and a proactive approach for future programmes of prioritised maintenance to be achieved. The risk of not achieving this is increased damaged to highways infrastructure due to flooding and increased financial liabilities on the DCC.

STREET LIGHTING

Street lighting is an important highway asset, contributing to public amenity, safety and the night time economy. There are 9,800 road lighting columns on the Resilient Network with a Gross Replacement Cost of approximately £14.7 million. The remaining network has 79,850 lighting columns with a Gross Replacement Cost of approximately £67.3 million. However, in addition to street lighting columns, there are 1,522 pole mounted street lighting brackets with 570 of those in Electricity North West area, 777 cast iron street lights, 1,854 illuminated bollards, 283 refuge beacons, 4,215 illuminated signs, 857 illuminated bus shelters and 339 subway lighting units.

The overall condition of the street lighting is monitored in accordance with "Institute of Lighting Professionals Technical Report 22" with a target to maintain the number of columns in excess of the action age at less than 50%.

After consulting with residents, 7,289 street lights were converted to operate on a part night switching regime between June 2012 and July 2015. This has saved £84,000 in energy costs. DCC is currently converting all street lighting columns to LED technology at a cost of approximately £9 million for the Resilient Network and £23 million for the non-resilient network. This conversion, along with dimming some lights, will reduce the energy consumption to approximately 16 million kWh. As part of this process, each column is inspected for its structural and electrical condition, and assessed for its ability to be converted or its requirement to be replaced. This programme is planned to be completed by 2020. Additionally, night scout patrols are in operation until 2019, allowing faults to be identified and logged along with those reports received from members of the public.

Overall Aim: To reduce energy consumption and maintenance requirements by dimming and installing LED lights. To reduce progressive deterioration and deliver sustainable improvement in overall condition in lighting columns across both the resilient and non-resilient network. To develop a programme of structural testing of lighting columns that are over 12 years old. To reduce the number of Destination Network Operators (DNO) pole mounted street lighting equipment. To eliminate redundant signage and bollards that are unnecessarily lit, improve asset condition. To create a smart parking meter asset that can be remotely monitored and managed, providing data on revenue income and parking occupancy at sites across the County.

Short-term desired outcome (1 to 2 years): To continue with the programme to convert assets to LED technology and replace columns where deterioration is present on both the resilient and non-resilient network. To complete and report on a feasibility study into the use of a Central Management System (CMS) to monitor and manage lighting columns on the Resilient Network and subways. To update the asset inventory and condition to reflect the current situation for parking meters and subways. To provide a condition survey for signs and identify and devise a prioritised programme to remove illuminated signs that are either redundant or where illumination is not a requirement.

The risk of not achieving is increased energy costs, increased maintenance costs of failed sodium lamps which will cease to be manufactured in 2019, and collapse of columns showing signs of deterioration/corrosion.

Medium term desired outcome (3 to 10 years): To replace columns identified as high priority under the Asset Management Plan on both the resilient and non-resilient network which, if not completed, have a risk of collapse. To replace the cable network identified in poor condition on the non-resilient network which, if not completed, has the risk of electrical

faults. Commence the Asset Replacement Programme and installation of LED technology for signs and subways. Monitor the asset condition for parking meters and identify a replacement programme.

Long term desired outcome (11 to 20 years): A continuation of the replacement of columns and cable network. A replacement of the LED drivers and luminaires as necessary on both the resilient and non-resilient network. To maintain cast iron lighting columns. Monitor asset condition and replace assets identified in Asset Management Plan for signs, subways and parking meters.

Identified Funding Gaps: The following projects have been identified which require additional funding in both the medium and long term:

- Reduction in pole mounted street lighting brackets on Electricity North West apparatus approximately 570 units
- Refurbishment of approximately 700 cast iron lighting columns and conversion to LED

TRAFFIC MANAGEMENT AND MANAGEMENT OF ELECTRONIC TRAFFIC EQUIPMENT

Traffic signal controlled junctions and pedestrian crossings form an important highway asset, contributing to the safe and efficient use of the road network, promoting economic growth within the County, promoting walking and cycling and improving accessibility. Its efficient operation and maintenance allows those using the road network to move around the County with the minimum of delay and disruption. Efficient maintenance regimes also ensure that the traffic signal installations are maintained in a safe structural and electrical condition.

Currently, there are 435 signal installations which include 129 signalised junctions, 19 pelican crossings, 257 puffin crossings, 23 toucan crossings, 7 pegasus crossings and 113 zebra crossings. There are 166 permanent electronic warning signs, 66 mobile electronic warning signs and 604 flashing amber warning lights outside schools with a Gross Replacement Cost of £14 million. A programme is currently being undertaken to replace all pelican crossings as the pelican technology is becoming obsolete.

Each assets condition is inspected twice annually and is tested for electrical safety every 5 years, however, additional inspections may also be carried out at the discretion of the highway authority for various reasons such as after a road traffic collision or complaints from members of the public regarding the operation of the site. Evaluation and prioritisation of refurbishment works is based on the condition surveys included in the periodic inspection regime together with officer assessment, lifecycle planning and the knowledge of future works.

Overall Aim: We will focus on priority junctions and signal controlled crossings in need of replacement using LED/low voltage technology. We will review the need for signals in some locations in line with agreed criteria.

Short-term desired outcome (1 to 2 years): To complete the prioritised refurbishment programme of 10 signalised junctions, convert the remaining pelican crossing to puffin crossings and continue to implement the prioritised programme for upgrading zebra crossings. The risk of not achieving this would be signal failure which would affect the safe and efficient use of the network.

Medium-term desired outcome (3 to 10 years): To implement Urban Traffic and Management Control (UTMC) in Chesterfield, including the back office communications systems and remote monitoring, to continue to implement the prioritised programme for upgrading zebra crossings, implement the prioritised replacement programme for flashing amber warning lights, develop a programme to replace the electronic warning signs and consider the impact of in-car information systems. The risk of not achieving this could result in higher levels of congestion which would affect the safe and efficient use of the network.

Long-term desired outcome (11 to 20 years): To implement the ongoing programme to replace and refurbish in order to meet the lifecycle plans for each asset type.

Identified Funding Gaps: The following project has been identified which requires additional funding in both the medium and long term:

- Replace all flashing amber warning lights providing UTMC connectivity

STREET FURNITURE

A well designed and managed highway environment generates benefits for residents, businesses and visitors to the County. Street furniture has a significant presence within this environment and appropriate design and maintenance of these assets is required to offer a safe and attractive public realm to road users. Street Furniture has a Gross Replacement Cost of approximately £16.5 million. Street Furniture can be sub-divided into safety street furniture which includes safety fencing and vehicle restraint systems, pedestrian barrier/restraint system, traffic signs, traffic calming and anti-skid surfacing and those miscellaneous items of street furniture, such as benches, grit bins and tree grates/grills. For the purpose of this Plan, the safety street furniture elements are discussed below.

Many of the elements of street furniture has historically been maintained by routine and reactive means with the last comprehensive asset inventory being collected in 2009.

Safety Fencing and Vehicle Restraint Systems (VRS)

There are 43 km of VRS on the Resilient Network and 68 km on the non-resilient network. Other VRS are still likely to be identified through routine inspections.

Overall Aim: We will maintain assets that are fit for purpose and reduce rate of decline in condition. We will invest in reactive maintenance following accident damage and then recover costs from 3rd parties.

The current approach to repairs and improvements is predominantly reactive. To proactively maintain the asset into the future, we will continue to build a complete inventory and good understanding of condition, including the associated risks that come with failure. This will enable us to undertake assessment and to prioritise programmes of preventative maintenance, whilst monitoring and reviewing performance.

Short term desired outcome (1 to 2 years): Carry out a condition survey and asset survey on the Resilient Network and formalise an action plan of repair/replacement.

Medium term desired outcome (3 to 10 years): Review and update the VRS Risk identification process to determine priorities for maintenance and inspection. Complete the assessments, lifecycle planning and identify repairs to VRS on the Resilient Network and attract the necessary funding to carry out these repairs. Survey all non-resilient network and assess. This will ensure that all VRS assets will be mapped on a base plan with coded condition assessment. This will consider asset reduction principles.

Long-term desired outcome (11 to 20 years): Prepare plan of action to ensure all VRS are assessed, routine inspections undertaken and plan formulated to bring all VRS up to current standards.

Identified Funding Gaps: submit bids to support resilient network programmes.

Pedestrian Barrier/Restraint System

Pedestrian restraint systems have been provided as a traffic management solution predominately where there has been a safety concern identified, to prevent immediate incursion into the carriageway outside locations, such as schools whose gates directly join the highway or as an effective means of channelling people to cross or access a specific point on the highway. There are 659 locations of pedestrian guardrail on the Resilient Network, and 1,748 locations on the non-resilient network.

There are no condition surveys undertaken, however, they are included in the highway infrastructure asset safety inspections. The current approach to repairs and improvements is predominately reactive with an assessment undertaken by the Traffic and Safety Team to establish if there is still a requirement for its presence. Any new requests for installations are reviewed on an individual basis.

Overall Aim: To maintain pedestrian barrier/restraint systems that are fit for purpose.

Approach: We will continue to react to issues identified on the network by assessing if it is still required and repairing or removing as necessary.

Traffic Signs

Signs are provided to alert drivers to potential danger, give effect to a mandatory or prohibitory manoeuvre or provide directional or other information for drivers to improve safety, prevent obstruction and ease traffic flow. There are approximately 14,955 traffic signs on the Resilient Network and approximately 62,029 traffic signs on the non-resilient network.

There are no condition surveys undertaken, however, they are included in the highway infrastructure asset safety inspections. The current approach to repairs and improvements is predominately reactive with an assessment undertaken by the Traffic and Safety Team to establish if there is still a requirement for its presence. Any new requests for installations are reviewed on an individual basis. Additionally, the HARRP programme has developed a systematic approach to assessing if the assets are still appropriate and required, or whether they should be decommissioned.

Overall Aim: We will focus on areas of the network with significant changes or increased risk levels. We will review the need for signs at some locations to improve effectiveness and reduce environmental impact.

Short term desired outcome (1 to 2 years): Update asset inventory to reflect the current situation. It is anticipated that there should be a reduction in assets on the network following various de-cluttering initiatives since the database was last updated.

Medium-term and long term desired outcome (3 to 20 years): To ensure proper use of signs to maintain their effectiveness whilst minimising their impact on the environment throughout the network. This will improve the streetscape at the same time as improving the information provided to motorists and reduce future maintenance costs.

Approach: Continue to operate a reactive approach primarily based on routine highway inspections. It is considered that this provides the most cost-effective method of sign maintenance and enables a consistent approach to reviewing the need for the asset on an individual basis in line with DCC's Road Signs: Environmental Code of Practice.

High Friction or Anti-skid Surfacing

Anti-Skid surfacing reduces the risk of skidding for vehicles, reduces vehicular braking distance and is particularly relevant in wet conditions. It is also resistant to materials, such as oil, fuel, and solvents, ensuring that it maintains the anti-skid qualities despite accidental spillages. It is generally used for a variety of locations, at pedestrian (zebra, puffin, pelican, toucan and pegasus) crossing approaches, traffic signal junctions and roundabout approaches, severe bends and cycle lanes.

To proactively maintain the asset into the future, we will continue to build a complete inventory and good understanding of condition, including the associated risks that come with

failure. This will enable us to undertake assessment and programmes of preventative maintenance, whilst monitoring and reviewing performance.

Overall Aim: To maintain anti-skid surfacing where its provision remains a safety benefit on the network.

Short term desired outcomes (1 to 2 years): Update asset inventory to reflect the current situation and assess to establish if it is still required.

Medium to long term desired outcomes (3 to 20 years): Develop a prioritised programme of preventative maintenance for anti-skid surfacing. To develop a case for funding the maintenance of anti-skid surfacing in Derbyshire and to implement programmes of work delivering best value against Council and Highway Service objectives.

Approach: Using inventory data, develop a site specific lifecycle model for anti-skid surfacing and implement a programme of preventative maintenance. This programme will consider all existing maintenance of anti-skid surfacing and propose a plan offering a coordinated, best value approach in the future. In addition, the inventory data will be used in association with collision data to ensure that existing anti-skid surfacing is appropriate and continues to perform in terms of casualty reduction.

Identified Funding Gaps: Submit bids to support prioritised network programmes.

Traffic Calming

Traffic Calming features are provided as a means of reducing the impact of traffic on the highway and the immediate environment. They generally have the effect of reducing or regulating traffic speeds, discouraging traffic usage or providing a higher degree of priority for vulnerable road users by using an innovative combination of vertical and horizontal deflections, signage and road markings.

New requests are assessed through our Speed Management Protocol Engineering Technical Annex, used to categorise all engineering measures available and to identify the circumstances where such measures will and will not be used.

There are no condition surveys undertaken, however, they are included in the Highway Infrastructure Asset Safety Inspections. The current approach to repairs and improvements is predominately reactive.

To proactively maintain the asset into the future, we will continue to build a complete inventory and good understanding of condition, including the associated risks that come with failure. This will enable us to undertake assessment and programmes of preventative maintenance, whilst monitoring and reviewing performance.

Overall Aim: To maintain traffic calming systems to align with the designed intention.

Short term desired outcomes (1 to 2 years): Update asset inventory to reflect the current situation and assess to establish if it is still required.

Medium to long term desired outcomes (3 to 20 years): To develop a case for the funding maintenance of traffic calming measures in Derbyshire and to implement programmes of work delivering best value against Council and Highway Service objectives.

Approach: Using inventory data to develop a lifecycle approach for traffic calming measures and work towards a programme of preventative maintenance. This programme will consider all existing maintenance of traffic calming measures and propose a plan offering a

coordinated, best value approach in future. In addition, the inventory data will be used in association with collision data to ensure that existing traffic calming features are appropriate.

Non-illuminated Bollards

There are approximately 2,000 non-illuminated bollards on the network and following changes to the Traffic Signs Regulations and General Directions 2016 the requirement for direct illumination of traffic signs in street lit areas has been significantly relaxed. This relaxation has presented an opportunity to consider whether an existing illuminated bollard if damaged can be replaced with a non-illuminated version, which still achieves the visibility requirements through its reflectivity sign face composition.

It presents an opportunity to improve the performance and energy efficiency of highway safety schemes, whilst achieving longer term cost savings through the reduction in energy costs and maintenance.

There are no condition surveys undertaken, however they are included in the Highway Infrastructure Asset Safety Inspections. The current approach to repairs and improvements is predominately reactive with an assessment undertaken by the traffic and safety team to establish if there is still a requirement for its presence.

Overall Aim: To maintain non-illuminated bollards that are fit for purpose and to consider whether existing illuminated ones can be replaced by non-illuminated if damaged or faulty.

Approach: We will continue to react to issues identified on the network by assessing if it is still required and repairing or removing as necessary.

NETWORK HIERARCHY PLAN

JUNE 2018

AN ELEMENT OF THE HIGHWAY INFRASTRUCTURE
ASSET MANAGEMENT SYSTEM

Document Information

Title Network Hierarchy Plan
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Reviewed: SM

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TABLE OF AMENDMENTS					
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0	xx/xx/20xx	All	All	First Issue	

TABLE OF DEFINITIONS	
TERM	DEFINITION
AHMP	Accelerated Highways Maintenance Project
DBVHM	Delivering Best Value in Highway Maintenance
DCC	Derbyshire County Council
TDAT	Transportation Data & Analysis Team
GIS	Geographic Information Systems
AADT	Annual Average Daily Traffic Flow
MSIG	Midlands Service Improvement Group

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INTRODUCTION AND SCOPE

The Road User Hierarchy, which was agreed in 2003, has been used to support the most effective and efficient approach to the management of the Derbyshire highway network. It has changed over time to reflect the obvious changes in the network and the information provided by the Highway Inspectors. These changes, however, have been undertaken in an ad hoc manner with little reference to the original Road User Hierarchy. Additionally, there has been no audit trail detailing the reasons behind any changes or additions. The existing Footway Hierarchy has also been developed in a similar manner to the Road User Hierarchy which again has implications for consistency, audit and completeness, and therefore requires further refinement.

At the time of the Road User Hierarchy's inception, the available information regarding the network traffic flow and composition was fairly limited across the network, focussing primarily on the more major and well frequented routes. The Road User Hierarchy document was based on information supplied through consultations with officers with knowledge in the fields of network management. The Road User Hierarchy Framework provided the specific parameters that described the routes and the roads that made up the hierarchy. This tended to lead to whole routes and individual roads being labelled with the same hierarchy and hence, the same attributes, irrespective of the actual segmentation of a route in terms of its characteristics.

The purpose of this document is to create a new Network Hierarchy to meet the requirements of the current Derbyshire Highways Infrastructure Asset Management Strategy and the 2016 Code of Practice for Well-Managed Highway Infrastructure. The Network Hierarchy only relates to the roads within the management of Derbyshire County Council's Highway Authority and, as a consequence, does not include Highways England roads or roads under the jurisdiction of Derby City.

The establishment of a Derbyshire Network Hierarchy helps to:-

INNOVATE

tools to advance the use of information to help prioritise service & business planning

DEVELOP

a risk based approach to allow priorities to be evidence based and provide the foundations for the new Code of Practice for Well-Managed Highway Infrastructure

ENHANCE

the use of data to make more informed decisions

PROGRESS

toward a road inspection and footway hierarchy

ENSURE

the best use of finance and resource

PROVIDE

a link between maintenance policy and implementation

UNDERSTAND

processes we use to determine priorities and hence spend

REVIEW OF THE 2003 ROAD USER HIERARCHY

In order to establish the development process for the new Network Hierarchy, a review of the existing 2003 Road User Hierarchy was undertaken. To ensure that the review and Network Hierarchy development process was robust and shared amongst officers, a working group, made up of those with a direct operational relationship to the proposed Network Hierarchy, was formed to provide critical review whilst the project was underway. Whilst the initial work was underway, there was also a pressing need to provide an early version of the Network Hierarchy to support and help prioritise the development of a 3 year Accelerated Highways Maintenance Project (AHMP). This provided further critical review and the opportunity to test and refine the Network Hierarchy and to deliver the forward works programme for the AHMP.

The original road user hierarchy was developed in response to the Government's good practice guidance on Local Transport Plans as a core tool in managing the local road network. The purpose behind the guidance was to undertake an assessment of the County's entire road network and decide whether individual roads and routes reflected the current and desired function and use.

In response to the guidance, a Road User Hierarchy Framework was developed that set out how the County managed roads on the network. The Framework included five main tiers: Strategic Routes (County and Regional), Main Distributors, Secondary Distributors, Link Roads and Access Roads. The Framework described each of the tiers in the Road User Hierarchy and provided guidance on how the County would seek to manage the network and to deliver key Government transport objectives.

An important intended application of the Road User Hierarchy was the development of the County's highway maintenance standards based on the 2001 Government publication of revised guidance, 'Delivering Best Value in Highway Maintenance' (DBVHM), that set out a Code of Practice for the maintenance and management of the highway network. This guidance was not mandatory but provided a benchmark for local highway authorities to base their own policies and procedures for delivering 'Best Value' highway maintenance services and network safety obligations. The Code of Practice recommended that the Highway Maintenance Strategy should be based on a systematic approach and that the development of a user hierarchy was the key to which standards could be attached together with associated targets and performance objectives. In summary, the Road User Hierarchy would provide the link between maintenance policies and implementation and hence, spending and investment plans, whilst leaving room for professional judgement and consultation where appropriate.

Whilst the original Road User Hierarchy was presented as a series of tiers from 'strategic' to 'local access' roads, it was not intended that this prescribed priorities for investment, i.e. some areas of delivery, such as maintenance, may tend to focus spending at the 'higher' levels but others, such as traffic management schemes, may have reinforced the Road User Hierarchy through investment in the 'lower' levels.

