



Doncaster
Council

Highway Infrastructure Asset Management Policy & Strategy





Highway Infrastructure Asset Management Policy (HIAMP)

Document History:-

Document Version	Date	Comments
Policy Statement v7#1	October 2015	Corporate approval via Highways Portfolio.
Policy Statement v7#2	May 2016	Flood Risk & Drainage cyclic cleansing frequency change.
Policy Statement v7#3	January 2019	General review and update.



Highway Infrastructure Asset Management Policy

Introduction

This overarching policy statement is aimed at Council Members and key service stakeholders and it outlines the principles adopted in shaping a Highway Infrastructure Asset Management Strategy which is effective in supporting Doncaster Council's Corporate Priorities and Doncaster Council's statutory duty and obligations under the Highways Act 1980 and in alignment with the risk based guidance provided in the Highways Code of Practice 'Well-Managed Highway Infrastructure' October 2016.

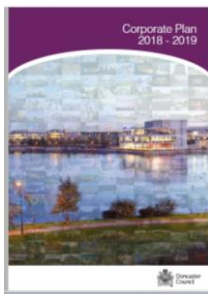
Statement:-

It should be noted that we are currently working within the provisions of the Code of Practice for Highway Maintenance Management 'Well-Maintained Highways' July 2005 pending our full alignment to the 2016 COP for which we are working towards and expect to be compliant by April 2019.

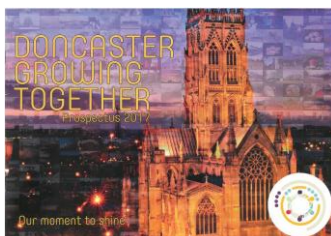
Linked to this all roads are presently allocated to a designated 'Hierarchy' in accordance with the 2005 Highways Code of Practice which is primarily based on traffic volumes and road characteristics. We are working towards redefining the highway network in line with an entity referred to as 'Maintenance Hierarchy' which better reflects the usage, importance and risks associated with different road types, this will come into play once the new 2016 Highways COP is fully adopted in 2019.

Corporate Plan:

Doncaster Council's Highway infrastructure Asset Management Policy and Strategy is supportive of the Corporate Plan 2018-19 and the four year Borough Strategy 2017 to 2021 entitled "Doncaster Growing Together" (DGT) Plan and it is subject to periodic review. These are aimed at improving the quality of life for people living and working in Doncaster and those visiting and investing in Doncaster.



The overall vision of Doncaster's Corporate Plan is to ensure that Doncaster is a thriving place to learn, work, live, care and connect



Doncaster Growing Together (DGT) Plan:-

DGT shares the same four core themes as the Corporate Plan, learning, working, living and caring, within which a number of themed programmes are to be delivered.





Theme	Vision
Doncaster Learning	Learning that prepares all young people and adults for a life that is fulfilling
Doncaster Working	More people are able to pursue their ambitions through work that gives them and Doncaster a brighter and prosperous future
Doncaster Living	Doncaster's people live in a borough that is vibrant and full of opportunity, where people enjoy spending time
Doncaster Caring	A borough that cares together for its most vulnerable residents
Connected Council	A Connected Council, ready for the future

Learning

We will endeavour to ensure that our highway infrastructure assets are maintained at a level adequate to support the diverse culture of learning in and around Doncaster thereby enabling people of all ages to safely and effectively travel to their place of learning in an unrestricted and timely manner.

Working

We will engage with all major highway stakeholders and jointly work with them to provide a highways asset infrastructure that supports the promotion of a thriving economy and to support people to progress in work activities.

Living

We will:-

- Monitor the condition of the highways infrastructure assets for roads, footways, bridges (and other highway structures) and drainage.
- Deliver priority planned maintenance solutions.
- Provide reactive safety works in a timely manner based on a risk-based approach.
- Respond effectively to emergency events in a timely and robust manner with public safety and service continuity provisions at the forefront of our operational considerations and decision making.
- Provide robust winter maintenance services for precautionary salting and snow clearing in support of public safety and effective public, private and commercial transport arrangements.
- Improve the condition of the residential estate roads through enhanced maintenance provisions.
- Coordinate with in-house and external road service operators to promote effective works programming arrangements, mitigate risk and minimise traffic delays and disruption.
- Implement highway infrastructure maintenance initiatives to support the creation of a vibrant Doncaster Town Centre and design and deliver works for Town Centre infrastructure enhancements.

Caring

We will provide a highways asset infrastructure that is fit for purpose and will support the effective and timely delivery of Caring services to all members of our society.



There are also two cross-cutting themes, namely

“People in Place” in which Residents and Communities are at the centre of the programme we want to deliver, through good Community Engagement.

“Connected Council” which provides the wrap around support to deliver organisational improvements and to make Doncaster ready for the future.

In support of the Corporate Plan and Borough Strategy we aim to provide a highway infrastructure asset network that is safe, serviceable and fit for purpose by adopting affordable and sustainable solutions for the delivery of highway asset maintenance services in order to support and promote Place, growth and regeneration initiatives.

We are seeking to preserve the stable condition of our highways assets and to secure their betterment over time and we will prioritise and coordinate our planned maintenance works in line with our annual funding provisions.

Doncaster Council’s Vision

Doncaster’s life blood is through its strategic and local transport links which supports regional growth, and commerce, a manufacturing and engineering base, an evolving tourism industry and the welfare of its residents in going about their daily business and life activities. This places great significance on the need to effectively manage and maintain the highways and transport infrastructure assets in order to support Doncaster’s “Vision for the People” as given in the Corporate Plan and DGT:-

- **More people to be able to pursue their ambitions through work that gives them and Doncaster a brighter and prosperous future.**
- **Doncaster’s people to live in a borough that is vibrant and full of opportunity, where people enjoy spending time.**
- **Learning that prepares all young people and adults for a life that is fulfilling.**
- **A borough that cares together for its most vulnerable residents.**

In support of these visions, we will invoke strategic Highways Infrastructure Asset Management process and practices that provides a holistic approach that encompasses all facets for the delivery of highways and transportation services and we will engage with key stakeholders in order to communicate and help identify the priority needs of the service.

Highways Infrastructure Asset Management underpins the delivery of most other Council delivered and externally delivered services in Doncaster by providing a safe, serviceable and robust highways and transport infrastructure that is the foundation stone and platform upon which Doncaster operates.



Service Standards and Maintenance Priorities

Doncaster's Highway Infrastructure Asset Management Plan (HIAMP) is being developed in which service delivery targets for the highways infrastructure assets will be set at a level that equals or better the national average asset condition where national data is available, and these shall be monitored and reviewed annually.

Highway Infrastructure Asset Maintenance priorities and investment needs shall be determined through a process of "Condition Appraisals" and "Value Management" and shall take account of risk and lifecycle planning principles in order to realise annual and future funding needs and to identify affordable and timely maintenance solutions.

Council Engagement & Stakeholder Consultation

We will continually engage with the senior decision makers within Doncaster Council to adopt the principles of highway infrastructure asset management as the basis for the determination of priority works programmes and investment. This will be achieved through a process of approval with the Highways Portfolio and with Council Cabinet to seek agreement to the proposed annual asset maintenance service delivery programmes, investments and funding.

The opinion of Key stakeholders will be sought and considered as to the objectives and strategic direction that we propose to adopt for the implementation of Doncaster's Highway Infrastructure Asset Management Strategy for the delivery of highway and transport services.

This will be achieved through:-

- Cross-Boundary coordination via the South Yorkshire Highway Authorities LTP Asset Maintenance Management Group (AMMG) and with the South Yorkshire Passenger Transport Executive (SYPTTE).
- External Cross-Organisational coordination via quarterly Streetworks Coordination Workshops with the utility companies and Network Rail.
- DMBC Cross-Service partnerships and coordination via monthly "Partnerships Meetings" with the Highways, Street Lighting, Network Management, Bridges, Flood Risk, Highway Operations, Design, Asset Maintenance, Routine Maintenance, Strategic Transportation and Safer Roads teams.
- Other key stakeholder inclusion through external partnership consultation with the emergency services, bus companies and other similar organisations.
- Doncaster Citizen inclusion through Ward Member and Area Manager representations and the annual NHT survey customer service initiatives.
- Implementation of a Highways Infrastructure Communication Strategy (See Appendix A)



Commitment to Continuous Improvement

Doncaster is committed to seeking continuous improvement in its asset management practices by incorporating a holistic and coordinated approach to service delivery through:-

- Adopting a strategic, affordable and sustainable approach to highways infrastructure asset maintenance.
- The monitoring of annual condition trends through asset performance indicators thereby driving forward targeted asset improvement measures within affordable funding limits.

