



Northumberland

County Council

Transport Asset Management Plan

Policy and Strategy



2018

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Foreword

We are pleased to endorse this revision of our TAMP Policy and Strategy for Northumberland which builds upon the previous work of the Council.

Most of our residents use our transport network on a daily basis, driving to work, walking to school or local services and cycling around our beautiful countryside. This network is over 5,200 km long and valued at over £5.8 Billion. We want this extensive asset to support our corporate commitments ensuring that everyone can:

- feel safe, valued, and part of your community
- live in distinctive vibrant places, which you value and in which you feel proud
- easily get to work, to learning, and to the various facilities and services you want to use

Our Transport Asset Management Plan sets out how we will manage our highway network in a way that is financially prudent as we appreciate the need to make every pound count. Our aim in respect of highway and transport asset management is therefore:

“To provide a fully integrated, safe, reliable, resilient and sustainable network of transport assets, recognising the need to cater for all modes of transportation in a modern and dynamic society without acting to the detriment of future users.”

By adopting asset management methods and updating our Transport Asset Management Plan, we are using a longer term approach to achieve the best possible value for money for Northumberland. This approach means focussing on proactive maintenance to ensure that we:

- Prioritise customer needs
- Live within our means
- Provide a network that is fit for purpose



Cllr G Sanderson
Portfolio Holder for
Environment & Local
Services



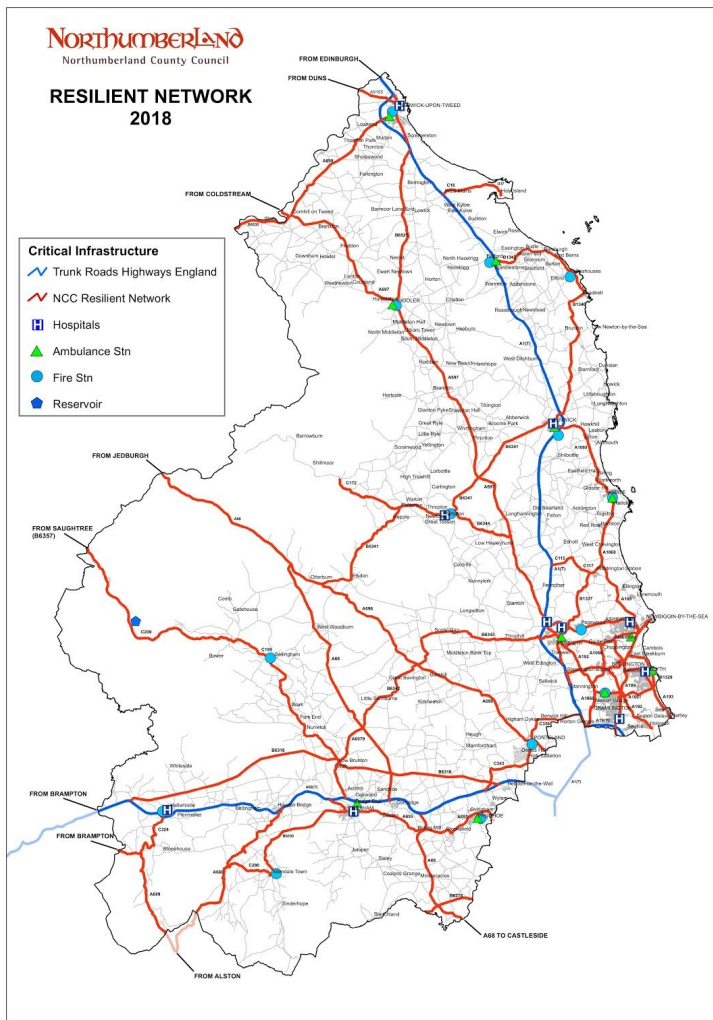
Cllr J Reid
Chair of Communities
and Place O&SC

1.0 Northumberland



Northumberland is the most northerly and least populated county in England covering an area of 5,013 Km². It is essentially a rural county with expansive open countryside in the north and west and a more populated area in the south east.

Although home to almost 320,000 people, there are no towns or villages with populations over 40,000, the age distribution for Northumberland is older than that of England and Wales, with 27% of residents aged over 60 years old which creates its own issues for transport and mobility.



2.1 What Asset Management means for Northumberland

Northumberland adopted the following definition for asset management over 10 years ago and we feel that it is still appropriate today:

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

This means that we focus on providing a network that is fit for purpose both now and in the future. Whilst the financial climate does not allow us to provide many enhancements we focus local improvements on ensuring that our network is made safer for all users in future.



A189 dual carriageway in South East Northumberland



Typical unclassified road in rural Northumberland

Our standards are focussed upon customer need, for example we do not need to provide dual carriageway standards throughout the whole County.

It is essential that the total costs of maintenance do not escalate because assets have deteriorated to the extent that routine maintenance is no longer possible, similarly, maintenance works should not be carried out more frequently than necessary. We ensure that we keep good records and use management systems to help identify the best time for the most appropriate work for each part of the network.

