

Highway Asset Management Plan 2012 – 2013 (DRAFT)

*Highway Management
Technical Services Department
Wirral Council*

Wirral Council Highway Asset Management Plan

Contents

	Page
1 Introduction	
1.1 Executive Summary	5
1.2 Glossary of Terms	6
1.3 Wirral Profile and Highway Network	8
1.4 Purpose of Highway Asset Management	9
2 Asset Inventory	
2.1 Introduction	13
2.2 Data Review	13
2.3 Asset Groups	14
2.4 Current Data Management Practices	16
2.5 Proposed Data Management Practices	16
2.6 Asset Inventory projects and Progress Summary	17
3 Business Processes	
3.1 Introduction	20
3.2 How Customer Demands are Determined	20
3.3 How Funding Need is Assed	21
3.4 How Funding Need is Distributed over Time	22
3.5 How Effectiveness of Spend is Assessed	22
3.6 How Elected Members are Advised	22
3.7 How Levels of Service are Determined	23
4 Levels of Service	
4.1 Understanding Levels of Service	25
4.2 Developing Levels of Service	25
4.2.1 Legislative Requirements	26
4.2.2 Wirral Council's Mission, Policy and Objectives	26
4.2.3 Customer Expectations	27
4.2.4 Existing Levels of Service	27
4.2.5 Affordability	27
4.3 Service Options	27
5 Lifecycle Planning	
5.1 Introduction	32
5.2 The Planning Process	32
5.3 Performance Management	33
5.4 Lifecycle Synopsis	36

Contents

	Page
6 Optimisation and Valuation of Assets	
6.1 Introduction	38
6.2 Optimisation	38
6.3 Asset Deterioration Modelling	39
6.4 Predicting Funding Needs	40
6.5 Valuation of Assets	40
7 Risk Management	
7.1 Introduction	42
7.2 Risk Management Policy and Register	42
8 Forward Works' Planning	
8.1 Introduction	44
8.2 Current and Future Practices	44
8.3 Reviewing existing Works' Programmes	45
9 Performance Monitoring	
9.1 Introduction	47
9.2 Performance Indicators	48
9.3 Customer Access and Complaint Monitoring	49
9.4 Performance Monitoring and Reporting	50
10 Recycling and Sustainability	
10.1 Introduction	53
10.2 Levels of Sustainability within Existing Practices	54
10.3 Climate Change Strategy and Action Plan	55
11 Improvement Actions	
11.1 Introduction	58
11.2 Improvement Measures	58
11.3 Issues Identified and Improvement Actions	59
11.4 HAMP Action Plan	62
Appendix 1 Data Classification and Collection (Templates Only)	
Appendix 2 Asset System Register	

1 Introduction

1 Introduction

1.1 Executive Summary

Wirral's Highway Asset Management Plan (HAMP) provides an integrated framework for the delivery of highway management services across the borough's road network and for resources for the management of all aspects of the highway infrastructure.

The purpose of the Highway Asset Management Plan is to change how highway services are delivered in a way that makes the process more intelligence-led and customer responsive. Such an approach will ultimately bring greater value for money and help achieve key Council goals that can be found in strategies such as the Corporate Plan, the Local transport Plan and the Sustainable Community Strategy – Wirral 2025.

The principles of asset management are based around reliable knowledge of the asset; having a comprehensive asset inventory, knowing the condition of the asset and knowing its maintenance lifecycle and how long it will last. Equipped with reliable data, engineers are able to predict the annual level of investment required to deliver a predetermined level of service in the most cost effective manner.

The benefit of adopting an asset management approach is that it provides officers and Members with fully informed levels of decision making, in accordance with the principles set out in the County Surveyors Society's guidance document, *A Framework for Asset Management*. The HAMP sets out the management arrangements required to ensure that levels of service are optimised and ensures that the highway asset is managed wherever practical to meet the expectations of the highway user, whilst meeting the Council's statutory duties as the Highway Authority.

The Wirral Council HAMP is a document that will evolve over time. The Council acknowledges that at present there is insufficient data recorded against some assets however, the HAMP is a tool that will identify these gaps and will form the framework for the authority to work towards developing and implementing a data collection strategy and action plan.

1.2 Glossary of Terms

The following terms are used in this HAMP:

Asset

In the context of this document an asset is an integral feature of the highway infrastructure, such as roads, structures, lighting and traffic management systems.

Asset Inventory

A comprehensive record of the tangible assets that collectively comprise the highway infrastructure.

Asset Management

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.

Asset Valuation

The calculation of the current monetary value of an authority's assets. It excludes therefore any consideration of the value to the community in terms of economic and social benefits of providing a means for people to travel in order to work, socialise and live.

Depreciated Replacement Cost

A method of valuation which provides the current cost of replacing an asset with its modern equivalent asset less deductions for all physical deterioration and all relevant forms of obsolescence and optimisation.

Depreciation

The calculation of the reduction in the monetary value of an asset over its useful life arising from use, ageing, deterioration, damage or obsolescence.

Deterioration

The physical wear and tear on the asset; damage due to time, weather etc. that can be observed and measured through condition surveys.

Gross Replacement Cost

The total cost of replacing either the whole of an existing highway network, or some part of it, with a new asset to a modern equivalent standard; taking into account up-to-date technology and materials.

Levels of Service

A statement of the performance of the asset in terms that the customer can understand. Levels of service typically cover condition, availability, capacity, amenity, safety, environmental impact and social equality.

They cover the condition of the asset and non-condition related demand aspirations, i.e. a representation of how the asset is performing in terms of both delivering a service to customers and maintaining its physical integrity at an appropriate level.

Non-Principal Roads

Roads of local importance – mostly B roads, with some A roads.

Principal Roads

Regional and District distributor routes made up of A Roads.

Risk Management

The formal assessment of risks with the potential to affect delivery of the service via a process of identification, assessment, ranking and control planning.

Service Options

Options available for an asset or groups of asset in terms of alternative levels of service.

Unclassified Roads

Feeder roads which comprise minor rural roads and urban estate roads.

Whole Life

The entire usable life of an asset; examples of whole-life costs include planning, research, purchase price, maintenance, removal and disposal. An estimate of the whole-life cost of an asset prior to purchasing will determine whether or not it will be cost effective. It is also called the lifecycle cost.

1.3 Wirral Profile and Highway Network

Under the Local Government Act 1972 the northern part of the Wirral peninsular constitutes the Metropolitan Borough of Wirral. This is one of five District Councils of Merseyside and has a population of 312,293 people (2001 census).

The roughly rectangular peninsula is about 10 miles (16.1 km) long and 7 miles (11.3 km) wide and is bounded by three bodies of water: to the west by the River Dee, to the east by the River Mersey and to the north by the Irish Sea.

The major urban centres of Wirral are to its east; these include Birkenhead and Wallasey. To the west and south, Wirral is more rural. Two thirds of the population of Wirral lives on one third of the land in Birkenhead and Wallasey,

Wirral is connected to the rest of Merseyside by two road tunnels and a rail tunnel. The M53 motorway runs up the centre of the peninsula from the Cheshire boundary.

The highway network is one of the most valuable assets in both financial and community terms that Wirral Council is responsible for. The network supports the national economy, particularly through its linkages to ferry terminals and the Mersey tunnels, and is fundamental in supporting the local economy. It also contributes to the character and environment of the local areas that it serves and plays a vital role in the Council's wider priorities.

The Council is highway authority for the Borough's roads and as such has a statutory duty to maintain its highway network with the exception of the M53 which is maintained by the Highways Agency on behalf of the Department for Transport and the Mersey Tunnels which are privately owned and operated.

The total road length managed by Wirral Council is approximately 1181 km (734 miles) of which 95 km are classified principal A roads, 67 km are classified non-principal B roads and 54 km are classified non-principal C roads with 965 km of unclassified roads (i.e. residential roads). These lengths change continually through the adoption of newly-developed roads and through closure of redundant highways.

The growth in traffic and its associated problems together with the continued growth predicted for the future, have highlighted the importance of highway management. Effective management and investment have consequences in areas of safety, reliability, and quality, and in addition a planned long term asset management system supported by effective technical systems will aid

regeneration, planning decisions, social inclusion, community safety, health and the environment.

Although carriageways and footways form the most obvious and substantive part of Wirral's highway infrastructure, the Highway Asset Management Plan is developed around seven key asset groups which are:

- Carriageways
- Footways, footpaths, public rights of way and cyclepaths
- Highway green spaces
- Lighting
- Street Furniture
- Structures (bridges and retaining walls)
- Traffic signals and traffic management systems

1.4 Purpose of Highway Asset Management

There is no definitive answer for the definition of highway asset management so for the purpose of this document the following definition has been adopted from the County Surveyors Society framework;

“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 definition brings together themes that define Wirral's Highway Asset Management Plan (HAMP). They are:

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

The development and subsequent continuation of an accurate inventory of highway assets is crucial in supporting the HAMP. The HAMP is designed to identify and target improvements which will enable Wirral Council to build on existing policies, practices and procedures to meet ever changing demands and constraints. In turn this will help the Council take decisions and meet its strategic goals in the most effective manner having regard to statutory

requirements, asset condition and value, customer aspirations and funding limitations.

