2007/2008

HALTON BOROUGH COUNCIL

Transport Asset Management Plan

April 2007

www.halton.gov.uk

EC HARRIS

Foreword by the Leader of the Council

I am pleased to have overseen the production and publication of the Council's Transport Asset Management Plan. This is the first time we have taken the opportunity to consolidate our various policies and procedures into one document that explains how we look after our highways and bridges in Halton.

We all take for granted our ability to have reasonable access to the shops, schools, hospitals and businesses both within and outside the Borough. In monetary terms the Halton highway network, which includes all the associated elements such as bridges, drainage, footpaths etc is estimated to be worth in excess of £1.25billion.

It is essential for the future prosperity of the Borough that we continue to invest in maintenance and improvement to the highway network and so ensure that we continue to obtain the benefits from what is the Council's single largest asset. In conjunction with the Local Transport Plan this document sets out our strategy and also underlines the Council's commitment to meet, and where possible, to exceed the national standards for Highway Maintenance.

I would like to take this opportunity to thank all those who have contributed to this publication.

Council Leader

Councillor Tony McDermott

EXECUTIVE SUMMARY

"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."

The Local Transport Plan (LTP) is a document that describes the direction and strategy for the delivery of transport related services. The current LTP guidelines require every local authority to demonstrate that they are managing their transport asset effectively. This is to be achieved through the production of a Transport Asset Management Plan (TAMP).

The compilation of a TAMP will provide the Council with a tool to: -

- Support the Corporate need for detailed information on its assets held authority wide.
- Establish and communicate a clear relationship between the programme set out in the TAMP and the authority's LTP targets and objectives.
- Ensure existing highway assets are in a condition compatible with the delivery of the LTP.
- Enable the value for money of local road maintenance to be considered more effectively against other local transport spending, eventually assisting in local transport strategy and plan production.
- Obtain and organise information to support Whole Government Accounting (WGA) requirements.

Corporately the TAMP has to reflect the Council's Corporate Plan. The TAMP must also take into consideration customer expectations, availability of funding, identification of annual programmes of work and appropriate levels of service for the transportation infrastructure. This TAMP will set the framework for improving highway maintenance in the Borough in the longer term and to ensure that the aims set out in the Corporate Plan are achieved.

An initial coarse valuation has been undertaken and values the cost of replacing the asset at £1.25billion. The TAMP will be updated annually to refine data on Highway Assets and their value.

The Plan recommends that a number of actions be carried out.

1. Carry out further public surveys to improve understanding of the public perception of highway maintenance.
2. Complete the population of the Bridge Management System database.
3. Refine current levels of service.
4. Measure demand aspirations and associated service levels.
5. Develop the current 3 year maintenance programme in to one of 10 years.
6. Develop a formal risk register.
7. Produce lifecycle plans for each major asset.

The TAMP is a 'live' document that will be subject to constant review and updating to meet the ongoing demands of Highway Maintenance. Annual updates of the Plan will be published to maintain its relevance in the future.

1 Introduction

It is becoming widely acknowledged that the highway infrastructure is essential to the economic success of a region and indeed of the whole country. For a local authority its highway network is likely to be its most valuable asset under their control. However despite this, historical under funding has resulted in these assets deteriorating and not receiving sufficient attention to ensure they remain in an adequate state of repair and serviceable condition.

Highway authorities are responsible for operating, maintaining and improving their highway assets under ever increasing demands that include: -

- Inadequate budgets with funding diverted to support other services;
- Manpower shortages –in terms of both staff and skill shortages;
- Ageing highway network – compounded by under funding generating a backlog of maintenance works;
- Increased accountability – to the members of the public and fund holders;
- Increased public expectations – greater public awareness and consultation have lead to greater demands and expectations

Transport Infrastructure represents a significant major investment by the Borough.

In order to address these challenges and with encouragement from Central Government, Local Authorities are moving towards a more structured approach to the management of their highway assets and applying asset management principles as a means of prioritising and targeting scarce resources. The challenge for Halton BC is to respond efficiently and effectively to the increasing public demands and aspirations.

1.1 The Purpose of a Transport Asset Management Plan

1.1.1 Local Transport Plan

The Local Transport Plan (LTP) is a statutory document required to ensure compliance with the Transport Act 2000. All Highway Authorities are required to produce a LTP every five years with an Annual Progress Report (APR) every year in the intervening years. The LTP is submitted to Central Government and is the primary basis on which Central Government financial support for transport related services is allocated.

The Local Transport Plan (LTP) is a document that describes the direction and strategy for the delivery of transport related services. The current LTP guidelines produced by central government require every local authority to demonstrate that they are managing their transport asset effectively. This is to be achieved through the production of a Transport Asset Management Plan (TAMP).

This is the first year that a formal asset management plan has been required. Halton BC recognises that the production and compliance with the plan's objectives will ensure the targeted application of scarce resource to the needs of the transport asset. The compilation of a TAMP will provide the Council with a tool to: -

- Support the Corporate need for detailed information on its assets held authority wide;
- Establish and communicate a clear relationship between the programme set out in the TAMP and the authority's LTP targets and objectives;
- Ensure existing highway assets are in a condition compatible with the delivery of the LTP;
- Enable the value for money of local road maintenance to be considered more effectively against other local transport spending, eventually assisting in local transport strategy and plan production;
- Obtain and organise information to support Whole Government Accounting (WGA) requirements;

1.1.2 Whole Government Accounting

Whole Government Accounting is a Government initiative to produce a comprehensive set of accounts for the whole of the public sector covering central government departments, local government, agencies, NHS trusts and other public bodies in a style similar to the private sector, following Generally Accepted Accounting Practice.

The UK Government introduced Resource Accounting and Budgeting procedures for central government departments in 2001-02. Local authorities are required to follow central government's example.

The impact of whole government accounting on local authorities is that each authority will be required to undertake a valuation of their transport asset. The initial valuation is based on Gross Replacement Cost, i.e. what it would cost to replace the asset with a modern equivalent.

During the life of the asset its value decreases due to ageing, usage, deterioration, damage etc. This is known as consumption and each authority will have to measure and value this each year. The result of this exercise is that an authority will be able to show what is the Depreciated Replacement Cost of its transport asset.

The advantage to an authority in knowing what is the Depreciated Replacement Cost of the transport asset is that resources can be allocated to where the need is greatest.

However to undertake the initial valuation local authorities must know the extent of their asset and the consumption of the asset each year. The Transport Asset Management Plan is a means of obtaining this information in a consistent manner.

Over the next 12 months we will be undertaking a detailed valuation of the highway asset, however an initial coarse valuation has been undertaken and values the cost of replacing the asset at £1.5billion at today's prices. This value is then depreciated to take into account the wear and tear over the design life of the asset and this reduces the value to £1.25billion

1.2 What is Asset Management?

1.2.1 The Definition of Highway Asset Management

The County Surveyors Society have published their "Framework for Highway Asset Management " which stated: -

"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"

County Surveyors' Society

Framework for
Highway Asset Management

Framework for Highway Asset Management

Arrangements for the management of highway maintenance need to be set within the context of an overall asset management regime. The development of a Highway Asset Management Plan (HAMP) is fundamental to demonstrating the value of highway maintenance in delivering the wider objectives of corporate strategy, transport policy and value for money. Highway asset management is however only one component of a much wider range of functions and services provided within the Environmental remit.

Well-maintained local transport assets, including roads, footpaths, bridleways and cycle paths, are essential to the delivery of better transport outcomes. The theme of asset management is strengthened by Government guidance encouraging local authorities in England to draw up Transport Asset Management Plans (TAMPs) as part of the second round of LTP preparation consistent with the advice contained in the CSS Framework document. The definition of a Transport Asset Management Plan is essentially an extension of the more basic HAMP and the terms have become largely interchangeable. References to both HAMP and TAMP within this document should thus be read as being mutually supportive.

The TAMP enables Highway Authorities to document the effects of under funding on the levels of service provided and allows an assessment of the concurrent risk resulting from such action.