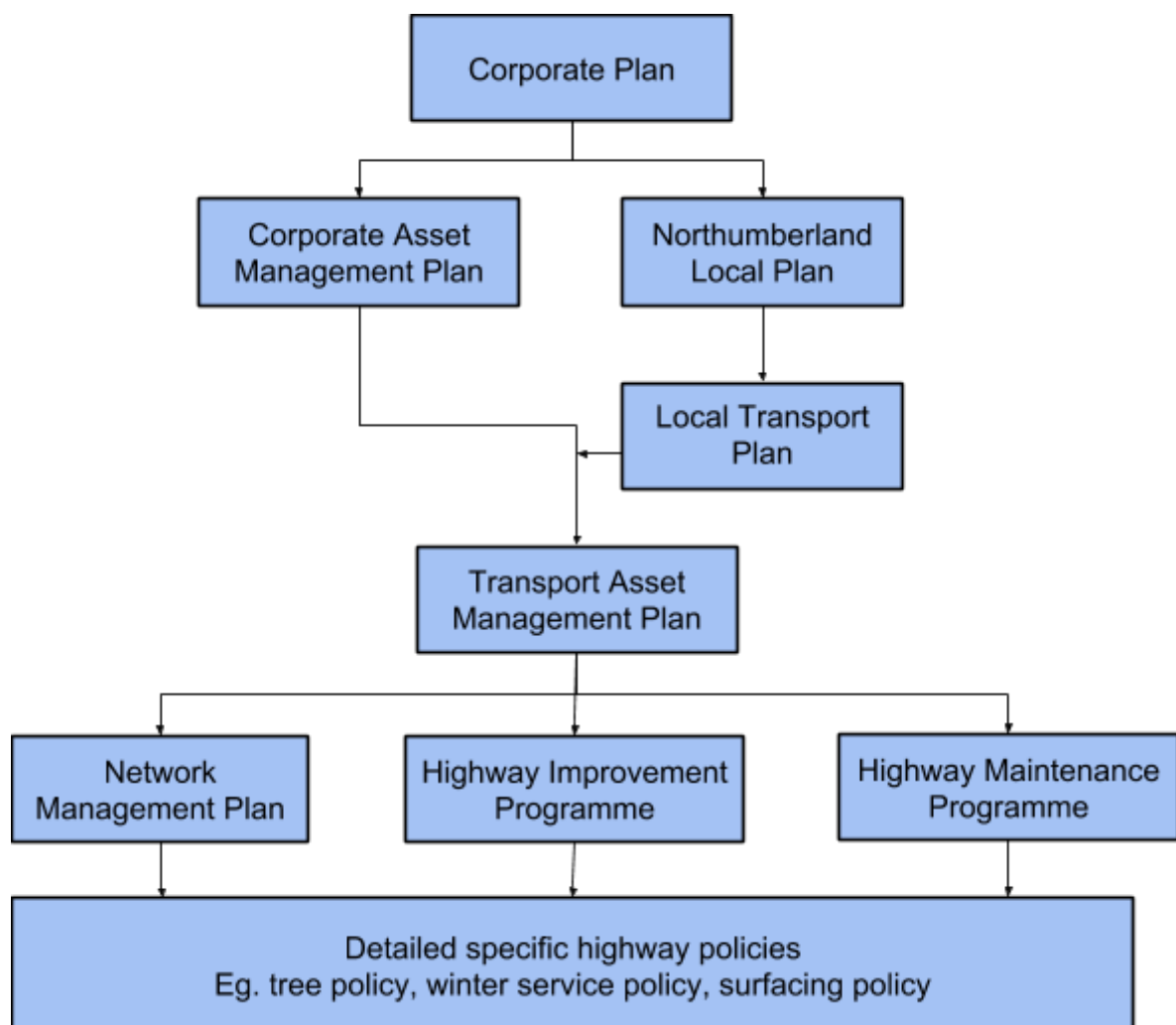
We have introduced electronic management systems to link together maintenance of the asset with management of the network. We record all relevant data to provide evidence that our work meets the needs of both the network and our customers.

Embedding this approach within the County Council shows our commitment to integrating the three main strands of our work: **network management**; **maintenance**; and **improvement**; in such a way that service no longer focuses on what we do but on the service that the infrastructure provides to the customer.

The TAMP policy and strategy, which reflects the aspirations of corporate documentation, provides the means for us to understand the value and liability of our existing assets and to make the right strategic decisions, to ensure that the highway network is safeguarded for future generations.

2.2 Corporate Documentation

The diagram below shows the links between corporate documents and transport asset management.



2.2.1 Corporate Plan 2018-21

Our corporate plan states that our vision focuses on making Northumberland a county which you regard as a great place to live, and in which you can access the things you enjoy, whilst having the opportunity to learn and thrive.

It also gives a strong commitment to ensuring that our residents:

- feel safe, valued, and part of your community
- live in distinctive vibrant places, which you value and in which you feel proud
- can easily get to work, to learning, and to the various facilities and services you want to use
- regardless of your age, have the right qualifications and skills to secure a good job that pays well and provides the prospect of a rewarding career

2.2.2 The Northumberland Local Plan

A Local Plan document is currently being prepared by the Council. It will include the planning policies that will be used to guide and determine future planning applications in Northumberland, detail the scale and distribution of new development and include land allocations and designations. The Local Plan is currently scheduled for adoption in March 2020.

The Northumberland Local Plan will:

- Set out the strategic planning policies of the Council;
- Set the general scale and distribution of new development which is required to meet Northumberland's needs to 2036;
- Provide the planning principles, including detailed 'development management' policies to guide future development and planning decisions in Northumberland from 2016 to 2036;
- Include strategic allocations as well as detailed land allocations and designations; and
- Include site specific proposals for development, protection and conservation of land

2.2.3 Corporate Asset Management Plan

The Corporate Asset Management Plan looks at the way we manage our property assets and sets out the following purpose and objectives.

The statement of purpose:

"To manage property assets and the use of premises to ensure that they fully support the effective provision of services".

The objectives from this plan which are also relevant to highways assets are:

- To ensure the efficient, effective and sustainable use of assets
- To minimise the opportunity cost of holding assets and to protect their future value.
- To ensure that assets contribute to the process of service improvement
- To provide innovative solutions for asset use to supports service needs
- To ensure the Council's assets are 'fit for purpose'

2.2.4 Local Transport Plan (LTP) 2011-2026

Northumberland's Local Transport Plan (LTP) sets out the vision, aims and objectives for transport across the County over longer term period from 2011 to 2026. The goals and objectives for the LTP were based on supporting and contributing towards the Strategic Community Strategy vision that was in place at that time: *"To make Northumberland a place that is resilient for the future."*