The asset management principles adopted shall be risk based, support affordable and sustainable maintenance solutions, take account of whole life value appraisals, be customer focused and be socially inclusive, they shall operate within the limitations of funding and resource availability.

The skills and competencies of staff in asset management roles will be continually assessed and development action plans developed accordingly. Vocational, educational and professional training identified in the development action plans will be funded appropriately.



Highway Infrastructure Asset Management Strategy (HIAMS)

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Policy Statement v7#1	October 2015	Corporate approval via Highways Portfolio.
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Highway Infrastructure Asset Management Strategy (HIAMS)

This strategy document is to assist Council Members and service stakeholders in demonstrating how highway infrastructure asset management is shaped and delivered to support the authority's Corporate Visions under the Doncaster Growing Together (DGT) Plan and Doncaster's statutory maintenance obligations under the Highways Act 1980. It will set out the platform against which the Highways Infrastructure Asset Management Plan (HIAMP) is to be implemented and achieved and it provides the basis for Doncaster Council to adopt sound asset management principles in order to achieve greater efficiency and value for money and to bring the benefits of economic prosperity to the wider community. The strategy also sets out the benefits of investing in the highway infrastructure and how asset management activities are implemented, measured, reviewed and improved. This headline strategy position shall be valid for a period of 3 years from 2018/19 to 2020/21 and is then subject to review reflective of the corporate priorities, themes and objectives at that time.

Introduction

Doncaster is geographically the largest Metropolitan Borough in England, it is the size of a small county covering an area of 227 square miles with a diverse wide range of urban, suburban and rural settlements. The borough encompasses around 1600km (1000 miles) of adopted roads and a similar length of adopted footways along with around 736no bridges and other highways structures such as culverts and retaining walls.

The highways infrastructure is by far Doncaster's most valuable public asset valued at around £2.2bn for adopted roads and footways and over £0.5bn for bridges and other highways structures. The effective and efficient management and maintenance of this primary asset is therefore of paramount importance as it underpins the fabric of Doncaster's economy, commerce, regeneration and vibrancy.

We are also working with other Doncaster Council service areas, ie, Strategic Transportation, Property Assets, St Leger Homes (Housing), Cemeteries, Parks and Public Rights of Way, regarding their particular Council owned highways assets which are also maintained at public expense, in order to align the management and maintenance of their highways infrastructure assets with the Highways Act 1980 and with the guidance and recommendations given by the Highways Code of Practice 'Well-Managed Highway Infrastructure' October 2016.

In recognition of UK Government's guidance and direction through the Highways Maintenance Efficiency Programme (HMEP), we can realise operational efficiencies and determine service priorities by adopting the following principles:-

- Adopt a long-term strategic approach to highways maintenance management.
- Consideration of stakeholder expectations, needs and aspirations.
- A systematic approach to maintenance management activities.
- Optimal allocation of resources.
- Management of investment over the asset lifecycle.
- Efficient asset performance management.



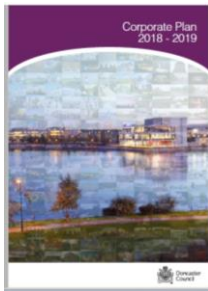
The adoption of these principles will enable us to set and realise short, medium and long term operational objectives in order to manage and maintain our highways and transport assets.

This will be achieved through:-

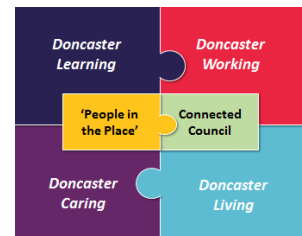
- The collection of core asset inventory and condition data as a platform from which to make informed decisions and develop annual and forward priority works programmes.
- The setting of asset performance targets and service levels that supports Corporate Priorities and addresses customer needs and expectations within the limitations of funding and resource availability.
- A determination of priority highway infrastructure maintenance and investment needs through a process of “Condition Appraisals” and “Value Management” taking account of lifecycle planning principles in order to realise annual and future funding needs and to identify timely and affordable maintenance solutions.
- The undertaking of durable pothole repairs, reflective of customer and operational safety needs, traffic management requirements and street works coordination measures.
- The installation of long life and energy efficient LED street lighting lanterns throughout the borough.

Doncaster’s Corporate Plan

2018-19:-



The new Borough Strategy for the next four years is framed around the launching of the ‘Doncaster Growing Together’ (DGT) Plan with a shared vision of Doncaster thriving as a place to learn, work, live, care and be connected.



In support of this ethos, the Highways Infrastructure

Asset Management Strategy sets out how the core highways infrastructure asset services in Doncaster are to be managed, maintained and administered in order to support the Council’s Corporate Plan, Objectives, Priorities and the Borough Strategy. It will also underpin the effective delivery of most other Council run services and will promote and support the current and future interests of our customers and external stakeholders.

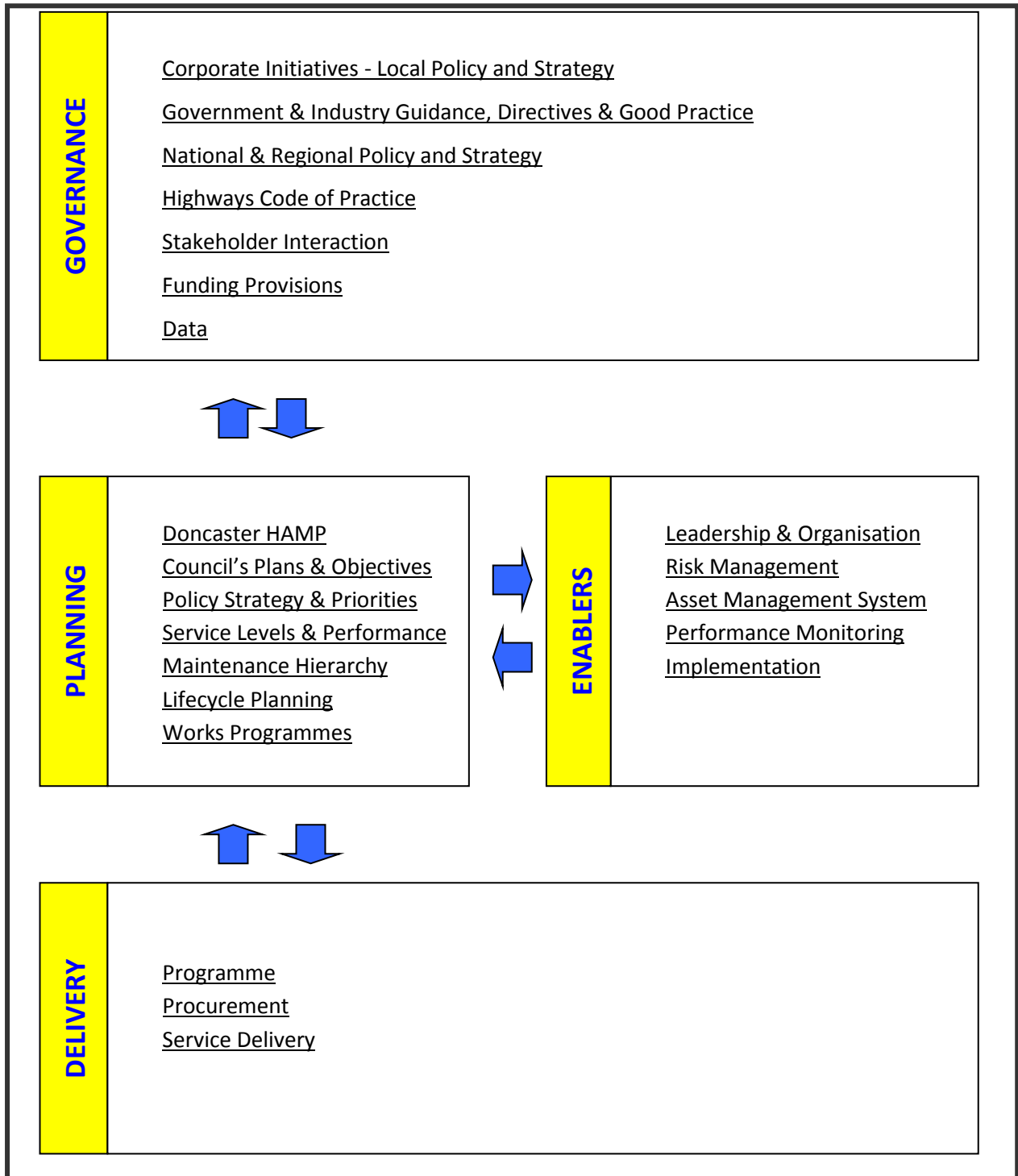
The HIAMS will form the operational and managerial basis for the identification and determination of the delivery of priority planned and reactive works and schemes for each of the core asset groups of highways, bridges, flood risk, street lighting and traffic signals and will demonstrate how key stakeholders engage and align with the services and how they may impact on the desired outcomes for service delivery.