The definition brings together a number of themes that define the approach that an authority should take. These are: -

Strategic Approach:	A systematic process that takes a long term view;
Whole of Life:	The whole –life /life-cycle 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;

1.2.2 Scope of the Transport Asset

In Halton, our Transport Asset consists of roads, bridges, footways, street lighting, signs, bollards, traffic signals, highway drainage, road markings, cycle ways, public rights of way, cycle-ways, bus signs and shelters and also includes a variety of associated structures such as retaining walls and culverts. We do not have responsibility for trunk roads and motorways, which are the responsibility of the Highways Agency, foul drainage looked after by United Utilities, or un-adopted roads and structures the responsibility of a variety of private organisations, Public Bodies and Private individuals.

1.3 The Objectives and Benefits of a Transport Asset Management Plan

1.3.1 Influences on the TAMP

Our TAMP is influenced at the strategic level through Statute, Central Government direction and guidelines. At a regional level the influence comes from the LTP process. Corporately the TAMP has to reflect the Council's Corporate Plan, which has five priorities. These are: -

- A healthy Halton;
- Halton's urban renewal;
- Halton's children and young people;
- Employment, learning and skills in Halton;
- A safer Halton.

At an operational level the TAMP also needs to take account of the legal duties and responsibilities placed on the Council as highway authority and where appropriate best practice guidance specific to its areas of operation such as relevant Codes of Practice (C of P) and national works specifications.

The TAMP must also take into consideration customer expectations, availability of funding, identification of annual programmes of work and appropriate levels of service for the transportation infrastructure.

1.3.2 Objectives and Benefits

The compilation of a TAMP will provide the Council with a tool to: -

- Support the Corporate need for detailed information on its assets held authority wide.
- Establish and communicate a clear relationship between the programme set out in the TAMP and the authority's LTP targets and objectives.
- Ensure existing highway assets are in a condition compatible with the delivery of the LTP.
- Enable the value for money of local road maintenance to be considered more effectively against other local transport spending, eventually assisting in local transport strategy and plan production.
- Obtain and organise information to support Whole Government Accounting (WGA) requirements.

1.3.3 Maintenance Strategy

A maintenance strategy is outlined in this TAMP that will set the framework for determining transport asset maintenance requirements in the Borough, for developing maintenance regimes in the longer term and for ensuring that work programs contribute to meeting many of the aims and objectives associated with the Council's five priorities referred to in paragraph 1.3.1.

Currently this is embodied in the document 'Highway Maintenance – A Strategy for Halton' which the Council approved as a statement of practice and procedures in 1998. Many changes have occurred since, not least being the introduction of modified and updated Codes of Practice for highway maintenance. An extensively revised strategy document is now required. It will contain details of actual working practices to compliment the TAMP. The revision of the original document has already begun.

It is important that the aims and objectives of the Corporate Plan are met. It must however be recognised that can be influenced by effective asset management have to be tailored to the availability of resources identified in the appendices to this TAMP. This document will allow prioritization of these scarce resources to ensure that the most effective economy and value for money are realized.

Our vision is to: -

> **"Improve value for money to stakeholders and to provide those who reside in, or visit, the Borough with an effective, safe and sustainable highway network".**

To achieve this vision requires all involved to: -

> **"To deliver a highly efficient, cost-effective and good quality highway maintenance service to the people of Halton".**

These two statements provide the basis for everything that is done within the Highways Transportation & Logistics Department of the Environment Directorate. This Transport Asset Management Plan has two functions in relation to this strategy. These are: -

1. It provides a statement of intent on what we will do to achieve the objectives outlined in the vision (subject to funding).
2. It creates a tool for measuring how well we are progressing.

1.3.4 Regional Context

The Borough sits at a strategic location in the North West of England. To the north west lies the Merseyside conurbation, to the east the Manchester conurbation and to the south west North Wales.

1.3.5 Managing the Transport Asset

The flow chart (Figure 1.1) provides an overview of the process we intend to use to manage our transport asset. Sections 3 & 4 of this Management Plan cover further explanation of the process. The chart has formed the framework for the evaluation of the current processes and procedures itemised in Appendix A. contained in this Plan comparing them with the recommendations contained within the Codes of Practice for Highways, Bridges and Street Lighting. This has resulted in a gap analysis that defines areas for improvement. Further refinement will now take place to meet stated targets where current programmes are in need of further development.

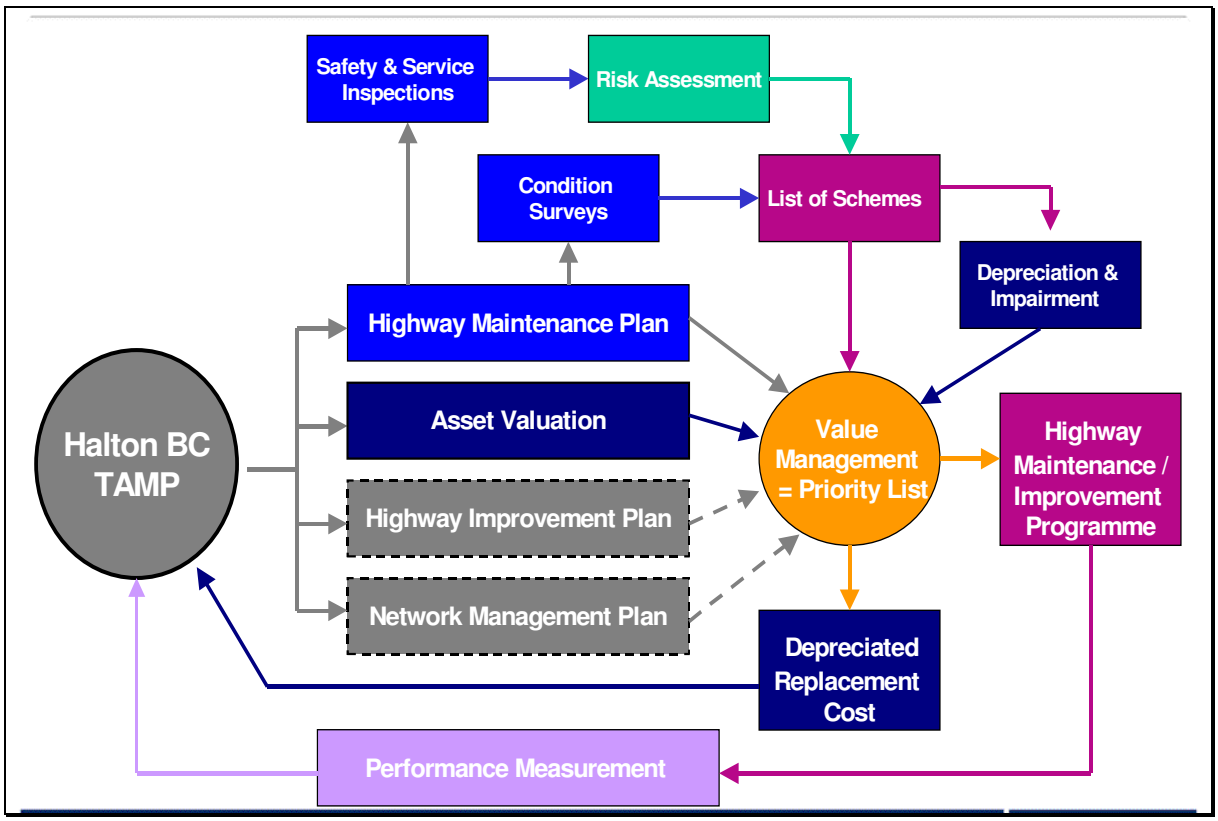


Figure 1.1 Highway Maintenance Management Cycle

2 Transport Asset Maintenance Objectives and Policies

2.1 Corporate and Departmental Links

This TAMP is aligned with the Council's Corporate Plan 2006 – 2011, its five key priorities and the aims and objectives associated with each of these. It is also aligned to the Local Transport Plan, the Council's Network Management Duties and the Environment Directorate's management processes. This chapter outlines how the TAMP relates to the Corporate Plan and to the Council's duties and responsibilities as a Highway and Traffic Authority. Some examples of the major role Highway and Transport Asset Management plays in delivering the Council's priorities are given below.

The delivery of a Highway Maintenance service provides a safe and effective travelling environment for all stakeholders within the Borough. It allows reductions in congestion that directly result in lower air pollution, reduced noise levels and fuel consumption. Well-maintained assets can also remove barriers to movement (both for the disabled and pedestrians in general for example) and reduce social exclusion by improving accessibility. The direct effect on the aims for a healthy Halton is apparent.