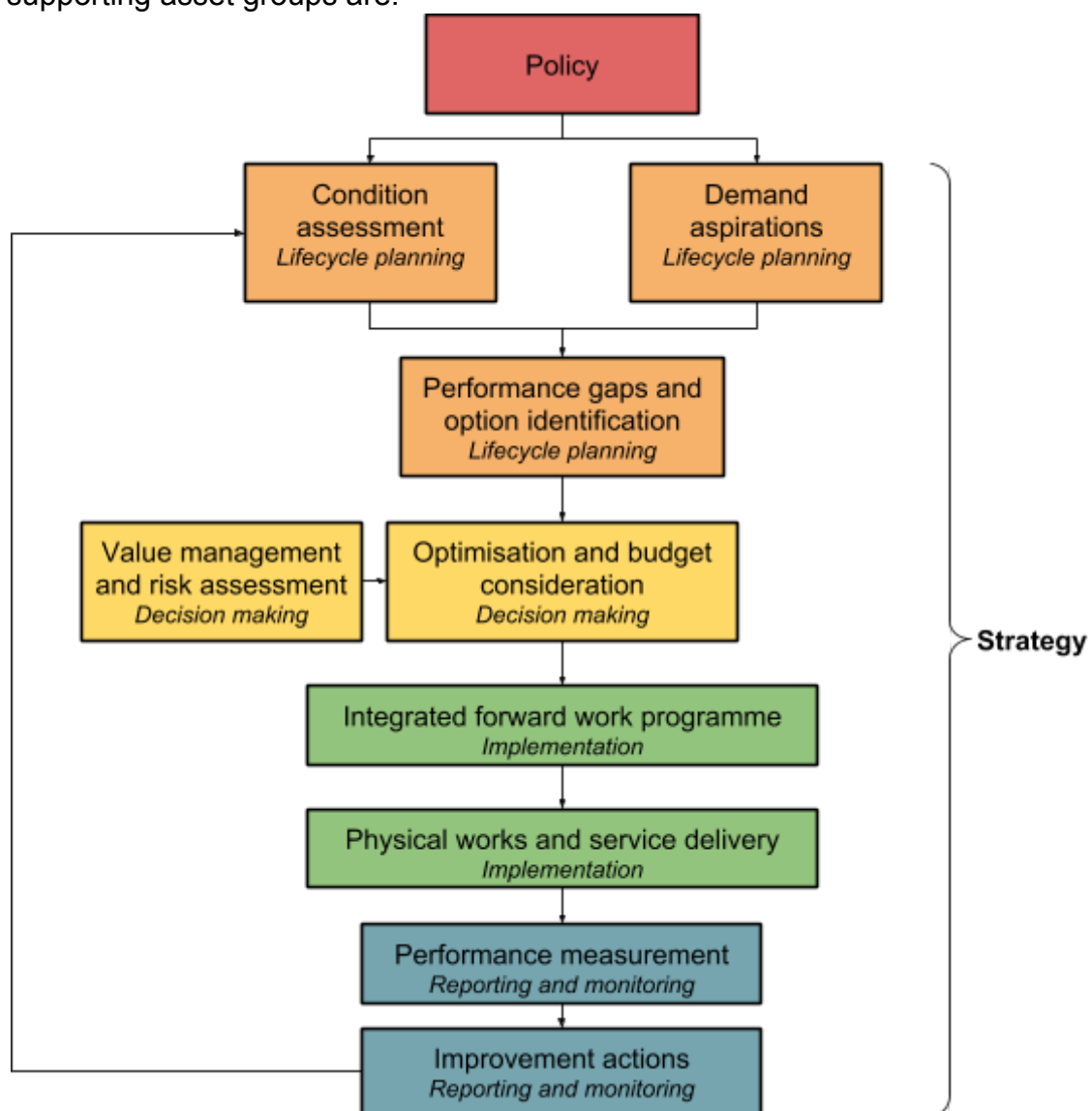
The new North of Tyne Combined Authority (which includes Northumberland) is working in collaboration with the North East Combined Authority (NECA) as the North East Joint Transport Committee to produce a Joint Transport Plan for the region it is envisaged that any new goals and objectives will not vary significantly from those detailed in our current LTP and set out overleaf.

Transport Goals	Objectives	Key Outcome Indicators
<p><i>Supporting Economic Growth</i></p> <p>Support Northumberland's economic competitiveness and growth by delivering reliable and efficient transport networks</p>	<p>Improve the performance of existing transport networks in those places that show signs of increasing congestion and unreliability</p> <p>Extend the reach of existing networks where it is needed to meet growing demand</p>	<p>Condition of principal roads (NI 168)</p> <p>Condition of non-principal roads (NI 169)</p> <p>Access to employment by public transport (NI 176)</p>
<p><i>Reducing Carbon Emissions</i></p> <p>Minimise the environmental impact of transport by reducing carbon emissions and addressing the challenge of climate change</p>	<p>Deliver sustainable low carbon travel choices</p> <p>Strengthen our networks against the effects of climate change and extreme weather events</p>	<p>Mode share of journeys to school (NI 198)</p> <p>Cycling trips</p> <p>Local bus service patronage (NI 177)</p> <p>Climate Change (NI 186)</p>
<p><i>Safer and Healthier Travel</i></p> <p>Improve transport safety and security and promote healthier travel</p>	<p>Improve safety of the transport network, particularly for vulnerable road user</p> <p>Enable and encourage more physically active and healthy travel</p>	<p>Number of people KSI (NI 47)</p> <p>Number of children KSI (NI 48)</p> <p>Number of motorcyclists KSI</p>
<p><i>Improving Access to Services</i></p> <p>Promote greater equality of opportunity by improving people's access to services</p>	<p>Improve transport connections to key services and facilities</p>	<p>Access to key services by public transport, walking & cycling (NI 175)</p>
<p><i>Quality of Life</i></p> <p>Ensure that transport helps to improve quality of life for residents, employers and visitors</p>	<p>Improve transport connections within and between communities</p>	<p>The Strategic Environmental Assessment and the RoWIP provides the monitoring</p>