Wirral has a typical highway network comprising of a number of diverse assets. The principals of asset management are to be applied to each of these components.

1.5 Synopsis of Wirral's Highway Asset Management Plan

Introduction

Sets out the rationale for the HAMP and provides an overview of the highways asset together with a glossary of terms. It explains the key objectives and gives an overview of highway asset management process.

Asset inventory

A reliable asset inventory containing information about each asset group is the foundation of the asset management plan. The inventory includes information relating to quantity, type, location and condition. It is vital that the inventory is properly maintained and kept up-to-date if the data contained in it is to be relied upon.

At present it is acknowledged that there are gaps in the amount of, and in some instances quality of, inventory data held. The HAMP will identify these gaps and will form the framework for the Council to work towards developing and implementing a data collection strategy and action plan.

Business processes

Identifies business processes that affect asset management outcomes and outlines proposed improvements to them. It introduces the processes by which the HAMP will seek to establish funding options and optimise levels of service.

Levels of service

Defines the levels of service for each asset with targets ranging from statutory, minimum, or do nothing scenarios, to current, desirable or improved levels of service. It also outlines how the options available for dealing with the ongoing and future demands placed on the network are identified and evaluated.

Lifecycle plans

Outlines how assets are managed having regard for levels of acceptable deterioration and appropriate timescales for maintenance intervention, and ultimately replacement.

Optimisation and budget consideration

Considers the highway asset budget and future funding needs alongside a framework of strategic planning and optimisation.

Risk management

Describes the risks associated with the management and ownership of the highway asset and the processes that are used to control and manage these risks.

Forward works' programme

This will provide a summary of the forward works programme for each asset group and the processes by which these programmes are formulated. The means of determining future resource requirements is based on the manner in which the asset group is allowed to depreciate and this is normally defined through two categories.

The first category is known as the conventional method, where straight line depreciation of the asset is acceptable to a point where replacement is necessary, applying to such assets as highway lighting and street furniture.

The second category is known as component accounting, whereby a level of annual expenditure is required to maintain the asset to a specified level of service, this applies to assets such as carriageways and footways.

Performance monitoring

Demonstrates how Wirral Council monitors its performance relative to each asset group by using commonly recognised performance measures; where appropriate, including indicators which allow both assessment of improvement of performance against previous condition or level of service; and to facilitate benchmarking of performance.

Recycling and sustainability

There is an increasing demand and expectation for local government to develop and apply sustainable construction and maintenance practices. Wirral's HAMP aims to further encourage the use of recycled materials and the re-use of existing materials when carrying out maintenance activities.

Improvement actions to the HAMP

Improvement actions for proposals are put forward together with a programme containing timescales to implement such improvements.

2 Asset Inventory

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2.1 Introduction

A reliable asset inventory containing information about each asset group is the foundation of the asset management plan. The inventory should include information relating to quantity, type, location and condition. It is vital that the inventory is properly maintained and kept up-to-date if the data contained in it is to be relied upon.

The key objective is to make high quality inventory and condition data readily available so that a consistent management approach is achieved on an informed basis to optimise resource allocation.

Wirral Council does not have a single computerised Highway Asset Management System (HAMS) but relies on a number of applications and databases to inform its asset inventory.

2.2 Data Review

Confirmation of the quality, reliability and completeness of existing data sets is essential. The level of confidence in the data has to be established before embarking on the implementation of any asset management processes. A review of current inventory practices has established the specific data held for Wirral's highway assets and the subsequent review of this data has determined:

- Where the data is recorded
- The level of detail that is captured
- The format of data capture; hard copy or electronic
- How the data is validated

The level of information recorded against each asset group has been assessed to determine that it is meaningful and has specific regard for the use and purpose of the data. Typical uses include:

- To provide information on the condition of the asset
- To enable a long term programme to be established
- To capture faults or damage in a way that can be analysed
- To report on local indicators
- To assist in the management of contractual arrangements
- To enable the value of the asset to be calculated

2.3 Asset Groups

Assets need to be grouped in a consistent manner so that data can be comprehensively compared at a regional or national level for example to determine actual expenditure or estimated spending need for a particular asset class, to allow benchmarking with other Local Authorities and to allow asset performance to be tracked over time.

The classification has three levels that are defined as:

Level 1

Asset types – broad categories based upon the general function of the assets. They divide the asset base into categories that may be suitable for reporting in the financial statement and provide an appropriate basis for high-level management information.

Level 2

Asset groups – used to distinguish between assets that have a similar function and form.

Level 3

Components – distinguishes between components that, when systems become well developed, may require individual depreciation and impairment models, such as different service lives and / or rates of deterioration.

Level 1 : ASSET TYPE	Level 2 : ASSET GROUP	UNIT OF MEASURE	Level 3 : VALUATION COMPONENTS
Carriageway	Flexible pavements Flexible composite pavements Rigid concrete pavements Rigid composite pavements	area m2	Includes for all categories: pavement layers, other surface types, central reservation, roundabouts, lay-bys, traffic island etc, traffic calming, bus lanes, drainage
		linear m	Kerbing, markings, road studs, hard strip / shoulder / verges
Notes The road pavement is the actual surface on which the vehicles will travel: Flexible - pavements with a bitumen bonded surfacing and roadbase Flexible composite - surfacing and upper road base are bituminous on a lower roadbase of cement bound material Rigid concrete - pavements with a concrete surface slab which can be un-reinforced, joint reinforced or continuously reinforced Rigid composite - continuously reinforced concrete slab with a bituminous overlay			
Footways & cycleways	Footways Pedestrian areas Footpaths (including PRoW) Bridleways (including PRoW) Cycletracks	area m2	Includes for all categories: construction layers and formation
Notes PRoW - public rights of way are paths on which the public have a legally protected right to pass and re-pass			
Highway green spaces	Freehold land and rights land	area - hectares	Nothing beyond area of land
Notes Rights land is usually held for maintenance access, such as adjacent to bridges.			
Lighting	Lighting columns Wall mounted lighting units High mast lighting Illuminated Traffic signs	number	The entire item including: column and foundations brackets, luminaires control gear, internal wiring
Street furniture	Urban roads Rural roads	number	Seating, litter bins, grit bins bollards, sign posts, street name plates, trees, weather station
Structures	Bridges and subways Culverts Retaining walls Signs gantries, cantilever signs Tunnels Structural earthworks	deck area m2 internal surface area m2 retained area m2 span length m length m length m	Includes for all categories: the entire structure
Traffic management	Traffic signals Pedestrian signals Information systems Safety cameras	number number number number	All equipment and cables All equipment and cables All equipment and cables All equipment and cables

2.4 Current Data Management Practices

For certain asset groups such as structures and street lighting the current data management processes are considered to be good. However, in contrast there are categories where limited data exists and there is little evidence to suggest that reliable inventory records have ever been kept. It is our priority to target the latter areas for the collection of asset inventory data.

The low level of confidence surrounding certain asset groups means that the use of information needs to be tempered with the knowledge that its use can bring about misleading results. The ability to undertake better analysis of information and consequently plan works in a more proactive manner is currently constrained by the inconsistent quality and completeness of asset data.

2.5 Proposed Data Management Practices

It is generally accepted that to collect every piece of asset data is neither practical nor financially viable (for example, all white lines). A review of current data has provided a gap analysis that enables the targeting of the more critical items of data. A prioritised programme of data collection is to be implemented to produce higher levels of confidence in those data sets identified as either mandatory or having a high level of importance. The data collection exercise will provide a base set of reliable asset data upon which future projections can be based, and more accurate valuations can be compiled.

To ensure that the maintenance of data is kept in manageable proportions, data administrators are to be assigned with responsibility for the completeness, integrity and availability of specific elements of major data sets. It is vitally important that before any inventory system is introduced, the mechanism by which it is managed and updated on a day-to-day basis is in place with fail-safe processes that will prevent such systems being neglected in the event of staff changes or departmental restructures.

The inventory management procedures for each asset group will typically include the following:

- Named Information Asset Owners
- Where the data is recorded
- The level of data that is recorded
- Format of data recording (hard copy or electronic)
- Procedures for updating the asset inventory
- Procedures for inventory verification and validation

2.6 Asset Inventory Projects and Progress Summary

There are a number of asset inventory projects underway to improve the quantity and quality of asset data held.