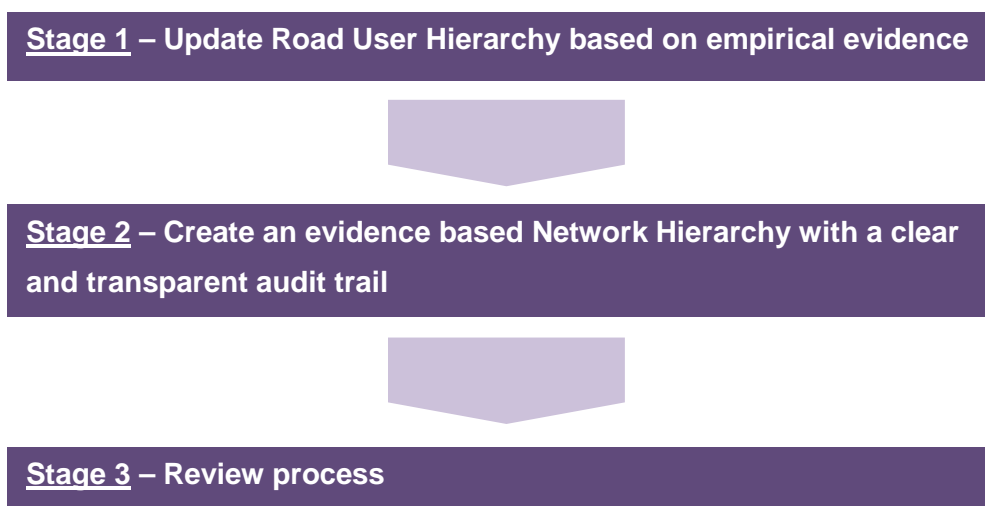
The review drew the following conclusions:

1. The development of the original Road User Hierarchy was subjective as the work was carried out in 3 areas teams leading to a degree of inconsistency. However, it concluded that there is value in maintaining an evidence based Road User Hierarchy

to provide a tool for strategic network management purposes and to group roads together based on how users move around the network.

2. The original Road User Hierarchy was based on desired use of the network and cannot be adopted to service the needs of a Network Hierarchy that is fundamental to a risk based approach to asset management, and meet the requirements of the Derbyshire Highways Infrastructure Asset Management Strategy and the new Code of Practice for Well-Managed Highway Infrastructure. The availability of traffic data on flow and composition allows the Network Hierarchy to be evidence based and for the update process to be managed as part of the overall Highway Infrastructure Asset Management Strategy.
3. The original Road User Hierarchy was created in 2003 and evolved with no audit trail of additions or changes which has led to inconsistencies. It was decided that future decisions should be clear and transparent to any user.
4. The process of updating the Network Hierarchy should be as dynamic as possible but, regardless, should be carried out at a specified interval, i.e. annually, and take into account feedback from inspectors, road users and changes to the network.

The review identified a Network Hierarchy Development Process which contains three clear stages. These are shown in the diagram below:



STAGE 1 – UPDATE ROAD USER HIERARCHY BASED ON EMPIRICAL EVIDENCE

Overview

The Road User Hierarchy's main purpose was to group the roads within the County in terms of how road users connect key locations around the County. This Road User Hierarchy was also used as the basis for operationally practical highway inspection. Clearly, any changes to the Road User Hierarchy would have implications for the inspection frequency of individual roads and would need to be carefully considered as to the impact.

Table 1 overleaf provides a breakdown of the Road User Hierarchy in Derbyshire. The proportions indicate that the vast majority of roads (77%) are in hierarchy group 4, and as a consequence are associated with a similar maintenance and inspection regime i.e. quarterly for group 4a or yearly inspections for group 4b, whereas Road User Hierarchy groups 2

through 3 are all monthly inspections. Hence, the aggregated nature of this hierarchy means that it is difficult to describe sufficiently, the range of maintenance activities associated with all the roads in Derbyshire, and hence a more disaggregated Network Hierarchy is needed to address this. In turn, a Derbyshire Network Hierarchy would provide a fundamental tool in delivering the requirements of a Derbyshire Highways Infrastructure Asset Management Strategy and the new Code of Practice for Well-Managed Highway Infrastructure.

Table 1

Road User Hierarchy Group	Broad Description of Roads in each Hierarchy Band	Length (km)	Length (%)
2	Strategic Regional Routes - Trunk Roads and some Principal County A roads between primary destinations	50	<1%
2a	Strategic County Routes - Principal County A roads between primary destinations that are used by local and some regional traffic	276	5%
3a	Main Distributor Roads - A Roads and some B Roads between major urban network and inter-primary links primarily used by local traffic	363	7%
3b	Secondary Distributor Roads - Mainly B and C classified roads and some unclassified primary bus routes that carry local traffic with frontage access and frequent junctions	524	10%
4a	Link Roads - Roads linking between the main and secondary distributor network with frontage access and frequent junctions	1376	26%
4b	Local Access Roads - Roads serving limited numbers of properties carrying only access traffic	2716	51%
Total		5305	100%

Road User Hierarchy Update Process

It was established through the review of the 2003 Road User Hierarchy that the process followed in creating it was sound and the descriptions of the roads making up the hierarchy were not changed. It is the data that underpinned the hierarchy descriptions that has been re-evaluated in light of the greater availability of data and in line with the strategic nature of the network. Figure 1 overleaf provides the broad non-technical outline of the process in reviewing the Road User Hierarchy.

Updating the Road User Hierarchy provided the basis to develop back office systems to automate the overall review and audit process. Working with existing back office software suppliers, the Transport Data and Analysis Team (TDAT) has developed more automated processes to deliver the traffic flow information that forms the basis of the Road User Hierarchy review and the development of a Derbyshire Network Hierarchy.

The Road User Hierarchy was not sufficiently detailed to provide the variation that is present where traffic-flow and use vary along a route. Hence, a Network Hierarchy was developed that provided the level of detail required to support and deliver the requirements of a Derbyshire Highway Infrastructure Asset Management. This will be covered in the next section.

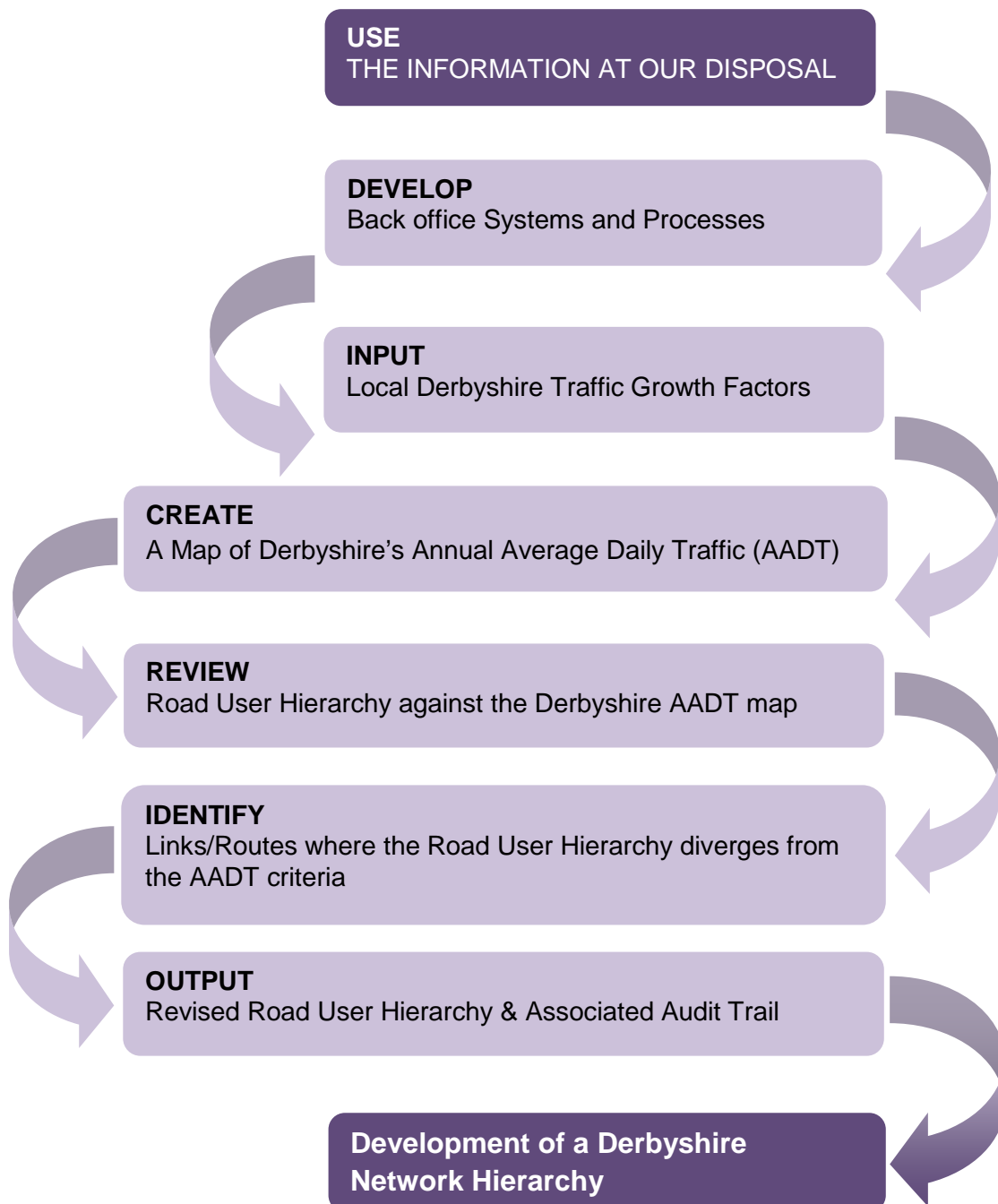


Figure 1

STAGE 2 – CREATE AN EVIDENCE BASED NETWORK HIERARCHY WITH A CLEAR AND TRANSPARENT AUDIT TRAIL

Overview

The Well-Managed Highway Infrastructure – A Code of Practice Recommendation 12 states that:-

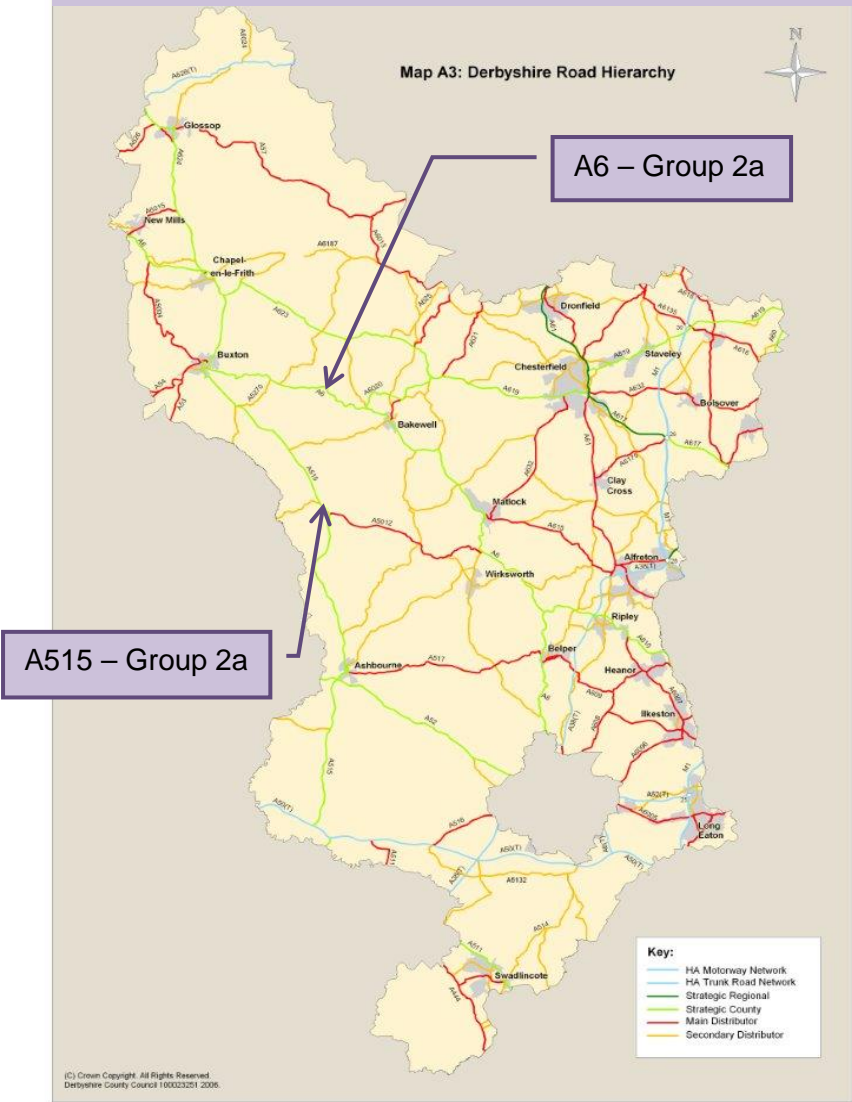
A network hierarchy, or a series of related hierarchies, should be defined which include all elements of the highway network, including carriageways, footways, cycle routes, structures, lighting and rights of way. The hierarchy should take into account current and expected use, resilience, and local 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.

As mentioned in the previous section, the review and update of the Road User Hierarchy consolidated the need to develop a separate Network Hierarchy that would service the needs of a risk based Derbyshire Highways Infrastructure Asset Management Strategy and the new Code of Practice for Well-Managed Highway Infrastructure. This was a change in emphasis in that it allowed for the potential to describe the uses of the roads in the Derbyshire Highway Network without necessarily being linked to their classification or description, i.e. road number or class. The Network Hierarchy separated actual use (i.e. numbers of road users) from the desired use of the road which the original Road User Hierarchy effectively fulfilled. To help to explain this and to understand the basis of the need for a Network Hierarchy, it is useful to consider the A6 and the A515 in this context.

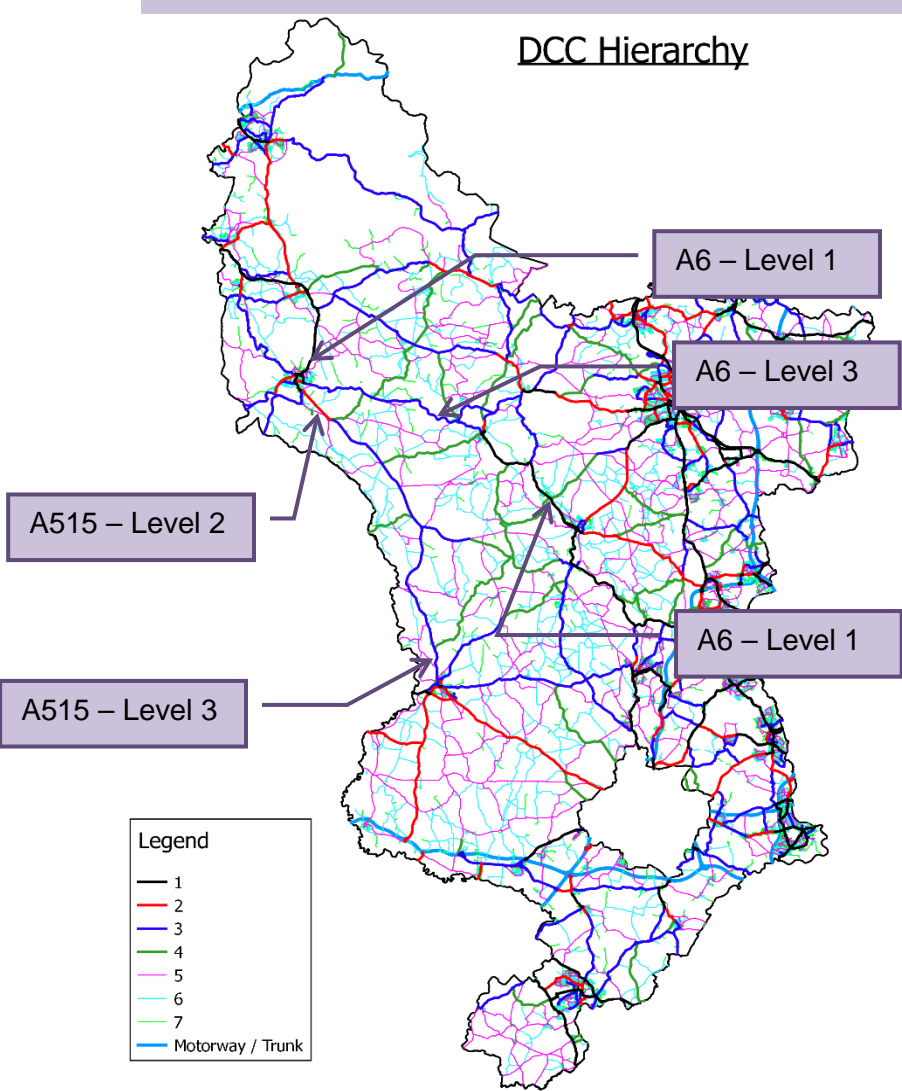
In the Road User Hierarchy, both the A6 and the A515 are described as Strategic County Roads – Group 2a – that are mainly A roads essentially connecting primary destinations, i.e. connecting Derby and Ashbourne with Buxton and ultimately Manchester (See Map 1 overleaf). So the main purpose in the road users mind is to connect places with roads and the Road User Hierarchy provides this strategic overview. However, when one looks at this from a risk based maintenance perspective, primarily looking at use which has the biggest impact on maintenance operations (i.e. frequency of maintenance operations and the selection of the appropriate surface treatment), then a very different picture emerges (See Map 2 overleaf). It is clear that, under a Network Hierarchy based on use, the A515 would be level 3 throughout most of its length, apart from some short stretches on the approach to the larger towns en-route, thus indicating a lower level of priority than the original Road User Hierarchy, whereas the A6 would vary between levels 1 to 3 throughout its length thus indicating a far greater variance in use and priority as compared to the original Road User Hierarchy. Hence, in order to deliver a Highways Infrastructure Asset Management Strategy based on a risk based approach, then these roads need to be considered differently in terms of their strategic importance, priority, treatment, finance, and inspection regimes. If there are operational reasons that do not justify this level of disaggregation, when developing inspection routes for example, this can be documented when the relevant policies are being developed.

A key aim for the Network Hierarchy was for it to be objective, unbiased and hence, transparent in its development, application and repeatability. In response to this key aim there was a requirement to develop an audit trail or record of decisions. The audit trail was not developed as a separate process at two key stages but was a key part of the overall development of the Network Hierarchy described under Phase 2.

Map 1 – Road User Hierarchy



Map 2 – Network Hierarchy



The next section identifies the steps taken to develop the Network Hierarchy and the associated clear and transparent audit trail.

Process

The development of a Derbyshire Network Hierarchy has been iterative, in as much that there has been the need to develop back office systems to help develop a transparent and repeatable process.

Figure 2 provides the outline of the process undertaken and Table 2 provides the current network proportions for each level of the Network Hierarchy and identifies the percentage composition from the roads in the original Road User Hierarchy. Chart 1 is provided as a summary of the shift in roads between the Road User Hierarchy and the new Network Hierarchy, clearly demonstrating the change in emphasis from a more strategic Road User Hierarchy to an evidence based Network Hierarchy. As indicated in Figure 2, the lower levels of the Network Hierarchy will require further refinement and on-going review through:-

- The use of appropriate Geographic Information System (GIS) tools that deliver a repeatable and transparent process
- Feedback from the public and our own Inspectors
- Improvements to the knowledge of network usage – see 'Next Steps' section
- Review

This is fundamental to a risk based approach to asset management, helping Derbyshire County Council to link policy, service levels and treatments to roads, that is clear and transparent.

The following points are key elements of the audit trail and hence, the Network Hierarchy:-

- Provide a record of the quality levels of the information used to base decisions on thus enabling a strategic, risk based update and infill of traffic use.
- Identify opportunities for improvement.
- Provide an audit trail for decisions in the creation of the Network Hierarchy.
- Record all audit information as an attribute for each element of the Network Hierarchy.
- Provide a review process, as well as identifying opportunities for improvement and development.