Improvements to the highway infrastructure are an integral part of the changing face of the Borough. Urban renewal depends directly on an efficient road, cycle and footway network in order to attract investment, improve economic growth and competitiveness, and revitalise town centres.

The Transportation Division have a well-established Safe Routes to Schools programme that actively encourages walking and cycling with a concurrent reduction in vehicle movements. Not only does this result in reductions in air and noise pollution it also contributes to the objectives for a safer Halton and the health and well being of children and young people.

Employment, learning and skills rely heavily on the availability of an efficient and effective highway network providing the ability to transport people between home, work and public services including educational facilities. Any reduction in its capacity can have extensive detrimental effects on industrial production and productivity, the potential for development and on travel to work and educational opportunities.

Halton has exceeded its targets for reductions in road traffic accidents. The effect of this is twofold in that there is a substantial saving to the exchequer in the provision of the emergency and health services but also the matching fall in trauma and injury suffered by the public themselves. It is recognised that well designed, well built and well maintained transport and highway assets make a major contribution to a reduction in accidents and also directly affect incidences of crime and disorder (for example through improved effective street lighting).

It is clear that effective transport asset management contributes to the Council's five key priorities. Any change to these assets or their condition will impinge on movement in and through the Borough and have a major effect on the quality of life enjoyed by residents, businesses and visitors.

2.2 Objectives and Policies

The Council's strategies and policies are well developed, documented and are updated at regular intervals. This document will not replicate what is contained in these but refer to them by reference as appropriate.

2.2.1 National Policy

The Department for Transport published in July 2004 its "Future of Transport" White Paper. Its stated objective for 2030 is for a coherent transport network with: -

- the **road** network providing a more reliable and freer-flowing service for both personal travel and freight, with people able to make informed choices about how and when they travel;
- the **rail** network providing a fast, reliable and efficient service, particularly for interurban journeys and commuting into large urban areas;
- **bus** services that are reliable, flexible, convenient and tailored to local needs;
- making **walking** and **cycling** a real alternative for local trips; and
- **ports** and **airports** providing improved international and domestic links.

2.2.2 Duties placed on Halton BC as Highway Authority

The Duty of Maintenance: The Highways Act 1959 for the first time in English law imposed on the highway authority an express duty to maintain any highway—of any category—which falls within the categories of highways maintainable at the public expense. This duty is now contained in s.41 of the 1980 Act.

The duty to maintain a highway requires maintenance to the standard necessary to accommodate the ordinary traffic that passes, or may reasonably be expected to pass, along the highway. As the nature of traffic using highways in general, or any highway in particular, changes so may the standard of maintenance.

Case Law has established that it is the duty of road authorities to keep their public highways in a state fit to accommodate the ordinary traffic that passes or may be expected to pass along them. Wherever ordinary traffic expands or changes in character, so similar changes should also be made to the nature of the maintenance and repair of that highway.

The Role of the Highway Authority: It is the responsibility of a Highway Authority to ensure that the adopted Highway is fit for purpose and can efficiently expedite the movement of traffic from place to place. The Authority discharges this by a number of linked functions.

- Planning – A Highway Authority will make sure that a system is in place to adequately predict traffic flows in relation to changes to the environment and ensure that effectively funded measures are designed to deliver the necessary highway infrastructure to support the requirements of the travelling public. The provision of facilities need not necessarily be funded directly by the Highway Authority and may be provided through third parties.

- Traffic Management – It is a duty under the Traffic Management Act 2004 to ensure the expeditious movement of traffic by the control of operations on the highway. The Role of the Highway Authority and the Traffic Manager is to ensure that any works carried out either by the Authority or others are done so in such a way as to minimise delay and disruption.

- Inspection and Maintenance – The Authority will have regard to the safety of road users and the potential for litigation by its failure to maintain the highway in a safe condition. There is an effective inspection regime that identifies both short term and long-term deterioration and puts in place adequate measures to retain the fabric of the highway as fit for purpose and in a steady state of maintenance.

- Network Management – The Council has at its disposal significant powers under various pieces of legislation that allows it to manage the safe and effective use of the highway and may discharge this function by the judicious use of enforcement measures where appropriate.

These obligations are translated into management and operational procedures and are linked though the TAMP to the Directorate's "*Highway Maintenance, A Strategy for Halton (1998)*" which is aligned with national best practice by reference to national codes of practice such as: -

- Code of Practice for Highway Maintenance 'Well Maintained Highways', published July 2005.
- Code of Practice for Structures 'Management of Highway Structures' published September 2005
- Code of Practice for Highway Lighting 'Well lit highways' published November 2004.

These Codes of Practice contain all-encompassing recommendations. These have been reviewed and Appendix A contains a summary of these recommendations and our application of these to the Borough's highway asset.

Network Management Duties – The Traffic Management (Guidance on Intervention Criteria) (England) Order 2007 provides details of the responsibilities of highway authorities in managing their network. In summary the duties are: -

- to secure the expeditious movement of traffic on the network;
- to make appropriate arrangements for planning the action to be taken to perform the network management duties;
- to establish processes for ensuring (so far as reasonably practicable) that: -
    - identifying things which are causing;
        - road congestion
        - disruption to the movement of traffic
    - identifying things (including future occurrences) which have the potential to cause:
        - road congestion;
        - disruption to the movement of traffic
    - consider any possible action to be taken in response to the above.
- to ensure arrangements for determining specific policies or objectives in relation to different roads or classes of roads on the network
- to ensure arrangements are in place to monitor the effectiveness of the organization, the decision making process and the implementation of decisions.
- to ensure that arrangements are in place to assess performance in managing the network.

2.2.3 Local Transport Plan

The LTP sets out the Borough's transport strategy for the next 5 years. It explains how the strategy has been designed to achieve wider policy objectives, such as improving quality of life, protecting the environment and securing economic prosperity. The strategy is rooted in a thorough examination of current and future problems and opportunities. It is also set within the context of emerging sub regional, regional and national policies.

The overarching objective of the LTP is:

> "The delivery of a smart sustainable, inclusive and accessible transport system and infrastructure that seeks to improve the quality of life for people living in Halton by encouraging economic growth and regeneration, protection and enhancement of the historic, natural and human environment"

The LTP contains a Toolbox of Primary Transport Strategies. This toolbox has identified eighteen transport strategies each with their own objectives. These objectives have been reviewed as part of the requirements for an asset management plan and Appendix B includes a progress report on our achievement in meeting those objectives.

2.2.4 Performance Management

The Comprehensive Performance Assessment (CPA) for Halton Borough Council ranks us as one of the top eight local authorities in the North West. See Appendix D for the Audit Commission 2005 scorecard. The final scorecard for 2006 is awaited but our performance has been maintained as being 4 stars and improving well. The TAMP will be the means of demonstrating our strategy for improving performance in managing the highway asset.

2.2.5 Highway Maintenance – A Strategy for Halton

The Directorate's "*Highway Maintenance, A Strategy for Halton (1998)*" describes the legal framework and organisation of highway maintenance, long term objectives and policies, together with the techniques of management and methods used in order to achieve these objectives and policies. This TAMP should be read in conjunction with this strategy document which is currently being reviewed.

Our policies and procedures reflect the existing service standards that have been historically set. These will continually be improved and updated as a consequence of revised guidance, new technology, improved standards of provision and listening to the views of the community. In this way a process of performance management will be established that ensures delivery of the optimum value for money.

3 Asset Inventory and Characteristics

3.1 Halton's Transport Asset

The Highways Division of the Environment Directorate undertakes the management of the Borough's transport asset. Its maintenance is primarily managed through five sections. These are: -

- Highway Management;
- Highway Maintenance;
- Bridges;
- Street Lighting;
- Capital Works;

Whilst the Highways Division manages the majority of the highways asset however some asset management responsibility sits within the Transportation Division such as: -

- Cycleways;
- Public Rights of Way;
- Bus Stops & Shelters;

3.2 The Highway Asset

3.2.1 Inventory

The inventory information was inherited from Cheshire County Council when Halton became a Unitary Authority in 1998. Further information was inherited through the demise of the Commission for New Towns.