- 1) A review of the traffic signs database is currently in progress to identify the gaps in the data which have occurred as a result of new signing schemes and alterations to existing signing layouts not being forwarded to the asset data collection team to record on the database. There is currently a backlog of approximately 12 months of data input work to be undertaken.
- 2) A footway condition inspection regime is to be established in addition to the current highway safety inspection procedures to accurately record footway material types. The data collected can be used to produce priority maintenance listings and long term improvement programmes.
- 3) A structural condition survey is to be undertaken on the Council's older street lighting columns to assess their condition for possible inclusion in future column replacement programmes. As part of the ongoing cyclical maintenance programme a visual inspection of the structural condition is carried out and the presence of any key risk factors is recorded. Equipment displaying these risk factors undergoes a more detailed assessment and rating in accordance with National Guidelines. The information is then used to prioritise column replacement.
- 4) A survey of the Council's highway tree asset is currently being carried out to assess the condition of the existing tree stock and the data collected from that survey will be included on a priority basis into a 3 year programme of planned maintenance work. The work builds on the comprehensive risk based survey carried out for all highway trees in 2008.
- 5) The existing highway gully and channel drainage system is largely mapped and work is currently in progress to add land drainage culverts that pass beneath the public highway, together with their interconnecting watercourses. Together, this asset information will enable a better understanding of flood risk in the Wirral and the mechanisms that lead to highway flooding.

Additionally it is intended to investigate the relationships between the highway drainage system and public sewers as it is likely that there are more highway drains than are presently identified and mapped.

- 6) A GIS-based database system is already in place for Highway Structures, containing information on bridges, retaining walls and culverts (as defined in the Code of Practice for the Management of

Highway Structures); both publicly and privately owned. This includes condition information, asset details including materials used, remedial works undertaken, loading assessments, and links to electronic copies of relevant reports, drawings and other archive materials, and which is continually updated. The system also links into the existing Signs database to allow cross-referencing of structure-related signage.

Details of component-level inspections are housed and updated when further inspections are carried out, in accordance with national best practice, and the system is interrogated automatically to report on Bridge Condition Indices data to provide a snapshot of the current condition of the Authority's Bridge Stock. This system will be developed to include data on Highway Retaining Walls in the future.

Information regarding Sea Walls will also be integrated into the system where that infrastructure provides a highway supporting function.

The need to continue to obtain information on bridge component conditions via a regular inspection regime in accordance with national guidelines has also been identified as vital to ensure that the information in the database remains up to date and is able to inform future decisions on expenditure prioritisation.

3 Business Processes

3 Business Processes

3.1 Introduction

Business processes shape and direct key decision making to determine the effective allocation of resources for all asset groups. Guidance for managers comes in the form of established corporate systems for financial approval and financial management. The Council's Finance and Contract Procedure Rules govern the way that the Highway Authority manages its business. These internal mechanisms are routinely checked and monitored in a structured manner by the Council's own financial and internal audit officers.

Many of the maintenance procedures that have evolved over time offer historical evidence to support the notion that good practices are being achieved including following established national guidance where appropriate. The adoption of a HAMP enhances our service delivery by focusing on the following business procedure issues:

- How customer demands are determined
- How funding need is assessed
- How funding is distributed over time
- How effectiveness of spend is assessed
- How elected Members are advised
- How levels of service are determined

3.2 How Customer Demands are Determined

Wirral Council addresses customer expectations by informing, consulting and encouraging both public participation and public empowerment.

Highway users and local communities are informed and advised about highway works through a variety of channels, such as the internet, press releases, media articles or by letter; leaflets and strategy and policy documents may also be available online and in print at public buildings. On occasion, personal visits for those households or businesses affected by the various programmes of works, or seeking work to be undertaken, may take place.

Wirral has a method for engaging communities and improving the responsiveness of public services via Area Forums which were established in 2001. There are eleven Forums and they provide a positive and active partnership of local people and organisations working together to tackle local issues. The Neighbourhood Plans and the feedback received from consultation during their preparation will provide much information on local demand.

Night-time working is an issue that may be addressed in the future by such forum consultation in order to determine the advantages and disadvantages to the local community; businesses, schools and medical centres etc may prefer a night-time operation for major maintenance work however, local residents may prefer a day-time operation to minimise the disruption affecting them directly. Such feedback can be used in conjunction with views about construction and road safety and maintaining traffic flow provided by traffic managers, the police and the contractor.

The CRM system for registering and tracking enquiries and complaints and various customer feedback questionnaires are also employed to gauge customer needs and expectations, along with various project completion evaluation measures and customer surveys.

3.3 How Funding Need is Assessed

Funding need is often established through historical precedent. For some asset groups inventory information is limited and condition information is sometimes insufficient for optimal decision making. This can result in programmes that are disproportionately driven by reactive management to the detriment of best value principles.

Statutory accounting rules require that all expenditure on the acquisition, creation or enhancement of highways is capitalised on an accruals basis in the accounts. Expenditure on the acquisition of, or expenditure that adds to, and not merely maintains, the value of an existing asset, is capitalised, provided that it yields benefits to the Council and the services it provides, for a period of more than one year. This excludes expenditure on routine repairs and maintenance of fixed assets that is charged directly to service revenue accounts. It does, however, include expenditure such as the acquisition of land and buildings, and the construction and enhancement of roads, buildings and other structures.

Changes to the highways asset brought about by the adoption of new assets, increased traffic volumes, major developments and government legislation have not been uniformly matched with year-on-year funding adjustments for Wirral's revenue and capital budgets, or its shared Local Transport Plan (LTP) settlements. It is intended that the HAMP will place greater focus upon need rather than historical precedent. It is essential therefore, that measurement procedures better demonstrate that the Council's maintenance spending is not only improving asset performance and value, but is also satisfying asset demand.

3.4 How Funding is Distributed

In general Wirral like most other highway authorities, funds the maintenance of its highways assets through a combination of capital and revenue budgets.

A significant proportion of capital allocations are generally made by central government through the LTP, which takes into account such factors as road length, classification, traffic figures and National Road Maintenance Condition Surveys (NRMCS).

Revenue allocations are generally funded through a combination of local council tax, business rates, fee generations, and central government revenue support and other grants.

More recently Wirral has been able to supplement these core funding streams with additional sources including the EU Regional Development Fund, Local Sustainable Transport Fund, Department for Transport Pothole Fund and Section 278 Agreements (Highways Act 1980) for developments.

3.5 How Effectiveness of Spend is Assessed

Many highway asset groups used to have national performance indicators attached to them in addition to local targets, however, these are now monitored purely against the local targets in order to allow the effectiveness of current funding levels to be assessed.

Measuring performance against established targets including condition indicators, LTP delivery measures and user complaints are fundamental in establishing and identifying performance gaps for desired service levels and for developing budget models that will allocate funding on a fair and equitable basis.

Performance monitoring, section 9, identifies these performance indicators.

3.6 How Elected Members are Advised

Funding for maintenance of the highway assets is determined by the approved Council budget, and comprises revenue funding, capitalised maintenance and the Council's Capital Programme. The budget setting process is carried out through the Cabinet and approved by the Council. The process for recommending highway maintenance expenditure is presently carried out as follows, on an annual cycle:

- LTP funding identified
- Preparation of the Structural Maintenance Programme based on condition surveys, including consultation with the Area Forums

- Business Case submissions for Capital Programme funding
- Report to Cabinet recommending the distribution of LTP capital maintenance funding between different asset types, and approval of the Structural Maintenance Programme for carriageways and footways to be funded from the LTP capital maintenance allocation, capitalised maintenance budget and any approved Capital Programme Business Cases.

The approved list of schemes within the Structural Maintenance Programme is greater in value than the proposed funding approved. This is to allow certainty of priority yet flexibility to extend and or alter the proposed schemes to be delivered in the event that, for example, there are clashes with major utility activities, severe winter damage to certain roads, some scheme requirements are reduced or less costly treatment is selected when the schemes are prepared in detail.

Once a scheme is certain to proceed, Local Councillors will be notified that the scheme is to proceed (with timescales), utilising the letter to be issued to affected residents.

Progress in delivering the Council's objectives for safe and well maintained highways, and the performance measured through the carriageway condition indicators, are reported annually to the Sustainable Communities Overview and Scrutiny Committee. Both that Overview and Scrutiny Committee and the Cabinet receive annual reports on the progress in delivering the benefits set for the highways service delivered through its term maintenance contract.

3.7 How Levels of Service are Determined

Defining levels of service is a central element of Wirral's HAMP and offers the capability for a range of service options to be explored against clearly defined standards for each of the asset groups under consideration.

Levels of service are assessed against a number of key requirements or drivers, including legislation, stakeholder needs, corporate objectives and the relevant national codes of practice or operational guidelines.

Wirral's business processes are designed to provide an integrated planning framework for delivering best value and continuous service improvement to meet the visions, priorities and pledges of the Council. The Council's budget setting process is a key component in providing the required financial backing to support and achieve desired service levels.

4 Levels of Service

4 Levels of Service

4.1 Understanding Levels of Service

Levels of service describe the quality of services provided by the asset for the benefit of the customer. They are composite indicators that reflect the social, economic and environmental goals of the community. Levels of service are therefore the manner by which the highway authority engages with the customer and are about reflecting the customer's interests in terms that can be measured and evaluated.

The correlation between customer expectations and the delivery of the asset in practical terms must be explained and effectively communicated to stakeholders. This distinction is important as whilst this framework promotes a focus on the customer's needs there may be instances (particularly in relation to the structural condition of the asset) when the customer is not in a position to hold an informed opinion because critical asset condition is not always visible. Decisions which impact service delivery must also align with the statutory obligations, policies and wider objectives of the Council.