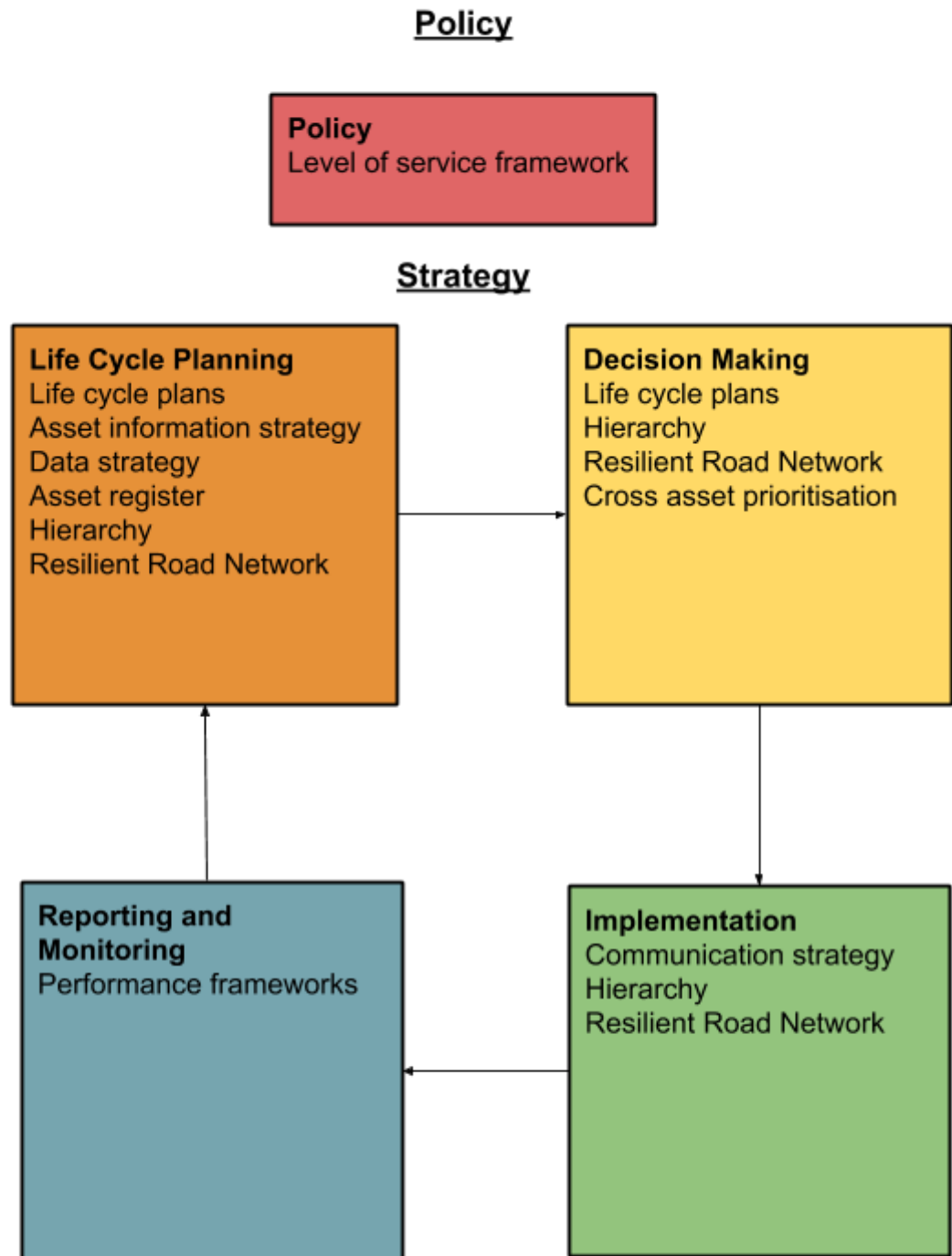
2.3 Our Asset Management Process

Our asset management processes flow from our policy through to our strategy for delivery. The chart below documents our asset management strategy process and demonstrates how the continual improvement cycle is used to ensure that the asset management policy feeds into our strategy and continues to be fit for purpose. It also demonstrates how setting levels of service and performance monitoring ensures that we are able to react to Northumberland's changing needs.

Our policy sets out our definition and aims for asset management and explains how we communicate progress on delivery. It also states what our key and supporting asset groups are.



There are many documents that support and steer our asset management processes and these are set out in the chart below.



3.0 Policy for Asset Management

3.1 Our definition of asset management

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

3.2 Our aims for asset management

Our overarching aim for asset management is “to provide a fully integrated, safe, reliable, resilient and sustainable network of transport assets, recognising the need to cater for all modes of transportation in a modern and dynamic society without acting to the detriment of future users.”

The four key themes that have been adopted for highway asset management in Northumberland are: network safety; network serviceability; network sustainability; customer service.

For each of these key themes we have developed aims and broad levels of service to explain how we manage our network to deliver our overarching aim.

Key Theme	Aim	Level of Service
<i>Network Safety</i>	To improve safety standards on the network in order to reduce the number of road traffic casualties	To manage your exposure to the risks associated with using the roads and footpaths within Northumberland
<i>Network Serviceability</i>	To improve the condition of transport assets and to develop the extent to support a fully integrated, suitably available and reliable network which contributes to the wider objectives of Northumberland	To provide reliable roads and footpaths that meet the needs of all users
<i>Network Sustainability</i>	To protect the financial and environmental value of the asset by maximising the benefits of partnership working with both internal and external agencies and paying careful consideration to the impacts of all actions on climate change	To provide affordable management of the roads and footpaths and to minimise their impact on the environment and climate change.
<i>Customer Service</i>	To ensure that transport assets provide community focussed solutions	To provide a good level of service by listening to your needs

3.2.1 Delivering our aims

In order to demonstrate how we are delivering our aims a suite of measures has been developed to communicate both the state of our asset and our performance in managing them.

Instead of simply measuring what we do, we gather data to report on service levels and service delivery standards.

Across each of the themes we will be measuring ourselves as either:

- Poor – does not meet minimum standards
- Fair – meets minimum standards
- Good – exceeds minimum standards
- Excellent - uses performance to amend policy

3.2.2 Network Safety

Aim - To improve safety standards on the network in order to reduce the number of road traffic casualties.

Level of Service - To manage your exposure to the risks associated with using the roads and footpaths within Northumberland.

Excellent	Good	Fair	Poor
Exceeds minimum national and local safety requirements and ensures Council results are within the top 10% nationally	Exceeds minimum national and local safety requirements	Meets minimum national and local safety requirements	Does not meet minimum national and local safety requirements

3.2.3 Network Serviceability

Aim - To improve the condition of transport assets and to develop the extent to support a fully integrated, suitably available and reliable network which contributes to the wider objectives of Northumberland.

Level of Service - To provide reliable roads and footpaths that meet the needs of all users.

Excellent	Good	Fair	Poor
Safe, comfortable, easy travel without unexpected delays	Safe, comfortable, easy travel with occasional inconvenience and disruption	Safe, comfortable, easy travel with some inconvenience and disruption	Uneven, uncomfortable, inconvenient travel with frequent disruption

3.2.4 Network Sustainability

Aim - To protect the financial and environmental value of the asset by maximising the benefits of partnership working with both internal and external agencies and paying careful consideration to the impacts of all actions on climate change.

Level of Service - To provide affordable management of the roads and footpaths and to minimise their impact on the environment and climate change.

Excellent	Good	Fair	Poor
Exceeds national requirements and locally set targets and ensures that Council results are within the top 10% of national results	Exceeds national requirements and locally set targets	Meets national requirements and locally set targets	Does not meet national requirements and locally set targets

3.2.5 Customer Service

Aim - To ensure that transport assets provide community focussed solutions, e.g. meets basic response time to safety related defects, number of casualties stable and have information on current safety related criteria.

Level of Service - To provide a good level of service by listening to your needs.

Excellent	Good	Fair	Poor
Meets or exceeds customer needs in most circumstances	Meets customer needs in most circumstances	Meets customer needs in some circumstances	Does not meet customer needs

3.3 Our asset management groups and how we manage them

To help manage our highway infrastructure across Northumberland we have split our assets in eight asset groups; four key groups and four supporting groups.