3.2.1.1 Roads

There are a total of 543km of roads in the Borough. These are broken down into the following categories: -

Table 1 – Highway Inventory	
Category	
	Length (Km)
A	42
B	15.8
C	61
Unclassified	423.7

3.2.1.2 Footpaths

In addition to footways immediately adjacent to the carriageway, we also have a total of 200km of segregated footpaths in the Borough. These footpaths provide a link between areas of development. They are surveyed at the same time as the carriageway to which they connect.

3.2.1.3 Cycle Routes

The Halton Cycling Strategy, developed in line with the Government's National Cycling Strategy (1996), is establishing a comprehensive cycle network in the Borough. This will promote improvements to the highway network to give priority to cyclists and enhance safety and the general cycling environment. As part of this process a detailed inventory is being prepared of this particular asset.

3.2.1.4 Drainage

The highway drainage system which comprises, surface water drains and gullies has developed over time and the records inherited by the Borough are variable in their accuracy. We have records identifying the number of gullies and inspection chambers but this does not extend to data on their precise location or type. Currently there is limited information on the line and location of many highway drains although there is good data on more recent construction. The information is stored mostly in paper format and is held in several locations. This information is to be brought together into a single database and transferred to electronic format when funding allows. Maintenance of this system is currently reactive and a proactive regime of cleaning and jetting is to be developed in the future.

3.2.1.5 Road Markings and unlit Road Signs

We hold a database of all regulatory road markings (e.g. double yellow lines) and lit signs. There is also data held many of the unlit road signs on the road network. Records of other road markings are held as aerial photographs. Information on the remaining unlit signs is extensive but incomplete. Information is updated whenever maintenance is carried out to a sign for which data is not recorded. The remaining unlit signs will be added to the Mayrise database as part of an ongoing data collection exercise and will be integrated with the lit signs data for which we have complete coverage.

3.2.1.6 Safety Fencing and Pedestrian Guardrails

We have a detailed record of the extent of safety fencing on the network with 65 Km of fencing on the A, B, C and unclassified network and a further 3 Km on the Busway. Currently we can only undertake regular safety inspections on our highways, with limited structural checks when circumstances permit.

It is proposed to introduce more extensive structural checks when resources allow. We therefore have partial records on the condition of this asset.

3.2.1.7 Public Rights of Way (PROW)

We are responsible for approximately 74km of Public Rights of Way. We maintain a definitive map and have a formal system of inspection. We currently work with members of the public and organisations such as landowners and the Ramblers Association to record defects.

3.2.2 Management of the Highway Asset

The management of the highway asset accounts for the major proportion of the Borough's maintenance budget. The Highway Management section undertakes routine maintenance such as gully emptying and highway patching and engages contractors through a term maintenance contract to undertake this work. The Section is also responsible for the annual survey of the network, which is the means of determining the extent of deterioration of the network. Results from these surveys are used to programme future maintenance improvements.

The Borough is divided into 76 parcels and these receive a safety inspection every three months. Category 1 defects are logged and dealt with within 24 hours. Other defects are recorded using a manual notebook system where the information is passed to the highway superintendent who will review and decide upon priorities.

Information on any defects provided by members of the public is logged and a Highway Superintendent will visit sites within 24 hours. The highway superintendent will decide if the fault is in fact a defect and if so it will be confirmed on the database.

3.2.2.1 Highway Asset Management Systems

Table 2 Highway Inventory Summary				
Asset	**Inventory Format**	**Content & Coverage**	**Frequency of Update / Review**	**Update Procedure in Place**
Carriageways	Mayrise Highway Management database	80% coverage; road type, pavement type, carriageway width. All roads are located within a comprehensive street gazetteer but detailed information regarding width material types and other significant data is incomplete. Information is being collected as resources allow to enable this database to be populated.	Monthly	Yes
Footways & Footpaths	Mayrise Highway Management database	Complete to within 90% accuracy including location and type. This includes all Public Rights of Way contained in the Definitive Map and in particular all Urban (metalled) rights of way maintained as part of the adopted highway network.	Monthly	Yes
Cycleways/Greenways	Cycleways under development Greenways Excel Spreadsheet	As built plans created in 2005/06 with 100% coverage	Annually	Yes
Highway Drainage	Paper copies of construction drawings.	No certainty in coverage and accuracy. In process of conversion to electronic format.	In progress	Yes
Highway Gullies	Access database	Complete to within 90% accuracy- number of gullies per location only.	Continuous	Yes
Culverts/Outfalls	Access database	Complete to within 50% accuracy, Location and type	Annual	Yes
Safety Fencing	Excel Database	Complete 100% Location and type and condition	Annual	Yes
Pedestrian Guardrails	Excel Database	New installations recorded, existing added during maintenance operations	Quarterly	Yes

Road markings	New markings recorded. Scanned copies of historic records.	Existing maintained as necessary, Statutory markings are recorded.	N/A	Yes
Verges	Mayrise Landscape Management database	Included as part of wider landscaping responsibility	Annual	Yes
Street Lighting	Mayrise Highway Management database	Complete 100% Location and type	Continuous	Yes
Traffic Signals	Mayrise Highway Management database	Complete 100% Location and type	Continuous	Yes
Lit Signs and Bollards	Mayrise Highway Management database	Complete 100% Location and type	Continuous	Yes
Unlit Signs	Mayrise Highway Management database	Database under development. Approx 40% coverage	Continuous	Yes
Bridges	WDM Structures Asset Database	Complete 100% Location and type	Continuous	Yes
Retaining Walls	WDM Structures Asset Database	Complete 100% Location and type	Continuous	Yes
Trees	Site Specific Surveys on a Computerised database (EzyTreev)	Data collected for a limited number of sites only	None at present. A need for funding for this function has been identified	Under discussion

Table 3 Highway Condition Summary			
Asset	**Survey Type**	**Survey Method**	**Frequency**
Carriageways	Scanner and Scrim (Structural condition of carriageway)	Machine survey by outside contractors	A B & C roads 100% in one direction / annum
	Engineer's visual inspections of carriageways	Visual survey carried out by HBC engineers from a slow moving vehicle, or on foot where visibility is obstructed.	As required
Footways / Footpaths	General and safety Inspection	Visual survey carried out by outside contractors to meet BVPI 187.	100% quarterly safety inspections to the entire network.
Cycleways/Greenways	No survey undertaken although adopted sections subject to quarterly safety inspection	Quarterly inspection of Trans -Pennine trail	
Highway Drainage	No survey undertaken	Visual and CCTV as required.	Reactive surveys as required
Highway Gullies	Safety Inspection	Visual survey carried out by outside contractors	Annual
Safety Fencing	No structural survey undertaken	Safety inspection only. Structural inspections commenced from 2007.	Quarterly
Pedestrian Guardrails	Routine Safety Inspections	Included in Routine Visual Safety inspection.	Quarterly
Road markings	No formal survey undertaken	Included in Routine Visual Safety inspection.	Quarterly
Verges	No specific survey undertaken	Included in Routine Visual Safety inspection.	Quarterly
Trees	No specific survey undertaken	Safety inspection only & Routine inspection as required	Prominent trees annually, others less

			frequent
Street Lighting	Outage, Bulk Change and visual structural survey	Outage Survey visual, Others by Contractor as part of maintenance schedule	Outage monthly Others tri-annually
Traffic Signals	Automatic outage monitoring, safety and condition survey	Outage by remote electronic system, Others by Contractor as part of maintenance schedule	Outage continuous, Others quarterly
Lit Signs and Bollards	Outage, Bulk Change and visual structural survey	Outage Survey visual, Others by Contractor as part of maintenance schedule	Outage monthly Others tri-annually
Unlit Signs	No specific survey undertaken	Inspection as work is required with additional visual assessment during highway safety inspections.	Quarterly safety inspection with additional ad hoc inspection during maintenance works.
Bridges	General Inspection	Principal Bridge Inspections on ad hoc basis	Annual
Retaining Walls	General Inspection	Inspection regime under development for implementation in 2007/8	Annual

3.3 The Structures Asset

3.3.1 Inventory

There are a total of 469 structures on the network. Of these, Halton as highway authority have maintenance responsibility for 275 including responsibility for maintenance of 38 retaining walls. Within the 469 total there are also a further 20 structures owned by Halton and maintained by the Bridges section but not classified as highway structures. The remaining structures are owned and maintained by other parties such as the Highways Agency, Network Rail and Manchester Ship Canal Company.