Levels of service determine availability, capacity, amenity, safety, environmental impact and social equity. They cover both the condition of the asset and the non-condition demand aspirations.

4.2 Developing Levels of Service

The beginning of the process is to establish a clear set of service levels ranging from an excellent service to a statutory minimum service. At present no national framework exists although guidance contained in the County Surveyors' Society framework and the Code of Practice for Highway Maintenance Management give indications of desirable service standards.

Levels of service are the means by which a highway authority attempts to meet customer expectations, statutory obligations and corporate goals in delivering highway services.

The key requirements affecting the development of levels of service are:

- Legislative requirements
- Wirral Council's policy and objectives
- Customer expectations
- Best practice guidelines
- Affordability
- Availability of resources

4.2.1 Legislative requirements

It is a requirement that levels of service comply with the legal obligations and statutory duties incumbent on the highway authority. Additionally, the adoption of recognised codes of practice will provide the necessary guidance to align service delivery with national best practice.

It is essential that minimum levels of service are sufficient to meet the statutory requirements set out in the following legislation (and any subsequent amendments) and any other such Acts in connection with the delivery of the service.

- Highways Act 1980
- Traffic Management Act 2004
- New Roads & Street Works Act 1991
- Road Traffic Reduction Act 1997
- Transport Act 2000
- Road Traffic Regulation Act 1984
- Traffic Signs Regulations & General Directions 2002
- Railways and Transport Safety Act 2003
- Local Authorities (Transport Charges) Regulations 1998
- Countryside and Rights of Way Act 2000
- Environmental Protection Act 1990
- Noxious Weeds Act 1993
- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1999
- Construction (Design & Management) Regulations 2007
- Local Government Act

A number of best practice guidelines also exist that directly influence levels of service. While these best practice guidelines are not always statutory requirements they represent a description of accepted good practice.

The most significant national best practice guidance documents relevant to this plan are:

- Code of Practice for Highway Maintenance Management.
- Code of Practice for Road Lighting Management.
- Management of Highway Structures (Code of Practice)

4.2.2 Wirral Council's mission, policy and objectives

Wirral Council sets out its policies and corporate objectives in definitive volumes such as the Corporate Plan - Action Plan for Highway Management; Corporate Goal - Have a safe and well-maintained highway network for all users, Wirral 2025 - A Sustainable Community Strategy and the third Local Transport Plan for Merseyside.

Wirral Council's budget planning process is designed to enable strategic choices and decisions to be made in an informed manner, so that the Council can manage its budgets and services with due regard for prudence, stability, investment and efficiency.

4.2.3 Customer expectations

The expectations of all road users, the community and local businesses need to be recognised as factors in the service level decision making process, but also that these expectations can sometimes be competing or conflicting. When setting levels of service it is important to realise that key stakeholders can have a noteworthy influence on performance measurement and service perception.

The Council will facilitate discussion with stakeholders to keep them better informed of the projects we are to undertake and how they have been prioritised. Where appropriate their involvement in this prioritisation will be sought.

4.2.4 Existing levels of service

A review of existing levels of service is essential to the development of the HAMP. A review will establish the standard and cost of service provision for each of the asset categories including any mechanisms that record or report current levels of service. Such a review will identify gaps where information is lacking. In the absence of relevant performance data, any such anecdotal sources that exist will need to be tested to verify that assumed levels of service are actually being achieved.

4.2.5 Affordability

Pressures on Council funding and increasing demands on the highway network may mean it is not always possible to secure the required funding to deliver the optimum solution. This is one of the reasons for presenting a number of service level options in the HAMP. Another reason is that decision makers will have access to data allowing them to make informed decisions governing service delivery and be aware of the consequence of their decision-making. This is particularly useful in a situation of competing demands for funding.

In reality budgets often dictate what can realistically be achieved, so affordability must be recognised and acknowledged when setting deliverable levels of service.

4.3 Service Options

An asset management approach offers existing and projected data to support the decision making process. In practical terms this means the identification and assessment of service options.

Once the requirements driving an asset group's service level have been determined it is necessary to develop service options around these requirements and evaluate them. This process should clearly identify the service options applicable to the particular asset group and state the basis upon which the preferred option has been selected.

Service delivery can be influenced by a number of demands. These come mainly from legislation, best practice guidelines, health and safety requirements, corporate goals, political influences, customer expectations and financial constraints. Additionally, service options will vary between the competing demands and importance of each asset group. As a starting point, initial service provision will be established around current practices, which will be developed through the HAMP by a process of continued monitoring and improvement.

The following generic service levels have been adopted:

Statutory Minimum	Meeting statutory or legislative requirements and notes for guidance
Existing	The impact on the asset if current funding levels are maintained
Steady State	To arrest deterioration of the asset and maintain current condition, performance and value
Requested Service	Based on customer expectations and / or political aspirations
Optimum Service	An optimum level of service based on an economic lifecycle planning process
Attainable Service	Re-interprets the Optimum Service option in light of available recourses and represents the best return for available funding

Ultimately, the chosen option will result from a combination of cost, benefit and risk. Historically, of these three elements, cost has been the most readily communicated and understood. Understanding cost is however an incomplete picture, therefore it is necessary to evaluate service level options against an agreed set of criteria to make the most of levels of service.

Depending on the asset category, the options evaluation criteria will typically include:

- Programmes and planning
- Safety implications and requirements
- Availability of service or asset

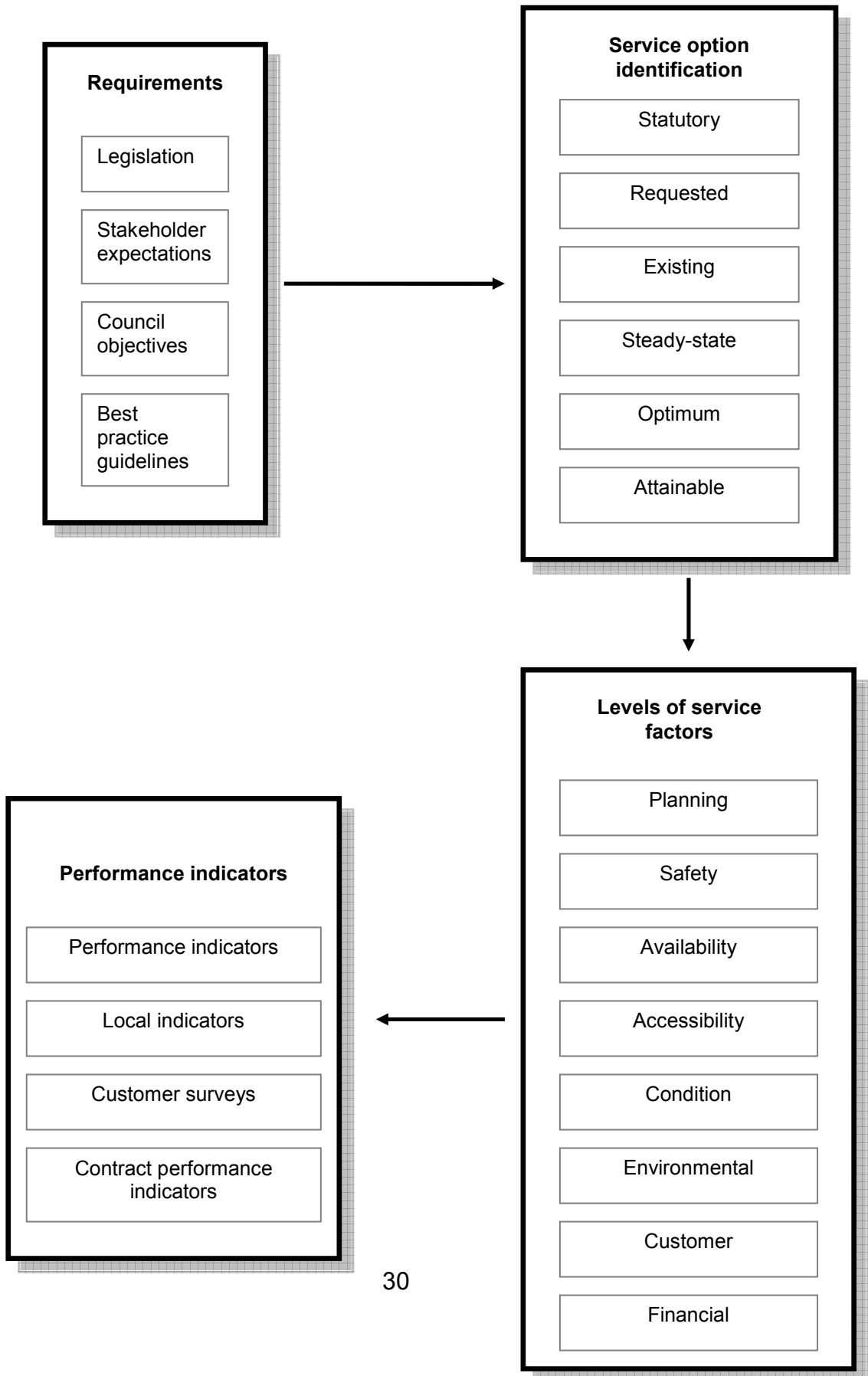
- Accessibility to service or asset
- Condition of the asset
- Environmental impact of providing and maintaining the asset
- Customer service, expectations and perceptions
- Risk and benefits
- Finance
- Performance targets

When each service option has been approved and becomes operational the asset management process will monitor, review and report on progress and performance. Whenever possible, levels of service need to be measurable and realistic. It should be noted that a number of asset groups come under additional scrutiny through the Council's corporate performance management process where they are monitored against formal performance measures, including:

- Local performance indicators
- Recording of response times
- Customer complaints monitoring procedures
- Condition surveys

A flow chart on the following page illustrates the key processes in developing levels of service.