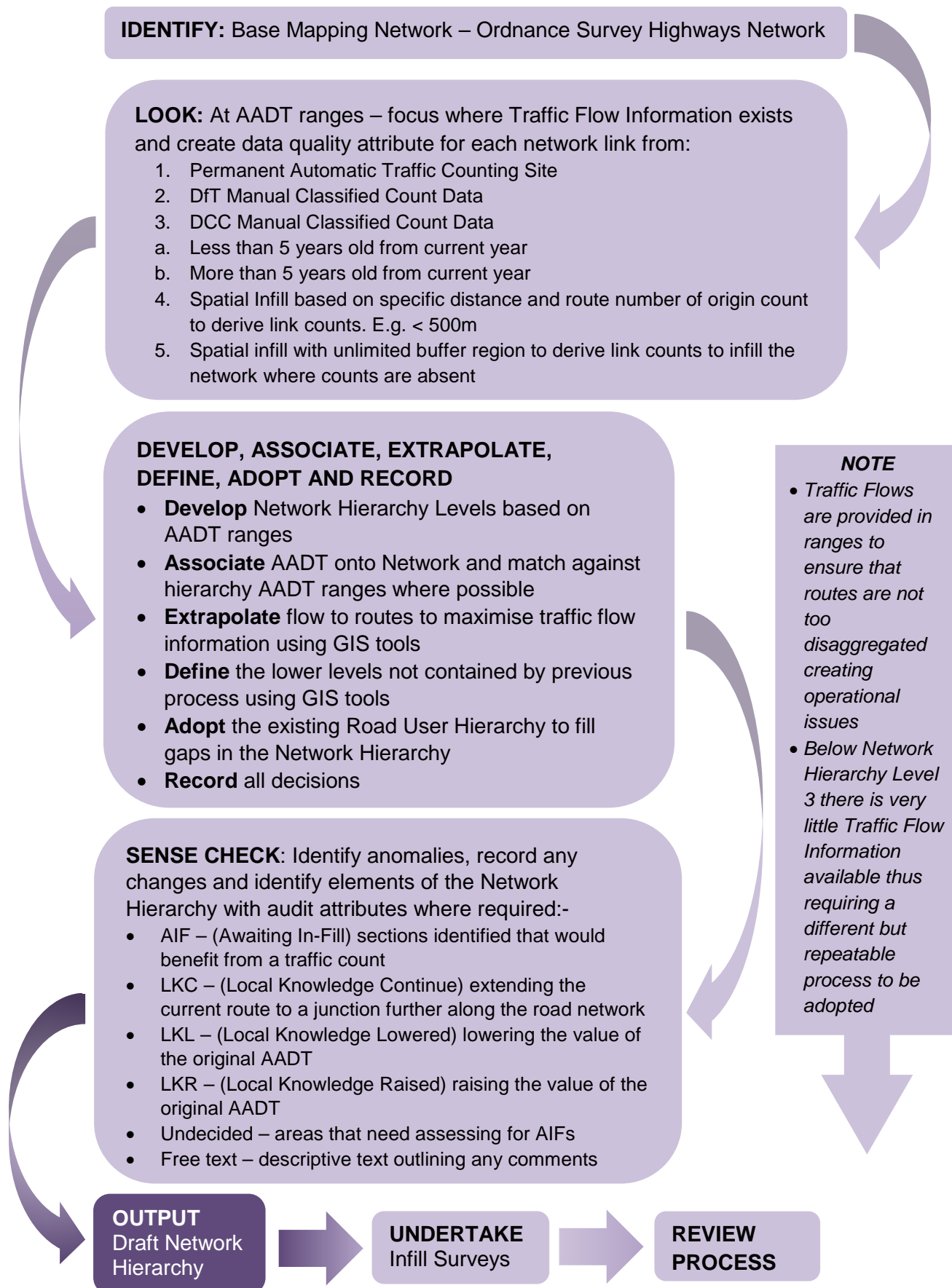


Figure 2

Table 2

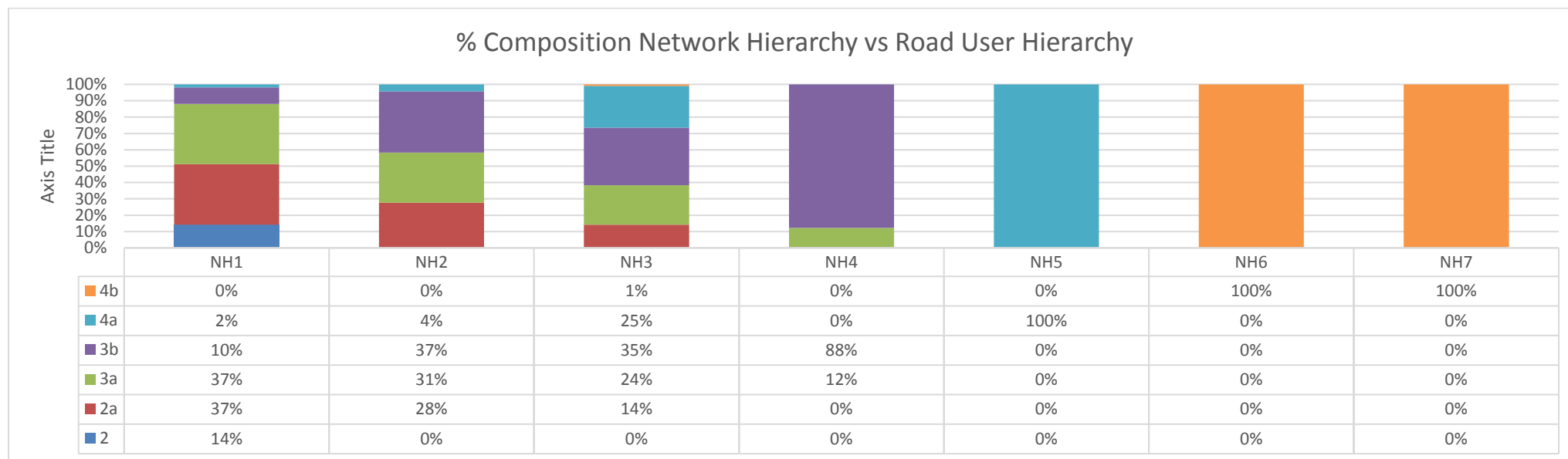
Network Hierarchy Group	Broad Description of Roads in each Hierarchy Band	Road User Hierarchy								% Composition MH vs RUH					
		2	2a	3a	3b	4a	4b	Grand Total (Km)	Grand Total %	2	2a	3a	3b	4a	4b
NH1	AADT >= 9000	50	130	129	35	7		351	7%	14%	37%	37%	10%	2%	0%
NH2	AADT >= 6000 and AADT < 12000		67	75	92	10		244	5%	0%	28%	31%	37%	4%	0%
NH3	AADT >= 3000 and AADT < 8000		78	131	192	138	5	544	10%	0%	14%	24%	35%	25%	1%
NH4	Any sections assigned a value of 2a, 3a or 3b from the old Road User Hierarchy not on MH 1-3		1	28	205			234	4%	0%	0%	12%	88%	0%	0%
NH5	Any sections assigned a value of 4a from the old Road User Hierarchy not on MH 1-3					1221		1221	23%	0%	0%	0%	0%	100%	0%
NH6	Any sections assigned a value of 4b from the old Road User Hierarchy not on MH 1-3 and not a cul-de-sac						1847	1847	35%	0%	0%	0%	0%	0%	100%
NH7	Any sections assigned a value of 4b from the old Road User Hierarchy not on MH 1-3 and part of cul-de-sac (potential to disaggregate further)						864	864	16%	0%	0%	0%	0%	0%	100%
	Grand Total	50	276	363	524	1376	2716	5305	100%						

Note – there will be rounding errors

Looking at Table 2 and Chart 1 below indicates very clearly the need to move away from a Road User Hierarchy to a Network Hierarchy to support an evidence and risk based approach to asset management. In summary:-

- For each of the original Road User Hierarchies shaded orange in table 2, there are roads that when considered, in terms of the Network Hierarchy criteria, are split into different Network Hierarchy Groups. This can also be seen in Chart 1 which graphically indicates the shift.
- For example Road User Hierarchy 2a, 3a, 3b and 4a are split between the top 3 levels of the Network Hierarchy thus indicating significant variation in roads as compared to the original Road User Hierarchy.
- Table 2 provides numeric evidence in support of the text above and Maps 1 and 2, providing further evidence for a disaggregated Network Hierarchy.

Chart 1



Next Steps

As mentioned earlier, in developing the process to support a Derbyshire Network Hierarchy, a number of opportunities were identified that would help to provide additional data to support future Network Hierarchy reviews. In addition, a number of practical considerations were also identified that would help to facilitate the review (Stage 3). These are considered below:-

- **Strategic In-fills** – to support an evidence based Network Hierarchy, there needs to be sufficient information on network usage. In developing the Network Hierarchy, a number of gaps were identified that required a more subjective assessment of use, resorted to the original Road User Hierarchy attributes for roads, or used information that was not current, thus requiring more factoring to bring up to date. In order to remove subjectivity and base decisions on current use, a systematic infill of traffic flow information has been implemented through an on-going programme prioritised based on risk.
- **Data Management** – A key element of the Network Hierarchy is the base network upon which all information is connected to. As we hold many data sets that are associated geographically with different mapping (base network), there is a need to have distinct controls that ensure we adopt a common mapping or spatial framework. This has been developed as part of the asset management suite of policies through the Data Management Strategy.
- **Footway and Cycleway Hierarchy** – The existing footway and cycleway hierarchies will be reviewed to include public rights of way where they occur within or on the fringe of urban areas. The existing footway and cycleway hierarchies have been developed based on local knowledge and officer judgement. This has sufficed to date in as much there was very little objective evidence to draw upon to inform the footway and cycleway hierarchies. There is still very little data available on actual footway and cycleway usage, however, there are GIS tools, feedback from users and our own Inspectors that can be employed to provide a more rigorous, standardised and repeatable review process that can then be a basis for future footway and cycleway hierarchy reviews.
- **Collaboration** – This continues to be achieved through our membership of the Midlands Service Improvement Group (MSIG) where the approach described in this document has been presented to member authorities to aid the development of their own network hierarchies.

STAGE 3 – REVIEW PROCESS

Overview

It is also important that hierarchies are dynamic and regularly reviewed to reflect changes in network characteristics and functionality, so that maintenance policies, practices and standards reflect the current situation rather than the use expected when the hierarchy was originally defined. Where major maintenance, construction or other development involves significant traffic diversion, or when congestion in one part of the network results in traffic shift to another part of the network, it is important that these changes are reflected in the hierarchy and subsequently in the maintenance and network management regimes. Taking into account feedback from the road user is also a key component of this aspect.

Process

In order to facilitate this Stage, a rolling programme has been developed taking into account the points indicated in the previous paragraph, as well as addressing any opportunities raised whilst developing the Network Hierarchy. The annual review will ensure that Derbyshire's Highway Infrastructure Asset Management Strategy is supported by a systematic and transparent process, thus allowing risk based decisions to be made using quality evidence.

Stakeholder engagement is a key component of the overall communications approach to the Derbyshire Highways Infrastructure Asset Management Strategy. As part of the highways communications approach, this will help local stakeholders to appreciate asset management principles and how this determines priorities, how budgets will be set and spent. Figure 3 provides the broad non-technical outline of the Review Process that will be developed.

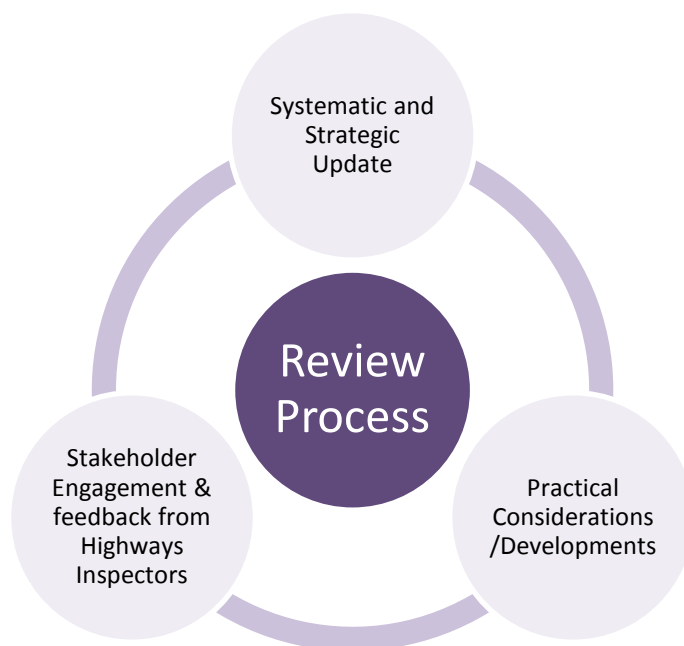


Figure 3

RESILIENT NETWORK PLAN

JUNE 2018

AN ELEMENT OF THE HIGHWAY INFRASTRUCTURE
ASSET MANAGEMENT SYSTEM

Document Information

Title Resilient Network Plan
Author: Neill Bennett
Reviewed: SM

Document Issue Status

TABLE OF AMENDMENTS					
NO	APPROVAL DATE	SECTION	PARAGRAPH	DETAILS	AUTHOR
0	xx/xx/20xx	All	All	Cabinet Approval	NB

TABLE OF DEFINITIONS	
TERM	DEFINITION
RN	Resilient Network
HE	Highways England
SRN	Strategic Road Network
DCC	Derbyshire County Council
TDAT	Transportation Data & Analysis Team
GIS	Geographic Information Systems
MRN	Major Road Network
HMEP	Highways Maintenance Efficiency Programme
DfT	Department for Transport
SAMS	Single Asset Management System
TAMP	The 2008 Derbyshire Transport Asset Management Plan
AADT	Annual Average Daily Traffic Flow

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BACKGROUND

Following the impact on the highway network of a succession of severe events, the Department for Transport (DfT), in 2014, produced the document Transport Resilience Review: A review of the resilience of the transport network to extreme weather events. Furthermore, the Highways Maintenance Efficiency Programme (HMEP) has developed a selection of products and services that promote efficient and effective working practices. These resources have been developed and based on the existing good practice of highway authorities. The long term implementation and management of the highway network is further supported by the new Code of Practice for Well-Managed Highway Infrastructure which provides additional structure in developing good practice. The Code includes Recommendation 20 – Resilient Network which states: “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”.

SCOPE OF THIS DOCUMENT

The main purpose of this document is to provide an all-weather, all circumstance network to keep Derbyshire in business.

The main objectives in establishing a Resilient Network are:-

- To develop, implement and embed good practice in relation to network resilience in order to protect the economic activity of the County, provide for emergency services and maintain access to key services for its residents during periods of extreme weather. The development of the Resilient Network directly supports the Council's Local Transport Goal “Supporting a local resilient economy”.
- Ensures a risk based approach to an efficient and effective service delivery.
- Accords with best practice as advocated by the new Code of Practice for Well-Managed Highway Infrastructure which embraces developing a Resilient Network.
- Ensure that the development of the Resilient Network is systematic and repeatable to ensure that the overall process is auditable and transparent, whilst allowing future reviews to be carried out in a timely fashion.
- Maximises Derbyshire's DfT grant to provide a safe and reliable network.

DEVELOPMENT OF DERBYSHIRE'S RESILIENT NETWORK

Derbyshire County Council (DCC) previously had a Resilient Network based on the Primary Network for winter service. The Primary Network is pre-defined and comprises:

- The Principal Road Network, Main Distributor roads and Secondary Distributor roads.
- Commuter routes (rural roads carrying more than 2,000 vehicles per day, where no treated routes exist).
- Locally important roads in the carriageway hierarchy and at least one route in to all villages so far as is reasonably practicable.
- Sections of the network sufficient to provide Local Bus Services into most areas, following as near as possible the regular routes. This to include all areas necessary for practical operations, such as Bus Stations and designated turning facilities.

- No greater than 500m from a school, so far as reasonably possible. Emergency Service locations – police stations, fire stations, hospitals and ambulance stations.
- Transport interchanges.
- Known areas/routes susceptible to flooding.

However, there is not a documented methodology that supports the Resilient Network creation and management in line with current guidance and best practice. It also did not take into account other factors that could influence the development of a Resilient Network. To rectify this a five stage development process was devised, see Figure 1 below. This was devised by a working delivery group formed of a cross section of experts from the authority to create and review the Resilient Network. This included experts from the two greatest risks to the highway network, snow/ice and flooding and allowed alignment with Derbyshire's wider strategies, including the Council's Climate Change Adaption Plan, and the Local Flood Risk Management Strategy (LFRMS). The development of the Resilient Network expanded on the work previously completed to develop the Derbyshire Network Hierarchy.

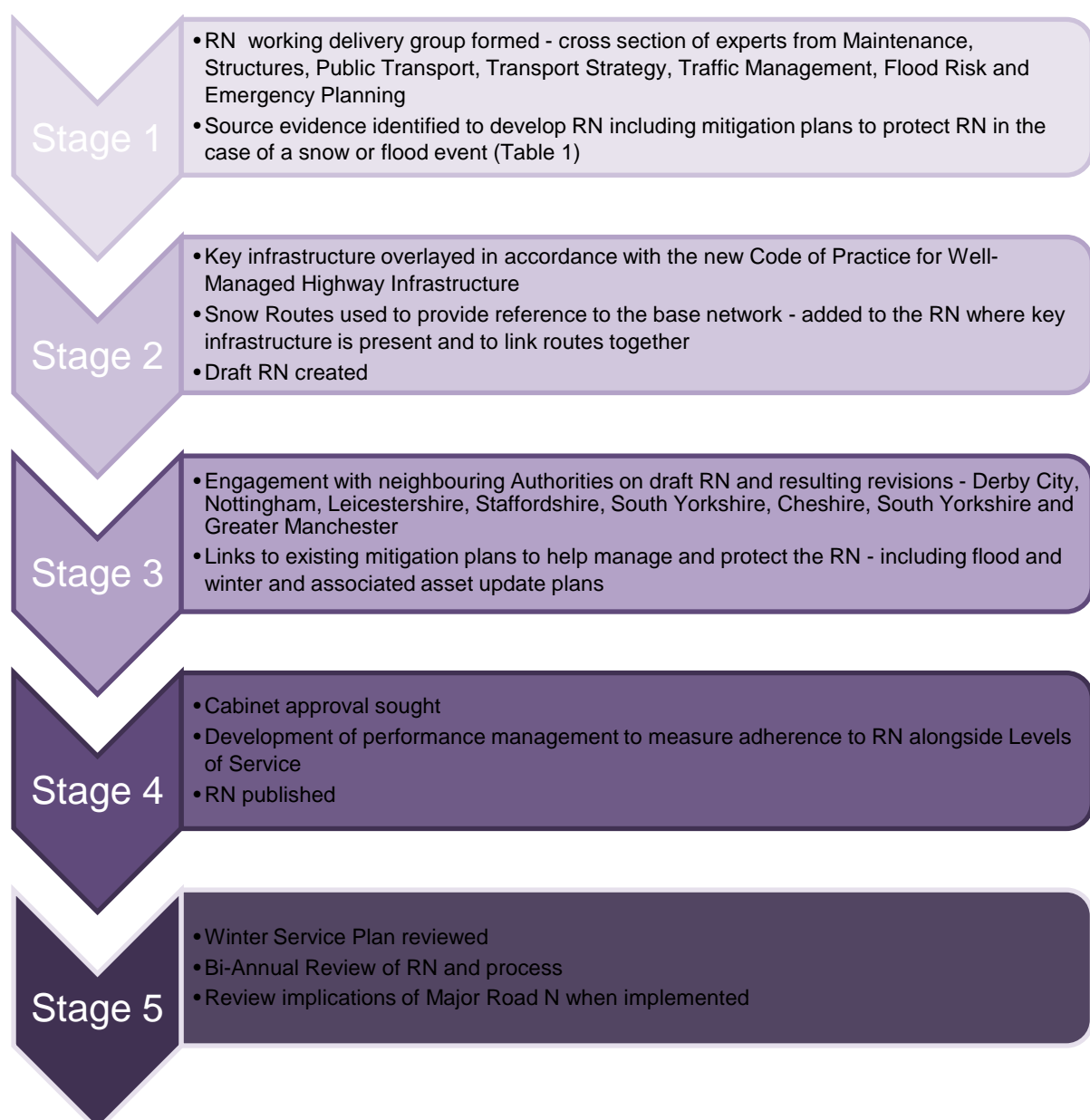
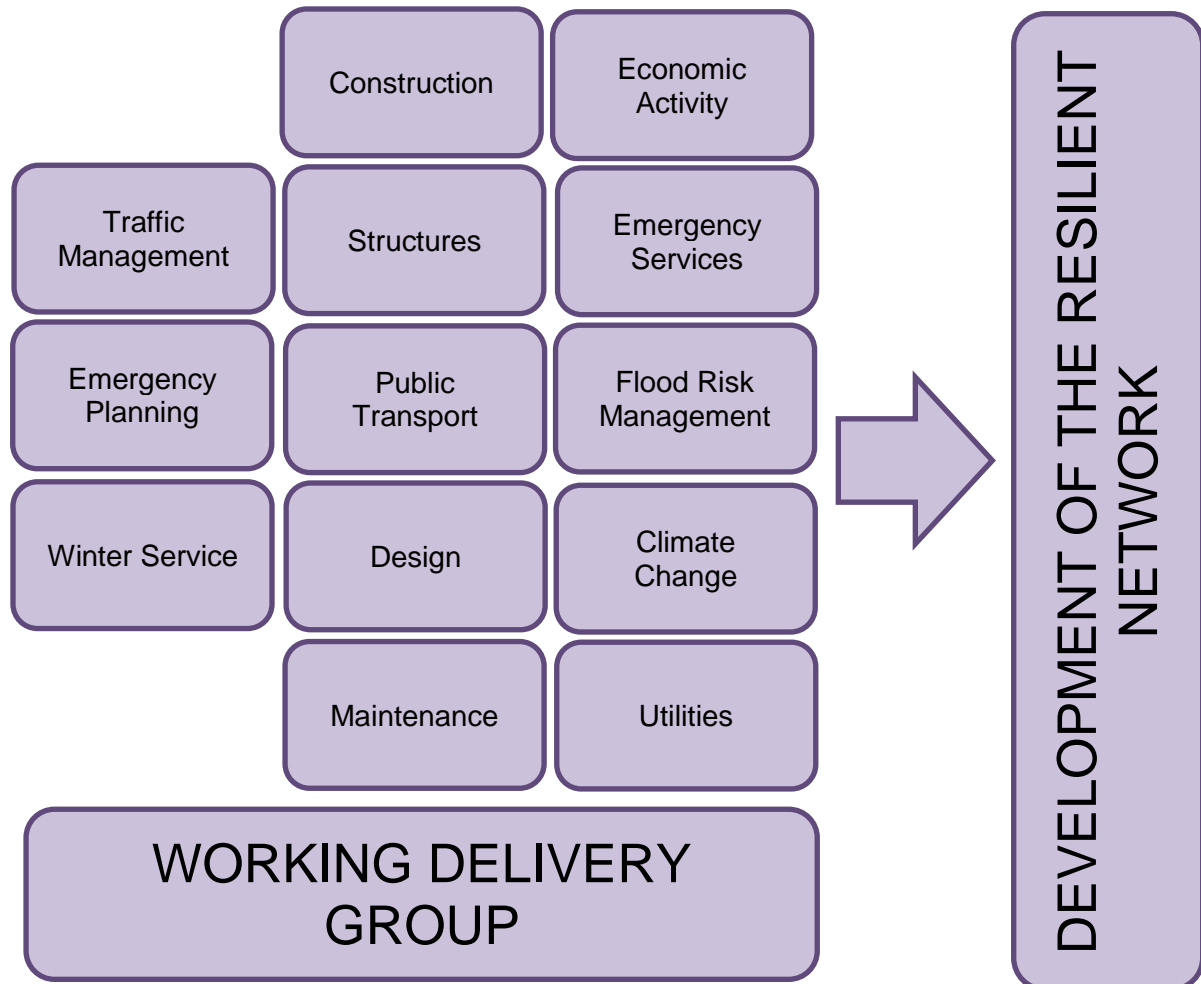