Key Asset Groups

Carriageways including laybys earthworks	Structures including bridges culverts, fords and retaining walls	Footways including cycleways, footpaths and bridleways provide provision for non vehicular traffic	Lighting including street lights and illuminated signs. provides lighting for the network
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Supporting Asset Groups

Drainage including manholes, catchpits, ditches, gullies, filter drains and pipework	Restraint Assets including safety fencing and pedestrian barriers	Traffic Management Information Assets that provide information relating to use of the network	Soft Landscaping
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3.3.1 Key Asset Groups

For each asset group we deliver against **Levels of Service** which measure the performance of the asset itself, for example, how often does a gully block and flood or how often do street lights go out, and **Service Delivery Standards** which measure how we, as an authority, deliver our service to ensure that the agreed levels of service are met, for example, how frequently we cleanse gullies.

Carriageways provide for vehicular traffic and for these assets we will:

Levels of Service

- Give priority to the resilient road network and maintain this part of the network at current condition levels
- Manage the condition of other roads to reduce the rate of deterioration
- Manage our roads to help minimise the impact of timber transport
- Repair potholes in a way that minimises future deterioration
- Prioritise preventative maintenance works with the aim of minimising the build-up of a maintenance backlog

Service Delivery Standards

- Respond to defects in accordance with approved timescales
- Carry out planned Safety Inspections in accordance with agreed standard
- Proactively discharge our Network Management Duty
- Proactively manage utility works in accordance with the New Roads and Street Works Act and the Traffic Management Act
- Manage our processes to minimise public liability issues and therefore claims
- Correctly notify all schemes to ensure that planning issues do not occur and the public are aware of our works
- Ensure that working practices minimise the number of road closures and disruption caused to the public
- Proactively use recycled material where appropriate
- Use low carbon products where economically viable
- Ensure that our work does not adversely affect air quality levels



Structures, including bridges, culverts, fords and retaining walls, provide a means of crossing obstacles and supporting the rest of the network, for these assets we will:

Levels of Service

- Prioritise preventative maintenance works to bridges with the aim of minimising the build-up of a maintenance backlog
- Proactively discharge our Network Management Duty by assessing and managing weight and height restrictions
- Consider closing or applying weight restrictions to some bridges and retaining walls where appropriate
- Manage substandard bridges to ensure that the travelling public are not at risk



Service Delivery Standards

- Proactively manage utility works in accordance with the New Roads and Street Works Act and the Traffic Management Act
- Respond to defects in accordance with approved timescales
- Carry out planned Safety Inspections in accordance with agreed standard
- Carry out planned general and principal inspections in accordance with approved standard



Footways, footpaths, cycleways and bridleways provide for non vehicular traffic, for these assets we will:

Levels of Service

- Prioritise maintenance to minimise long term costs
- Prioritise works that support LTP, walking and cycling strategies
- Manage our processes to minimise public liability issues and therefore claims
- Ensure that diversions are not in place longer than planned
- Ensure that footpaths and other rights of way are easy to use



Service Delivery Standards

- Respond to defects in accordance with approved timescales
- Carry out planned safety inspections in accordance with agreed standard
- Carry out planned safety inspections of all surfaced urban rights of way
- Proactively manage utility works in accordance with the New Roads and Street Works Act and the Traffic Management Act



Lighting – including street lights and the illumination of signs provides lighting for the network

Levels of Service

- Prioritise works that maintain current lighting levels and address safety concerns
- Install eco-friendly lighting emitting diode (LED) technology in all lighting units
- Ensure that future energy consumption does not increase when new assets are installed - the new lights will lead to a saving of more than 60% in street lighting energy consumption

Service Delivery Standards

- Respond to defects in accordance with approved timescales
- Carry out planned safety inspections in accordance with agreed policy
- Carry out statutory electrical testing as required



3.3.2 Supporting Asset Groups

Drainage including manholes, catchpits, ditches, gullies, filter drains and pipework, drain water from the surface and the fabric of the network, for these assets we will:

Levels of Service

- Prioritise capital work to minimise the risk of flooding to homes or properties
- Prioritise capital work to minimise the impact of flooding on the resilient road network
- Manage the drainage asset to minimise the impact on the rest of the network



Service Delivery Standards

- Improve data collection so that gully cleansing programmes can be developed to react to areas of most need
- Respond to defects in accordance with approved timescales
- Carry out planned safety inspections in accordance with agreed standards
- Cleanse all gullies in accordance with agreed standard
- Continue the ditch and grip cutting programme
- Seek enforcement of ditch cleaning by adjacent landowners



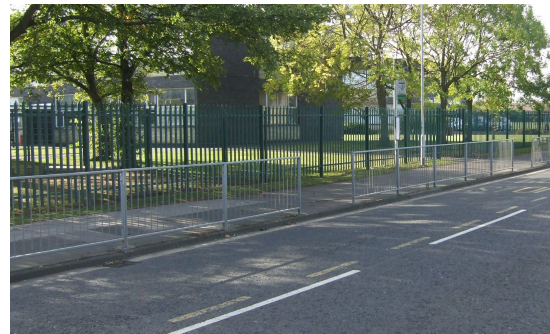
Restraint Assets including safety fences and pedestrian barriers restrain or protect network users, for these assets we will:

Levels of Service

- Prioritise capital improvements in areas that provide most benefit to the safety of the travelling public

Service Delivery Standards

- Respond to defects in accordance with approved timescales
- Carry out planned safety inspections in accordance with agreed standard
- Seek to introduce a prioritised regime of service inspections



Traffic Management Information Assets – including lit and unlit signs, bollards, road markings, studs, traffic signals, crossings and road humps, provide information relating to the use of the network, for these assets we will:

Levels of Service

- Aim to reduce sign clutter and ensure that directions are clear and concise



Service Delivery Standards

- Respond to defects in accordance with approved timescales
- Carry out planned safety inspections in accordance with agreed policy



Soft landscaping includes verges, planted areas, trees, hedges and other boundaries. For these assets we will:

Levels of Service

- continue to work in partnership with Town and Parish Councils aimed at improving the environmental quality of the areas involved

Service Delivery Standards

- Respond to defects in accordance with approved timescales
- Carry out planned safety inspections in accordance with agreed standard
- Cut grass in accordance with current standard
- Carry out tree maintenance in accordance with agreed standard
- Carry out weed spraying in accordance with agreed standard



4.0 Strategy for Asset Management

Our strategy is designed to enable us to develop services tailored to deliver our strategic aims and objectives supported by the Levels of Service set out in our policy.