Levels of Service Flow Chart



5 Lifecycle Planning

5 Lifecycle Planning

5.1 Introduction

The adoption of lifecycle planning is a step that brings about greater focus on long term planning and programming and whole life costing and is one of the key components of the Wirral HAMP. By knowing the current condition of the asset, and assessing its future performance through agreed risk and investment scenarios, there is the capability to develop more effective strategies and achieve specific levels of service throughout the life of the asset.

5.2 The Planning Process

Previously, knowledge of an asset's lifecycle has generally existed in undocumented formats or in the minds, experience and judgement of key officers involved in the mainstream maintenance processes. There is a real risk that the information gathered by those individuals who have witnessed 'asset passage from creation to disposal' could be lost through staff turn around or retirements.

The introduction of lifecycle plans will involve capturing this knowledge to produce records and systems that will be available for future reference ensuring consistency of service delivery.

The lifecycle planning process is driven by the future requirements and budgetary constraints for each asset group. The following key areas are considered and explored as part of the process:

Asset item inventory

Information defining the type and distribution of asset items, along with mechanisms for routinely updating inventories, identifying data gaps and reconciling discrepancies.

Goals and objectives

The statutory, legislative, best practice and corporate drivers for the provision of services for each asset group.

Condition

Information regarding the current condition of each asset group and the survey strategies and regimes set in place for recording and measuring change in relation to this condition and where appropriate, statements and standards that define what the desired condition of the asset should be.

Stakeholder demand

Acknowledgement of stakeholders' reasonable expectations and monitor these against established benchmarks, which measure capacity, reliability,

serviceability and environmental considerations. This process assists with setting levels of service and influences lifecycle planning.

Performance gaps

Based upon an appraisal of current performance of an asset against required performance. Gaps are identified in terms of shortfall, and the investment involved in closing these gaps must also be taken into account where applicable; together with the risks associated with not doing so.

Options appraisal

Considers the maintenance regimes for each asset group and current levels of funding allocated to the same. Identifying strategy, cost effectiveness and reviewing the merits of alternative maintenance treatments, including cyclic, reactive, routine and programmed options in relation to varying levels of service.

Budget optimisation

Reviews current budget distribution between assets and the processes in place for assessing competing demands against available budgets.

Forward works' programmes

How current works' programmes maintaining the asset are composed, with asset management practices being developed to promote integrated programmes of work of sufficient duration to allow optimum scheduling of future works across all of the asset groups.

Works procurement

Appraisal of existing mechanisms by which works are procured for the maintenance of each asset group, including the contractual arrangements in place for commissioning works, and the alternatives available for delivering new systems of working and technologies.

5.3 Performance Management

Wirral Council's aim is to build on the performance objectives defined in Section 9, Performance Monitoring, to develop trends in performance that can be appraised over a number of years to form a key driver in decision making for service delivery across the asset groups.

Detailed lifecycle plans will serve to target areas that need improvement in the management and processing of important data for maintenance purposes. It provides a framework for managers to critically appraise the quantity, quality and accuracy of asset data.

Asset lifecycle options have been considered in accordance with the generic categories identified by the County Surveyors Society (Framework for Asset Management) in the following table:

Asset Lifecycle Options	
Creation or acquisition	Highway assets either already exist, or are created and acquired largely as a result of development / improvement or the creation of increased capacity by new build schemes.
Routine maintenance	Involves carrying out maintenance to maintain the asset in a serviceable condition. Routine maintenance regimes are principally based on historical practice. Wirral's HAMP brings about needs-based practices around condition measurement, standards reviews, and effectiveness assessments of routine maintenance activities.
Renewal or replacement	Involves renewal or replacement of the whole asset or elements of it, to return the asset to its 'as new' capacity and condition. Renewals and replacement are the major treatments available when routine maintenance alone cannot sustain the asset. The identification and timing of renewals / replacement is a fundamental element of lifecycle planning, and the HAMP will provide data to support the selection of the optimum time for carrying out specific treatments. Key areas of focus involve: How are potential renewals identified? How are renewals / replacements evaluated? How is the link between routine maintenance and renewals evaluated? How are the expected lives of treatments evaluated and checked? What service level criteria have changed?
Upgrading (Improve the assets' original standard)	Most often considered in relation to future needs.

Disposal (Decommission, demolish or closure of assets)	Considers under what circumstances assets would be disposed of and what the processes for disposal will involve.
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In addition there are two main non-asset related options:

Non-Asset Options	
Managing demand	Considers reduction in use of the asset such as road reclassification, managing road space, encouraging modal shift and weight restrictions.
Amend standards and targets	Review to ensure they are affordable and are given the correct emphasis in relation to other standards.

The treatment options for the highway assets are also considered within the context of the County Surveyors Society generic framework:

Treatment Options - Examples			
	Road / pavement	Structures	Street Lighting
Short term treatments	Pot hole filling, patching	Masonry pointing, painting, concrete repairs	Failed unit replacements
Medium life treatments	Surface dressing, slurry sealing, micro asphalts	Replace joints, bearings, waterproofing	Bulk luminare changes, tin topping
Long life treatments	Resurfacing, reconstruction	Rebuild structure	Column replacement New cabling

Wirral's HAMP encourages the adoption of lifecycle planning across all asset groups along with documentation of how each phase of the asset's life is

managed from creation to disposal. Part of the process is to recognise how the current level of investment in routine maintenance compares with the levels of renewal that are required, and how historic construction techniques can impact upon the future demands for maintenance expenditure.

The lifecycle planning process involves the identification of options and becomes more meaningful when it evolves to deliver lifecycle evaluations carried out in a rigorous and repeatable manner that help identify potential performance gaps and deliver process optimisation in the longer term.

5.4 Lifecycle Synopsis

The HAMP will maintain and manage Lifecycle Plans for the following highway asset groups:

- Carriageways
- Footways, footpaths, public rights of way and cyclepaths
- Highway green spaces (including trees)
- Lighting
- Street Furniture
- Structures (bridges and retaining walls)
- Traffic signals and traffic management systems

It is not practical in this document to define in detail the lifecycle of every highway asset group. Comprehensive information for all asset lifecycles will be contained in appendices to the HAMP.

6 Optimisation and Budget Consideration

6 Optimisation and Valuation of Assets

6.1 Introduction

One of the principal benefits of asset management is to provide the basis for a more transparent and objective decision making process. The aim is to establish decision-making processes regarding the network that fully incorporate the concepts of optimisation and risk management and also take account of budget considerations. These particular concepts are advanced asset management techniques and can only be carried out if robust levels of service information are available.

6.2 Optimisation

This has been defined as the process of identifying the optimal regime for the operation and maintenance of the network; it can be aided by the use of whole life costing and deterioration modelling.

It is necessary to go through an optimisation analysis process to identify the most cost-effective means of managing or responding to the ongoing demands that are placed on the highway assets. Optimisation is an advanced asset management technique, and before it can be successfully applied both basic data collection and analysis processes need to be in place.

The outcome of optimisation is the selection of the best option out of a range of acceptable options and can be undertaken at two levels:

Single asset / service optimisation	Selection of the best option for a single service / asset effectively in the absence of any other constraints
Network level optimisation	Selection across a network to rationally assess and evaluate the competing demands of differing services and assets

Single optimisation is concerned with prioritising for a single asset and the process starts with the identification of the options available for the asset under consideration. Once each option is identified, it can be assigned estimates of costs and benefits (both monetary and non-monetary).

These options are then ranked by a predefined system with the selected option being that which shows the best return. This is a comparatively simple process and provides the basic information to identify individual projects to be put forward for funding.

Network optimisation is used in the development of forward works programmes and is the process by which competing demands of differing services and assets are rationally assessed and evaluated. An example of this would be to compare the relative merits of a lighting replacement scheme against replacing a section of footway. This process of optimisation would support the Council in maximising the performance of the network whilst minimising the ongoing running costs. Presently the information and data to fully adopt this process are not wholly available but this approach is the ambition of the Council.