Figure 1

Stage 1

A working delivery group was formed covering key areas of activity:-



The key evidence to support to develop the Resilient Network was agreed by the delivery group and sourced as per Table 1 overleaf.

Table 1

Consideration	Description	Considered Essential	Non Essential/ Low Risk	Source	Format
Snow routes	Routes to provide indicative basis of RN -	✓	Use as a reference of roads to include where infrastructure dictates	Maintenance	PDF's available Routes digitised
Economic Activity	Locations of economic activity	✓	Industrial areas on a case by case basis	Planning	GIS
Public Transport	Locations of key bus service providers depots/garages	✓	Depots that house the majority of an operator's busses that run reduced routes through severe winter weather	Public Transport	GIS
Utilities	Key utility locations/sites <ul style="list-style-type: none"> • water treatment plants • electricity primary sub stations 	✓	No action required other than be aware of their presence – suppliers will also have their own emergency procedures in place	Emergency Planning	GIS
Hospitals/ community hospitals	<ul style="list-style-type: none"> • Main Hospitals • Minor Injury Units 	✓	Community hospitals	Emergency Planning	GIS
Emergency services	Ambulance stations	✓	Remaining ambulance stations on a case by case basis	Emergency Planning	GIS
	Police stations <ul style="list-style-type: none"> • Head Quarters • Divisional Head Quarters 	✓	Remaining Police stations on a case by case basis Unlikely to include the community stations unless they overlap with the agreed RN	Emergency Planning	GIS

Consideration	Description	Considered Essential	Non Essential/ Low Risk	Source	Format
	Fire stations <ul style="list-style-type: none"> Head Quarters Manned stations 	✓	Remaining fire stations on a case by case basis	Emergency Planning	GIS
DCC maintenance depots	6 no. - Both Duffield and Ambergate now included	✓		DCC Highways	GIS
Flood Zones/critical assets		✓	Be aware of where these intersect the RN for future risk mitigation measures	Flood Risk Team	GIS Layers
Key petrol stations	Resilient petrol stations <ul style="list-style-type: none"> National Local? 	x	Be aware of	Emergency Planning	GIS Layers
Links to HE network?	Key access to SRN <ul style="list-style-type: none"> J29a? A38 at Horsley 	✓	Yes J29a, No Horsley	HE	
Schools	All Schools	x	No schools included		
Road Use	Road usage based on AADT Network Hierarchy based on AADT to determine maintenance priorities	x	Not considered	TDAT	GIS Layers
Travel to work	Analysis of census data to determine travel to work into and out of Derbyshire	✓	Checked to ensure major travel patterns are accounted for	Transport Strategy	Report
Rail stations	Railway stations	x	case by case basis		GIS Layers

Stage 2

All of the evidence was collated in spatial form to allow a GIS representation of the information for the delivery group to discuss and debate the emerging Resilient Network with reference to the new Code of Practice Well-Managed Highway Infrastructure. The snow

routes layer was used as a reference layer to ensure that appropriate links could be made that would connect key infrastructure and locations with the local and strategic highway network, whilst ensuring that the resulting network is sufficient at times of an extreme event.

The resulting Resilient Network that was developed can be seen in Figure 2 overleaf.



Table 2 provides a breakdown of the Resilient Network based on the Network Hierarchy that defines the strategic use of the highways network in Derbyshire. As can be seen the Resilient Network is composed predominantly of Network Hierarchy bands 1 to 3 with lower proportions for the remainder, as these link to the Strategic Road Network managed by Highways England, and also provide connectivity to areas of economic activity and access to key services.

Table 2

Network Hierarchy	Length (km)	Length (%)	Description
NH1	260.0	54.1%	AADT >= 9000
NH2	93.6	19.5%	AADT >= 6000 and AADT < 12000
NH3	96.0	20.0%	AADT >= 3000 and AADT < 8000
NH4	17.5	3.6%	Remaining Strategic Regional Routes, Main Distributor Roads and Secondary Distributor Roads
NH5	6.0	1.3%	Remaining Link Roads
NH6	1.2	0.3%	Remaining Local Access roads that are not a cul-de-sac
NH7	0.8	0.2%	Remaining Local Access roads that are a cul-de-sac
0	5.7	1.2%	Un-adopted roads
Total	481	100%*	

* Subject to rounding errors

Stage 3

The draft Resilient Network was shared with neighbouring authorities to ensure that there was cross boundary alignment. The following authorities were contacted:-

- Derby City
- Staffordshire County Council
- Leicestershire County Council
- Nottinghamshire County Council
- South Yorkshire Authorities
- Cheshire County Council
- Greater Manchester authorities

All comments were collated and considered in finalising the draft Resilient Network in Figure 2.

The existing documents in Table 3 overleaf were also referenced in supporting the development of the Resilient Network in order to ensure that appropriate mitigation measures and emergency plans were in place to protect the Resilient Network.

Table 3: Links to Existing Reference Documents required to support the Resilient Network

Area	Document Reference
Climate Change Adaptation	2013-01-22 Climate Change Adaptation tcm44-218687.pdf Climate Change Charter
Emergency Planning	20160414 - Flooding Response Policy V7 H18 Whole County (except HP) H18 HP V2 Severe Weather Plan V2.0 2016 10
Travel to Work	Travel to work
Winter Service Documentation	Winter Service

Stage 4

Awareness sessions were arranged with the relevant Cabinet Members to provide the necessary background information prior to seeking formal Cabinet approval.

Even though the development of a Resilient Network is a key component of the Code of Practice for Well-Managed Highway Infrastructure, it could not be considered in isolation to a number of key policies that were developed these were:-

- Network Hierarchy
- Highways Infrastructure Asset Management Strategy and Plan

The resulting Cabinet Member awareness sessions were designed to not only provide context and background to the development of the Resilient Network, but to also provide the links and relationships to those policies indicated above. This also served in providing the timeline for the review of the Winter Service policy, which is key to maintaining and managing a Resilient Network.

Stage 5

A key component in maintaining an effective Resilient Network, is the bi-annual review taking on-board lessons learnt from events that have affected the network, responding to changes in the use of the highways network and County Council priorities. This will also go towards amending and adapting the existing emergency prevention and response plans that provide the operational responses in support of the Resilient Network.

The Major Road Network (MRN) has not been consulted on at the time of writing, as it has not been developed so it is difficult to assess what implications that this will have on the Resilient Network. However, when there are more details this will form a key aspect of the bi-annual review.

DATA MANAGEMENT STRATEGY

JUNE 2018

AN ELEMENT OF THE HIGHWAY INFRASTRUCTURE
ASSET MANAGEMENT SYSTEM

Document Information

Title Data Management Strategy
Author: Neill Bennett
Reviewed: SM

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TABLE OF AMENDMENTS					
NO	APPROVAL DATE	SECTION	PARAGRAPH	DETAILS	AUTHOR
0	xx/xx/20xx	All	All	First Issue	

TABLE OF DEFINITIONS	
TERM	DEFINITION
DCC	Derbyshire County Council
DMS	Data Management Strategy
GDPR	General Data Protection Regulations
HIAM	Highways Infrastructure Asset Management
HMEP	Highways Management Efficiency Programme
SAMS	Single Asset Management System
TAMP	The 2008 Derbyshire Transport Asset Management Plan

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INTRODUCTION

Derbyshire County Council's 2008 Transport Asset Management Plan (TAMP) incorporated plans and policies around the management of asset data. This included an assessment of the asset information held at that time and policies regarding asset data update, storage and validation. The 2008 TAMP has provided a robust system to collect, store and manage Derbyshire's transport asset information. However, following the publication of the 2013 Highways Infrastructure Asset Management (HIAM) guidance from Highways Management Efficiency Programme (HMEP) and the new Code of Practice Well-Managed Highway Infrastructure Asset Management, Derbyshire's Highway Strategy Group has undertaken a review to develop and update plans and policies to reflect the current guidance and identified good practices.

The Data Management Strategy (DMS) is a key component of the suite of Derbyshire HIAM documents and is intended to form part of Derbyshire's approach to HIAM. Figure 1, below demonstrates its position and importance in delivering the HIAM.

DERBYSHIRE HIGHWAYS INFRASTRUCTURE ASSET MANAGEMENT PLANNING

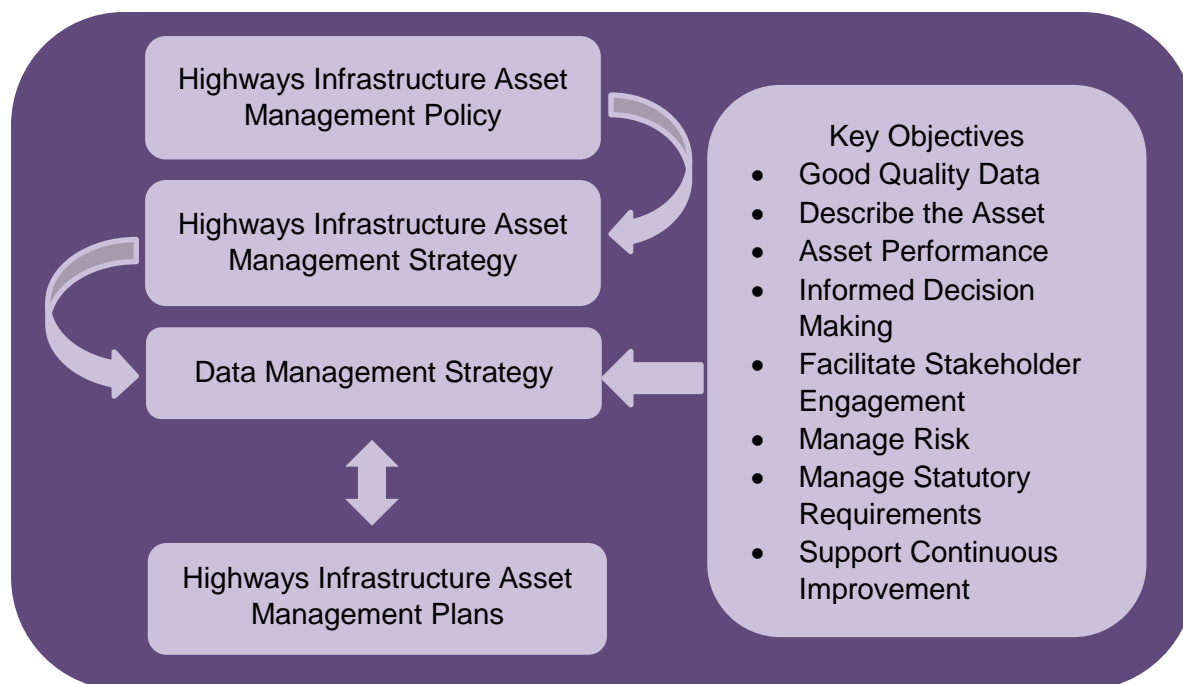


Figure 1

QUANTIFYING DERBYSHIRE'S HIGHWAY INFRASTRUCTURE ASSETS

The following statistics provide the magnitude of the highway infrastructure asset in Derbyshire in 2018 for which Derbyshire is responsible and data is held:

- 480.9 km on the resilient network, 4,886.4 km on the non-resilient network, giving a total of 5,367 km;
- 324 km (201 miles) of cycle ways and greenways;
- in excess of 4,500 km of footway 4,978 km of public rights of way;

- 1,182 highway bridges and structures, plus approximately 1,000 rights of way footbridges;
- approximately 982 km of highway retaining walls;
- approximately 89,650 road lighting columns;
- 129 signalised junctions, 21 pelican crossings, 255 puffins, 21 toucan, 7 equestrian, 166 permanent warning signs, 66 mobile warning signs, 604 flashing amber warning lights
- highway drainage which includes 165,577 gullies;
- 2,407 locations with pedestrian barriers; and
- 76,984 traffic signs, road markings, 111 km of vehicle restraint system, trees, verges and horticulture.

DERBYSHIRE'S DATA MANAGEMENT STRATEGY

Asset data comprises information on the physical highway infrastructure assets an authority has responsibility for and includes information on attributes, such as:-

- Number, location and condition
- Lifecycle maintenance regimes
- Cyclic maintenance
- Asset removal
- Performance
- Financial value

Effective asset management planning and decision-making relies on knowledge of all aspects of data, including the varieties of data types, formats and sources of data and this being available, appropriate, reliable and accurate.

The HMEP has a simple schematic for the DMS (Figure 2 below) that can be tailored to meet the needs and objectives of each authority. For each area identified below, specific detail is provided to reflect the situation and planned approach under the Derbyshire HIAM Plan. The Derbyshire DMS has adopted this model and has considered the current situation and areas for development that follow from the initial gap analysis undertaken.

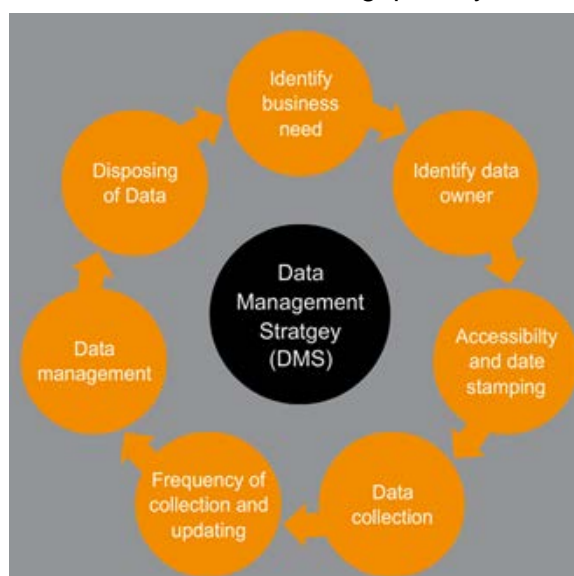


Figure 2

IDENTIFY BUSINESS NEED

HIAM definition – based on an assessment of the data requirements, demonstrating how they meet the asset management strategy and include the risk associated with the data.

Current Situation

A review of the existing practices has been carried out and areas for development have been identified using the good practice principles laid out in HMEP guidance. Initially, to ensure the objectives in Figure 1 are met, an analysis of the current status of the highway infrastructure assets have been considered and a risk based priority plan developed to provide the necessary updates and to fill any identified gaps in data. There needs to be a strategic and planned approach to providing the information relating to those identified gaps in data, taking into consideration:-

- Current Inventory Status
- Financial Constraints
- Time Constraints
- Asset Significance/Value/Risk

The gap analysis showed that the asset survey undertaken in 2008/09 was the last comprehensive survey of all assets, as such, it can be considered the nearest to a complete picture, as any updates since have been undertaken in a disjointed fashion. As with many organisations, some aspects of data are of an inconsistent or undefined quality.

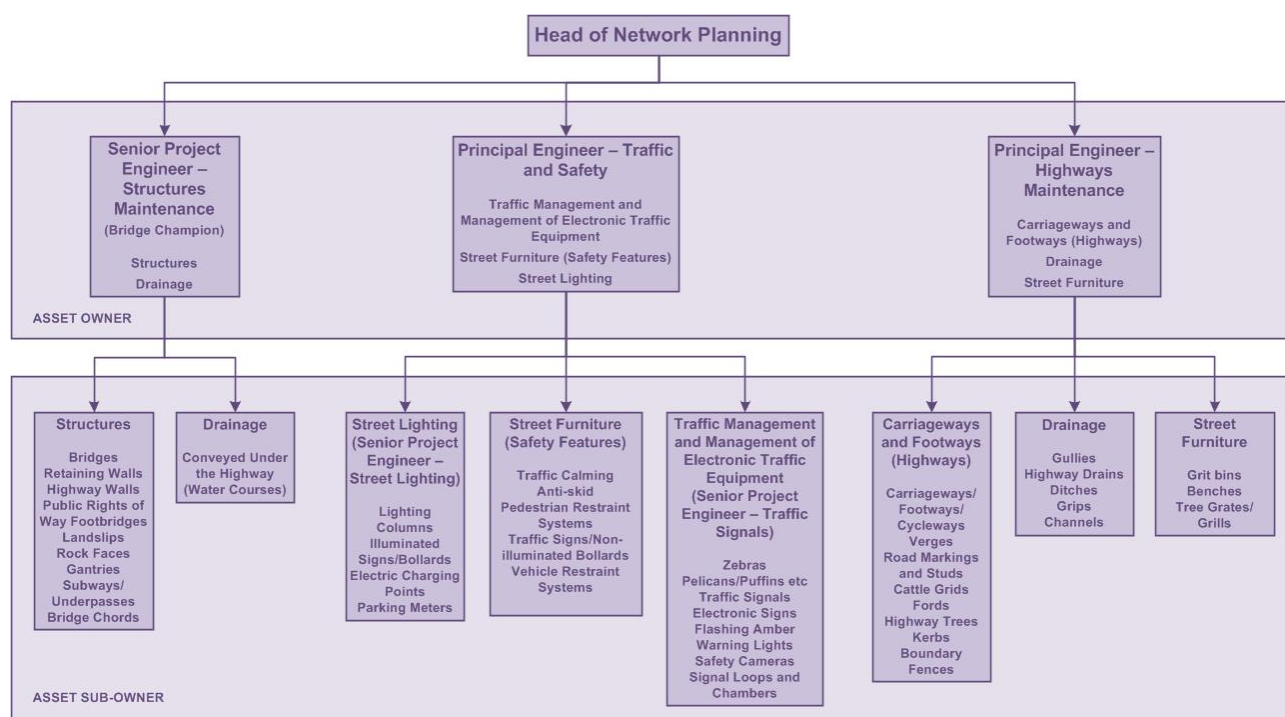
Consequently, not all are represented by a defined level of quality or currency. Some assets are only updated on an ad-hoc as built basis and, as such, coverage is very uneven. In contrast, highways gullies and the street lighting database have been carefully developed as an early part of the Single Asset Management System (SAMS) implemented in 2015/16; as such, it is well maintained and is considered to have a thorough level of detail and coverage to meet business need.