The key elements of the strategy are:

- Life cycle planning
- Decision making
- Implementation
- Reporting and Monitoring

The following sections of the strategy set out how we deliver each part of our asset management process.

4.1 Life Cycle Planning (LCP)

Life Cycle Planning and the inventory underpin the whole process of asset management, they record and provide all the data needs and analyse the strengths and weaknesses of current practices for all asset groups.

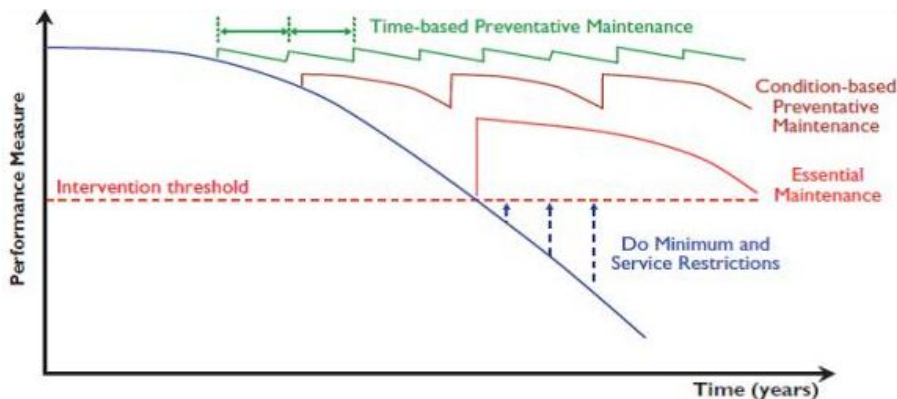
The purpose of life cycle planning is to follow a process and document how a particular asset, or group of assets, will be managed through its life and as an output identify both current and future needs in terms of anticipated works and funding. Documenting these processes is a useful exercise in capturing institutional knowledge and develops a more objective process for identification and assessment of options. The life cycle plans are based around policies and each of the life cycle plans is in effect a mini asset management plan for the asset group.

Life cycle plans should be updated throughout the maintenance planning process to improve the long-term predictions for maintenance need, at the very least key figures and data will be updated on an annual basis. Ongoing changes in performance due to deterioration, treatment choices, and unforeseen changes to unit rates for maintenance work during the implementation of the process will all affect the validity of current LCP decisions. The quality and completeness of inventory and condition data used in the life cycle plan will also have a bearing on the quality of these decisions.

Typical outputs of life cycle plans include:

- Identification of the short-term routine maintenance need (revenue cost)
- Identification of the long-term maintenance need (capital cost)
- Cost per year, i.e. the spend profile
- Cost per treatment per year
- Performance per year, i.e. performance progression

The following graph is an example of how the condition of a road deteriorates over time (due to weather and traffic, particularly commercial vehicles) and how the application of various maintenance treatments improve road condition and extend the time before a more significant (and expensive treatment) is required. For carriageways surface dressing can be both the time and condition based preventative maintenance treatment, the essential maintenance treatment could be resurfacing. The 'do minimum' would be to only undertake reactive small scale repairs.



Each Life Cycle Plan contains the following sections, with descriptions of the existing processes, contributions and impacts associated with each of the asset groups, and a commentary about how to improve both the asset and service delivery in future:

- Scope – explains the scope of the asset analysed within the life cycle plan
- Inventory – gives a breakdown of current inventory plus a commentary on any required improvements
- Approved Policies – provides a list of currently approved policies and highlights any new requirements
- Asset Valuation - provides the current valuation data with a detailed breakdown of the most recent figure reported through the WGA process
- Levels of Service – details the approved levels of service and service delivery standards
- Condition of the Asset – provides details of the condition of the asset along with an analysis of historic trends and whether we are meeting current levels of service
- Option Identification – looks at the various service gaps that exist and identifies ways of reducing those gaps
- Budget Optimisation – for the particular asset being investigated in the life cycle plan this section looks at what the priorities are for the future and what is the best way of spending the budget
- Risk Assessment – analyses the risks associated with the asset failing

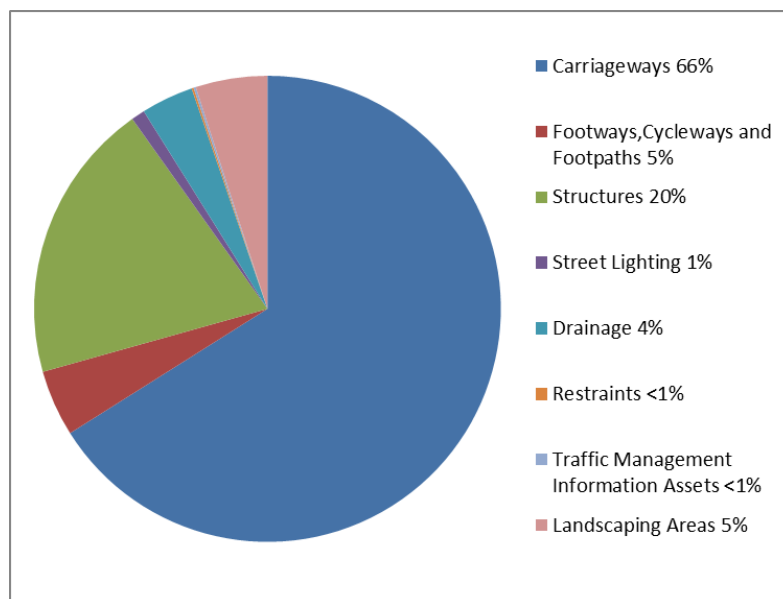
- Performance Measurement – provides details of the performance measures currently used and the performance that has been measured
- Improvement Actions – having analysed all the information available for the asset group, this section looks at what improvements are required in the following years

4.1.1 Condition Assessment

A key part of any asset management process is the asset register which provides the core data to inform the decision making and valuation processes. We have a data strategy that helps us understand the value of each element of data and explains what priorities we have for management, maintenance and improvement of the data. This data is key in helping us measure and manage the condition of the network.

A comprehensive inventory of highway data is held including: carriageway data, structures, footpaths, footways, cycleways, street lighting, street furniture including bus stops & shelters, and gullies.

The County's Highways Infrastructure network, including the eight asset groups covered in this document is currently valued at £5.8 Billion; the largest of all the Council's assets. This figure has been calculated in accordance with CiPFA guidance and conforms with national reporting requirements. The split between the asset groups, based on the initial gross replacement cost that was reported to the Treasury, is set out below:



Further work is on-going to refine the information included in the calculations and provide relevant data to the Government on an annual basis.