Doncaster’s Highway Infrastructure Asset Management Model

Doncaster’s Asset Maintenance Management Strategy is modelled so as to provide connectivity between top level governance protocols and operational service delivery processes in order to provide an asset service outcome which is fit for purpose and reflects the existing and future priority and functional needs of the Council and its stakeholders.

Doncaster’s Strategy model is based on the HMEP “Highway Infrastructure Asset Management Guidance Document” as shown in the framework below:-





The Strategy model comprises of the following framework components which transforms governance protocols into operational outcomes.

GOVERNANCE:-

Governance considers the organisation and its political and stakeholder environment through which Doncaster's highway services are delivered, it comprises of the following entities:-

Corporate Initiatives - Local Policy and Strategy:-

Doncaster's Highway Infrastructure Asset Management Strategy and service delivery functions and activities are developed and aligned to various operational and managerial service plans and policies and shall underpin and support the Corporate initiatives and environment offered by the various strategies, service plans and priorities given by the following:-

- Council Objectives & Borough Vision
- Doncaster Corporate Plan & Council Priorities
- Doncaster Growing Together
- Team Doncaster – Governance Guide
- The Council's Forward Plan & Key Decisions
- Highway Infrastructure Policies & Strategies

These policies, plans and processes create the interconnected building blocks aimed at delivering a strong economy where businesses can grow, where people can live in a better environment, safely and healthily and where families can thrive. This is promoted through the delivery of modern value for money services and further supported by strong leadership and governance working in partnership and collaboration with key stakeholders and service providers.

The holistic delivery of these plans and policies is supported by the Doncaster "Partnerships Working Group" who represent all the key Highways and Transport service groups. This infrastructure working group meet monthly to review holistic cross-service works programmes, progress and operational initiatives, to consider performance, operational efficiency and conflict issues and to review best practice arrangements.

Government & Industry Guidance, Directives and Good Practice

Doncaster will take account of the advice, guidance and good practice initiatives offered to them through the following government and industry sources:-

- HMEP - Guidance Docs and Toolkits
- DfT - Protocols and directives
- RSTA – preventative maintenance processes, products and good practices
- ALARM Survey - Performance and Delivery
- CIPFA – HAMP Network initiatives and WGA
- ADEPT – National Guidance and Asset Management direction
- APSE – Industry coordination, alliances, collaboration and benchmarking



National & Regional Policy and Strategy

National, regional and local policy, strategy and guidance will be assimilated into Doncaster's Highway Infrastructure Asset Management service delivery functions and activities in order to align and coordinate with overarching and cross-boundary service delivery initiatives impacting on highways infrastructure asset management.

- DfT-HMEP:- good practice
- Highways Code of Practice 'Well-Managed Highway Infrastructure' October 2016.
- South Yorkshire Local Transport Plan
- South Yorkshire Asset Maintenance Management Group

Highways Code of Practice 'Well-Managed Highway Infrastructure' October 2016.

We are working towards full compliance with the 2016 Highways Code of Practice and the 36 recommendations that it promotes.

Compliance with the COP is being progressed and is targeted to be completed in 2019/20.

Stakeholder Interaction

Stakeholder engagement is encouraged and welcomed in order to fully capture and acknowledge the needs, wishes and aspirations of all highways users and to support the review of service delivery strategies and priorities.

This will be achieved through the following conduits:-

- Feedback from Ward Members and Area Managers (reflective of Community interests and aspirations)
- Annual NHT Survey
- Doncaster Council Customer Services – reporting system, website, apps
- Traffic & Transportation Services
- Emergency Planning (Resilient Network, Critical Assets & Infrastructure)

Funding Provisions

Various funding sources are potentially available for the delivery of highway maintenance and management services, these will be utilised to best effect reflective of a strategic and prioritised approach to service delivery and taking into account the political environment in which we operate and the existing and future needs of our customers.

- LTP annual capital budget allocations.
- DfT Grants, Challenge Fund, Incentive Fund.
- Doncaster Council annual revenue funding.
- Commuted sums where the provision of traffic control equipment, highways, bridges (including other highways structures) drainage and flood risk assets has been made via a private developer.
- Insurance claims against third parties in respect of damage to council property.
- DEFRA - Flood Defence Grant in Aid and Local Levy through Regional Flood and Coastal Committee.



Data

Infrastructure asset records are set up against which inventory & condition data is collected, registered, processed and managed. This forms the platform from which condition performance and trend measures are collated and target setting protocols are established. From this platform the future priority needs of the infrastructure assets can be modelled, established and implemented.

PLANNING:-

Planning describes the key activities, processes and drivers employed in the strategy, and advises on how these should be applied and implemented.

Develop a Doncaster HAMP

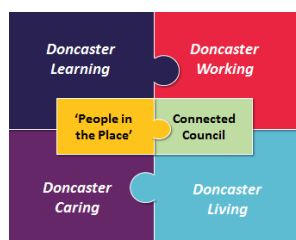
The Highway Asset Maintenance Plan (HAMP) for Doncaster will be further developed and reviewed in accordance with the Highway Infrastructure Asset Maintenance Policy and Strategy and it shall be aligned to the framework model. The HAMP shall be presented to the Council's Executive for approval and implementation and it shall be made available to highways stakeholders through a web-link.

Policy & Strategy and Council Priorities

The highways infrastructure asset maintenance management policy and strategy has been adopted and embraced by the Council's Executive in support and recognition of the Council's Corporate Plan and Borough Strategy. This will also give the direction and protocols that should be invoked to support highways service delivery initiatives and affordable and sustainable priority maintenance solutions that meet the current and future needs of our stakeholders.

Doncaster Council's Corporate Plan is framed around 4 main priority themes which are delivered through connected services underpinning the health and well-being of people going about their daily business in their place of work and in their living and learning environments:-

- Learning:- Learning that prepares all young people and adults for a life that is fulfilling.
- Working:- More people are able to pursue their ambitions through work that gives them and Doncaster a brighter and prosperous future.
- Living:- Doncaster's people live in a borough that is vibrant and full of opportunity where people enjoy spending time.
- Caring:- A borough that cares together for its most vulnerable residents.



Service Levels and Performance

Levels of service for each major asset group are identified reflective of a consideration of stakeholder expectations aligned to the Corporate Plan and Borough Strategy and balanced against our ability to provide affordable maintenance solutions and services within funding limits and resource availability.

Service levels for the following Asset Groups will be set and these will be monitored against measured performance criteria and the annual NHT customer satisfaction surveys.