IDENTIFY DATA OWNER

HIAM definition – An ‘owner’ for the data is required to be responsible for managing the collected information.

Current Situation

At present, individual asset groups have an identified asset owner. The organogram in Figure 3 overleaf identifies the roles that are responsible for each highway infrastructure asset.

**Figure 3**

DATA ACCESSIBILITY

HIAM definition – Access rights to the data should be considered and all data should be date stamped.

Current Situation

DCC uses SAMS to capture, store and report on its highway infrastructure assets. Access to and the level of permissions allowed within the SAMS system is controlled by the SAMS Systems Manager and supported by the System's processes. The System incorporates a full audit trail of changes to assets, including date stamping. However, additionally there are multiple support systems which are tailored to provide asset lifecycle planning and undertaking prioritisation programming.

Development Area 1

To further develop processes to allow relevant highway infrastructure asset information from supporting systems to be shared with SAMS.

DATA COLLECTION

HIAM definition – When determining the method of collection, the most cost effective method should be used. Requirements for the accuracy, reliability and repeatability of data should be considered.

Current Situation

Data collection is costly and resource intensive, so a well-planned process is essential. Data is collected, validated and updated using methods appropriate to the asset type. These include visual inspection, drone inspection, vehicle mounted asset data capture and desk top analysis.

The Head of Highway Strategy, along with the Senior Project Engineer – Asset Management will ensure that information is collected to an agreed approach tailored to each asset, identified in the risk based priority plan and held in the system to an agreed standard and level of accuracy.

Development Area 2

Asset capture and validation processes are being developed to ensure the accuracy of the information provided.

Development Area 3

Continue to monitor areas where data is not complete or currently held and establish clear programmes for asset capture according to a risk based approach.

FREQUENCY OF COLLECTION AND UPDATING

HIAM definition – A risk based approach may be suitable, particularly where assets pose low risk to the performance of the network and are unlikely to require capital investment. Decisions about the life expectancy of all data types will need to be made.

Current Situation

The approach to asset update has been considered in terms of its risk and strategic importance, and is closely linked to the risk based approach developed in response to the Code of Practice Well-Managed Highway Infrastructure. As such, a risk based priority plan has been developed to identify the most important areas for update based on Network Hierarchy and significant asset attributes, such as those that provide a fundamental safety and/or legal role on the network.

As the Derbyshire HIAM is a 'live' document, it will require periodic review to update and appraise work programmes and financial plans against current data and conditions, financial provisions, costs of works and customer expectations. For the asset inventory, the timing of any reviews will need to consider a risk based approach. As such, we need to identify practical timescales for data collection and ways of being able to monitor this effectively.

DATA MANAGEMENT

HIAM definition – Data storage and management processes should be considered to ensure that these are fit for purpose, especially as the quantity and quality of data is likely to increase. IT specialists may need to contribute to this to ensure that the proposed approach complies with DCC's IT requirements.

Current Situation

A key objective developed through the 2008 TAMP was to ensure that all staff had access to asset information that enabled them to meet their responsibilities for management of the assets in an effective and efficient manner. All assets are stored and are visible in the SAMS or in associated support systems alongside appropriate processes and procedures.

Development Area 4

Further develop ongoing processes and documentation for asset monitoring including documented processes for maintaining asset data and ensuring SAMS uses it effectively.

Development Area 5

Ensure review processes are strong enough to provide a high level of confidence and consistency in the asset inventory.

DATA DISPOSAL

HIAM definition – The DMS should consider how archiving or disposing of out-of-date data may be dealt with. This should consider whether the data will be required at a later date or whether it may be disposed of completely. In determining the performance of individual assets, historical information and trends may be invaluable to support decisions regarding future performance.

Current Situation

This is aligned to corporate data governance and departmental retention schedules.

Development Area 6

Further develop the approach to data retention and security alongside the authorities General Data Protection Regulations (GDPR) responsibilities.

HIGHWAY INFRASTRUCTURE ASSETS SAFETY INSPECTIONS MANUAL

JUNE 2018

AN ELEMENT OF THE HIGHWAY INFRASTRUCTURE
ASSET MANAGEMENT SYSTEM

Document Information

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1 BACKGROUND

- 1.1 This document supersedes the previous document titled – ‘*Highway Safety Inspections Manual (Instructions to for Safety Inspections)*’ dated July 2013.
- 1.2 The changes required to the previous version, as set out in this new edition, are essential to reflect the 2016 Code of Practice for Well-Managed Highway Infrastructure and the 2013 Highways Maintenance Efficiency Programme (HMEP) Highway Infrastructure Asset Management Guidance. This document forms part of the suite of ‘Highway Infrastructure Asset Management’ documents.
- 1.3 This manual is intended for employees involved in the safety inspections of Derbyshire’s highway network. It is not intended to cover inspections of Public Rights of Way (unless they form part of the footway hierarchy within or on the fringe of urban areas). The use of this Manual applies to adopted highways only.
- 1.4 The safety inspection includes those highway infrastructure assets within the following main asset groups:
 - carriageways, including on-road cycle ways
 - footways, including shared use
 - structures
 - drainage
 - street lighting
 - traffic management and management of electronic traffic equipment
 - street furniture, including pedestrian barrier/restraint system and traffic signs
 - trees and verges
- 1.5 This is a controlled document and it will be updated as details of legislation, updates to the Code of Practice for Highway Maintenance Management, other national guidance and resources etc. change.

2 THE NEED FOR HIGHWAY INFRASTRUCTURE ASSET SAFETY INSPECTIONS

- 2.1 As the Highway Authority, Derbyshire County Council (DCC) has a statutory duty to maintain highways maintainable at public expense under Section 41 of the Highways Act 1980. Neglecting this duty can lead to claims against the County Council for damages resulting from a failure to maintain a highway.
- 2.2 Section 58 of the Act, allows the Council to use a ‘**Special Defence**’ in actions against it for damages for non-repair of a highway if it can demonstrate that it has taken such reasonable care to ensure that the highway was not dangerous to traffic having regard to:
 - a. *The character of the highway and the traffic which was reasonably to be expected to use it*
 - b. *The standard of maintenance appropriate for a highway of that character and used by such traffic*
 - c. *The state of repair in which a reasonable person would have expected to find the highway’*

- d. *Whether the highway authority knew, or could reasonably have been expected to know, that the condition of the part of the highway to which the action relates was likely to cause danger to users of the highway'*
- e. *Whether warning notices were displayed when immediate repair could not reasonably be expected.*

- 2.3 The establishment of an effective regime of inspections, assessment, recording and prioritisation of defect repairs is a crucial component of highway maintenance. It provides a robust framework to address key objectives for the maintenance of the highway in a safe and serviceable manner, as required by Section 41 of the Highways Act 1980 and consistent with the Council's Highways Infrastructure Asset Management process.
- 2.4 Case history demonstrates that the Highway Authority must also record all customer reports of highway defects, however, not all defects, which the Authority becomes aware of by inspection or customer report, need to be repaired. All defects are recorded in 'Confirm' and these records may also be used as evidence to show that the Highway Authority has acted reasonably.
- 2.5 The Highways Communications Plan details the expectations that can be anticipated when an enquiry is made by a member of the public. It outlines the approach to keeping stakeholders informed and aware of our work on the highway, using the most suitable communication channels, whilst ensuring that there are appropriate opportunities for feedback from users.

3 PURPOSE OF SAFETY INSPECTIONS

- 3.1 Safety inspections are designed to identify, assess, record and prioritise the repair of defects which may present an immediate danger or significant inconvenience to users of the highway. A defect may apply to the structural condition of the highway or the infrastructure assets contained within the highway boundary. In addition, safety inspections may be used to identify defects of a lesser magnitude which may be included within future programmes of planned maintenance work to preserve the highway infrastructure assets and keep the highway in a serviceable condition, or to indicate that a more in depth service inspection may be required. This is in line with our overall aims of network safety, serviceability and sustainability.
- 3.2 Safety inspections are supplemented by other inspections and assessments undertaken in line with national standards and/or good practice. These are discussed in the Condition Inspection Manual.
- 3.3 Safety inspections are visual inspections undertaken in accordance with risk assessment as outlined through the risk based approach in Section 6 of this document. They are designed to provide complete, accurate and timely information, as far as is reasonably practicable, on the safety maintenance needs of the highway infrastructure network and its ancillary assets based on site observations and measurements. These are applied through a risk based approach reflective of the characteristics of the defect, the local environment and network usage.

4 PERSONS UNDERTAKING INSPECTIONS

- 4.1 The person undertaking an inspection should be provided with appropriate training, regular updates and audited and accredited as competent in the required field of expertise. Training should have been undertaken to the DCC required level, which includes Lantra accredited training, and the Inspector is required to undergo continual professional development, to be regularly audited and appraised annually to ensure continuing capability within the field.
- 4.2 The Inspector is responsible for the accuracy of that inspection and the recorded information. In certain circumstances, that person may be called into Court to substantiate their inspection records. Any employee involved in the inspection process may be required to provide information relating to third party claims received and provide statements towards the defence of claims where the County Council's legal and insurance representatives are involved.
- 4.3 It is desirable that all personnel involved in safety inspections should be included on the National Register of Highway Inspectors currently held by the Institute of Highway Engineers.
- 4.4 All personnel undertaking a safety inspection must demonstrate competency in the current Chapter 8 safety at street works and road works.

5 NETWORK HIERARCHY AND SAFETY INSPECTIONS

- 5.1 An integrated Network Hierarchy is crucial to asset management. The network hierarchy is a series of network hierarchies that have been identified for each road user type. The network hierarchy is user defined, based on usage and not dependent on the current road classification system. A Resilient Network has been developed and has the highest priority.
- 5.2 DCC has set its own standards for the frequency of its highway safety inspections. The frequencies have been determined for each Network Hierarchy, using a risk based approach based on usage, ie the hierarchy with the most usage has the highest inspection frequency. The frequencies are shown in the table overleaf. These have been approved by Elected Members.
- 5.3 Each part of the network is assigned a hierarchy which relates its importance to usage. These hierarchies are stored in Confirm and records are kept of hierarchy changes.
- 5.4 Hierarchies need to be as dynamic as possible and regularly reviewed to reflect changes in network characteristics and functionality, so that maintenance policies, practices and standards reflect the current situation rather than the use expected when the hierarchy was originally defined and or last modified.

- 5.5 Highway Inspectors are able to evaluate their inspection routes when changes occur in characteristics and functionality and, as a result, they can make recommendations for a hierarchy review as they see appropriate.
- 5.6 Footway and cycleway hierarchies can be different to carriageway hierarchies and therefore some roads have different hierarchy classifications and potentially different inspection frequencies for carriageways, footways and cycleways.
- 5.7 Where carriageway and footway hierarchies intersect, for example, at pelican or zebra crossings, bollards or other defined crossing points at junctions, the higher inspection frequency should always take precedence in determining the inspection frequencies, defect definition and responses. This principle should also apply to intersections between carriageways and cycle routes and between cycle routes and footways.

All defined inspection frequencies should be maintained in accordance with Table 1 below.

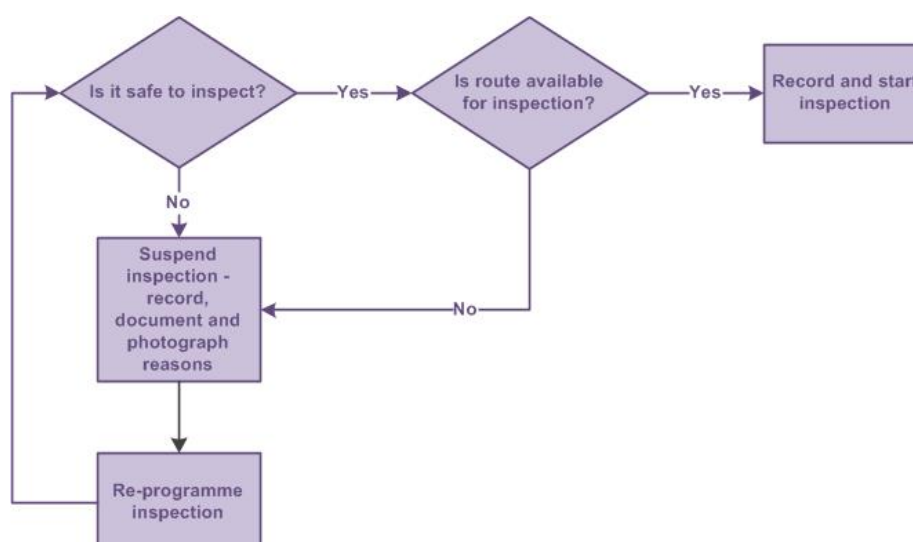
TABLE 1		FREQUENCY OF INSPECTIONS	
Feature	Hierarchy	Category	Frequency of Safety Inspection
Carriageways	Resilient Network	Priority network required to maintain economic activity and key services	1 month
	Network Hierarchy 1	Annual Average Daily Traffic Flow ≥ 9000	1 month
	Network Hierarchy 2	Annual Average Daily Traffic Flow ≥ 6000 and < 12000	1 month
	Network Hierarchy 3	Annual Average Daily Traffic Flow ≥ 3000 and < 8000	1 month
	Network Hierarchy 4	Remaining Strategic Regional Routes, Main Distributor Roads and Secondary Distributor Roads	1 month
	Network Hierarchy 5	Remaining Link Roads	3 months
	Network Hierarchy 6	Remaining Local Access roads that are not a cul-de-sac	1 year
	Network Hierarchy 7	Remaining Local Access roads that are a cul-de-sac	1 year
Footways	1A	Prestige Area	1 month
	1	Primary walking route (including shared use facilities)	1 month
	2	Secondary walking route (including shared use facilities)	3 months
	3	Link Footways	As for c/way
	4	Local Access Footways	As for c/way
Cycleways	A	Carriageway – Contiguous or shared	As for c/way
	B	Footway – Contiguous or shared	As for f/way

5.9 Tolerance levels for safety inspection frequency are shown in the table below:

TABLE 2 SAFETY INSPECTION FREQUENCY TOLERANCE	
Inspection Frequency	Tolerance
Monthly and 3 monthly	+/- 10 days
6 monthly	+/- 15 days
Annually	+/- 30 days

5.10 Structures safety inspections are not carried out on a specific frequency and are a reactive process which will only occur after an event, such as a flood or after an enquiry.

5.11 Before an inspection takes place, each section of the route is assessed for its availability and whether it is safe to complete the inspection. If, for any reason, part or all of the route cannot be inspected, then the inspection is recorded as suspended, and the reasons and photographs recorded as appropriate. The route or route section is then reprogrammed for inspection at the next available opportunity. If sections of a route continue to be unavailable due to the presence of street works or parked vehicles, then it may not be practicable to inspect those parts of the highway that are obstructed to the same standard as the rest of the highway. The process is shown below:



5.12 Due to the differences in categories between carriageways, footways and cycleways, it may be necessary in certain instances to inspect each element at different times. Conversely, there will be instances where the frequencies for each are the same. These elements may, therefore, be inspected at the same visit.

5.13 Link footways are linking local footways through urban areas and busy rural footways. They are **not** interlinking footways, which are, for example, footways between two housing estate roads.

- 5.14 DCC will ensure that the routes include the existing highway network and any newly adopted highways, where appropriate. These will be added to the inspection routes as necessary.

6 RISK BASED APPROACH

- 6.1 The new Code of Practice does not specify defined intervention levels where action is required to rectify a defect. It allows local authorities to decide if or what investigation criteria is appropriate and requires a risk based approach to the identification, assessment, evaluation and priority of defects.
- 6.2 The safety inspection regime uses a defect risk assessment process to determine the degree of risk a defect, which meets an investigation criterion, impacts upon all highway users and not just motor vehicle users. All risks identified through this process have to be evaluated in terms of their significance, which means assessing the likely impact should the risk occur and the probability of it actually happening.
- 6.3 The **impact** is quantified by assessing the extent of the damage likely to be caused should the risk become an incident. As the **impact** is likely to increase with increasing speed, the amount of traffic and type of road are clearly important considerations in the assessment.
- 6.4 The **probability** is quantified by assessing the likelihood of users, passing by or over the defect, encountering the risk. As the **probability** is likely to increase with increasing vehicular or pedestrian flow, the Network Hierarchy and defect location are, constantly, important considerations in the assessment.
- 6.5 The result of this assessment defines an appropriate response from immediate to no further action and is detailed in Table 3 below:

TABLE 3		DEFECT RISK ASSESSMENT				
		PROBABILITY OF INTERACTION WITH HIGHWAY USER				
		Rare (1)	Unlikely (2)	Possible (3)	Likely (4)	Almost Certain (5)
LIKELY IMPACT	None (1)	1	2	3	4	5
	Negligible (2)	2	4	6	8	10
	Minor (3)	3	6	9	12	15
	Moderate (4)	4	8	12	16	20
	Serious (5)	5	10	15	20	25
Category 4 Consider an appropriate response including no further action		Category 3 Repair within 28 days		Category 2 Make safe or repair within 9 days		Category 1 Make safe or repair within 32 hours

Defects identified that pose a threat to life are considered an emergency and must be responded to, normally within 2 hours, and made safe or repaired urgently.

6.1 Category 1 Defects

- 6.1.1 These are **all** defects that require action to repair or make safe at the time of inspection, **if reasonably practicable**. Generally, in this context, making safe may constitute displaying warning notices, coning off and/or fencing off to protect the public from the defect. If it is not possible to correct or make safe the defect at the time of inspection, repairs or other actions of a permanent or temporary nature should be carried out as soon as possible. Category 1 defects must take first priority of the available resources and budgets.
- 6.1.2 Category 1 pothole defects, wherever possible, should be repaired permanently. A temporary 'plugged' repair may be required to make them safe if a permanent repair is not possible, i.e. due to the location requiring further traffic control or weather conditions that may prevent a successful permanent repair. However, these need to be reassessed and possibly downgraded to a Medium or Low Risk defect once they have been made safe but they must remain a defect as the repair is temporary in nature. Temporary pothole repairs can also be considered if the road has been designated for more extensive patching or resurfacing works.

6.2 Category 2, 3 and 4 Defects

- 6.2.1 These are defects which do not require action to repair or make safe at the time of inspection. Three categories of risk have been identified which each have different response requirements.