Key Asset Groups

Carriageways

Northumberland operates an accredited Pavement Management System (PMS) based on the national standard known as United Kingdom Pavement Management System (UKPMS) that has been developed to analyse the network condition of road carriageways.

The UKPMS holds a map based representation of the road network which provides the framework against which all data is held e.g. inventory including length, width, construction details, maintenance treatment history, location of individual assets such as kerbs, gullies, signs, road markings etc. and condition data.

A system of rules and parameters for each road class provide a benchmark condition against which the actual condition data is compared. UKPMS provides a condition index for each 10 metre section of road, the higher the number, the worse the condition. Alongside this it also recommends a method of repair, known as the maintenance treatment, that if applied will improve the condition of the section of road.

Condition surveys are carried out using an accredited SCANNER survey vehicle to assess the surface condition of the classified 'A', 'B' and 'C' road networks. In line with national reporting standards we carry out surveys of all the A and B road network in one direction each year (50%) and half of the C road network in one direction (25%) on an annual basis.

We record the condition of our unclassified road network by carrying out Coarse Visual Inspections (CVI) that are carried out by an accredited officer from a slow moving vehicle and cover the full width of the road, defects are recorded on a hand-held device. Surveys are carried out on a four year cycle with 25% of the unclassified network surveyed each year.

We have recently revised our categorised road hierarchy and have yet to confirm which survey type (SCANNER or CVI) we will use on each road category and the condition parameters that we will apply to the road network.

Alongside the condition data discussed above, we collect data about potholes and defects that are reported by members of the public and from inspection. We also collect performance data relating to insurance claims to help us monitor where such issues are occurring and their frequency.

We are normally able to meet our targets for defect repair times, but in times of significant deterioration, such as the recent winter period, the timescale to repair the increased number of defects can increase and performance results can be lower than our target.

Structures, including bridges, culverts, fords and retaining walls

We have been inspecting our bridges and monitoring their condition for over 50 years and in 2005 when the previous Code of Practice was launched we implemented Bridge Condition Indicators (BCI). These indicators measure the condition of every element of a structure and identify which element is critical to the bridge's structural performance. Each structure is given a score ranging from '0 - very poor' up to '100 - very good'. The indicators for each structure are then amalgamated to provide an overview of the bridge stock condition. Since we started monitoring BCIs in Northumberland the average condition has remained static in the region of 80%.

Since the 1990s we have carried out structural assessments on all of our bridges to ensure that they are capable of carrying the traffic that uses them. Those structures that are not up to standard are put on our Interim Measures programme and inspected on a more frequent basis to monitor performance until funds become available to strengthen the structure or implement a weight restriction. 84 bridges are currently under interim measures, which has shown a decrease over time.

In 2012 the Council invested in a management information system, 'BridgeStation' as a complete asset management tool for bridges and highway structures. BridgeStation combines asset management, performance management and prioritisation functions. This system allows a great number of scenarios to be investigated and the optimum solutions to be identified. Life cycle and performance evidence from BridgeStation was used in 2015 to demonstrate that current funding was not sufficient to maintain our masonry arches and to successfully secure an additional £6.7m of DfT Challenge Fund / Corporate capital for our Masonry Arch Refurbishment Programme (MARF).

Footways

We use the national standard survey for measuring the condition and performance of these assets, called the Footway Network Survey (FNS). It provides data needed to assess and target maintenance schemes or to identify where more detailed investigations are needed, as well as supporting accurate reporting of the condition and value of the footway asset.

The FNS survey is used as a network condition tool to identify where more detailed information may be required to support and validate treatment decisions and scheme identification. Work began in September 2015 on delivering the surveys which are carried out by our own trained officer.

The officer reports the condition of the footway in one of four condition levels:

1. As new
2. Aesthetically impaired
3. Functionally impaired
4. Structurally unsound

With current resources we can only survey a small proportion of the network, approximately 65 km on an annual basis which equates to 3% of the footway network. To help supplement this survey and provide better performance data we are moving towards a position where highway inspectors will also record their assessment of footway general condition after carrying out their safety inspections.

The information that has been collected to date shows that approximately 10% of the network surveyed since 2015 is either structurally unsound or functionally impaired and this data has been used to help prioritise footway repair schemes.

Street Lighting

For our street lighting asset we know the age and structural condition of our columns and monitor the number of faults that we receive and the time taken to fix them. The Mayrise system holds the inventory of all elements of the lantern, column and electrical testing.

This data was used to successfully secure the corporate capital for the street lighting replacement programme which is both converting all lanterns to new LED lanterns and also replacing all of the older columns. Whilst improving the condition of our street lighting stock this programme will also provide a significant reduction in electricity costs and maintenance for the authority. Performance data on street lighting faults is collected and analysed. Once the current project is complete work will re-commence on routine data gathering analysis on asset condition.

Supporting Assets

We do not gather condition data for any of the supporting assets, we do however identify safety defects as part of our routine highway safety inspections.

4.1.2 Demand Aspirations

We have had a functional network hierarchy since 2008 and in October 2018 introduced the revised version following a period of consultation, the functional hierarchy is important as it allows us to understand the demands of our road users and it is used to support the prioritisation of future works programmes, establish safety inspection frequencies, defect intervention criteria for maintenance safety defects, the management of risk, etc.

The stakeholder consultation also involved the neighbouring authorities, all County Council Members, Town and Parish Councils, the general public and stakeholders such as the North East Timber Group and the Regional Freight partnership.

The Resilient Road Network for Northumberland has been reviewed during a recent Scrutiny process and subsequently integrated into our revised network hierarchy.

in 2006/7 the Council implemented a risk based approach to its highways service delivery. At that time we implemented network inspection frequencies, defect intervention criteria and repair response times. These have been recently revised and updated and we have now added inspection time frames for reported defects.

4.1.3 Performance Gaps

We have identified 6 areas of perceived and actual weakness in our business processes that can lead to ambiguity, inaccuracies and inconsistencies in our performance or its reporting, they are:

1. Web-site, content and extent
2. Road condition monitoring is by road class not the functional hierarchy
3. Inconsistencies in the way that the functional hierarchy has previously been implemented
4. Evidence supporting the use of life cycle costing could be improved
5. The current life cycle plans for our key asset groups do not fully reflect current practice
6. The Asset Data Strategy remains in draft format and the asset register requires some improvement

Actions to rectify performance gaps are covered in the improvement action plan.