Table 4 – Bridges inc. (Subway/Culverts & Tunnels)	
Road Category	**Road Over/Under**
A	**69**
B	**9**
C	**7**
Unclassified	**57**
Total	**142**

Table 5 – Footbridges. No.	
Footway Category	**Number**
Total	**29**

Table 6 – Sign Gantries. No.	
Road Category	**Number**
Total	**8**

Table 7 – Retaining walls. No.	
Road Category	**Total**
Total	**58**

Table 8 – Other HBC Maintained Highway Structures		
	Culverts <1.5m	**Retaining Walls <1.5m**
Total	**25**	**13**

Table 9 – Other HBC Maintained Non Highway Structures	
Total	**20**

3.3.2 Management of the Structures Asset

A significant proportion of the structures were built in the early 1970's as part of the Runcorn New Town development and are therefore all approaching the same stage in the maintenance cycle. Included within the 275 structures maintained by HBC is the strategically important crossing of the River Mersey and Manchester Ship Canal known as the Silver Jubilee Bridge (SJB). This bridge has three approach viaducts, and 38 other highway structures that form a vital part of the crossing and allow it to tie into the major highway network either side of the river. These 42 structures are collectively known as the SJB Complex.

3.3.2.1 Structures Inspections

Major, minor and routine maintenance activities are identified through a system of annual General Inspections supplemented where available by Principal Bridge Inspections, the frequency of which depends upon the status and indicative condition of the structure.

Each bridge and structure is subject to an annual general inspection using the national Bridge Condition Indicator proforma. Principal Bridge Inspections are also undertaken at a frequency determined based upon the status and indicative condition of the structure. All programmed inspections are usually undertaken from April to November each year.

Reactive inspections are also undertaken following reports of distress or damage, which can be received from members of the public, emergency services or highway maintenance staff. Maintenance requirements identified through the inspection regime are addressed either through LTP derived capital funding or through the HBC's revenue budget.

A paper copy of each bridge inspection is added to the maintenance file for each structure although HBC have recently installed an electronic Bridge Management System (BMS) referred to in Table 10. The BMS has the ability to bring together, link and allow access to all items of information related to HBC's bridge stock and would address the demands of the Management of Highway Structures Code of Practice.

3.2.2.2 Structural Assessments

68 eligible Halton maintained highway bridges have been assessed against national standards with regard to their ability to sustain 40 tonne loading. Any structures which have failed to satisfy 40 tonne assessment loading have been strengthened, restricted or managed or are being monitored prior to implementation of such measures. There is only one Highway Bridge where assessment is outstanding although this is due for completion before the end of 2007. There are also 23 other highway bridges owned by other parties that are eligible for assessment. Final assessment has yet to be completed for 3 of these structures all of which are owned by Network Rail.

3.2.2.3 Asset Management Systems

The Department operates a proprietary electronic Bridge Management System, see table 10 below.

Table 10 Structures Asset Inventory Summary

Asset	Inventory Format	Content & Coverage	Frequency of Update	Procedure In Place
Highway Structures	All structural records are held on an electronic Bridge Management System (WDM's Structures Management System). This allows access to all available data from any desktop PC within the Bridges Section.	100% coverage. Details include historical information, drawings, inspection, assessment and maintenance records.	Inspection data updated annually. Maintenance data updated as dictated by maintenance programme.	Highway Structures

3.2.2.4 Silver Jubilee Bridge

The Silver Jubilee Bridge (SJB) is the longest span structure in the UK maintained by a local authority. Maintenance inspection and repair accounts for approximately 90% of the Bridge Section's annual Capital budget. Consideration is awaited from the DfT of a major scheme bid for the implementation of its 10-year maintenance strategy for the Silver Jubilee Bridge complex of structures.

Major Structural Maintenance and Repair:

Generally in excess of £50,000 is funded through LTP allocation and may include:

- Structural painting
- Bearing replacement
- Parapet replacement
- Bridge deck waterproofing
- Expansion joint replacement
- Concrete repairs including electrochemical treatments

Minor Structural Maintenance and Repair:

Generally less than £50,000 funded through the Council's Revenue budget and can include:

- Painting repairs
- Parapet repairs
- Expansion joint repairs
- Minor concrete repairs

3.4 The Street Lighting & Traffic Signals / Pedestrian Crossings Asset

3.4.1 Inventory

The street lighting and traffic signal asset was inherited from Cheshire County Council in 1998. Prior to unitary status the Lighting Section worked as Agents for Cheshire. The asset includes all street lighting, lit and unlit highway signs, traffic bollards and Traffic Signal assemblies. Unlit signs and bollards are maintained under the same contract as illuminated stock. The extent of the asset is summarised below.

Table 11 Street Lighting and other Electrical Highway Asset

Lighting Columns	Traffic Signals	Controlled Crossings	Illuminated Signs	Illuminated Bollards	Non-Illuminated Signs
19,000	55	24	2,000	1,000	1,800+

3.4.2 Management of the Asset

Lighting columns and luminaries: - Inspections of the Structural condition of the Column and the visual condition of the electrical gear are undertaken at three year intervals as part of the bulk maintenance programme. A full electrical check is carried out every six years. Records of the asset are maintained on a Mayrise database.

Illuminated Signs & Bollards: - The maintenance programme follows the same regime as the street lighting asset with inspections every three years and electrical checks every six years. Records of the asset are maintained on a Mayrise database.

Non illuminated signs: - Fixed periodic condition inspections are not currently undertaken. Information on damaged equipment is collected by Lighting and Highway Inspectors as part of the Routine Safety inspections and reported to the Lighting Section. Maintenance is therefore reactive following these or from notification from the public. Known data is amended on the Mayrise database as a result.

Traffic signals & pedestrian crossings: - Annual visual inspections are carried out. The Lighting Section also has remote monitoring in place for most junctions with direct electronic links to each

location that allows faults to be reported direct to the control centre. Response times are related to the severity of the fault. Records of the asset and system faults are maintained on a Mayrise database.

3.4.3 Asset Management Systems

Table 12 Street Lighting and other Electrical Highway Asset Summary				
Asset	**Inventory Format**	**Content & Coverage**	**Frequency of Update or Review**	**Procedure In Place**
Street Lighting	Data on Mayrise database and paper copies	100% Coverage; Numbers, location and unit details and condition.	See 3.4.2 above	Yes
Lit signs	Data on Mayrise database and paper copies	100% Coverage; Numbers, location and unit details and condition.	See 3.4.2 above	Yes
Lit bollards	Data on Mayrise database and paper copies	100% Coverage; Numbers, location and unit details and condition.	See 3.4.2 above	Yes
Unlit signs	Paper copies, 1800 number are recorded on Mayrise	Coverage uncertain	See 3.4.2 above	Yes
Traffic signals	Data on Mayrise database and paper copies	100% Coverage; Numbers, location and unit details and condition.	Continuous	Yes
Puffin, Pelican, Toucan and Zebra crossings	Data on Mayrise database and paper copies	100% Coverage; Numbers, location and unit details and condition.	See 3.4.2 above	Yes
Variable message signs / Journey time monitoring system	Data on Mayrise database and paper copies	100% Coverage	Continuous	Yes

Assets are maintained by Term Maintenance Contractors: -

Street lighting contract with MEWS commenced Autumn 2005 on a 5+5 year's term contract basis.

Traffic control equipment is maintained by Traffic Systems Co-operative under a contract commenced in April 2004 on 3 + 2 years term contract.

3.5 Other Transport Assets

3.5.1 Inventory

Remaining transport assets are managed by the Department's Transportation Division and include, Cycleways Public Rights of Way, bus stops and bus shelters. There are over 178 separate Public Rights of Way comprising a total of 74km in length.

3.5.2 Management of the Asset

Cycle ways: – Management system under development.

Public Rights of Way: - Management system under development.

Bus Stops and Bus Shelters The Borough is divided into 13 areas and inspections are carried out on each area 4 times per year.