6.3 Ancillary Defects

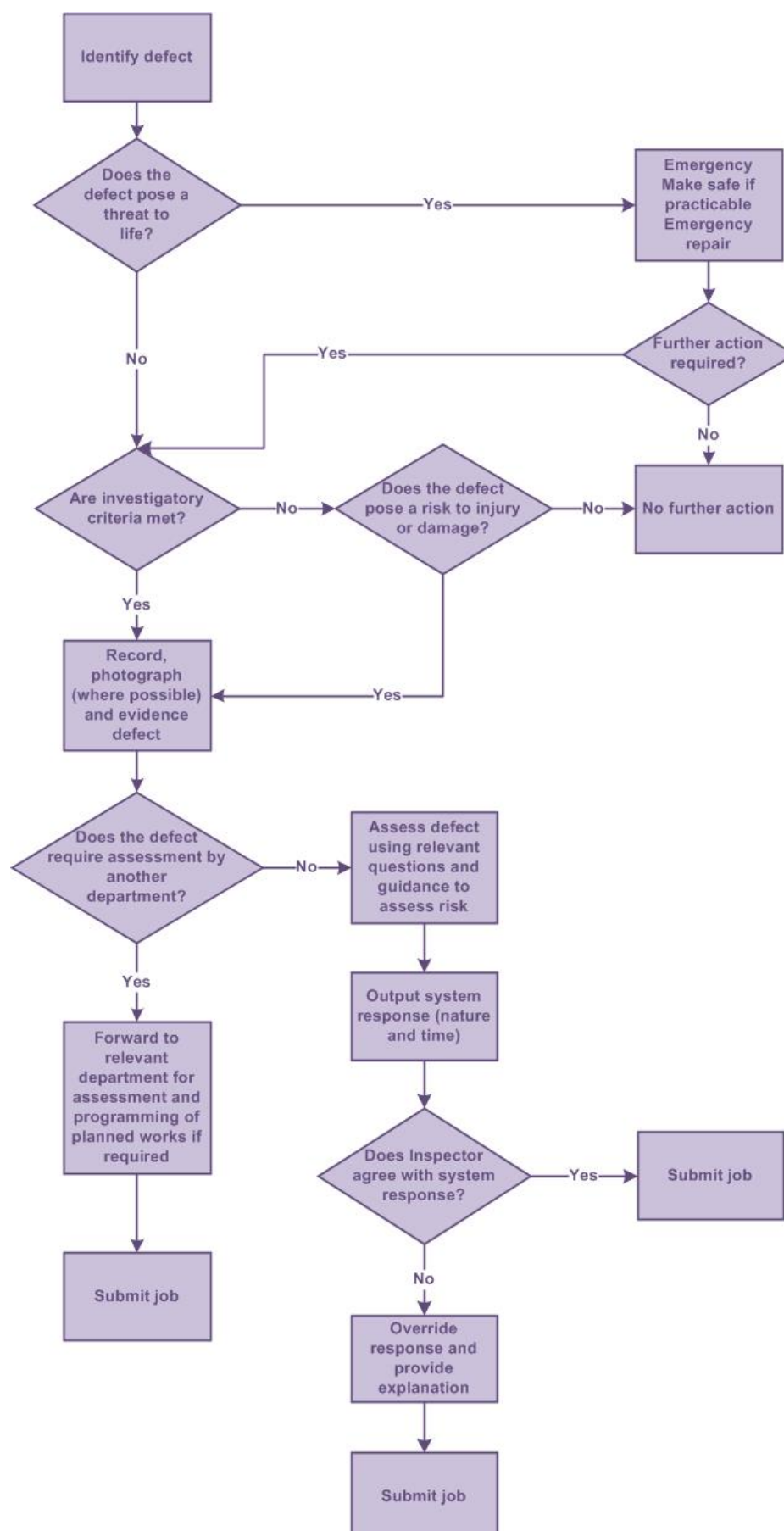
- 6.3.1 Not all defects can be rectified by the Highway Authority and require action by others. These defects will be directed, via the hand-held device, to the Control Centre or action officer for distribution to other sections or agencies, as appropriate.
- 6.3.2 Ancillary defects may range from those that need prompt attention to those that are deemed not to present an immediate or imminent hazard.

6.4 Examples of Defects

- 6.4.1 The classifications, guidance and remarks are contained in Appendix A.

6.5 Defect Reporting Process

- 6.5.1 The defect reporting process is shown in the figure overleaf:



7 METHOD OF INSPECTION AND RECORDING

7.1 General

7.1.1 Inspections must be carried out in a safe manner so as not to endanger staff or the public. All operations **should have a current risk assessment** which must be followed by all staff. The following are risk assessments relating to highway inspections and are available on either Dnet or in EDRM as appropriate:

- a. Toolbox Talk 54 Rev.1 – Marking Out on the Highway – Dynamic Risk Assessment
- b. 2012-11-19 Highways Inspections on Foot
- c. 2012-11-19 Driven Highways Inspection

7.1.2 When an Inspector identifies defects on the highway, the opportunity is available to identify hazards that potentially could affect work teams or contractors undertaking the subsequent repair. This hazard identification is not only a duty of Designers under Construction Design Management (CDM), but is an important part of risk evaluation in departmental procedures and leads to improved efficiency when work teams or contractors are mobilised. The document CDM (GCP 15) is available on either Dnet or in EDRM.

7.1.3 The document 'Working on the Highway' (GCP 9) advises employees of safety precautions that **must** be followed in order to reduce the risk of such collisions, not only to themselves, but to all road users. It must be adhered to and is available on either Dnet or in EDRM.

7.1.4 If in doubt, consult your manager and/or refer to the risk assessments and general codes of practice.

7.2 Driven Inspections

7.2.1 Highway Infrastructure Assets Safety Inspections, when driven, **must** be undertaken by **two people** in a suitable vehicle travelling at an appropriate speed that will enable adequate recording of defects, with one driving and the other inspecting. The driver will not be expected to be actively involved in identifying and recording defects, but will concentrate on ensuring the safe passage of the vehicle. Where the Highway Inspector determines that, in their reasonable opinion, the inspection cannot be undertaken and defects effectively observed from the vehicle, then the inspection will be walked.

7.2.2 A highway with footways on either side must be driven in both directions.

7.2.3 The survey vehicle should be equipped with high intensity roof-mounted, flashing beacons and high visibility reflective markings as a minimum, with other additional features being required subject to certain situations that may include, for example, high speed roads and highly trafficked roads etc.

- 7.2.4 The inspection of any Traffic-sensitive streets should be surveyed at off-peak times, where practical.

7.3 Walked Inspections

- 7.3.1 Highway infrastructure assets can be inspected by one person on foot if the person is walking on a footway and can inspect the footway and carriageway at the same time.
- 7.3.2 All Category 1 and 2 footways (if there is a footway on both sides of the road) are to be inspected in both directions.

7.4 Alternative Methods

- 7.4.1 Where alternative methods are available, such as drones or high resolution photography, they will be considered and tested to assess whether they provide a viable alternative method under appropriate circumstances.

7.5 Recording

- 7.5.1 The inspection regime must be applied and recorded systematically and consistently. As well as information relating to defects, all inspections must also, therefore, record the following through the use of a hand held device (HHD) capable of transferring data from the field into Confirm:
- Time of inspection and defect identification
 - Route section availability for inspection and if safe to inspect
 - Weather conditions
 - Any unusual circumstances of the inspection
 - Person(s) conducting the inspection
- 7.5.2 Each inspection must record the following:
- The relevant Unique Street Reference Number (USRN) for the named street.
 - All actionable defects found must be recorded as part of the inspection
 - If no defects are present this must be recorded as part of the inspection
 - Photographs taken of each actionable defect showing scale and context, and must be attached to the enquiry or defect, form if an inspection has been walked. For a driven inspection, photographs should be taken only where practical and safe to do so
 - Be time and date stamped
- 7.5.3 High Risk defects which require immediate attention should be transferred from the device as soon as the inspection on a particular street has been completed. If it is not possible to transfer the defect(s) at the time of inspection, it must be transferred within **1 hour** of it being recorded or as soon as practicable. Low Risk defects can be transferred once an inspection has been completed.
- 7.5.4 All records will be kept in accordance with the Data Management Strategy and all inspections will be retained by DCC for future reference.

8 REVIEW PROCESS

- 8.1.1 This manual will be supported through a formal review process which will generally occur annually. However, feedback and lesson learned will also be reported and any resulting changes required to the manual or process will be disseminated through the monthly Inspector's team meetings as a regular agenda item.



APPENDIX A – EXAMPLES OF HIGHWAY DEFECTS



The defects listed are **not** exhaustive and the Inspector will need to use risk assessments to decide what is likely to be hazardous, as local circumstances will apply.

How these defects should be treated will depend on the particular circumstances and the nature and speed of response required.

The following defects listed below will be applied to the appropriate element of the highway. A more detailed description of each defect and the position within the highway is provided defect by defect.

- 1.1 Pothole
- 1.2 Standing/running water
- 1.3 Embankment or bank slips
- 1.4 Spillages/obstructions/debris
- 1.5 Overriding
- 1.6 Defective high friction surface
- 1.7 Dangerous or obstructing trees
- 1.8 Obscured visibility and overgrown hedges, bushes and verges
- 1.9 Defective roadmarks
- 1.10 Defective ironwork
- 1.11 Defective cattle grid
- 1.12 Defective overhead cables
- 1.13 Defective roadworks signing
- 1.14 Obstructions – materials, goods, equipment, and signs
- 1.15 Cracks and gaps
- 1.16 Abrupt level differences/trip
- 1.17 Rocking flag
- 1.18 Damaged road restraint systems
- 1.19 Defective boundary fences
- 1.20 Streetlights, illuminated or variable message traffic signs and illuminated bollards
- 1.21 Defective road signs
- 1.22 Defective traffic signals
- 1.23 Damaged steps
- 1.24 Damaged handrails
- 1.25 Defective escape lanes/arrester beds
- 1.26 Carriageway/footway/cycleway Deterioration
- 1.27 Defective traffic calming features
- 1.28 Damaged kerb/channel
- 1.29 Street furniture

1.1 POTHOLE		Version 1.0 – 25 th June 2018
Investigatory Criteria		
An area of material loss resulting in a vertical edge depression.		
Minimum dimension where applicable		
Carriageway	40mm deep.	
Footway & Cycleway	20mm deep.	
Confirm Codes:	CD2, FD2	
Sample Photograph		
Carriageway	Footway/Cycleway	
		
Response		
<div>1. Undertake defect reporting process.</div> <div>2. If required, sign and guard area or close road/footway/cycleway to make safe.</div>		
Notes and Further Investigation		
<p>The footway investigatory criteria will be applied to a carriageway at defined pedestrian crossing points or where pedestrians are encouraged to cross or where there is a marked cycle lane on the carriageway.</p> <p>Consideration should be given for powered two wheeled vehicles, cyclists, equestrians and pedestrians as appropriate.</p>		

1.2 STANDING/RUNNING WATER		Version 1.0 – 25th June 2018
Investigatory Criteria		
Standing or running water on carriageways where excess water requires signing and guarding or properties are at risk of severe flooding.		
Minimum dimension where applicable		
Carriageway	If, after 24 hours from when rain has ceased, the road is impassable, or it is forcing vehicles, cyclists or pedestrians away from the nearside of the carriageway by more than 1m, or if vehicles have to cross the centreline marking.	
Footway & Cycleway	If, after 24 hours the footway is impassable	
Confirm Codes:	DR1, DR11, DR12, DR13, DR14, DE15, DR2, DR7, DR8, DR4	
Sample Photograph		
Carriageway	Footway/Cycleway	
		
Response		
<div>1. Undertake defect reporting process.</div> <div>2. Attempt to clear standing water if appropriate.</div> <div>3. If unable to clear water, use flood sign or guard area or close road to make safe.</div> <div>4. Investigate permanent solution.</div> <div>5. Forward to relevant department if required.</div>		
Notes and Further Investigation		
<div>During prolonged heavy rain, standing / running water will not be treated as requiring further investigation.</div> <div>Consultation will be required with adjacent landowner/occupier where appropriate.</div> <div>Flooding of properties to be reported to the Flood Risk Team</div>		

1.3 EMBANKMENT/BANK SLIPS/ RETAINING WALL COLLAPSES
Version 1.0 – 25th June 2018
Investigatory Criteria

An embankment, bank slip or retaining wall collapse obstructing a highway surface or leaving the haunch exposed or unsupported.

Minimum dimension where applicable

Carriageway	When the road is obstructed or support lost; or it is forcing vehicles, cyclists or pedestrians away from the nearside of the carriageway by more than 1m; or if vehicles have to cross the centreline marking; or if cyclists have to cross a cycle lane boundary marking.
Footway & Cycleway	A slip when either material has deposited on the footway so that it is blocked, pedestrians are forced off of the footway, or leaving the footway foundation exposed or unsupported.
Confirm Codes	DEB2, OEH, EMB

Sample Photograph
Carriageway/Footway/Cycleway

Response

1. Undertake defect reporting process.
2. Attempt to clear standing water if appropriate.
3. Consider other traffic management requirements until obstruction removed and any underlying problems are resolved.
4. Forward to structures for further investigation and assessment.

Notes and Further Investigation

Consultation will be required with adjacent landowner/occupier where appropriate. Where washout /slips occur frequently, the procedures for powers under Section 151 of the Highways Act 1980 should be followed.

Clear any gullies that are blocked and outfall through retaining walls, significant collapses and cost can be avoided by quick action.

If significant support removed from carriageway, road/lane closure may be needed.

1.4 SPILLAGES/OBSTRUCTION/ DEBRIS**Version 1.0 – 25th June 2018****Investigatory Criteria**

Spillages include: hazardous liquid, effluent, diesel, oil, petrol and mud.
 Debris on the carriageway, examples include: fallen trees or tree limbs, excessive surplus surface dressing chippings, debris dropped from vehicles, excessive mud, sand, animals, soil or slurry.

Minimum dimension where applicable**Carriageway**

Item causing immediate danger to highway users.

Footway & Cycleway


Item causing immediate danger to highway users.

Confirm Codes: DEB1, DEB2, ABV, ADB, MUD, OEH**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required, sign and guard area or close road to make safe.
3. Treat spillage with appropriate material and sweep surface if necessary.
4. Clear obstruction if possible and investigate a permanent solution if required.

Notes and Further Investigation

Where a spillage is, or could be, of a hazardous nature, remedial action must be undertaken strictly in accordance with the Health and Safety Manual to protect operatives and road users. General detritus/rubbish clearance is a District/Borough responsibility. Isolated incidents may be removed to an appropriate temporary location for removal later. Dead animals should be moved to the adjacent verge and the District/Borough Council contacted to arrange removal.

1.5 OVERRIDING		Version 1.0 – 25th June 2018
Investigatory Criteria		
An area of verge immediately adjacent to the carriageway generally rutted below the level of the carriageway.		
Minimum dimension where applicable		
Carriageway	Greater than 100mm drop-off at the edge of an unimpeded road	
Footway & Cycleway	If a cycle route 50mm should be used for a designated cycleway.	
Confirm Codes:	CD3, FD3	
Sample Photograph		
Carriageway	Footway/Cycleway	
		
Response		
1. Undertake defect reporting process. 2. If required, sign and guard area or close road to make safe.		
Notes and Further Investigation		
Edge deterioration that has broken away should be reinstated as like for like.		

1.6 DEFECTIVE HIGH FRICTION SURFACING **Version 1.0 – 25th June 2018**
Investigatory Criteria

A loss of aggregate or fatting up within a high friction surface or slippery covers within a high friction surface.

Minimum dimension where applicable
Carriageway

Report any areas where serious loss of skidding resistance suspected.

Footway & Cycleway

N/A

Confirm Codes: CD5

Sample Photograph
Carriageway

Response

1. Undertake defect reporting process.
2. Erect slippery road signs if necessary.
3. Forward to maintenance team for further investigation and assessment.

Notes and Further Investigation

Permanent action to be undertaken in accordance with the Council's Skidding Policy.

All slippery covers within high friction surfacing, see 1.10 Defective Ironwork.

1.7 DANGEROUS OR OBSTRUCTING TREES**Version 1.0 – 25th June 2018****Investigatory Criteria**

A tree requires investigation when it is: obviously diseased, leaning precariously towards the highway (especially if the inspector considers it to have moved towards the highway since the last inspection), or it is damaged or has damaged or dead limbs which could fall directly onto the highway user or is obstructing.

Minimum dimension where applicable

Carriageway	The minimum vertical clearance over the carriageway needs to take account of the traffic using the route (minimum clearance of 5m).
Footway & Cycleway	Obstructing the clear passage of pedestrians/cyclists forcing them off the footway/cycleway, or it reduces the vertical clearance above the footway to less than 2.1m or 2.3m on a cycleway.

Confirm Codes: TRE1, TRE2, TRE3

Sample Photograph**Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required, sign and guard area or close road to make safe.
3. Forward to tree inspector for further investigation and assessment if required.
4. Initiate noticing procedure via Inspectors Area Admin for overgrown vegetation if appropriate.

Notes and Further Investigation

Refer any investigation works required to the relevant Tree Inspector. Separate specialist technical tree inspections are completed by the designated tree inspectors and these inspections follow the guidelines held within the Highway/ Countryside Tree Inspections document.

Responsibilities for landowners/occupiers with trees adjacent to the highway, and the powers of DCC in this respect, are contained in Section 154 of the Highways Act 1980. Where possible, the landowner/occupier should be given the opportunity to undertake the appropriate remedial work and retain ownership of any waste material. When a dangerous or damaged tree is identified as a safety defect, the tree must be marked and forwarded to the Tree Inspector for further investigation and assessment.

**1.8 OBSCURED VISIBILITY AND
OVERGROWN HEDGES, BUSHES & VERGES**

Version 1.0 – 25th June 2018

Investigatory Criteria

Obscured highway visibility due to overgrown/overhanging vegetation, including obscured traffic signal heads, street light lamp, regulatory/warning traffic sign or bollard.

Minimum dimension where applicable

Carriageway	Overhanging/overgrown in sight lines at bends, junctions or laybys. Overgrown hedges and bushes when obstructing the highway user; or obstructing the clear passage of the highway user or it is forcing vehicles, cyclist or pedestrians away from the nearside of the carriageway by more than 1m; or vehicles have to cross the centreline marking; or if cyclists have to cross a cycle lane boundary marking.
Footway & Cycleway	Overhanging/overgrown in sight lines at locations where pedestrians/cyclists are encouraged to cross the carriageway; or it is overhanging the highway and obstructing the clear passage of pedestrians/cyclists forcing them off the footway/cycleway, or it reduces the vertical clearance above the footway to less than 2.1m or 2.3m on a cycleway.



Confirm Codes: VER, VER3, VER4, HEG1

Sample Photograph**Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. Cut back overgrowth or, if required, close road/footway to make safe.
3. Initiate noticing procedure via Inspectors Area Admin for overgrown vegetation if appropriate.

Notes and Further Investigation

Responsibilities for landowners/occupiers with hedges, trees and bushes adjacent to the highway, and the powers of DCC in this respect, are contained in Section 154 of the Highways Act 1980. Where possible, the landowner/occupier should be given the opportunity to undertake the appropriate remedial work and retain ownership of any waste material.

1.9 DEFECTIVE ROADMARKS		Version 1.0 – 25th June 2018
Investigatory Criteria		
Faded or missing regulatory lines on the Resilient Network.		
Minimum dimension where applicable		
Carriageway	N/A	
Footway & Cycleway	N/A	
Confirm Codes:	RMS1, RMS5, RMS6	
Sample Photograph		
Carriageway	Footway/Cycleway	
		
Response		
<div>1. Undertake defect reporting process.</div> <div>2. Forward to maintenance/traffic and safety for further investigation and assessment.</div>		
Notes and Further Investigation		
Non regulatory lining and missing studs are to be identified for lining and stud programmes should be forwarded to maintenance/traffic and safety for further investigation and assessment. Major junction lining faults to be passed to Area Manager.		

1.10 DEFECTIVE IRONWORK**Version 1.0 – 25th June 2018****Investigatory Criteria**

A missing or broken cover to any chamber/box. A collapsed or collapsing chamber. A high or low cover or frame when the cover within the frame or the frame itself, is above or below the immediate surrounding carriageway level by 40mm or greater. A rocking cover when the rocking is greater than 40mm. A grating where the slots run parallel to the carriageway edge without lateral infill members. A slippery cover within an area of high friction surfacing.

Minimum dimension where applicable**Carriageway**

High/low or rocking cover +/- 40mm.

Footway & Cycleway

High/low or rocking cover +/- 20mm.

Confirm Codes:

SC1, DR3, DR3B, DR5, DR51, DR6, DR61

Sample Photograph**Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required sign and guard area or close road/footway/cycleway to make safe.
3. Forward to New Roads and Street Works Area (NRSWA) Inspector to instigate Section 81 procedure if related to a statutory undertaker.