Asset Group	Asset/Service	Service Level Data Collected
Highways	Carriageway Footway Winter Services	Service Level / Performance Indicator Definition Target Performance Data Required Measurement Reporting Frequency
Bridges & Other Highway Structures	Bridges Retaining Walls Subways	
Flood Risk/Drainage	Gully Trash Screen Soakaway Water Course	
Street Lighting	Lighting Units Lighting Column Traffic Signs	
Street Scene	Fencing Fly Tipping Graffiti Grounds Maintenance Highway Verges Trees Litter Litter Bins Spillages	
Highway Operations	Vehicular Crossings Road Markings	
Network Management	Street Works Traffic Management	
Public Rights of Way	PROW Footpaths	
Urban Traffic Control (UTC)	Traffic Signals	

Maintenance Hierarchy

Presently all roads are allocated to a designated ‘Hierarchy’ in accordance with the 2005 Highways Code of Practice which is primarily based on traffic volumes and road characteristics. We are currently working towards redefining hierarchy in line with the 2016 Code of Practice, this will provide an entity known as ‘Maintenance Hierarchy’ which better reflects the usage, importance and risks associated with different road types and environments. Pending the completion of this work in 2019 we shall continue to use the existing hierarchy definitions.

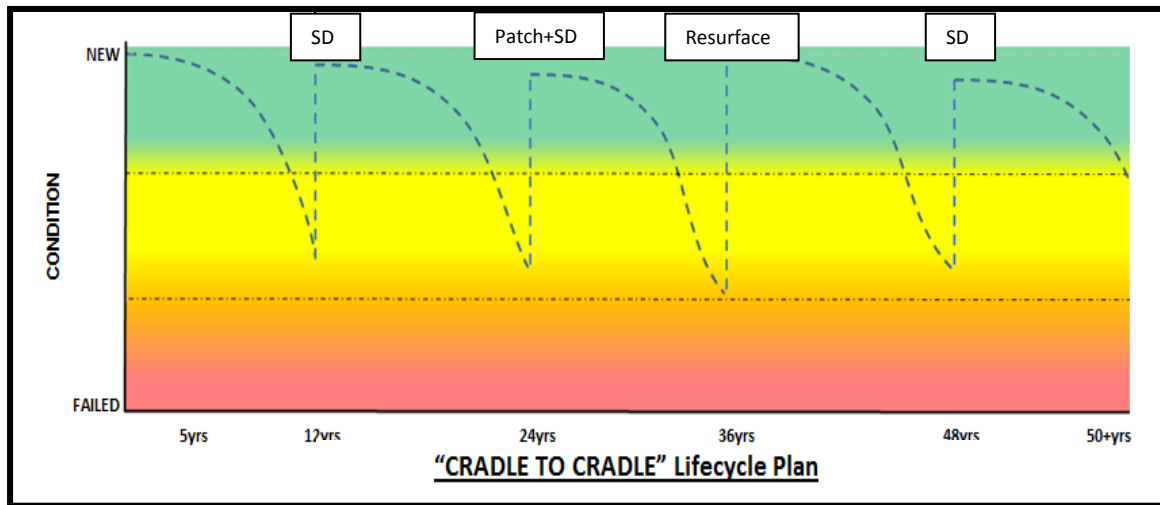
Lifecycle Planning Strategy

We acknowledge and understand the principles of lifecycle planning processes in order to consider asset performance, maintenance priorities and budget optimisation for our current and future funding investment needs for highways asset maintenance.

A lifecycle planning approach will be implemented for all major assets where possible to assess the impact of different levels of funding on asset performance and asset maintenance needs.

Investigating current and future levels of funding will allow a required performance target or given condition to be achieved for each asset. By identifying the levels of funding required, whole life costs can be minimised, and resources can be allocated accordingly.

In support of this we have adopted a balanced approach to lifecycle planning by employing a “cradle to cradle” lifecycle maintenance strategy. This strategy is demonstrated indicatively in the diagram below in respect of the carriageway asset. This comprises of selected ‘worst first’ schemes followed in future years by a defined cycle of cost effective ‘preventative’ and surface maintenance treatments aimed at considerably prolonging the service life of the highways asset and optimising its performance and serviceability.



Works Programmes

Annual and forward priority highways works programmes are developed reflective of a consideration of maintenance management lifecycle planning strategies, asset performance & condition, and value management initiatives within budget availability and resource constraints. This process supports the determination of our annual and future funding needs and promotes the identification of affordable and timely maintenance solutions. The sites selected for priority maintenance shall be reflective of service levels and targets aimed at securing a safe, serviceable and sustainable network environment for the Doncaster Borough which adequately supports Doncaster Council’s Corporate Priorities. The proposed priority works programmes are presented to senior Council Officials for review, approval and funding and are registered on Doncaster Council’s website for public information.



ENABLERS:-

Enablers describe the functions that support the implementation of the Asset Management Model.

Leadership & Organisation:- We will continually promote understanding and buy-in to the Asset Management Policy, Strategy and Plan from senior Council leaders in order to seek optimal investment in service delivery within the bounds of the Council’s financial provisions.

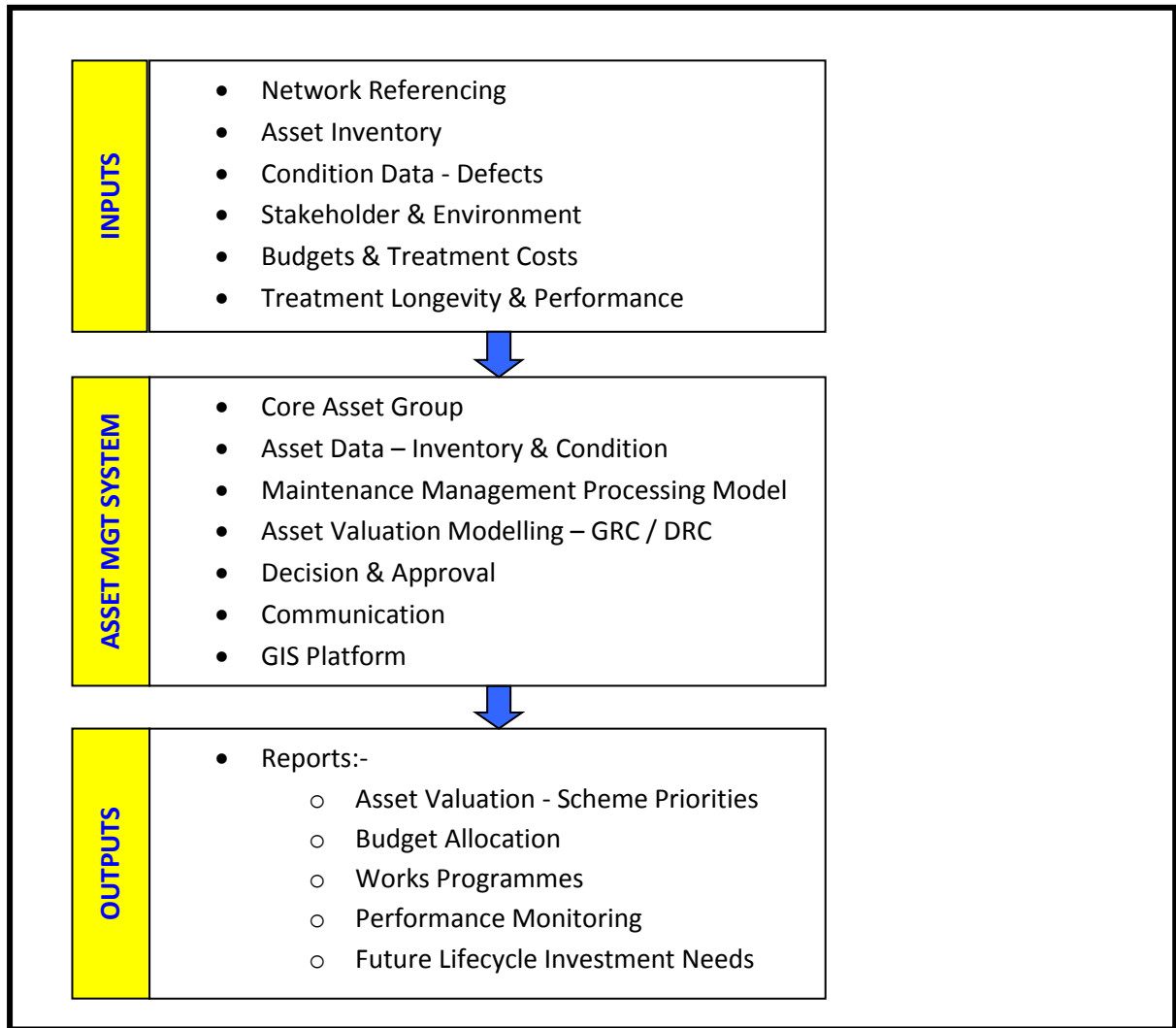
Risk Management:- We will identify, evaluate and manage service delivery risks. Any potential threats to achieving our operational objectives and core priorities will be identified and we shall seek to manage and mitigate those threats within the provisions and limitations of our operational resources and funding and reflective of Council Policy and direction. A risk register is set up to account for operational and fiscal threats and their impact and likelihood with mitigating control measures to address the risks. This shall include a “Resilient Network” which may influence maintenance priorities for highways, bridges, flood risk and transport services.