3.5.3 Asset management systems

Table 13 Other Transport Assets Summary

Asset	Inventory Format	Content & Coverage	Frequency of Update or Review	Procedure In Place
Cycleways	Spreadsheet & Plans	There are currently four confirmed cycleway orders. Four orders await confirmation. A further five orders need to be formalised when resources permit.	Spreadsheet currently under review.	Yes
Public Rights of Way – routes (Including street furniture)	Original Paper copies of Definitive Maps. Access database "Countryside Access Management System" (CAMS).	Coverage % is uncertain Locations and lengths of footpaths and bridleways.	Annual	Yes
Bus shelters & bus stops	Location and type listed on spreadsheet Planned transfer of data on Routewise (Anite software) database based on national ID database Naptan.	Coverage 100% Routewise shows location, type and photos. Basic information shown on Plan Web GIS site.	13 weeks rolling	Yes
Bus Stations	Paper copy of bus stations information	Coverage 100%. Layout and location shown on Plan Web GIS site	Annual	Yes
Real Time passenger information system	Mayrise	100% coverage	Six monthly	Yes

3.5.4 Development of Asset Data

It is apparent from the data listed in this section that there are marked variations in the extent and quality of the information held on the highway asset. This plan has for the first time produced a comprehensive overview of the information available and this will be updated as appropriate and as resources permit. Once the process is sufficiently advanced it will be possible to provide a clear programme of regular updating and to use the data collected to allocate budgets accordingly based on the delivery of maximum benefit to the highway user from the available funds. This process, which is called optimisation, will be referred to again in Section 4.

4 Levels of Service

4.1 What is Level of Service?

4.1.1 Definition

The Framework for Highway Asset Management describes Levels of Service as the quality of services provided by the asset for the benefit of the customers. They are composite indicators that reflect the social, economic and environmental goals of the community. Levels of Service are therefore the manner in which we engage with the customer and they therefore reflect the customer's interests in terms of what can be measured and evaluated.

They will allow us to:-

- Document and measure the service we provide;
- Evaluate in an objective manner service against cost of provision;
- Clarify whether we are focussing on matters that are important to the customer;
- Establish if our operational systems actively support the achievement of strategic goals;

The framework categorises levels of service as either: -

Condition Assessment	Preservation of the physical integrity of the asset
Demand Aspirations	The service delivered by the asset in terms of its use, generally expressed in terms of safety, availability, accessibility, integration etc.

4.1.2 Condition Assessment

The physical condition of the asset has two components: -

- The perceived condition of the asset as "measured" by public and road user perception.
- The condition of the asset as determined by measurement and analysis of survey data.

It should be noted that the "perceived condition" of the asset is a relatively new measure and consequently we have very little prior data on this. Perceived condition will be established by referral to the results of various public consultations. They can also be created from analysis of public enquiries and complaints, from routine correspondence and requests for service and from the outcomes from questionnaires and surveys. Examination of these and other measures will be explored in more detail in this section of the Plan.

4.1.3 Demand Aspirations

Demand aspirations describe the non-condition related performance requirements of the asset and are used in the determination of service levels for the asset. Examples of performance requirements are safety, environment, availability, accessibility etc. The measurement of these results against national and local performance indicators is contained in the LTP.

4.2 Applying the Principles of Levels of Service

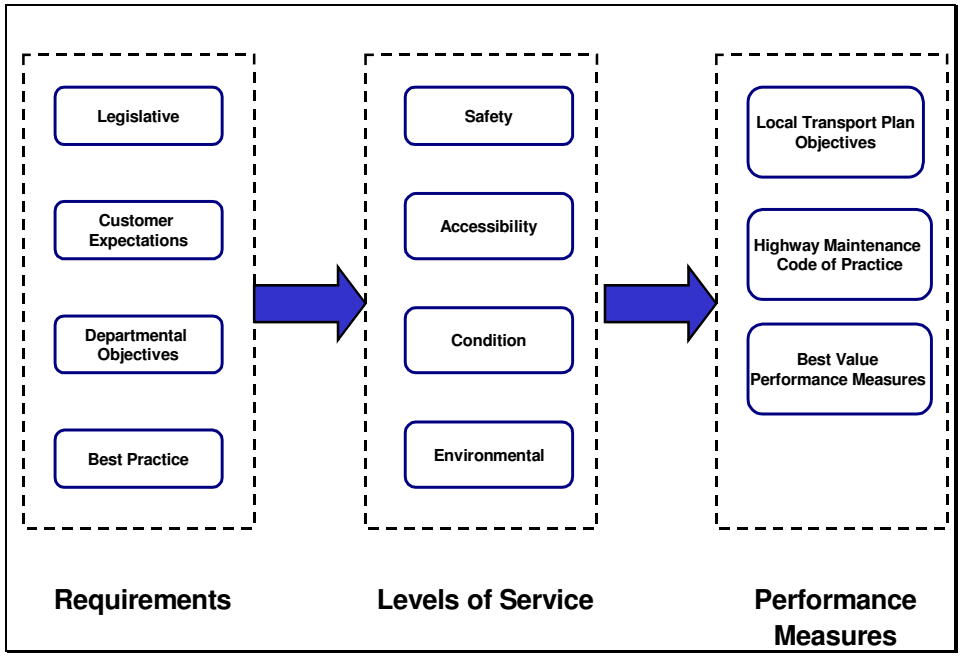
4.2.1 Setting the Level of Service

The setting of the level of service is a key aspect of the TAMP and will influence the outputs from the plan. It is important therefore that decisions taken are robust and consistent with the policies and objectives of the Council.

The concept of "Levels of Service" is not new however; historically it has been set solely on engineering and financial criteria. Based on the current definition the setting of appropriate Levels of Service will be an iterative process based on experience, engineering criteria, customer expectations, financial considerations and demand aspirations.

4.2.2 Establishing the Desired Level of Service

Before we can determine the desired Level of Service to provide it will be necessary to determine the Level of Service we are currently providing for each asset type. The flow chart below indicates our proposed methodology in determining the appropriate Level of Service.



Establishing our Levels of Service

4.2.3 The Requirements

There are four elements to establishing the appropriate levels of service. These are: -

1) Legislative
2) Customer Expectations
3) Departmental Objectives
4) Best Practice

Legislative Requirements: - Levels of service need to take due cognisance of the legislative framework that applies to highway maintenance.

Customer Expectations: - Highway networks are provided for the benefit of the travelling public. Thus the views and opinions of users are an important consideration in setting the appropriate level of service. Stakeholder feedback is collect by various methods, not least by face-to-face interview. Two surveys have been carried out so far and a further survey is planned for 2008. To establish an accurate comparison of the results, the same questions are used consistently on each survey. This will not preclude the use of additional questions in future surveys where circumstances dictate.

Corporate Objectives: - The levels of service will be aligned to the Borough's corporate documents such as the Corporate Plan, the LTP and other relevant documents such as the Highways Transportation and Logistics Service Plan.

Best Practice: - The levels of service will endeavour to meet the accepted UK best practice criteria contained in the relevant codes of practice and national standards.

4.2.4 Levels of service

Levels of service will be measured against four criteria. These are: -

1) Safety;
2) Accessibility;
3) Condition;
4) Environment;

Safety: - The overarching obligation placed on the Borough, as highway authority is to provide a safe network.

Accessibility: - The use of the asset, whether by vehicle, pedestrian or cycle is as important as maintaining the physical integrity of the asset.

Condition: - The condition of the asset will be set by engineering principles such that we maximise the life of the asset at minimal cost.

Environment: - The levels of service must be set so that they are consistent with the Borough's objective of delivering an environmentally sustainable transport policy.

4.2.5 Performance Measures

We have assessed the current performance measures by which the Council perceives itself as carrying out its highway maintenance duties and the impact on the highway asset, compliance with National Codes of Practice and commitments made in the Local Transport Plan. For each type of asset we have determined on a scale of 0 to 4 where 4 is excellent service level and 0 is no service provided what is believed to be the existing level of performance.

Whilst we would aspire to be excellent in all we do, financial priorities mean that we must manage the levels of service we provide within the level of resource available. Our current assessment of service levels is included in Appendix C.

Determination of changes to the level of performance achieved will be directly affected by the resource allocation provided. The process by which this is achieved is known as Optimisation and is dependant upon clear evidence of current service levels and of the extent of the asset (for which see Section 3).