Notes and Further Investigation

Rocking covers in urban areas that move less than 40mm but under traffic cause noise levels unacceptable to persons living in the vicinity, are not a safety defect but should be rectified as soon as possible, using the Section 81 notice if appropriate.

1.11 DEFECTIVE CATTLEGRIDS**Version 1.0 – 25th June 2018****Investigatory Criteria**

Any damage to the cattle grid panel or structure or a loose panel, rendering it dangerous; or damage to the associated fence or gate rendering it dangerous or not stock proof or when the voids between the bars are clogged up with debris to the point that stock can walk across without impediment.

Minimum dimension where applicable**Carriageway**

N/A

Footway & Cycleway

N/A

Confirm Codes: CAT**Sample Photograph****Carriageway****Response**

1. Undertake defect reporting process.
2. If required, sign and guard area or close road to make safe.

Notes and Further Investigation

Contact the landowner to remove stock if required, or request that stock is removed to enable side gates to be used if practicable.

1.12 DEFECTIVE OVERHEAD CABLES**Version 1.0 – 25th June 2018****Investigatory Criteria**

Low cables across carriageways, footways and cycleways.

A supporting pole or structure that is damaged or leaning dangerously, adjacent to the highway that could fall on to it or affect the cable it is supporting across the highway.

Minimum dimension where applicable

Carriageway	Vertical clearance to lower than 5m (16' 6") (Chapter 4 Traffic Signs Manual) Cycleway – vertical clearance to lower than 2.3m (7' 6")
Footway & Cycleway	Footway - vertical clearance to lower than 2.1m (6' 10") Cycleway - vertical clearance to lower than 2.3m (7' 6")

Confirm Codes: OWD**Response**

1. Undertake defect reporting process.
2. Contact relevant Statutory Undertaker
3. If required, sign and guard area or close road/footway/cycleway to make safe.

Notes and Further Investigation

The height of a cable should be estimated and under no circumstances should it be actually measured by highway inspectors. Measurements should only be taken by a person holding a valid proximity permit.

1.13 DEFECTIVE ROADWORKS SIGNING**Version 1.0 – 25th June 2018****Investigatory Criteria**

Any roadworks signing (including DCC or Statutory Undertakers works, or at scaffold or skips sites) that is not in accordance with Chapter 8.

Minimum dimension where applicable**Carriageway**

N/A

Footway & Cycleway

N/A

Confirm Codes: SWD**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.

Notes and Further Investigation

Inspectors should contact the Highways Hub or NRSWA Inspector during office hours to report inadequate signing or guarding. Determine if a Section 65 notice is required.

1.14 OBSTRUCTIONS – MATERIALS, GOODS, EQUIPMENT AND SIGNS

Version 1.0 – 25th June 2018

Investigatory Criteria

Materials, goods, canopies, equipment or illegal signs that impede or obstruct pedestrians/cyclists, or restrict visibility

Minimum dimension where applicable

Carriageway	Vertical clearance to permissible overhanging signs or banners of less than 5m for carriageway
Footway & Cycleway	Vertical clearance to overhanging signs or banners on a footway of less than 2.1m or 2.3m on a cycleway

Confirm Codes: OEH, ADB

Sample Photograph
Carriageway

Footway/Cycleway




Response

1. Undertake defect reporting process.
2. If required, sign and guard area or close road/footway/cycleway to make safe.

Notes and Further Investigation

It is DCC's policy to allow some signs and goods up to 450mm wide immediately adjacent to commercial premises, provided that it leaves a clear width of 1.5m and does not obscure visibility and this is not considered to be a defect.

Where a notice is required, a Section 148 depositing anything whatsoever on the highway notice must be issued. Banners over the highway must be authorised under the 'Conditions for Erection of a Banner over the Public Highway'.

1.15 CRACKS AND GAPS		Version 1.0 – 25 th June 2018
Investigatory Criteria		
A crack or gap meeting the dimension criteria below:		
Minimum dimension where applicable		
Carriageway	Void is greater than 40mm deep, 20mm width and 200mm in length	
Footway & Cycleway	Void is greater than 20mm deep, 20mm width and 200mm in length	
Confirm Codes:	HD1	
Sample Photograph		
Carriageway	Footway/Cycleway	
	 	
Response		
<div>1. Undertake defect reporting process.</div> <div>2. If required, sign and guard area or close road/footway/cycleway to make safe.</div> <div>3. Repair as appropriate.</div>		
Notes and Further Investigation		
<div>This defect does not apply to a kerb. For defects relating to kerbs see defect 1.28 Damaged Kerb/Channel.</div> <div>This defect is usually caused by the loss of mortar or the movement of flags and pedestrians may catch their heel or toes in the void.</div> <div>The footway investigatory criteria will be applied to a carriageway at defined pedestrian crossing points or where pedestrians are encouraged to cross or where there is a marked cycle lane on the carriageway.</div>		

1.16 ABRUPT LEVEL DIFFERENCE/TRIP**Version 1.0 – 25th June 2018****Investigatory Criteria**

An abrupt level difference in the carriageway when it has a vertical displacement.
A sharp edged defect on a footway/cycleway with a vertical deviation. For issues with Kerbs please see 1.28 Damaged Kerb/Channel.

Minimum dimension where applicable**Carriageway**

Void is greater than 40mm deep.

Footway & Cycleway

Void is greater than 20mm deep.



Confirm Codes: FD5, FD6, CD4**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required, sign and guard area or close road/footway/cycleway to make safe.
3. Repair as appropriate on footway/cycleway.
4. Forward to relevant department for further investigatory work/assessment if required, i.e. structures.

Notes and Further Investigation

Examples of this defect include: uneven or broken flags, blocks, pavements; channels or edgings; damaged steps.

The footway minimum dimensions will be applied to marked pedestrian crossing points within the carriageway, e.g. pedestrian crossings and pedestrian phase signalled crossings.

1.17 ROCKING FLAG		Version 1.0 – 25 th June 2018
Investigatory Criteria		
A moving flag, paviour, block, kerb or channel where on edge rises or falls.		
Minimum dimension where applicable		
Carriageway		Greater than 40mm.
Footway & Cycleway		Greater than 20mm.
Confirm Codes:	FD8, FD6, CD4	
Sample Photograph		
Carriageway		Footway/Cycleway
		
Response		
<div>1. Undertake defect reporting process.</div> <div>2. If required, sign and guard area or close road/footway/cycleway to make safe.</div> <div>3. Relay or make safe rocking flag.</div>		
Notes and Further Investigation		

1.18 DAMAGED ROAD RESTRAINT SYSTEMS Version 1.0 – 25th June 2018
Investigatory Criteria

A length of vehicular restraint system or safety fence, pedestrian guardrail or bridge parapet or retaining wall parapet with obvious impact damage; or missing, loose.

Minimum dimension where applicable
Carriageway

N/A

Footway & Cycleway

N/A

Confirm Codes: FE4, FE3, FE2

Sample Photograph
Carriageway

Footway/Cycleway

Response

1. Undertake defect reporting process.
2. Sign and guard area to make safe.
3. Forward to Traffic and Safety Section/Structures for assessment and planned works.

Notes and Further Investigation

Vehicle restraint systems at railway level crossings and railway bridges must be inspected regardless of ownership and any defects reported to Network Rail as appropriate.

When damage has been noted to a bridge or retaining wall parapet, the Inspector should contact the Bridges and Structures section or Highways Hub (outside office hours) for action.

1.19 DEFECTIVE BOUNDARY FENCES & WALLS
Version 1.0 – 25th June 2018
Investigatory Criteria

A length of boundary fence or wall with impact or other damage that would render it dangerous, or ineffective for stock proofing. A fence with an exposed length of tubular metal rail.

Minimum dimension where applicable
Carriageway

N/A

Footway & Cycleway

N/A

Confirm Codes: FE1

Sample Photograph
Carriageway

Footway/Cycleway

Response

1. Undertake defect reporting process.
2. If required, sign and guard area or close road/footway/cycleway to make safe.
3. Arrange for livestock to be removed from highway immediately.
4. If private fence/wall inform owner.
5. If DCC fence/wall arrange repair.

Notes and Further Investigation

This defect also applies to a boundary hedge where the stock is straying on to the highway. The maintenance category refers to the carriageway, footway and/or cycleway the boundary fence protects. Ownership of the boundary wall should be determined and, in the case of a private wall, the private landowner is informed. If a highway wall, report damage to Bridges and Structures section or Highways Hub (outside office hours) for action.

1.20 STREET LIGHTS, ILLUMINATED OR VARIABLE MESSAGE TRAFFIC SIGNS & ILLUMINATED BOLLARDS

Version 1.0 – 25th June 2018

Investigatory Criteria

Any damage to a streetlight, externally and internally illuminated sign or bollard, or variable message sign, or any other item of illuminated street furniture; where the electricity supply is exposed, or the column or lamp is unstable. An externally or internally illuminated sign or bollard where the illumination does not work.

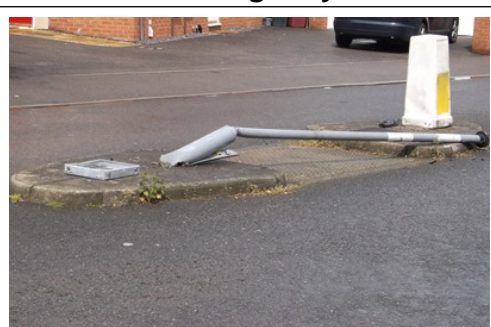
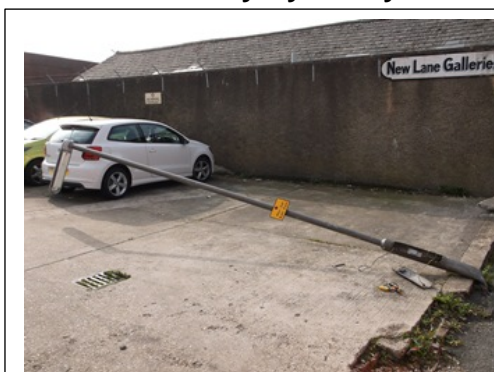
Minimum dimension where applicable
Carriageway

N/A

Footway & Cycleway

N/A

Confirm Codes: L10, L11

Sample Photograph
Carriageway

Footway/Cycleway

Response

1. Undertake defect reporting process.
2. If required, sign and guard area or close road/footway/cycleway to make safe.
3. Forward to street lighting section for action.

Notes and Further Investigation

Under no circumstances should the Highway Inspector attempt to affect a repair. Any damage to the road traffic sign that is part of an illuminated or non-illuminated bollard should be noted as a damaged road traffic sign.

1.21 DEFECTIVE ROAD TRAFFIC SIGNS AND POSTS

Version 1.0 – 25th June 2018

Investigatory Criteria

Any regulatory/mandatory sign or warning signs relating to bridges, level crossings and deviation of route (bends) that is damaged, missing, faded, obscured or covered in dirt/algae. Any type of sign that is a danger to road users.

Minimum dimension where applicable
Carriageway

N/A

Footway & Cycleway

N/A

Confirm Codes: RMS2, RMS3, RMS4, BOL

Sample Photograph
Roadside

Response

1. Undertake defect reporting process.
2. Sign and guard area until permanent action undertaken, make safe.
3. Forward to Traffic and Safety Section for assessment.

Notes and Further Investigation

1.22 DEFECTIVE TRAFFIC SIGNALS**Version 1.0 – 25th June 2018****Investigatory Criteria**

Any defect on any type of traffic signal, including traffic signal heads which are out of alignment and therefore not visible to highway users. Electrical or control boxes that are open or tampered with.

Minimum dimension where applicable**Carriageway**

N/A

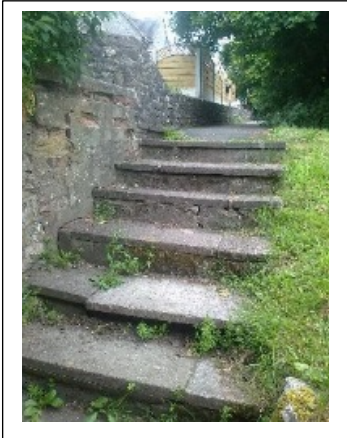
Footway & Cycleway


N/A

Confirm Codes: TS1**Sample Photograph****Roadside****Response**

1. Undertake defect reporting process.
2. Forward to traffic signals for action.
3. Sign and guard area until permanent action undertaken.

Notes and Further Investigation

1.23 DAMAGED STEPS		Version 1.0 – 25 th June 2018
Investigatory Criteria		
A sharp edged defect with a vertical deviation from the adjacent surrounding area.		
Minimum dimension where applicable		
Carriageway & Cycleway		N/A
Footway		20mm.
Confirm Codes:	FD9	
Sample Photograph		
<div>Footway </div>		
Response		
<div><div>1.</div><div>Undertake defect reporting process.</div></div> <div><div>2.</div><div>Sign and guard area until permanent action undertaken.</div></div>		
Notes and Further Investigation		

1.24 DAMAGED HANDRAILS		Version 1.0 – 25th June 2018
Investigatory Criteria		
A loose or broken handrail.		
Minimum dimension where applicable		
Carriageway	N/A	
Footway & Cycleway	N/A	
Confirm Codes:	HR1	
Sample Photograph		
Footway/Cycleway		
		
Response		
<ol style="list-style-type: none"> 1. Undertake defect reporting process. 2. Sign and guard area until permanent action undertaken. 3. Forward to Traffic and Safety Section for assessment and planned works. 		
Notes and Further Investigation		

1.25 DEFECTIVE ESCAPE LANES/ARRESTER BEDS

Version 1.0 – 25th June 2018

Investigatory Criteria

Any obstruction in the vicinity of the lane. Weeds or compacted/uneven/lack of/contaminated material which prevent the effect of the arresting capability of the material.

Minimum dimension where applicable
Carriageway

N/A

Footway & Cycleway

N/A

Confirm Codes: CD9

Sample Photograph
Roadside

Response

1. Undertake defect reporting process.
2. Sign and guard area until permanent action undertaken.
3. Investigate permanent repair.

Notes and Further Investigation

During the winter service period, consideration must be given to applying salt to the arrester bed material to prevent freezing.

**1.26 CARRIAGEWAY/FOOTWAY/ CYCLEWAY
DETERIORATION**

Version 1.0 – 25th June 2018

Investigatory Criteria

Includes spalling, depressions, bumps and rutting.
The void from missing or sunken preformed flags, slabs, channels or pavements, pre-formed modules

Minimum dimension where applicable**Carriageway**

40mm

Footway & Cycleway

20mm

Confirm Codes: CD1, CD15, CD6, FD1, FD15
Sample Photograph**Carriageway****Footway****Response**

1. Undertake defect reporting process.
2. Sign and guard area until permanent action undertaken.
3. Investigate permanent repair.
4. Forward to relevant department for further investigatory work if required, i.e. structures - if defect is in the vicinity of a structure which could be the underlying cause.

Notes and Further Investigation

1.27 DEFECTIVE TRAFFIC CALMING FEATURES
Version 1.0 – 25th June 2018
Investigatory Criteria

Missing or loose sections within constructed and modular calming features or missing or proud bolts within a modular traffic calming feature.

Minimum dimension where applicable



Carriageway	40mm.
Footway & Cycleway	20mm.
Confirm Codes:	TC1


Sample Photograph
Carriageway

Response

1. Undertake defect reporting process.
2. Sign and guard area until permanent action undertaken.
3. Forward to Traffic and Safety Section for further investigation and assessment.

Notes and Further Investigation

1.28 DAMAGED KERB/CHANNEL		Version 1.0 – 25th June 2018
Investigatory Criteria		
(a) within a pedestrian/ tactile crossing point. (b), within a vehicle dropped crossing.		
Minimum dimension where applicable		
Carriageway	Missing/damaged/rocking - 40mm.	
Footway & Cycleway	Missing/damaged/rocking - 20mm.	
Confirm Codes:	K1, KERB	
Sample Photograph		
Carriageway	Footway/Cycleway	
		
Response		
<div>1. Undertake defect reporting process.</div> <div>2. Sign and guard area, make safe until permanent action undertaken.</div> <div>3. Investigate permanent repair.</div>		
Notes and Further Investigation		

1.29 STREET FURNITURE		Version 1.0 – 25th June 2018
Investigatory Criteria		
Damage to parking meters and speed cameras.		
Minimum dimension where applicable		
Carriageway		Damaged causing immediate danger to highway users.
Footway & Cycleway		Damaged causing immediate danger to highway users.
Confirm Codes:	SFU1	
Sample Photograph		
Roadside		
		
Response		
<div>1. Undertake defect reporting process.</div> <div>2. If required, sign and guard area or close road/footway/cycleway to make safe.</div> <div>3. Forward to Highways Hub for notification to relevant body for repair to be completed.</div>		
Notes and Further Investigation		
Liaison may be required with Traffic Signals/Street Lighting.		

HIGHWAYS COMMUNICATION PLAN

July 2018

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HIGHWAYS COMMUNICATIONS PLAN

1. INTRODUCTION

Communication is an integral part of our relationship, not only with the citizens of Derbyshire but with the vast array of stakeholders internally and externally that are touched by our service. Anyone that enters Derbyshire, however fleeting, whether for pleasure or business, by foot or by vehicle, will use a part of the highways network or other services provided by the Economy, Transport and Environment Department.

The Authority is moving towards an enterprising council approach, exploring the use of new commissioning and delivery models to deliver service priorities. Whether we are delivering a service ourselves or choose to have it delivered by an external organisation, we will focus on getting the best results for our residents. Having a clear, concise way of communicating will be a critical factor to ensuring success.

We are proud of Derbyshire and are ambitious for our public services but we are only as good as our stakeholders perceive us to be. The way we engage is crucial and keeping everyone informed of the work being undertaken is the first important step.

Good communication is a two way street. It is important to allow stakeholders to express their views on the services that we provide and, equally important, that we use this feedback to make continuous improvements. Our aim is to do things 'with' local people rather than 'to' them and we value fairness, openness and partnership. Using feedback is vital in promoting this approach.

This Communication Plan will cover the way that we engage and inform stakeholders prior to, during and also after maintenance and delivery of infrastructure works either on or affecting the highway network and other highway assets managed and provided by the department. The Plan sets out guidance on how and when we should be providing information about our activities and enables a consistent approach to stakeholder engagement.

It is anticipated that complaints and criticism will be reduced by implementing a consistent communications prior to any activity taking place. Although the department's work has many areas of contention, the Plan will help to highlight these areas and assist with their management.

2. OUR CUSTOMER CARE CHARTER

We aim to improve life for local people by delivering high quality services and, to meet this aim, we follow the Putting People First Customer Care Charter which can be accessed [here](#).

The Charter sets out our response policy for contact with us by telephone, email, and letter or in person. It also gives guidance on how Council staff are expected to behave and how we receive and deal with complaints and praise.

There are some great examples of excellent customer service across the Economy, Transport and Environment Department and the aim of this Communication Plan is to build on them so we can provide a consistent level of stakeholder engagement throughout the County.

3. COMMUNICATIONS AND OBJECTIVES

Derbyshire highways network effects the lives of all Derbyshire citizens and visitors. To enable this to be a positive experience, we need keep our service users informed. A consistent approach is needed so that this customer experience is the same, whether the work being undertaken is in rural countryside or an urban area.

The overarching aims are to:

- Keep local residents well-informed of highways maintenance issues so that they know where public money is being spent and understand why we spend our money in the way that we do.
- Raise awareness of the work we do to look after the highway to increase public satisfaction.
- Enable the public to support the Council by promoting the website to report defects, thereby saving the Council money.

The specific objectives that the Plan aims to achieve are as follows:

General

- To raise awareness and explain the scope of the highways network in Derbyshire.
- To manage expectations relating to the upkeep of Derbyshire's roads by creating an understanding of what we can and cannot repair.
- To create an understanding of why we maintain our roads in the way that we do, for example, explanation of pothole repairs.

- To explain how we manage our road network – planned versus reactive maintenance.
- To reassure residents that they have a safe and reliable network.
- To encourage residents to be our ‘eyes on the ground’ by reporting defects, such as potholes, via the [website](#), thereby reducing the volume of calls to Call Derbyshire – to self-serve.
- To inform the public of where and when road works will take place.
- To encourage residents to be aware of their own responsibilities, for example making sure hedges do not obstruct pavements.
- To stimulate a positive attitude towards the way we look after our roads.
- To raise awareness of how residents can be prepared and self-help to deal with other highways-related conditions, such as flooding and high winds.