6.3 Asset Deterioration Modelling

Asset deterioration modelling is used to describe the process of simulating the change in the condition of an asset over time and identifying treatments to improve the asset and applying some rules to select the best possible combination of treatments.

While the methods can be readily applied manually, they are ideally suited to computer-based solutions owing to the large number of scenarios to be performed, (more suited to the long-term management of complex activities e.g. major carriageway maintenance, rather than activities like verge management).

The definition of 'best', when deciding on the expenditure, is subjective and may range from repair the "worst first" approach to more sophisticated lifecycle costing approaches, and a range of steps in between.

In its simplest form, asset deterioration modelling can be broken down to the following steps:

- What do we have?
- How will it perform with time and use?
- What can we do to hold or improve the condition, and what will it cost?
- What target levels of condition do we want?
- What money do we have available, and how best do we spend it?

While an experienced practitioner can readily predict the requirements on a section of road over the short term (perhaps five years or so), the ability to identify longer-term demands is not readily achievable. Similarly, the ability to identify the impacts of changes in use is also difficult to estimate. Other key issues that can be addressed from the system include the prediction of condition for a range of funding scenarios. In these cases informed decisions can be made on what level of funding is appropriate to achieve the desired condition in the longer-term.

6.4 Predicting Funding Needs

The move to statutory Whole of Government Accounts means that local highway authorities must generate in-depth information on the condition and rate of deterioration of their highway assets. From this data, current and future valuations can be calculated. Previously, it was sufficient to estimate the projected maintenance expenditure needed to keep the highway asset operational. However the flaw to this approach is its vulnerability to annual budget shortfalls, ultimately leading to a backlog in the maintenance of highway assets.

Wirral's HAMP tackles these issues by improving the strategic long term approach that involves infrastructure management processes driven by levels of service and lifecycle planning.

6.5 Valuation of Assets

Gross Replacement Cost of Highway Asset (GRC)

The objective of calculating Gross Replacement Cost (GRC) is to provide a realistic estimate of the current replacement cost of an asset using a standardised procedure. The replacement asset should have a potential performance broadly similar to the existing asset and take into account up to date technology and materials contained in a modern equivalent asset. This applies to all assets except those classified as a heritage asset.

Depreciated Replacement Cost of Highway Asset (DRC)

Depreciated Replacement Cost is defined as “the cost of replacing an existing tangible fixed asset with an identical or substantially similar new asset having a similar production or service capacity, from which appropriate deductions are made to reflect the value attributable to the remaining portion of the total useful economic life of the asset and the residual value at the end of the asset’s useful life”.

Wirral Council will base the calculations for highway asset values on guidance contained in the CIPFA Code of Practice.

7 Risk Management

7 Risk Management

7.1 Introduction

Wirral Council is committed to delivering its vision of “making Wirral a bigger and stronger society”. The Council believes that effective risk management will help ensure that it maximises its opportunities and minimises the impact of the risks it faces and that by managing risk effectively, the authority will be in a stronger position to deliver its vision and strategic and operational objectives.

For the purpose of highway asset management, a risk is the chance of something happening that will have an impact on the Council’s objectives and the continuity of service provision. As that impact may be positive or negative, risks will be considered as opportunities and not simply as threats. The strategy seeks to address all forms of risk, not simply those relating to health and safety, financial or insurable risks.

Furthermore, risks do not simply reside in any one level within the organisation and the Council’s approach to risk management will therefore consider all strategic, operational and project risks.

7.2 Risk Management Policy and Register

The Council Corporate Risk Management Strategy was ratified by Cabinet in September 2011 and it is this Policy that forms the basis for risk assessments.

Within the Technical Services Department Risk Register, the key risk identified in respect of highways is the failure to deliver inspection and maintenance obligations in accordance with policy. The Risk Register records the controls in place to ensure that the Council meets its statutory duty.

The introduction of the HAMP and development of an asset management approach will enhance the controls required to manage that risk.

Further review of the Risk Register will include evaluation of the obligation to provide asset valuations in accordance with the CIPFA guidance.

8 Forward Works' Planning

8 Forward Works' Planning

8.1 Introduction

Fully integrated long-term forward works' programmes are not currently prepared by the Council for all the asset groups that make up the highways asset.

The current method of working is that individual asset group managers develop programmes independently; sometimes compiled upon a reactive basis, throughout the year. For the majority of asset groups, priorities and annual programmes of work are established by determining those locations that are most likely to address assets which are in the worst condition or oldest, and will give the best economic return on investment for any given maintenance treatment, although without any whole life cost analysis for assets such as carriageways and footways.

Customer requests through the customer relationship management system (CRM), walked safety inspections and engineering programme inspections together with local performance indicators also contribute to the prioritisation process.

By implementing asset management the Council will ensure that, where appropriate, programming of work is carried out in accordance with whole life costing principles based on more comprehensive investment analysis by encouraging greater integration between different areas of work and service directorates. This will bring the opportunity to develop longer term programmes with the potential to programme 10 years in advance, or further.

8.2 Current and Future Practices

Current practices rely upon asset group managers to independently assess maintenance requirements and develop bids for funding applications against largely short-term needs.

This practice will be replaced by processes that aim to identify long-term needs within a framework of budget optimisation; considering more fully the adoption of alternative service levels within the varying lifecycles for each asset group.

Current and proposed future practices do not offer the ability to predict precisely where and when projects will come about. This is because too many variables impact in an unpredictable manner to allow this to happen, such as differential rates of deterioration, statutory undertakers' works, road space availability, contractors' resources, and weather conditions.

It is however, practical and desirable, to predict the scale and type of treatment for projects likely to be carried out in future years on a network wide basis, and the adoption of the HAMP will bring together programmes across the asset.

Such an approach will further improve the Council's ability to co-ordinate its activities with the long-term programmes of the utility companies.

8.3 Reviewing Existing Works' Programmes

Currently, the review of each forward works programme occurs at individual asset group manager level. There is no formalised process to review and integrate forward works programmes to maximise the potential for combining projects and budgets so that they are delivered in a more effective manner, and reduce as far as practicable the disruption that results from uncoordinated works programmes. The adoption of the HAMP will provide a formalised structure within which forward works' programmes can be reviewed and integrated.

Current projects that are based on lifecycle plans are the Group Lamp Replacement project, the highway surfacing and highway structures maintenance programme and the Wirral Dock Bridges Status and Management Strategy.

- (1) Group Lamp Replacement is carried out at a frequency based upon the expected service life of the lamps. Improvements in lamp technology have extended the service life of discharge lamps and this has enabled a corresponding increase in the interval between lamp replacements.
- (2) There is a degree of cross-referencing between the Highway Resurfacing Programme and the Highway Structures programme; whereby consideration is given to timing certain works to coincide, where levels of funding and urgency of works allow. For example, combining resurfacing schemes with replacement of bridge expansion joints.
- (3) A programme of works is currently underway to refurbish and maintain various bridges in the Birkenhead and Wallasey dock complexes to enable them to continue to function in the medium term. This programme was approved by Cabinet in December 2008 and contains recommendations for repair works based on a Consultant's Report on Wirral Dock Bridges Status and Management Strategy. The works identified take into account the need to review the long-term future of the affected bridges in connection with large-scale development proposals in the area.

9 Performance Monitoring

9 Performance monitoring

9.1 Introduction

Robust and comprehensive performance monitoring and management is recognised as being essential in delivering services and corporate excellence. Its purpose is to raise and maintain at a high level the performance of individuals, services and the Council as a whole to ensure good quality and cost effective services are delivered to residents and other key stakeholders.

Performance management is an integral part of the Council's business operations and is inextricably linked to other strategic and service objectives.

Actual performance monitoring against individual asset groups is achieved through a combination of measures including performance indicators and comparisons plus targets. There is a fundamental requirement for all Councils to secure continuous improvement in the way they exercise their functions, having due regard for a combination of economy, efficiency and effectiveness.

Under the Code of Audit Practice 2005 for Local Government Practice, the Audit Commission defines these key terms as:

Economy	Acquiring human and material resources of the appropriate quality and quantity at the lowest price
Efficiency	Producing the maximum output for any given set of resource inputs for the required quantity and quality of service provided
Effectiveness	Having the organisation to meet the customers' requirements and having a programme or activity to achieve its established goals or intended aims

To demonstrate continuous improvement, performance is periodically assessed, and where practical like many other highway authorities Wirral uses a variety of well-recognised means to evaluate and quantify performance levels:

Performance Indicators	The measure of performance in exercising a function
Performance Standards	The minimum acceptable level of performance in the exercise of a function measured by reference to a performance indicator for that function; failure to meet this standard is seen as failing the test of best value for that function

Performance Targets The level of performance in the exercise of a function expected to be achieved over a minimum one year period measured by reference to the performance indicator for that function

Performance can be measured in many ways, but the focus of best value is accepted as the benchmark of placing greatest emphasis upon:

- **Input** Resources (human, material, financial)
- **Process** Methodology and procedure of committing resource
- **Output** The result (often numerical) of applying resource input
- **Outcome** The impact upon the community (the best way of measuring performance)

9.2 Performance Indicators

The Department for Transport (DfT) previously set very specific guidance on indicator development and monitoring in order for Councils to report nationally on Local Transport Plan 2 (LTP2). In contrast to this there has been no indicator development and monitoring associated with the third Local Transport Plan (LTP3) other than it is a 'local matter' and should therefore be organised at a local level. This is in line with government policy.