The assessment, development and maintenance of this data and the calculation needed to prioritise work so as to deliver the maximum benefit is a long-term aim of this plan. The results will focus resources more effectively giving improved value for money without compromising essential or mandatory functions. Part of this process will require the balancing of varying priorities between different disciplines (i.e. between Bridges, Highway Maintenance, Traffic Management and Street Lighting) and will not be fully achieved in the first year of this Plan.

5 Future Network Changes

5.1 Local Transport Plan

5.1.1 Mersey Gateway

The proposed second crossing of the Mersey is Priority 1 in the Local Transport Plan. Formal DfT approval to progress the scheme was received in 2005. Work is currently ongoing to take the scheme through the statutory procedures with planned opening in 2014.

Once completed the new crossing will have an impact on the traffic movements in the Borough. It is anticipated that the high traffic volumes experienced on the existing Silver Jubilee Bridge (SJB) will transfer to the new crossing thus changing the future maintenance requirements of the SJB complex.

The timescale for the Mersey Gateway means that our current highway maintenance strategies will remain unchanged for the time being.

5.1.2 Quality Transport Corridors

The Council has approved the construction of Quality Transport Corridor routes. These were initially designed as improvements to major routes through the Borough to provide greater accessibility and to encourage greater bus use. The corridor approach was subsequently expanded to include minor highway and transport related improvements related to encouraging cycling and walking as well as bus usage in a more holistic approach. We will be implementing the provision of quality transport routes over the period of the LTP (2006 –2011).

5.2 Regeneration

The Council is committed to the regeneration of the Borough. A number of schemes are currently in progress, which will have an impact on existing traffic movements and highway maintenance strategies. These include: -

- EDZ Widnes Waterfront; Extensive development of an 80 Ha site with a mix of light industrial, residential, commercial, leisure and retail property adjacent to the approaches to the proposed Mersey Gateway.

- Halebank; Redevelopment of a former out of town retail site with up to 200 residential properties together with local retail facilities.

- Canal Quarter; Development of Runcorn Old Town fronting the Bridgewater Canal to include a mix of shops, offices, bars, restaurants and residential accommodation as well as a relocated library all with direct access from the Expressway.

- Mersey Multi Model Gateway (3MG); A regional, sub-regional and national rail freight facility capitalising on existing rail and major road links in a site of over 180 Ha with investment in excess of £80m.

- Castlefields. Total investment of £120m in regeneration of an estate of over 2,400 dwellings which will in partnership with key stakeholders provide a sustainable environment with a redeveloped local centre, extensive public realm improvements, and replacement of existing deck access housing stock. The scheme will also include new private and mixed tenure properties.

6 Work Programme

6.1 Forward Work Programme

An integrated forward work programme is an accepted tool used by highway authorities to manage the long-term needs of the asset. The programme is the result of an in depth review of the condition of the asset and identification of the work necessary to maximise the life of the asset.

The "Framework for Highway Asset Management" recommends a 10 year forward programme as this offers the best whole life option for the asset. The forward work programme should integrate the work to be carried out including schemes from all funding streams and project initiatives to allow total co-ordination of the work.

We have traditionally reviewed our highway maintenance programme based on a prioritised rolling 3 year programme. If funding limitations delay commencement of a proposed scheme then it is re-considered and prioritised for inclusion as part of the subsequent year's programme.

It is our intention to produce a 10 year forward work programme based on our existing knowledge of the network condition. This will be continually updated as more information on the condition of the asset is received. We accept that the reliability of this programme in later years will have reduced confidence limits.

We have assessed the reliability of the forward work programme and this is shown below: -

Table 14 Forward Work Programme		
Year	**Method of assessment**	**Confidence**
1	Work in Progress	100%
2	Firm Commitment to proceed subject to funding	95%
3	Reasonable assessment	80%
4-7	Informed assessment	60%
8-10	Assessment based on historic trends	Less than 40%

Table 14 Confidence levels in Forward Work Programme

7 Highway Maintenance Funding

7.1 Source of Funding

Highway works within the Borough are generally funded from four main sources. These are: -

a) **Capital Funding** – is bid for through the Local Transport Plan (LTP) process. Central government monitors the plan annually and allocates funding accordingly. Funding for specific highway improvements in connection with regeneration projects is also available. Capital funding can include a substantial element of maintenance related works.

b) **Revenue Funding –** for all local services, of which the highway maintenance element forms a part, is calculated using the Government's Formula Spending Share (FSS). This funding is achieved from a combination of Government grants and Council Tax.

c) **Grants** – Neighbourhood Renewal Fund and North West Development Agency offer match funding for specific approved capital schemes. In most cases this type of funding will not include any element of revenue spend. It is important to include an assessment of the future revenue implications for future maintenance requirements when bids are made for schemes under this heading.

d) **Developers' Contributions -** These are contributions provided by developers as part of the planning process, they can include the construction of new infrastructure, upgrading of the existing asset or commuted sums to contribute towards maintenance in the future.

7.2 Integrated Transport Funding

Integrated transport investment primarily comes from LTP allocations but is supported by local capital investment and revenue support. There are also contributions from external sources, these are principally developer contributions associated with planning approvals.

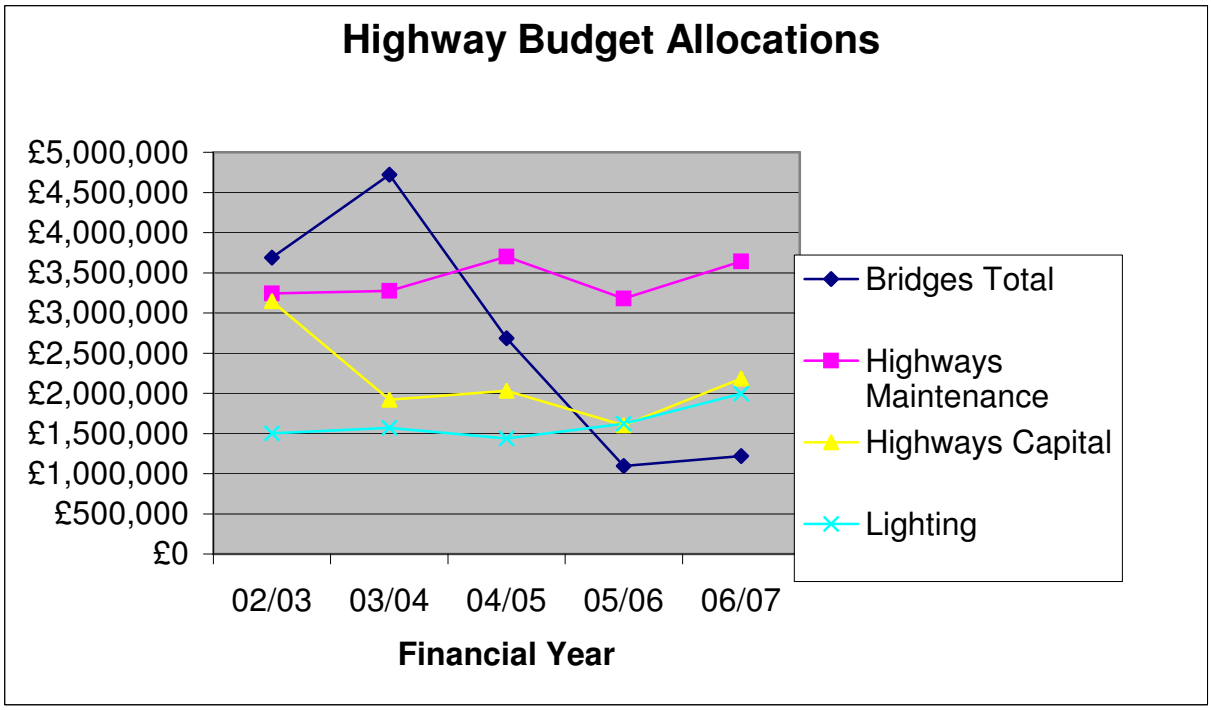
7.3 Highway Maintenance Funding

The financial commitment to highway infrastructure has fluctuated over the last five years. The total spend over the financial years 2002/03 to 2006/07 is summarised in table 15 below.