Recent improvements we have implemented include: -

- A street lighting modernisation project involving the replacement of approximately 30,000 lamps with eco-friendly Light Emitting Diode (LED) technology is nearing completion.
- Improving the quality and use of data collected when carrying out inspections and works using real time hand held data capture devices.
- We have increased revenue funds for the management and maintenance of Structures so that remedial works can be undertaken to prolong the life of bridges and retaining walls.
- Electronic recording devices (Kaarbontech Gully Smart) were introduced in November 2017 to record gullies cleaned and the amount of silt in each gully. This has assisted in monitoring operational performance and will assist in the future development of risk based frequencies of cleaning.
- We have improved our communication methods to engage with the public, by publishing details of policies and standards, ensuring these are available via the website, provide regular service updates on the website and via social media (such as road works, road closures, winter service operations).



4.2 Decision Making

4.2.1 Value Management and Risk Assessment

The risk management processes used for transport asset management have been aligned with the corporate risk management framework and the overall principles have been agreed with the Corporate Risk Manager.

We have established a risk ranking for each of the asset groups along with a risk register which has set out the key actions required to improve the service.

Value management is a key part of the process to develop suitably prioritised programmes of work, ensuring the right projects are taken forward at the right time. Programme development, incorporating value management, is a continuous process with project/programme forecasts reviewed and updated regularly.

4.2.2 Optimisation and Budget Consideration

Cross Asset Budget Prioritisation

We developed a budget optimisation process in line with the principles of asset management and requirements of WGA. This methodology is the culmination of several strands of work that have been undertaken over the past few years as part of the TAMP development process. In particular this brings together the work set out in previous sections:

- Life Cycle Planning and Inventory
- Corporate priorities
- Risk Management
- Levels of Service

Prioritisation of specific issues relating to individual assets

The prioritisation system moved away from assessing solutions to a system of assessing “issues”. For example, if a bridge has failed either because of its structural assessment or through its condition we should be assessing the impact of losing the structure, what disruption may be caused, will people no longer be able to travel to their chosen destination. Once the issue has been prioritised then we will research the possible solution options and carry out an options appraisal, this could include replacing or strengthening the bridge, applying a weight restriction or even possibly closing the road.

The key criteria used to assess each issue are:

1. Priorities at the Strategic Council level

- Consequences related to the issue
- Likelihood of the consequence happening

2. Priorities at the Transport Network level

- What disruption will be caused if the issue is not addressed
- What is the level of hierarchy for the asset

3. Priorities at the Asset Maintenance level

- Whole life cost implications of not addressing the issue
- Does the issue require addressing to rectify design standard issues?
- What is the useful remaining life of the asset in question

It is anticipated that improving existing decision making processes will offer one of the key benefits of adopting an asset management regime.

Budget Process

The County Council works on a four year medium term financial plan (MTFP) which is refined and approved each year at the February Full Council budget meeting. Both revenue and capital funding are included in this budget setting process and for highways we also use the DfT’s six year LTP settlement to help determine future funding scenarios.

4.3 Implementation

This section explores current service delivery methods and looks at the critical importance of taking a long term view of forward planning through the production of a forward works programme.

4.3.1 Integrated Forward Work Programme

The forward work programme provides for an integrated approach, bringing together all areas of work and delivery. This ensures that works programming, coordination and management is more effective and joined-up to increase efficient use of resources across the board.

One element of the decision making prioritisation process is the potential for schemes to be clustered and coordinated across asset groups, for example; resurfacing a road in conjunction with a road safety scheme. Such alignment of schemes within the Works Programmes is key to optimising available funding across our service delivery.

Our service delivery for highways takes account of statutory duties and the management and mitigation of risk both to the service user and the authority.

4.3.2 Physical Works and Service Delivery

In Northumberland a range of service delivery methods and contracts are currently in place for works across all the asset groups.

Highways Area teams work with Neighbourhood Services to provide all routine maintenance services including inspections and works delivery for all the asset groups.

The Roads and Bridges design teams provide all services required for design and checking of renewal/replacement, upgrade, acquisition and disposal work for issues that can be resolved by capital solutions, utilising external civil engineering consultancies where necessary.

The Area highway teams include construction staff who provide the construction expertise for delivery of capital schemes and also work with external contractors and suppliers as appropriate.

4.4 Reporting and Monitoring

This section of the document describes the processes established for reporting and monitoring the performance measures and the delivery of an asset management regime.

4.4.1 Performance Measurement

We have undertaken performance management since the late 1990's when Best Value indicators were introduced nationally as a basis for highway maintenance capital funding allocations.

Setting and measuring performance levels is important to our asset management process as it:

1. Ensures linkages between the corporate plan, asset management strategy, levels of service and maintenance operations.
2. Provides a systematic approach to measuring progress of our asset management strategy against our levels of service and service standards.
3. Allows decision making about how funding will be used to deliver the levels of service and service standards.
4. Facilitates communication with stakeholders by demonstrating performance against their requirements.
5. Helps to demonstrate any issues caused by the amount of funding that is available.

Data is captured on performance scorecards which cover everything from highway asset condition and pothole responses to customer satisfaction. Some data is collected monthly whilst other data, such as overall condition data and public satisfaction surveys, is collected annually. The performance scorecards are evaluated on a monthly basis and this helps to guide future decisions regarding service delivery. We gather data and report on two distinct performance areas.

The Levels of Service Framework is a comprehensive set of performance measure setting out:

- Levels of service – measure how the asset is performing and will be used to communicate with the customer about their expectations
- Service Delivery Standards – measure the way that we at NCC deliver the services required to manage and maintain the network

4.4.2 Priorities and Improvement Action Plan

The TAMP is part of the process for embedding good asset management within our service delivery protocols and it will continue to be updated as we improve service delivery, collect further data on our assets and respond to the changing demands on our transport network.

We will maintain the following priorities:

- use our performance data, including customer survey data, to target services towards areas of most need;
- maintain robust links between service areas including Highways Development Management to manage appropriate levels of developer contributions;
- focus on proactive maintenance rather than reactive and;
- be tougher on prioritising long-term demands over short-term demands, to minimise long term costs and deliver improved value for money.

The following improvement areas have been identified for further development. We will seek to:

- improve the information we provide on the web to ensure that our customers understand our aims, objectives and levels of service;
- give priority to maintaining the resilient road network in its current condition;
- implement our functional hierarchy across all service areas;
- improve the use of whole life costing in our decision making;
- improve the current lifecycle plans for our key asset groups;
- finalise our Asset Data Strategy including a comprehensive review of the asset register.