This national precedent is the abandonment of existing indicator sets, although some new streamlined sets of indicators have been re-introduced e.g. in the DfT Business Plan. Furthermore there will be no requirement to report back to DfT on an annual basis via Annual Performance Reports as was the case for LTP2.

However, Wirral as one of the five regions making up the Merseyside Transport Partnership has determined that there remain good and sound management reasons for maintaining a meaningful set of performance indicators for the Merseyside Local Transport Plan. The ability to measure performance in order to identify both success and shortcomings and therefore being able to address these issues throughout the lifetime of LTP3 is of clear value. A set of focused, clear measurable indicators provides accountability and incentives for improved performance and can help deliver better value for money as interventions are sought to maximise performance.

Maintaining continuity with LTP2 is also valuable. The Merseyside Transport Partnership are in some instances only now starting to see the full value of some of the indicator programmes from LTP2, and to halt these now could prove to be short-sighted.

The 'traditional' highway maintenance indicators that are continued in LTP3, and have been adopted within the Wirral Council Corporate Plan as a measure of its priorities in respect of safe and well maintained highways, as follows:

Target Indicators		Description	Target for 2011 – 2015 in LTP3
Previous reference	NI LTP3 / LTP2 Reference		
NI 168	A2 / BVPI 223 (96)	Principal road condition	Prevent any increase in the length of principal classified roads requiring maintenance treatment - road condition is a robust dataset that will continue to be collected
NI 169	A3 / BVPI 224a (97a)	Non-principal road condition	Prevent any increase in the length of non-principal classified roads requiring maintenance treatment - road condition is a robust dataset that will continue to be collected
PI 5188	C2 / BVPI 224b (97b)	Unclassified road condition	Prevent any increase in the length of unclassified roads requiring maintenance treatment

The progress against each of the targets set for these three indicators are also reported to Wirral Council's Sustainable Communities Overview and Scrutiny Committee each year.

9.3 Customer Access and Complaint Monitoring

Performance evaluation must take into account the perception and aspirations of stakeholders, and include the measures set in place by the Council to bring about good communication between those who manage the asset and those who use the asset.

Wirral Council aims to work with local people, partners, organisations and community groups to provide local people with choice in the way Council Services are delivered to them. The Council aims to allow residents the opportunity to access the Council at a time and in a way that suits them best. The Council supports its channels of access by providing and consulting on the benefits of a variety of technologies such as:

- Contact centres – One Stop Shops
- Customer relationship management (CRM)
- Web facilities and intranet/extranet
- Email
- Text messaging (SMS)

- Electronic procurement and payment of services,
- Geographical information systems (GIS)

Robust mechanisms exist to monitor perceived performance, including that which is considered unsatisfactory. The Council has a number of channels allowing for customer and stakeholder enquiries and it offers a direct forum through which complaints can be made regarding staff or performance in the delivery and management of services.

To gauge public perception, individual initiatives such as customer feedback leaflets are distributed on a sample of major carriageway and footway maintenance schemes. This has proved to be a valuable exercise that provides a measure of customer perception and allows the Council to respond and improve service delivery accordingly.

Large capital projects such as The Dell Underpass refurbishment scheme involved a highly coordinated approach to customer engagement at key stages during the delivery of the project. As the work required sections of the Rock Ferry/New Ferry By Pass to be closed, prior to work starting on site there was consultation with local residents, regular users of the by-pass, Merseyside Police and the emergency services backed up with advertising campaigns that included local newspapers and the Internet. During the construction phase there were continual updates on the Council's web-site with important traffic management bulletins being aired on local radio advising the public of the progress of the scheme.

Objective consideration of public feedback needs to be mindful of the conflicting demands placed upon the service given that, in particular, highway maintenance will be popular with those customers seeking improved highways but unpopular with those inconvenienced during the works.

It is important to manage the expectations of customers, so that they too are able to gauge whether the service level is appropriate or the inconvenience was better or worse than the Council suggested. It is crucial therefore as part of our processes within the HAMP to ensure that information about our activities is as comprehensive and consistent as possible; across all those access channels listed above.

9.4 Performance Monitoring and Reporting

Performance information gathered against service delivery is a key component of the Wirral HAMP. It assists with monitoring and measuring the effectiveness of resource allocation and aids budget setting and decision making. The process will be subject to annual review in the light of performance data and user feedback.

There are a number of ways in which performance measures can be summarised and reported. In deciding upon a reporting format considerations should be given to:

- Showing the alignment between the measures to outcomes / strategic goals
- Reflecting a balance between competing demands
- Presenting only information that the audience requires
- Keeping the number of measures manageable

Increasingly, there is a demand for Councils to report on not only the financial performance of their assets, but also on the social and environmental effects of their actions. Under such a regime the outcomes of these actions are reported against the social, economic and environmental outcomes. This means a move away from purely financial reporting to being able to demonstrate to stakeholders that social and environmental responsibilities are also being managed.

10 Recycling and Sustainability

10 Recycling and Sustainability

10.1 Introduction

Wirral Council's HAMP provides a commitment to both environmental and quality issues. Wherever possible, current and future practices will take account of the following priority areas:

- Sustainability in the consumption and production of resources
- The effects of climate change and energy efficiency
- Natural resource protection and environmental impact
- Sustainable and maintainable community objectives

The Council Corporate Plan promotes a 'safe and well maintained highway network for all users' and, in striving for a sustainable highway network we have adopted Technical Services' Environmental Policy which includes the commitment to 'consider environmental costs, risks and impacts when making planning, contracting, purchasing and operating decisions'.

In July 2007, the Institution of Civil Engineers (ICE) launched its new 'Sustainable Development Strategy & Action Plan for Civil Engineering', which sets out the broader actions associated with sustainability objectives. During the summer of 2007, The Highways Agency also released its first Sustainable Development Action Plan. The plan recognised that the majority of environmental impact associated with the highway infrastructure is generally caused by the vehicles travelling on the highway network. However, there was also recognition that there are a range of significant actions available to all highway authorities as organisations or construction clients in their own right. These actions must explicitly include developing policies to review maintenance and construction specifications and standards in the light of sustainability issues.

These guidance documents highlight that those involved with maintaining the highways asset be required to give consideration to those issues which affect the environment, such as noise pollution, light pollution, waste management and the recycling of highway construction materials when designing, planning and undertaking major maintenance schemes or replacement of individual assets.

Environmental obligations dictate the need to focus in detail on how the Council and its policies and initiatives might more effectively target and promote sustainability issues, with a view to bringing about improvements in relation to:

- Noise reduction measures
- Materials utilisation options
- Protection of virgin aggregates policies

- Reducing carbon footprints
- Waste management and recycling options
- Pollution control measures
- Energy efficiency and the implementation of alternative technologies
- Nature conservation and biodiversity options
- Reduced environmental intrusion initiatives

The HAMP is consistent with the Council's broader local and national policy commitments and will seek to bring about innovation and joint working in relation to the key issues of energy, waste and recycling.

Some asset groups will lend themselves more freely to improvements brought about by changes in processes or technology, others may require substantive investment or redesign at network wide levels before potential benefits can be realised.

With regard to some of the higher value asset groups such as carriageways and footways, the need for sustainability has a financial impact, which is a direct consequence of the introduction of the Aggregates Tax Legislation in April 2002.

The aim of this tax was to reduce the demand for virgin aggregates, and encourage the use of recycled materials to address the environmental costs associated with quarrying such as noise, dust, visual intrusion and haulage. The tax applies to sand, gravel, and crushed rock.

10.1 Levels of Sustainability within Existing Practices

Wirral Council is moving forward with regard to the development of sustainable maintenance practices. Currently the Council's Highways Maintenance Partner is Colas Limited; who are responsible for the delivery and operation of a wide range of highway services including footway and carriageway repairs, traffic signs, street furniture, and winter maintenance.

The work includes:

- Resurfacing and repairing carriageways and footways
- Salting and gritting carriageways in the winter
- Looking after street lighting and lighting on signs and bollards
- Traffic regulation and traffic calming schemes
- Vehicular crossings for domestic driveways
- Pedestrian crossings

Prior to being successful in this partnership, Colas were required to provide details of their proposed approach to environmental management including details of environmental policies, environmental management systems and

practical details of how they would minimise the carbon footprint and overall environmental impact of administering the contract.

One of the key performance indicators which has proved very successful within the performance management of the contract with Colas Ltd is that which measures the amount of waste arising from works activities which goes on to be recycled.

Case Study 1 - Road Recycling Project in Partnership with Colas

The project involved the replacement of a 1.5km length of principal classified road between Brimstage Village and the M53 motorway.