The following asset groups and entities contribute to the risk register:-

Asset Group	Risk Data
Infrastructure General	Risk Consequence Event Probability Risk Rating Mitigation
Highways	
Urban Traffic Control Systems (UTC)	
Flood Risk/Drainage	
Highway Operations	
Bridges & Other Highway Structures	
Street Lighting	
Public Rights of Way	
Network Management	

Asset Management System:- We employ robust asset management systems and principles to facilitate service functionality, identify priority investment needs, consider invest to save initiatives, determine budget needs and invoke procurement processes.

This process shall be modelled as follows:-



Performance Monitoring. Where available and suitable, industry recognised performance monitoring processes will be utilised to review condition trends, to support benchmarking initiatives and to attain continuous asset improvement. By highlighting improvements which are underway, and by making progress more transparent, it can be demonstrated how the condition of assets are improving and what more needs to be done. Increasing the visibility of asset performance is essential in managing costs, quality and customer expectations.

Implementation:- The implementation process will take on a gap analysis approach to identify where our service delivery position presently stands and where we need to be reflective of achieving our declared service levels and in support of the Council’s Priorities. We shall review our service delivery plans and investment levels and review our asset inventory and condition data in order to identify gaps in asset data, systems, performance and service level, we shall then develop a staged implementation plan to address any deficiencies and to seek approval from senior decision makers to fund and action the plan over time.



DELIVERY:-

This final process demonstrates how the works and services are to be procured and delivered.

Programme, Service Delivery & Procurement:-

We shall engage in robust cost effective procurement processes for works and services in order to secure their correct, timely and quality delivery and to ensure value for money.

Procurement will be through the industry standard competitive tendering and framework arrangements in accordance with Doncaster's financial and procurement procedure rules and shall be inclusive of collaboration and alliance initiatives with other Local Authorities in order to secure best value services.

Delivery:-

- In House – Use of the council's internal provision of highway services and staff remaining within the employment of the authority.
- External Sub Contractor Multiple Providers – A council managed contract with various specialist organisations to ensure the delivery of relevant highway maintenance service elements for a defined task or period of time.
- Framework – The council will use framework contracts for the provision of particular services where appropriate.



Asset Impairments/Failures

From time to time the impairment of a major infrastructure asset may be encountered which results in a critical failure of the infrastructure, e.g. bridge failure due to flooding or major road collapse following severe weather effects or wash-out. These are exceptional circumstances which shall be addressed by reprioritising annual works programmes and/or by securing additional capital reserve funding.

Data Management and Information Systems

Highways infrastructure asset group inventory and condition data provides the foundation upon which asset management processes are founded and further developed. The quality and completeness of these data sets and their continued management and updates is essential to the functionality and processes of asset management, it is therefore imperative that this data be effectively collected, stored, managed and updated.

A data information strategy is being developed for implementation in 2019/20 to support the asset management strategy.

Doncaster holds various service core asset data on the following industry systems:

Asset Group	Data Set	System
Highways	Network Referencing Model	<ul style="list-style-type: none"> • Symology Insight (UKPMS) • XAIS-Expert Assets
	Inventory	
	Condition Assessment Data	
	Inspection Data	
	Performance Data	
	Value Management Model	
	Lifecycle Model	
	Condition Projection Model	
	Asset Data Works data	
Bridges & Other Highway Structures	Bridge Management Database	<ul style="list-style-type: none"> • AMX
Flood Risk/Drainage	Section 19 (Flooding Incidents)	<ul style="list-style-type: none"> • Excel files • Arc GIS • Symology Insight
	Drainage assets	
	Works Data	
	Section 21 (Register of Drainage Structures)	
Street Lighting	Street Lighting Asset Inventory	<ul style="list-style-type: none"> • Symology Insight • PLANet™ (TELENSA)
	Energy (Monthly)	
	Works Data	
	Electrical Testing	
Urban Traffic Control (UTC)	Equipment Inventory	<ul style="list-style-type: none"> • Internal Database
	Inspection Data	



The collection and update of this data shall be carried out by trained in-house staff or by external specialist survey organisations accredited in quality data collection processes.

Review Process

The Highways Infrastructure Asset Management Strategy shall be reviewed at least every 2 years (or earlier reflective of any changes to Corporate Policy and Service Priorities) and also in response to developing Government, Industry and HMEP initiatives and statutory changes.

Such changes shall be applied to the Highway Infrastructure Asset Management Plan during its annual review.



Doncaster’s Key Asset Groups:-

The overarching Highways Infrastructure Asset Management Strategy shall be applied to the following key highways asset groups. Each of these key assets groups are subject to evidence based decision making processes and strategic considerations shall be applied in support of service delivery.

Asset Group	Decision Evidence	Strategic Considerations
Highway (carriageway + footway)	<ul style="list-style-type: none"> Doncaster’s Corporate Priorities & Plan. Stakeholder Interests. Asset Condition Safety and Serviceability. Affordability and Whole Life Costs – Budget Optimisation. Works Coordination, Programming and Deliverability. 	<ul style="list-style-type: none"> Levels of Service Desired Outcomes Prioritising Investment Decisions Future Demand
Bridges (and other highway structures)		
Flood Risk & Drainage		
Street Lighting		
UTC		

CARRIAGEWAY and FOOTWAY:-

Doncaster’s adopted road and footway networks are each approximately 1600km (1000miles) in length and are maintained through a combination of ‘reactive’ safety and routine maintenance repairs, and ‘planned’ structural schemes and preventative maintenance treatments. Ward Members and Area Managers have been informed through presentations of the maintenance prioritisation processes that are used to identify annual scheme selections. The maintenance management strategy employed in determining how, when and where the roads and footways are to be maintained is implemented reflective of the following considerations aimed at improving the overall asset condition:-

Levels of Service

Reactive Safety Maintenance:- the definition of how safety defects are identified and actioned is provided in the” Highways Safety Inspection Policy” which is aligned to the Highways Code of Practice ‘Well-Managed Highway Infrastructure’ October 2016. The identification of safety defects are sourced from a combination of highway safety inspections and from third party reports, eg, police, public, Ward Members, and repair actions will be based on a risk based approach to priority works needs.

Routine Maintenance:- local permanent highway repairs are undertaken in order to maintain the roads and footways up to a serviceable standard and fit for purpose reflective of risk, usage and trafficking. We have procured a multi-functional mini-planer to assist with the permanent road repair process alongside our conventional patching processes to further enhance network condition. In order to achieve best service level efficiencies, such works are planned and programmed in local areas to promote economies of scale and value for money.



Planned Structural Maintenance:- schemes for reconstruction, strengthening and resurfacing are identified through a process of annual condition evaluations via industry standard condition survey techniques, eg, SCANNER, CVI, FNS. The condition data is modelled to provide a defect condition index and then prioritised through a Value Management scoring process which includes socio-economic considerations and weightings. These activities are further described in detail in the process document entitled “Road Assessments and Priority Schemes Generation”.