Winter/Flooding

- To raise awareness and explain the rationale for the gritting hierarchy on Derbyshire’s roads.
- To explain how we determine which roads are a priority to withstand extreme events – the resilient network.
- To raise awareness of how residents can prepare for and deal with severe winter weather.
- To inform people about weather and road conditions so they can make informed decisions on if, and how, to travel.
- To inform residents about service disruption and continuity.
- To encourage residents to self-help to deal with severe winter weather in their community.

Key Messages

A number of key messages have been identified as follows:

- In challenging financial times, the Council is still spending as much money as it can on fixing the County’s roads.
- At critical times, for example, sustained bad weather, we increase our resources.
- Derbyshire’s roads are maintained at a level where they are useable by the majority of different types of road user.
- There are two types of maintenance reactive (unplanned work to repair potholes, blocked drains, etc) and planned (surface dressing, resurfacing, reconstruction).
- Reporting potholes and other defects is easy at [the website](#).

- We cannot grit all of our roads all of the time in severe weather but we do grit half, which is more than in many other council areas.

4. AUDIENCE /STAKEHOLDERS

The Council's Highway Services are used by a variety of people, whether for business, pleasure or as part of their commute. We will ensure that all communications are in an appropriate format and language for the intended audience. A summary of the main users and stakeholders is outlined below:

- All Derbyshire residents.
- Elected Members.
- District and borough councils.
- Parish and town councils.
- All Derbyshire County Council employees.
- Visitors to the County.
- Businesses and other partners, for example health sector.

5. COMMUNICATION CHANNELS

The Council uses a range of communication channels to promote its role in keeping its highways in working order. A variety of these will be used depending on the message to be communicated.

Council Website

To continue to raise the profile of how local residents can self-serve via [the website](#) Links to the external roadworks.org website are provided with the reasons for the closure and expected duration. This is an easy to use system for highway users to find out where work is taking place throughout the whole County. It includes Council works and those of the utility companies.

Potholes and other defects can also be reported via our '[Do it now](#)' function on the Council's website. The aim is to reduce the volume of calls to Call Derbyshire by encouraging use of the self-report online and through social media by providing links to online reporting tools.

Social Media

Increasingly, residents are engaging with the Council on highways issues through social media channels – Facebook and Twitter - rather than more traditional sources, such as the printed medium. Social media is used to promote media releases and to provide advance warning of major road closures and other key road improvement schemes.

Highways-related work will be promoted through video clips which have proved effective. A recent example, showing the work of a pothole repair gang, attracted more than 1,000 unique views and was shared over 9,000 times

Highways Signage

Roadside signage is very visible and often the first seen advert for highways works. The quality of the sign and its appropriateness is a powerful advert for the reputation of the Council. Good practice will be employed to ensure that temporary signs are erected and removed so that the public are confident in the relevance of road sign. Road closure and road work signs will also be used and erected in advance of proposed works.

Media Releases

Regular news releases to inform the local media of council highways-related work. (This does not include works by other organisations, for example utility companies, housing developers). These may be linked to planned and reactive maintenance work, reports to Cabinet, road closures and other initiatives to improve roads or wider highways projects, especially where we are investing capital funding or Government 'one-off' money to reduce the pressure on revenue budgets.

Features

To 'sell-in' features, explaining different aspects of highways activity, to the local print media. For example, the winter gritting service, the work of a pothole-repair gang, why road projects take the time they do, interesting facts and figures relating to maintaining and improving roads.

Video Clips

Following on from the success of the winter service gritting video, further 'snapshot' videos have been made of the Snow Warden Scheme and farmers who volunteer for snow clearance and a video of a pothole repair

gang at work has also been produced. Further video clips will be used to promote the work of the department as considered appropriate.

Derbyshire Now

The council's magazine, published three times a year and distributed to around 330,000 households. Regular articles will be included to promote the work of the department "**boots on the ground**".

As with signage, frontline staff are a powerful tool in influencing positive or negative perceptions of the work of the Council. All public-facing staff will be provided with customer care training in order that they can act as advocates for the Council's services. A business-style card will be developed for use by front line staff, with appropriate contact details, which can be handed to the public to encourage feedback or provide a point of contact where issues arise.

6. TALK TO US

We want to hear what our customers want from our services. To do this we need the public to tell us their issues, whether these are good or bad. We want to continually improve our service and, to do this, we need to listen to what we are being told, as well as improving what we are telling those who lives we effect when undertaking our work.

The Derbyshire Highways Hub

The Derbyshire Highways Hub went live in April 2017. It comprises business support staff and highways officers representing the different aspects of the highways portfolio. The aim of the Highways Hub is to better co-ordinate road and streetworks undertaken by the Council, utilities and developers resulting in a better customer experience, so helping to reduce the volume of negative comment through social media, letters, Call Derbyshire and other personal contact.

A new software system has been introduced that provides automated responses and tracking information relating to the fixing of potholes and other road faults reported by the public.

IPSOS Mori National Highways Transportation (NHT) and Council Public Satisfaction Surveys Public Satisfaction Survey

An annual IPSOS Mori survey which ranks local authorities according to its scores for public satisfaction with specific highways maintenance

works. Some 3,500 randomly-selected Derbyshire residents will receive the survey at the end of June each year.

In addition, the Council will undertake a number of public satisfaction surveys on selected schemes it undertakes during the year to gain customer feedback. This will be supported by the development of an online feedback form for residents to complete once major road works or roadwork improvement schemes have been completed– a ‘how did we do?’

7. EVALUATION

The success of the Communication Plan will be measured by the following methods:

- Positive coverage in the local media – number of interviews generated in newspapers, online and radio interviews.
- Decrease in the volume of contact to Call Derbyshire and the service area by email.
- Increase in the number of self-serve reports of highways defects via the website.
- Number of page views on roads information on Council website.
- Number of page views on winter ‘Snow info’ website.
- The volume of Facebook messages, Twitter exchanges.
- The number of hits relating to video clips.
- IPSOS Mori National Highways Transportation and Council Public Satisfaction Survey – rankings. Results October.
- Customer Satisfaction levels gained through targeted surveys.

8. COMMUNICATIONS TOOLKIT

A toolkit has been developed to help achieve a consistent approach to engaging and informing our stakeholders of changes to the highways network assets before, during and after work happens.

By answering a number of questions about the work to be undertaken, a score will be achieved relating to the matrix which sets out the minimum level of communication to be undertaken.

**DCC - Economy, Transport and
Environment Communication Toolkit
Pre work delivery**

DCC - Economy, Transport and Environment Communication					
To be used in conjunction with the Communications matrix					
	1	2	3	4	5
Q1. How disruptive are the works likely to be with the public? 1 = minimal 3 = moderate interest 5 = extremely					
Q2. How controversial is the work likely to be? 1 = not at all 3 = moderate interest 5 = extremely					
Q3. How much has public opinion influenced the initiation of this work? 1 = not at all 3 = a little 5 = a great deal					
Q4. How 'visible' is the work to the wider public? 1 = not very 3 = moderately 5 = extremely					
Q5. How many properties will the work affect? 1 = 6 or fewer 3 = around 50 5 = more than 100					
Q6. How long is the work planned to last? 1 = up to two weeks 3 = two weeks to two months 5 = over two months					

Q7. What is the network hierarchy classification? 1=NH6 /NH7 2=NH4/NH5 3=NH2/NH3 4=NH1 5=RN					
Q8. What is the extent of traffic management being used for the work? 1 = Chapter 8/None 2 = Two way traffic signals 3 = Multiway signals/Lane closure 4 = Road closure with short diversion 5 = Full road closure with long/inconvenient diversion route					
Column Totals	0	0	0	0	0
Sub Total					0
Additional Weighting					
Add additional points if the works will have an adverse effect on specific groups/services/public amenities, e.g. hospital, school, etc: +1 = minor effect +3 = moderate effect +5 = major effect					
Sub Total					
GRAND TOTAL					0

HIGHWAYS SCHEMES COMMUNICATION MATRIX				
Points	8 or Less	9 to 28	29 to 34	35 and above
Level of Communication	Low	Medium	High	Very high
Letter to residents We will inform those affected most about the work to be carried out by producing details in a letter informing them of the proposed works	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Letter to businesses We will inform those businesses affected most about the work to be carried out by producing details in a letter informing them of the proposed works	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Works notification notice (include a list of relevant stakeholders) The notice will be emailed to all relevant stakeholders to inform them of work to be carried out in their vicinity which may affect them or their service users	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Temporary signage - Black on yellow advanced information signage Signs will be erected in advance and removed on completion of work	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Roadworks.Org via DCC Web page Work will be submitted to the Road works page which is linked to DCC website	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Letter to emergency services and bus operators Letters will be sent to highlight work affecting routes or service		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Media release Information will be sent to relevant media.			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Social media Information will be supplied in appropriate social media messages.			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Consider Variable Message Sign (subject to physical constraints of site) The use of a Variable Message Sign will be considered providing the safety of highway users will be maintained and subject to the physical constraints of the site.				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Statutory notice in press Ensure that all legally-required public notices for road closures appear in the relevant local press.				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Letter to stakeholders (utilities/Highways England etc.) Letters will be sent to highlight work affecting routes or service.				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Public Panel display in locality (e.g. village hall) Displays will be arranged to inform residents and interested parties in the locality.				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Information road show Officer will provide in depth discussion and information in person.					<input checked="" type="checkbox"/>

Derbyshire County Council

Equality Analysis



Department	Economy, Transport and Environment
Service Area	Highways – Highway Strategy
Changes or proposals	Revision, Update and development of documents to deliver the New Code of Practice for Well-Managed Highway Infrastructure
Chair of Analysis Team	Neill Bennett
Date of Analysis	19/06/2018
Version	V2

1 Prioritising what is being analysed

a Description of current service arrangements

Derbyshire's highway infrastructure supports private, public and business transport needs in a diverse environment, from the heights of the Dark Peak to the lower levels surrounding the River Derwent. Highway infrastructure is the largest and most visible asset the Council is responsible for and it is fundamental to the delivery of the Council Plan. It includes over 5,000km of road network, as well as supporting public transport through cycle routes, public rights of ways, canals, bus stations and shelters, on-street parking, school buses and vehicle fleet. It reflects the character and quality of the local areas that it serves and makes an important contribution to the wider Council priorities, including regeneration, social inclusion, education, employment, recreation and health. In order to deliver these aims and strengthen local communities, it is crucial that it is maintained to enable safe, reliable and sustainable journeys.

The Council has, over the last 10 years, been developing and improving its approach to the Asset Management of the highway infrastructure across the County. Whilst Asset Management has always been at the centre of the County's approach to maintaining its highways assets, a series of actions over the last 10 years has consolidated that position.

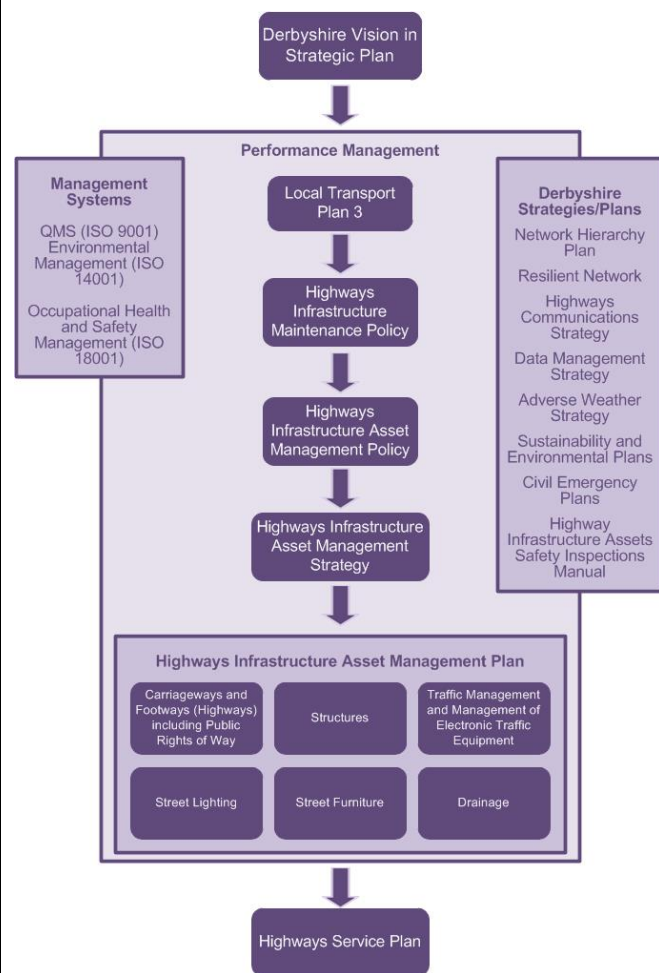
- 2008 First Highway / Transport Asset Management Plan approved
- 2009 Highway infrastructure inventory captured
- 2014 Risk Based approach to Highway Safety Inspections adopted

The approach to Asset Management, prior to October 2016, relied on specific guidance and recommendations in the previous Codes of Practice.

b Details of proposals or changes

The change in moving to the New Code of Practice for Well-Managed Highway Infrastructure has moved away from the more prescriptive approach as defined in previous codes of practice, i.e. Well-Maintained Highways, Management of Highway Structures and Well-lit Highways, to a risk-based approach determined by each Highway Authority based on local evidence and approved through our own executive approvals process.

The new code was launched in October 2016 with a recommendation that it be adopted by all highway authorities within two years. Over the last 18 months work has been underway to develop the supporting documentation, principles and processes for a risk based approach to be delivered and sustained, and these work streams have led to the development of a number of key documents (see figure 1 below).



c Rationale for proposed changes

The Authority has to adopt the new Code of Practice by the end of October 2018.

The risk based approach requires the Council to develop its own approach to the Code of Practice setting out a policy, strategy, plan, processes and evidence chain to ensure that it can be clearly and transparently demonstrated that the Council is considering risk in delivering its services in accordance with asset management principles, thus ensuring an optimised approach and delivering the greatest value for the funding and resources available.

2 The team carrying out the analysis

<i>Name</i>	<i>Area of expertise/ role</i>
<i>Neill Bennett</i>	<i>Principal Engineer – Highway Strategy</i>

3. Existing information and consultation based feedback

Sources of data and reason for using

<p>Source The existing Codes of Practice</p> <ul style="list-style-type: none"> • Well-Maintained Highways • Management of Highway Structures • Well-lit Highways • 2013 Highways Maintenance Efficiency Programme (HMEP) Highway Infrastructure Asset Management Guidance • New Code of Practice Well-Managed Highway Infrastructure • Well-Managed Highway Liability Risk 	<p>Reason for using</p> <p><i>These Codes reflect current practice and provides a reference framework for our current approach to asset management</i></p> <p><i>Good practice to work toward</i></p> <p><i>Guidance on the risk based approach</i></p> <p><i>Guidance on understanding highway liability risk</i></p>
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4 Known impact on different protected characteristic groups and any mitigation

Statutory

<p>Protected Group</p> <p>Age including children and families, older people</p>	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – Our policies do not discriminate against this protected group.</i></p>
	<p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p>

	<p><i>None – Our policies do not discriminate against this protected group.</i></p> <p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p><i>The new Code of Practice for Well-Managed Highway Infrastructure is a move to a more risk based approach to asset management. The impacts on this protected group will be considered in locations where there are higher proportions or where local policies are adapted to meet local needs and, as such, will be included in a risk based assessment in these areas.</i></p>
<p><i>Protected Group</i></p> <p>Disabled people including mobility, sensory, learning, mental health, HIV, and also include carers and relatives</p>	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – Our policies do not discriminate against this protected group.</i></p> <p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None – Our policies do not discriminate against this protected group.</i></p> <p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p><i>The new Code of Practice for Well-Managed Highway Infrastructure is a move to a more risk based approach to asset management. The impacts on this protected group will be considered in locations where there are higher proportions or where local policies are adapted to meet local needs and, as such, will be included in a risk based assessment in these areas.</i></p>

<p>Protected Group</p> <p>Gender (Sex) including men and women, boys and girls</p>	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p> <p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None - the services we deliver in managing and operating the highway network does not affect this protected group.</i></p> <p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p><i>N/A</i></p>
<p>Protected Group</p> <p>Gender reassignment – including impact, if any, on transgender people</p>	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p> <p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p>

	<p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p>N/A</p>
<p>Protected Group</p> <p>Race – including all racial groups, including impact, if any, on Gypsies and Travellers</p>	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group</i></p> <p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group</i></p> <p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p>N/A</p>
<p>Protected Group</p> <p>Religion and belief including non-belief, including religious minority</p>	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p>

communities, Humanists	<p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p> <p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p>N/A</p>
Protected Group Sexual orientation – including the impact, if any, on any lesbian, gay and bisexual people	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p> <p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p> <p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p>N/A</p>

<p>Protected Group</p> <p>Pregnancy and maternity – including new mothers/ parents</p>	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p> <p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p> <p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p>N/A</p>
<p>Protected Group</p> <p>Marriage and civil partnership – also include impacts on lone parents and unmarried couples</p>	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p> <p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None – the services we deliver in managing and operating the highway network does not affect this protected group.</i></p>

	<p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p>N/A</p>
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Non statutory

<p>Poorer and disadvantaged communities and groups, including people who experience financial exclusion</p>	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – our policies do not discriminate this protected group.</i></p>
	<p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None - providing the risk to this protected group using the highway has been properly identified in our policy and procedures.</i></p>
	<p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p><i>The new Code of Practice for Well-Managed Highway Infrastructure is a move to a more risk based approach to asset management. The impacts on this protected group will be considered in locations where there are higher proportions or where local policies are adapted to meet local needs and, as such, will be included in a risk based assessment in these areas.</i></p>

Rural communities	<p>a From existing data and information – who is likely to be adversely affected, how, and to what degree? Will anyone gain or benefit from the proposals?</p> <p><i>None – our policies do not discriminate this protected group.</i></p>
	<p>b From existing customer and other feedback including consultation feedback– who is likely to be adversely affected, how and to what degree? Will anyone gain or benefit?</p> <p><i>None – our policies do not discriminate this protected group.</i></p>
	<p>c Are there any ways of avoiding or reducing likely possible adverse impact, what are those actions, and how will they assist?</p> <p><i>The new Code of Practice for Well-Managed Highway Infrastructure is a move to a more risk based approach to asset management. The impacts on this protected group will be considered in locations or where local policies are adapted to meet local needs and, as such, will be included in a risk based assessment in these areas.</i></p>

5. Are there any *other* groups of people who may experience an adverse impact because of the proposals?

None

6. Impact on employees of Derbyshire County Council or prospective employees

Adoption of the New Code of Practice will require an adaption from the old Codes of Practice but the Strategy Group working with the Highways Management Team will manage the transition and embedding of any new processes and procedures.

7. Gaps in data

What are your main gaps in information and understanding of the impact of your policy and services? Please indicate whether you have identified ways of filling these gaps.

<i>Gaps in data</i>	<i>Action to deal with this(if any)</i>
<i>Demographic information relating to some of the protected groups</i>	<i>With the advent of more sophisticated spatial analysis tools and the ability to determine locally based needs based on local policies and risk in the new Code, provides the opportunity to incorporate significantly more information into setting priorities. In addition, the new Code is intended to be regularly reviewed, based on need and changing circumstances, thus providing the opportunity to incorporate appropriate data sets relating to protected groups should local policies require it.</i>

8 Main Conclusions and Recommendations

Conclusions
There are no equalities impacts resulting from the proposals to revise, update and develop documents to deliver the New Code of Practice for Well-Managed Highway Infrastructure.
Recommendations (if any)

9. Action planning in response to the completed analysis

<i>Objective</i>	<i>Planned action</i>	<i>Who</i>	<i>When</i>	<i>How will this be monitored?</i>
<i>What you want to achieve</i>	<i>What you intend to do</i>	<i>Responsible person or department</i>	<i>Timing of action</i>	<i>Monitoring and review arrangements</i>

10 Monitoring and review arrangements

Please outline what steps will be taken to monitor and review the implementation of proposals if they are agreed here:

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