Table 15 Highway Maintenance Spend
(includes an element of upgrading & improvement funding)

Financial Year	Total Spend
2002 -2003	£11,581,499
2003- 2004	£11,484,194
2004-2005	£9,857,566
2005-2006	£7,497,250
2006-2007	£9,040,290

It can be seen that over the period 2002 to 2006 the investment in our highway infrastructure fell by over 30%. This trend was halted in 2006 /07 with an increase in the previous year of 20%, however the graph below shows that the balance between the competing needs of the network and available resources is a difficult challenge.



The major reduction in Bridge funding reflects the contribution to maintenance funding made as a result of the major resurfacing and refurbishment of bridge parapets on the Silver Jubilee Bridge that were undertaken prior to 2004. Further funding as part of a long-term strategy is currently under consideration by the DfT. The bid is contained in the LTP as a major scheme bid for the implementation of Halton's 10-year maintenance strategy for the Silver Jubilee Bridge complex of structures and the outcome is still awaited.

8 Risk Management

8.1 Introduction

The successful management of risk is an integral part of the asset management process. The Council has developed a Risk Management Policy and Toolkit together with Corporate and Directorate Risk procedures.

Risk Management is defined in the "Risk Management Standard " published jointly by The Institute of Risk Management (IRM), The Association of Insurance and Risk Managers (AIRMIC) and ALARM The National Forum for Risk Management in the Public Sector, as: -

"Risk management is a central part of any organisation's strategic management. It is the process whereby organisations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities.

The focus of good risk management is the identification and treatment of these risks. Its objective is to add maximum sustainable value to all the activities of the organisation. It marshals the understanding of the potential upside and downside of all those factors which can affect the organisation. It increases the probability of success, and reduces both the probability of failure and the uncertainty of achieving the organisation's overall objectives.

Risk management should be a continuous and developing process, which runs throughout the organisation's strategy and the implementation of that strategy. It should address methodically all the risks surrounding the organisation's activities past, present and in particular, future. It must be integrated into the culture of the organisation with an effective policy and a programme led by the most senior management. It must translate the strategy into tactical and operational objectives, assigning responsibility throughout the organisation with each manager and employee responsible for the management of risk as part of their job description.".

8.2 Risk Identification

The identification of risk and its management is an important component of transport asset management. Currently risks are identified and rated according to their impact and their likelihood and this gives an indication risk prioritisation. Risks are assessed in terms of their financial impact, reputation and business service impact on the Borough and cover the following areas: -

- Safety – context of both road user and highway maintenance staff;
- Natural Events – e.g. weather;
- Physical risks – failure of the asset;
- Economic – e.g. effect of increased energy charges on the budget for maintenance;
- Legislative – changes in government policy – e.g. road charging;
- Resources – ability to recruit skilled staff
- Systems – impact of system failure

8.3 Risk Analysis

We have reviewed the various risks and identified them in the Departmental Risk Register and Individual Service Plans. Each risk is ranked in order of importance. This ranking has been undertaken on the basis of: -

- Safety;
- Cost to the Borough;
- Cost to the Community;
- Likelihood of occurrence.

Having established the priority of risks we have identified risk reduction measures to obviate the impact of the risk. Each risk has been allocated an owner whose responsibility to is to ensure that the risk reduction measures are effective.

8.4 Current Status

We currently have in place a formalised risk assessment process for employees employed on highway maintenance duties and general site work. Over the next 12 months we will develop the Risk Register to further address the matters identified in paragraph 8.2 above.

9 Lifecycle Plans

9.1 Introduction

All, highway authorities have a statutory duty to maintain the highway network in a safe condition. To meet this duty Halton BC have produced objectives, strategies and plans to ensure that the legal obligations placed on the Authority are undertaken in a cost effective manner. To achieve this the Directorate have a range of maintenance techniques such as preventative, intervention, strengthening and improvements to the network.

The principles of Asset Management accept that every asset has a lifecycle from creation to disposal with various levels of maintenance applied throughout that life. Lifecycle management plans are prepared for individual assets or asset groups to identify the options available for managing and operating the assets at an agreed level of service.

9.2 Performance Gaps

The difference between the levels of service we are providing and the level of service we aspire to provide is known as the “Performance Gap”. We have identified a number of areas in the course of the production of this TAMP where there is a need to improve the level of service we provide. However the improvement of our service will be dependent on the level of resource allocated by the Borough and Central Government to looking after the asset. The current levels are identified in the appendices to this report and comments on the potential improvements are identified where appropriate. These will be developed further in future editions of this document.

It is also proposed to conduct further public consultation to provide a basis of comparison with previous similar surveys. From this a better understanding of customer perceptions and expectations will be developed and compared with existing service delivery standards.

9.3 Lifecycle Planning

The process for closing the performance gaps is to create lifecycle plans for the each asset group. We are in the process of producing lifecycle plans for: -

Highway Carriageway	Traffic Signals
Bridges (including subways, revetments retaining walls and other structures)	Drainage (including culverts)
Footways / Cycleways	Safety Fencing
Signs	Street Lighting

A lifecycle plan will document how each phase of the asset's life is managed, from creation to disposal. It will recognise how the level of investment in say, routine maintenance affects the renewals required. The Options available are shown in Table 16 below: -

Table 16 Asset Lifecycle Options	
Creation or Acquisition (Build or purchase a new asset)	Assets are created or acquired in response to one of three demands:- **Development** – Where existing assets are improved and new assets are created as part of new developments. **Capacity** – Where the current system is operating above its capacity one potential solution is the creation of new assets. A simplistic example would be the widening of a road to allow for increased traffic. **Performance** – The explicit measurement of levels of service will lead to information on where levels of service are not being met. This may enable the identification of where additional asset capacity is required.

Routine Maintenance carry out routine maintenance to maintain the asset in a serviceable condition	Routine maintenance regimes are generally based on historic practices rather than identified needs. Asset management demands the explicit identification of need. This is achieved by answering the following questions:- **Condition Monitoring**:- Is the condition of the asset routinely measured? **Routine Maintenance Standards: -** What RMS are in place and have they been reviewed in relation to customer demands? **Reactive Maintenance**:- What level of activity exists? **Maintenance / safety inspections**: - Are the outputs from these inspections used to assess the effectiveness of RMS activities?

Renewal or Replacement (Carry out work to return the asset to its "as new" capacity condition	Renew or replace the whole asset, or elements of it. Renewals and replacements are the major treatments that are used when routine maintenance alone cannot sustain the asset. The identification of renewals / replacements and in particular the timing of such treatments is a fundamental element of lifecycle planning. This is achieved by answering the following questions: - • How are potential renewals identified? • How are renewals / replacements evaluated? • How is the linkage between routine maintenance and renewals evaluated? • How are the expected lives of treatments identified and checked?

Upgrading (Improve the asset above its original standard)	Upgrade the asset or part of it to meet future needs

Disposal	Decommission or demolish obsolete assets. This is achieved by answering the following questions: - • Under what circumstances are assets disposed of? • What is the process for disposal?

In addition to these asset lifecycle plans, non-asset options may need to be considered. These include the management of demand to reduce usage and the amendment of standards or targets where it is accepted that the desired performance cannot be met. These may be particularly relevant if further reductions on funding availability become apparent.

9.4 Improvement Options

We currently do not have any lifecycle plans in place. Our strategy for the future will be to produce lifecycle plans for each major asset over the next two years.

10 Future Monitoring of the Asset Management Plan

10.1 In producing this Transport Asset Management Plan we set up a TAMP working Group comprising: -

M Bennett	Bridge and Highway Maintenance Manager;
C Dutton	Section Leader (Highway Maintenance);
W Edwards	Partner EC Harris LLP;
M Hasoun	Principal Project Manager EC Harris LLP;
S Rimmer	Traffic and Street Lighting Manager;
J P Wright	Senior Engineer.

It is our intention to maintain this working group and for it to take responsibility for developing further the asset inventories, management systems, valuations and lifecycle plans and for monitoring the Council's achievements against this plan. It will report to Senior Management annually with the publication of a revised Plan at suitable intervals when significant progress can be demonstrated.

11 References:

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Appendix A

Maintenance Codes of Practice Recommendations

Appendix B

Progress against LTP objectives

Appendix C

Level of Service Assessment

Appendix D

CPA Scorecard