Planned Preventative Maintenance:- preventive treatment programmes are in part generated from the extensive programmes of routine maintenance patching, part from the annual condition assessments surveys, part from the analysis of SCRIM data in consideration of network hotspots and also in consideration of lifecycle planning events. Preventative treatment programmes aim to capture those parts of the network requiring low-cost early maintenance before more expensive surface or structural treatments are required thereby prolonging asset life in support of lifecycle planning initiatives.

Performance Monitoring

Carriageway and Footway performance monitoring is accomplished through the annual condition surveys such as SCANNER, SCRIM and CVI which provide the core condition data necessary to process and analyse performance measures and trends. This will also be achieved by engaging in benchmarking with partner Authorities and through the annual NHT Public Satisfaction Surveys.

Desired Outcomes

The desired highway maintenance outcome is to keep the network in a safe and serviceable condition, to prolong its service life as far as is reasonably viable and affordable and to provide the highway user with a good journey experience and a pleasant environment in which to live, work, care and learn. Highways services effectively underpin the delivery of most other Council run and external services and this achieves to support the concept of ‘Place’ as a new and developing service and Directorate entity.

Highway repairs are undertaken so as to promote betterment in service condition and performance indicators that equal or better the national average values.

Reactive Maintenance:- Where possible, safety defects shall be robustly fixed first time in order to secure an asset repair which needs no further intervention. Where this is not possible, eg, due either to traffic management needs or streetworks coordination conflicts or the need to make safe without undue operational delay in order to keep the highway safe, then in these instances urgent temporary safety repairs will be undertaken and these may be followed up with permanent routine repair at a later time as necessary. In practice such temporary repairs may be considered as semi-permanent as they often offer a prolonged service life.

Planned Maintenance:- Structural maintenance schemes and preventative treatment programmes will support lifecycle planning initiatives and will inform on future annual budget needs for highway maintenance. Such works will also help mitigate against poor network performance and aim to show a measured betterment via performance indicator figures through the National Indicators. Such measures will be reflected in the Whole of Government Account submissions for annual GRC and DRC. A coordinated strategic approach to planned maintenance provides the correct balance of



structural and preventative maintenance needs and secures the most out of restricted annual funding provisions.

Lifecycle Planning

Lifecycle planning and future condition projection initiatives have further been recognised and promoted through the 2012 report entitled “Doncaster’s approach to measuring carriageway and footway condition to produce a 10 year forward maintenance profile” which details the data requirements, processing logic and outputs from the Doncaster Process Network Condition Model: Ref - Engineering Document / Technical Reference V3.0. This budget optimisation modelling is in the process of being updated to account for the current network condition and this work will be completed in 2019 from which informed choices and operational decisions may be made. Lifecycle planning data sets will continually be updated and monitored in the highways asset management system.

Prioritising Investment Decisions

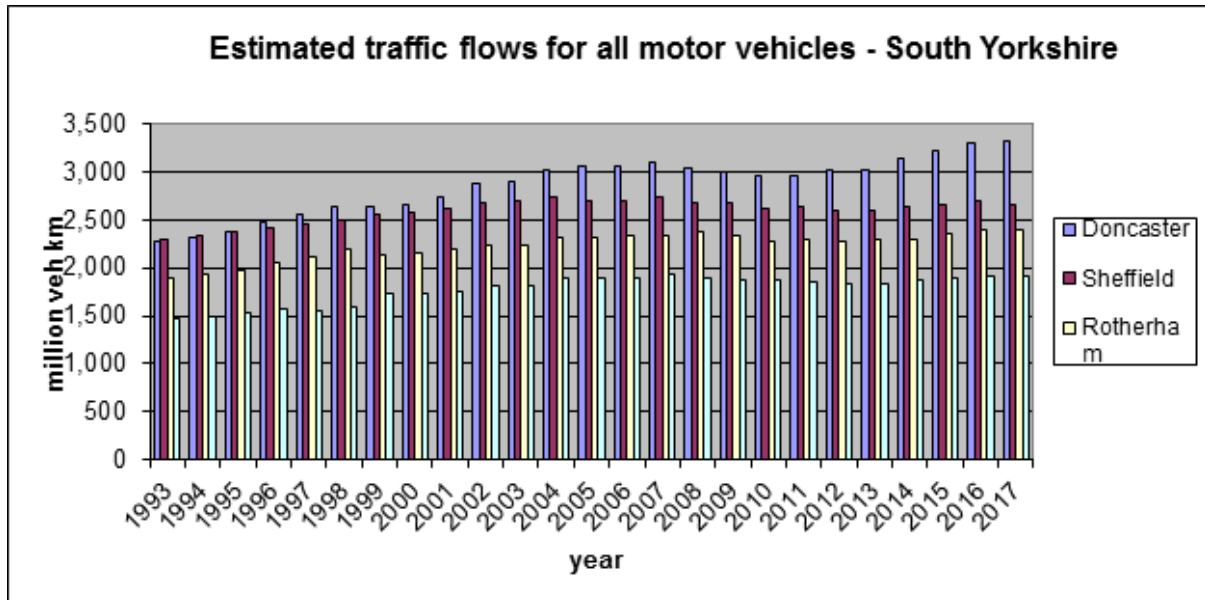
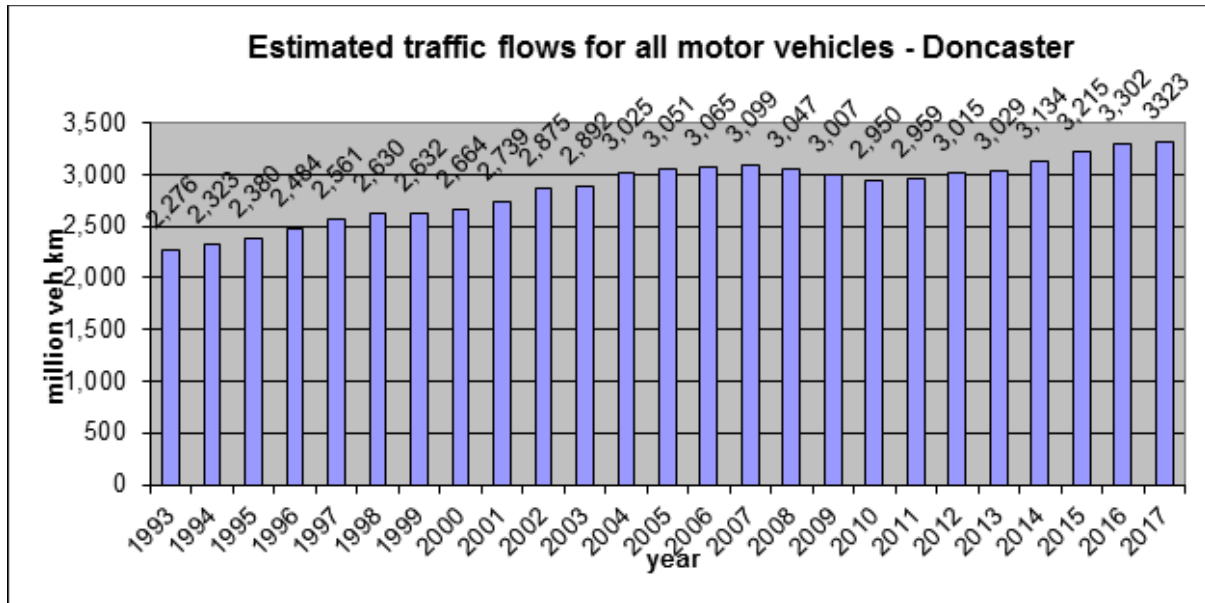
Reactive Maintenance:- Maintenance investment needs will be determined in order to secure quality and robust repairs reflective of a risk based and affordable approach. Defect investigation and intervention levels will be in accordance with the Safety Inspection Policy, and actionable defect and repair criteria will be reviewed in order to secure more cost effective ways of delivering value for money, affordable and sustainable highways services.

Planned Maintenance:- Priority investment processes for planned schemes are well documented in the paper entitled “Road Assessments and Priority Schemes Generation”. This is a two stage process driven by the condition status of the highway and then fine-tuned by ‘Value Management’ evaluations. The annual scheme selection process identifies the schemes most important to Doncaster Council for priority maintenance funding and delivery. This process also recognises the maintenance needs for many other schemes on the network that are not sanctioned due to funding constraints, such schemes are re-evaluated the following year. Pending eventual scheme selection they will continue to be safety inspected, monitored and placed under reactive maintenance regimes. Higher risk sites may also be subject to increased safety inspections pending eventual scheme selection.