Brimstage Road was in a state of structural failure throughout the bound layers of the carriageway and required total reconstruction to a depth of 290mm.

Following a site investigation to determine the extent of the failure, the Council sought an innovative approach from tenderers to deal with the removal and replacement / recycling of the failed bound materials using a sustainable method.

The agreed solution with the preferred contractor was to recycle and relay the existing failed road surface materials by adding a new binder product. This provided a recycled road construction of equal quality to traditional construction materials.

The process reduced the original budget cost by 30%, a 73% reduction was achieved in construction related vehicle movements and there was a 100% reduction in the amount of waste sent to landfill. In addition to this energy and carbon savings of 44% and 46% respectively were realised when compared to using traditional reconstruction methods.

10.3 Climate Change Strategy and Action Plan

Technical Services became the first department within Wirral Council to achieve the ISO 14001 international standard on environmental management in January 2006. Following this in June 2007, Cabinet Members agreed the Council's Climate Change Strategy and Action Plan supporting a number of local and national sustainability strategies. To assist this process, the Council approved an energy efficiency capital investment programme and the following measures affecting highway assets were included:

- Phase 1 Street lighting bulk change scheme to make lighting more

efficient

- Phase 3 Street lighting / signage energy efficiency improvements

This work has been completed.

Case Study 2 – Street Lighting Central Management System

During the past year a trial has been carried to convert 200 street lights in New Brighton to enable them to communicate with a remote monitoring, central management system. The aim of the Trial was to positively identify and evaluate the potential benefits of such a system particularly in relation to:

- Energy savings and eradication of “day burners”
- Impact/savings associated with carbon reduction/carbon credits
- Scrutiny and Inspection costs and in particular if successful how best to “roll-out” the system to the existing 9500 main road lighting units
- Public perception of changes in lighting level.

The successful trial has led to adoption of a policy in September 2011 to give consideration of use of the system for all new lighting schemes.

The wider roll-out of the system is underway with 900 lighting units on main roads being converted in February and March 2012.

11 Improvement Actions

11 Improvement Actions

11.1 Introduction

It is recognised that this is only the first step in implementing a coherent and efficient HAMP however, the process has already highlighted a number of areas where improvements in information, processes and practices are required.

It is envisaged that as this plan is implemented and evolves, additional improvement actions will be discovered and that a continual review of the Plan will be essential.

11.2 Improvement Measures

The identification and prioritisation of improvement measures will generally be evaluated using the following main drivers:

- **Risk** Do current levels of service expose the Council to unacceptable risk, either now or in the foreseeable future?
- **Cost** Is expenditure justifiable in relation to the anticipated or expected measurable improvements?
- **Timescale** Do we need to implement improvement actions early in order to reduce risk? Does the particular improvement action depend upon preceding actions or events taking place?

The collective evaluation of risk, cost and timescale categories will provide officers and Members with the means to prioritise and target support for specific improvement actions. The analysis of cost and time, within the HAMP, will identify where early savings and improvements in service delivery can be achieved within existing budgets.

Progress in delivering the improvement plan within the HAMP, and the monitoring of service targets will be the subject of annual reporting to the appropriate Committee.

11.3 Issues Identified and Improvement Actions

Asset inventory

Issue	Improvements	Review date
Insufficient data recorded against some asset groups	Develop and implement a data collection strategy and action plan	April 2012
Where data exists it cannot always be relied upon	Implement data management procedures	April 2012
Data management and validation procedures do not always exist	Identify specific data needs and collect missing data	April 2012

Business processes

Issue	Improvements	Review date
Funding allocation is often based on asset inventory data but not always on asset condition	Long term funding strategies need to be developed around asset inventory data and lifecycle planning	July 2012
Budgets are not currently developed around lifecycle planning and long term funding needs	Forward works programmes need to be optimised through the introduction of lifecycle planning where possible	July 2012
Spending allocations are sometimes redirected to areas of greatest need when situations become critical	Working group to fully assess critical situations and long term consequence of funding being redirected from elsewhere	July 2012

Levels of service

Issue	Improvements	Review date
Documented levels of service do not exist for all assets	Review existing levels of service to establish standards and cost of service provision for all assets	July 2012
Levels of service are not formally evaluated which may lead to comparative needs not being properly assessed	Develop asset management procedures for the evaluation and creation of a range of service options for each asset group	July 2012
Existing levels of service have evolved through historic precedent and in some cases are aimed primarily at improving Performance Indicators rather than taking a long term lifecycle approach	Develop levels of service around long term lifecycle approach	July 2012

Lifecycle planning

Issue	Improvements	Review date
Documented performance gaps do not exist for all assets	Asses performance gaps using performance measures plus other data sources including customer feedback	April 2012
Reasons for performance gaps are not identified	Recognise that the performance gap may be a perception gap and could be improved by enhanced communication with customers	April 2012
Lifecycle plans do not exist for all asset groups	Lifecycle plans will allow options to be clearly identified and will assist with forward planning	July 2012

Optimisation and budget consideration

Issue	Improvements	Review date
A complete valuation of highway assets is yet to be carried out	Complete an initial valuation of highway assets	May 2012
Historical expenditure has not been analysed and summarised	Explore past expenditure to enable comparison between forecasted future spend and historical expenditure	May 2012
Current practices do not identify long term funding needs	Long term funding needs to be identified through lifecycle planning and forward works programmes	May 2012
There is no formalised process for the allocation of funding between competing highway asset needs	Working group to fully assess	May 2012

Risk management

Issue	Improvements	Review date
Some asset groups do not have formalised mechanisms in place to establish risks for the asset or the service it provides	Develop formalised risk assessments for all asset groups where appropriate	June 2012
Risk assessments are not comprehensively used within the evaluation of maintenance options	Develop formalised risk evaluation mechanisms for maintenance option appraisals	June 2012

Forward works' planning

Issue	Improvements	Review date
There is no single long-term forward works' programme for all works on the network	Develop an integrated forward works' programme for all planned work for the network for a period of up to 10 years	September 2012
Programmes of work are not always linked to specified levels of service	Develop a forward works' programme to produce reports based upon defined levels of service	September 2012
It is not always clear who is responsible for long-term planning, preparation of bids and allocation of resources	Allocate responsibility for key tasks within the forward works' programme	September 2012
Current programming does not identify all options available and respective levels of service, funding and risk associated with each option	Develop an integrated forward works' programme procedure to detail the information requirements for each asset group and each stream of improvement work Develop procedures that detail how programmes will be created and presented	September 2012

Performance monitoring

Issue	Improvements	Review date
Performance indicators are a clear indicator of service delivery – should these be developed for each asset area?	Review Local Performance Indicators to ensure we track key levels of performance	September 2012

Recycling and sustainability

Issue	Improvements	Review date
Long term trialling of new / alternative methods has not been established	Monitor significant project evaluation reviews	April 2012
Economic cost of sustainable methods has not been established	Establish cost options within lifecycle planning processes	July 2012

11.4 Action Plan

The following table is a consolidated list of improvement actions that take into account the issues above that have been raised in the preparation of the HAMP.

HAMP Improvement Action Plan			
	Improvement Action	Priority Ranking	Target Date
1	Undertake a gap analysis to identify where asset inventory data does not exist or is unreliable	High	March 2012
2	Develop and implement systems for the collection and management of data, providing it is economically viable and practical to do so	High	Ongoing
3	Review highway policies and update or create new policies where necessary	High	September 2012
4	Carry out an initial valuation of the highway asset and produce a valuation report in accordance with the CIPFA guidelines	High	May 2012
5	Develop and document lifecycle plans for each asset group; consider the viability of recycling and sustainability	Medium	July 2012
6	Use forward works' programmes and works' history to assist with the appraisal of whole life costing options for each asset group	Medium	Ongoing
7	Develop levels of service around a long-term lifecycle approach and discourage short term objectives	Medium	July 2012
8	Develop risk assessments for asset groups and develop risk evaluation mechanisms for the maintenance options that are available	Medium	July 2012
9	Develop forward works' programmes for each asset group based upon predetermined levels of service; report funding and resource requirements and identify where responsibility lies for key tasks	Medium	November 2012
10	Develop an integrated forward works' programme that includes all planned work across the network for a period of up to 10 years (where practicable)	Medium	2014
11	Develop long term funding strategies around inventory data, forward works' programmes and lifecycle planning, with a choice of service level options for each asset group.		Ongoing

12	Regularly review national and local performance indicators to check that up to date performance monitoring methods are being used		Ongoing
13	Monitor feedback from Colas on significant projects for recycling and sustainability initiatives		Ongoing

Competing demand for staff time and variations in financial resources mean that setting firm target dates for the implementation of improvement actions across all asset groups is not practical.

Where mechanisms for improvement are clear and precise it is possible to determine the timescales for implementation of specific improvement actions. However, for some asset groups it is more appropriate to give the improvement action an overall priority ranking based around the relative importance and consequential risk of that improvement action not being implemented.

This ranking framework actively secures the fastest possible returns available to the Council by pursuing reduced risk and efficiency saving objectives.