Future Demand

Traffic growth in Doncaster (see below) is increasing along with road degradation effects, eg due to weather effects, utility openings and user expectations. The council will continue to make use of The National Highways & Transport (NHT) Public Satisfaction Survey, which collects public perspectives on, and satisfaction with, Highway and Transport Services in local authority areas, and allows the council to better understand how they are performing in the eyes of the public. By adopting transparent and objective priority works processes, good investment planning and programming regimes, and better customer communication protocols, highway stakeholders will gain better clarity of what can be realistically expected, afforded and delivered within annual budget and engineering resource constraints and how future schemes are evaluated, prioritised and selected. Future investment needs will be informed by a consideration of lifecycle planning protocols, budget optimisation and continued highway safety, serviceability and sustainability demands.

This is being accomplished for the classified road network, however further investment needs to be allocated to the unclassified road network in order to secure the desired performance level.



Source - <https://www.gov.uk/government/statistical-data-sets/road-traffic-statistics-tra> TRA8904



BRIDGES and OTHER HIGHWAY STRUCTURES

Doncaster Council own and maintain 513 bridges, 228 other highway structures and an unknown number of retaining walls. These structures are a vital part of the Highway infrastructure allowing free passage across the borough. In keeping with our duty of care to the public we inspect a total of 885 structures in a 24 monthly cycle, 149 of these structures are owned and maintained by others but the public have rights of access over or under them. The maintenance of the structures is undertaken on a risk based approach with safety to the public placed as the highest priority.

Levels of Service

Reactive Safety Maintenance:- The identification and repair requirements of safety defects generally resulting from vehicle impacts on structures are received from third party sources eg, the police, members of the public, other departments of the Council, the call centre and Ward Members. Any repairs required are actioned on a priority basis dependant on the severity of the damage.

Routine Maintenance:- The condition of Highway Structures is determined from the inspections that are undertaken on a regular basis. The frequency and detail of inspections is outlined in the Highways Code of Practice 'Well-Managed Highway Infrastructure' October 2016. Reactive maintenance is a 'do minimum' response, reacting to concerns from inspections to ensure that a structure is 'fit for purpose' and 'safe for use'. This type of maintenance does not improve the general condition of the structure to any large degree but is considered as maintaining the structure in a steady state.

Planned Structural Maintenance:- Following more detailed inspections that look at all aspects of the structure and at the maintenance history, schemes are developed to improve the longevity and overall condition of structures. Dependant on the importance of the structure to the network, works could include the strengthening or replacement of complete structures that have reached the end of their serviceable life.

Planned Preventative Maintenance:- Programmes of preventative maintenance are undertaken on component parts of structures that have a finite life eg, bridge expansion joints, bearings, paint systems. If undertaken in a timely manner they extend the working life of structures.

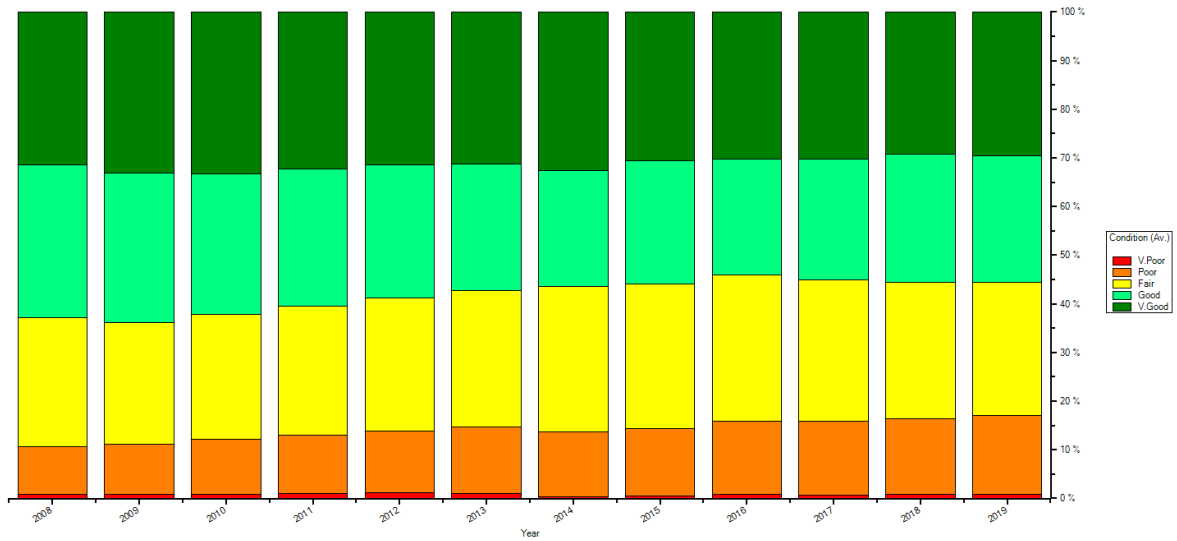
Performance Monitoring:- Bridges (and Other Highway Structures) performance monitoring is accomplished through General and Principal inspections providing Bridge Condition Indices data necessary to process and analyse performance measures and trends.

Desired Outcomes

The purpose of planned and preventative maintenance works is to improve the overall condition of the highway structure stock as measured using the nationally agreed Bridge Condition Indices as an indicator and to achieve a structure stock that is in a 'steady state' condition. This is only possible subject to the adequacy of annual funding provisions and engineering resources to inspect, identify, design, procure and deliver the necessary bridge maintenance works and structural schemes.

The condition trend of the bridges (and other highway structures) stock is shown below.

Stock Condition History Detail



Prioritising Investment Decisions

Reactive maintenance investment needs are based on the identification and extents of defects determined from the General Inspection Programme. Action is then determined on a risk based approach dependent upon location and importance of the defect.

Planned structures schemes are determined by their importance to the network and to the local communities. Schemes are evaluated based upon their value for money, importance to the network, resilience impacts, and the expected time required for scheme delivery reflective of design inputs, ecological surveys and permissions, site assess approvals and traffic management arrangements etc.

Future Demand

The increasing volume and weight of traffic has the serious effect of increasing the deterioration rate of our structure stock especially the older stock. By having a transparent robust inspection and reporting regime, stakeholders will have a more informed view of structure stock condition and be able to target investment based on good sound information according to needs. By adopting the 'Team Doncaster' method involving other departments and stakeholders during preparation and execution of schemes, more understanding of the issues and problems will be realised.



FLOOD RISK & DRAINAGE

Levels of Service

Reactive Safety Maintenance:- The identification of safety defects is from a combination of safety inspections which are carried out in conjunction with the highway inspection programme, identification during routine gully cleansing and reports from third parties e.g. police, public, Ward Members.

Safety repairs are carried out within the service level response timeframe agreed with Highway Operations. Non-urgent safety defects are treated as planned works on a risk based approach whilst emergency and urgent safety repairs are temporarily made safe until appropriate permanent repairs can be carried out. When necessary the use of signage or road closures may be required to ensure public safety is maintained.

There has been an increasing occurrence of gully grate thefts around the Borough in recent times and these are dealt with as emergency safety repairs followed up by their permanent replacement using anti-theft gully grates, this is having a significant impact on annual drainage maintenance funding provisions.

Cyclical Maintenance:- A routine cyclical cleansing programme of highway drainage assets operates continually. Those on major arterial routes are maintained on a 2 year cycle, whilst the remainder of the borough is split into sub-catchments of Ward areas which are cleansed on a 36 month basis.

Looking ahead to the future , it is proposed to undertake the Proactive Gully Cleansing, on a more risk based approach, targeting resources and the frequency of cleansing where they are needed most, taking into account factors such as maintenance hierarchy, flood risk, highway classification, extent and reoccurrence of silting, etc. A pre-requisite of this requires further development of the highways drainage asset database which is on-going at the moment and should be fully installed and data populated over the next couple of years.

Routine Maintenance is carried out on a reactive basis centred on reports from external bodies, members of the public and as identified during highway asset inspections. Repairs and cleansing are carried out as required to ensure the highway is safe to use and water can be conveyed away from the surface. Repairs are undertaken in order to bring the highway and drainage system to a serviceable standard and fit for purpose reflective of risk, usage and trafficking.

Planned Maintenance:- Schemes may be determined whilst undertaking cyclical maintenance or through flood risk investigatory works. Further planning and detailed design allows major works to be undertaken to upgrade existing drainage systems, the installation of new drainage systems or carry out major repairs.

Performance Monitoring:- Gully cleansing is monitored on a quarterly basis based on the percentage of gullies cleansed to program each quarter. 5% checks are carried out by the Highways Operation Supervisor each week to ensure gullies are being cleansed adequately.



Desired Outcomes

The desired outcome is to ensure the highway network is safe to use and future maintenance can be planned and undertaken to preserve and promote asset serviceability.

Reactive Safety Maintenance:- Safety defects are normally rectified in the first instance. Where this is not possible due to traffic management needs or the availability of products, materials or resources, the asset will be made safe without delay and followed up with permanent repair.

Cyclical Maintenance:- Regular maintenance is carried out to ensure assets remain functional and serviceable to prevent disruption to users of the highway.

Planned Maintenance:- Allows us to plan and undertake major works to create solutions whilst looking ahead to future requirements to ensure drainage systems are functioning and fit for purpose.

Lifecycle Planning:- Lifecycle planning is an aspect that the Flood Risk team is looking to carry out in the future when all asset information has been collected and collated, currently assets are being replaced or repaired on a reactive basis when we become aware they have reached their end of life. No future planning for replacement of assets is programmed.

Prioritising Investment Decisions

Investment in flood risk and drainage maintenance needs to be sustained in order to ensure functioning assets and be delivered based on a value for money approach.

Flooding issues will be prioritised primarily to protect asset resilience, essential critical infrastructure, residential property and business and to facilitate the uninterrupted use of the highway network. Investment is selected on a cost / benefit basis to deliver maximum results from budgets.

When a Section 19 investigation is triggered under the Flood and Water Management Act 2010 funding for works can be applied for via the DEFRA Local Levy Funding Scheme.

The progress to resolve historical flooding incidents will continue, whilst moving to a planned maintenance programme can ensure resources are used effectively and efficiently. The use of technology and pragmatic engineering processes can ensure that stakeholder's priorities and customer demands are met subject to annual funding provisions and resource availability.

Future Demand

As traffic grows and the size of the highway network increases to meet the needs a growing population, the pressure upon budgets will increase. Climate change is an important factor to be considered in future priorities. The impact of increased short duration storms on the highway drainage system is accounted for in the design of new highway drainage assets, however existing systems will need to be maintained and upgraded to remain effective and operational, which will require significant future investment.



STREET LIGHTING

Doncaster presently has some 45,374 lighting points installed throughout the borough providing lighting on arterial roads, bus routes, residential streets and footpaths. Through a combination of new housing developments and planned column replacement programme the lighting stock grows annually by approximately 1.5%. There are also some 3,000 lit signs and 1,600 lit bollards. The entire network is inspected for lamp failures once every calendar month by the Neighbourhood Response Team. The council has commenced its "Smartlight" project, this involves the replacement of 33,000 luminaires with LED luminaires and a Central Management System, this project will cut the councils energy consumption and carbon emissions.

Levels of Service

Approximately some 8,000 lighting repairs are carried out annually as part of reactive maintenance and concurrently a similar number of electrical tests are carried out by the in house street lighting maintenance team. The target time for carrying out a repair is 7 working days for residential road lights and 28 Working Days for traffic sensitive routes.

Faults caused by loss of supply will be targeted to be repaired in line with our Service level agreement with the local distribution network operator and should not exceed 28 working days.

Once winter gritting operations start a programme of traffic bollard cleaning is implemented and this carries on throughout the winter and spring months.

Approximately 1.2% of lighting column stock is replaced annually addressing the deteriorating condition of concrete columns.

The Street Lighting team operate a 24/7/365 emergency service responding to knock down equipment.

Performance Monitoring

Doncaster Council monitors its own performance on a quarterly basis and the results are uploaded to the internal reporting system Pentana. Any performance issues are questioned and programmes of improvement implemented.

Desired Outcomes

The desired outcome is that Doncaster roads and footpaths are lit and lighting columns are structurally sound with a planned column replacement programme that at least matches the rate at which columns come to the end of their design life.

Lifecycle Planning

Doncaster Council has adopted a plan of painting heritage street lighting columns, this plan is expected to be completed over the next 3 years and this should improve the life of the columns. The current specification of the lighting columns is for 40 years so any new columns installed increase the replacement requirements of the stock.

Prioritising Investment Decisions

Reactive Maintenance: Doncaster Council has installed a central management system (CMS) as part of its recent smartlight improvement programme. The CMS System reports lighting outages daily



and any loss of connection to the system after 5 consecutive events. We attend every failure and lost connection as part of our reactive maintenance.

At every visit a Visual inspection is recorded onto our Symology Asset management system with regards to the column condition and any high risk columns identified and programmed for replacement.

Planned Maintenance: Doncaster Council undertakes a 6 yearly electrical periodic testing programme of its street lighting assets. During this visit the luminaire lens is also cleaned.

The authority has embarked on a full structural assessment of its columns; based on the results of these inspections a full replacement programme will be devised. The council is only two years into this inspection programme and is dealing with the poorest reported columns condition columns first.

The above will need to address policy on carbon and energy reduction and integrate with council policy in other areas such as “Smart Networks” addressing WiFi and Smart phone innovations & any attachment requirements.

Future Demand

As housing developments continue and road miles increase there will be an increase in demand for street lighting. Additional resources will be required as lighting columns will be required for other additional services such as banner advertising, CCTV & smart cities requirements.



TRAFFIC SIGNALS

Levels of Service

Doncaster's traffic control equipment currently comprises of 177 traffic signal controlled junctions and crossings, 125 vehicle actuated signs, ad-hoc technology-based traffic management and enforcement equipment, and a centralised Urban Traffic Control system. Both reactive and preventative maintenance are provided via a comprehensive external contract, with defined and categorised response and repair times, scheduled routine operations, and facilities for planned site refurbishments.

Reactive maintenance includes dealing with the occurrence of day to day incidents, emergencies or faults.

Preventative maintenance includes periodic electrical and operational inspection and testing, bulk lamp changing and equipment cleaning.

Performance Monitoring

Traffic signals performance monitoring is accomplished primarily through the fault recording, inspection and test regimes, Contract management arrangements, and the measurement of traffic signals repaired within agreed timescales.

Desired Outcomes

Maintenance is undertaken in order to avoid disruption and secure the safe and expeditious movement of traffic (including pedestrians) on the road network, for the many tens of thousands of road users on a daily basis. This in turn contributes to the accessibility of Doncaster, journey time efficiencies, public transport punctuality, good road safety performance and improved public perception.

Lifecycle Planning

Traffic signal equipment generally has an expected lifetime of around 15 years. In addition, older equipment can become obsolete or more unreliable. An ongoing programme of refurbishment is necessary, which is based on fault, test, inspection and inventory information in order to prioritise works on a worst first basis.

Prioritising Investment Decisions

Reactive maintenance operations are prioritised depending on the urgency or severity of a fault, for example traffic signals out of operation or physically damaged such that they present danger, are prioritised for immediate remedy.

Planned refurbishment work is undertaken based on relative levels of condition, structural integrity, obsolescence, serviceability and electrical safety. Equipment age and the inspection regime help to inform the prioritisation process.

Future Demand

A recovering economy, traffic growth levels, redevelopment and regeneration projects, alongside expectations for safer roads and enhanced facilities, often lead to a greater demand for traffic control solutions. It is essential that investment is sustained in maintaining the expanding and



ageing stock, including re-investing potential efficiencies and savings from new procurement exercises. New or refurbished traffic signals are furnished with LED technology, leading to improved energy efficiency, longevity and safety.