

# MAINTENANCE- 10





## 10 MAINTENANCE

### 10 MAINTENANCE

Efficient maintenance will play a key role in delivering **all** the Shared Priorities and LTP2 objectives as it is a cross-cutting activity with wide benefits. Maintenance will, however, play a particularly important role in delivering the following LTP2 objective:

#### **LTP2 Objective:**

*'Support sustainable economic growth in appropriate locations'*

- Delivering transport improvements to support the Land Use Strategy, with an emphasis on enabling Taunton and Yeovil to achieve significant economic growth;
- Ensuring recovery of the highway network to a steady state; and
- Delivering transport improvements to support the county's economic development strategy.

This chapter describes our strategies for road maintenance including highway lighting and bridge maintenance, and demonstrates how these strategies have been influenced by the shared priorities. The chapter also outlines how the development of our Transport Asset Management Plan (TAMP) is leading to better value for money and efficiency savings in service delivery.

The TAMP, which will develop our existing Highways Maintenance Policy Plan and current highway maintenance hierarchy, is currently being prepared. This will dictate our Maintenance Strategy, identify scheme prioritisation to produce long term works programmes resulting in greater planned maintenance.

Our strategy is to provide integrated delivery of schemes incorporating maintenance, improvement and safety schemes with the aim of delivering reduced congestion, improved accessibility for all highway users, safer roads, improved air quality and quality of life. It will bring together the strategic aims of the County Council to ensure robust service delivery.

The Asset Management Plan will identify needs based budgets which will ensure spending is directed at the areas of the network with the greatest need at the optimum time. It will also achieve Gershon savings through proactive rather than reactive maintenance, better planning and allow efficient procurement strategies to be implemented.

The process we intend to follow is to firstly identify the schemes through a variety of ranking methods including inspection and condition surveys and then to prioritise the schemes against the LTP shared priorities. We will set challenging targets for which a tight programme management regime will be established to make best use of the resources and timely delivery.

Somerset puts its customers at the centre of all highway and transport activity and constantly seeks feedback through customer surveys. We have a comprehensive programme of feedback to monitor our performance to strive for continuous improvement.

#### 10.1 HIGHWAYS

Somerset has entered into a partnership with WDM Ltd based in Bristol to carry out the highway condition surveys and assist with the interpretation of the results. In addition, WDM manage the Pavement Management System

## MAINTENANCE 10

which calculates the theoretical effect on the residual life of the network for various programmes of investment, which is essential for any needs based budgeting when targeting areas of the network which most need it. These results will feed into the Asset Management Plan to assist in identifying future programme of work.

To assess the condition of the principal road network we will be carrying out SCANNER surveys but we will continue to carry out deflectograph surveys in accordance with the County Surveyors Society (CSS) recommendations to establish residual life and serviceability. These surveys will be used to identify forward works programmes.

The County carries out routine SCRIM surveys on the roads identified as Strategic or County routes. The survey results are assessed against HD28/04 to identify sites where there are SCRIM deficiency problems. These sites are reviewed in conjunction with accident data and, provided there are no structural or functional problems, they are used to determine locations for surface dressing or anti-skid surfacing. Sites with structural or functional problems will need further investigation to determine the most appropriate treatment. The County is currently producing a policy to be used at each site category using the HS28/04 guidance.

The condition of the non principal road network has been obtained from Coarse Visual Inspection (CVI). These surveys are now undertaken by City & Guilds accredited surveyors which has led to improvements in their consistency. Mechanical surveys based on the SCANNER technology are being introduced to provide objective assessments for the non principal roads, starting with all Class B and a sample of C roads.

In addition, Somerset is using the safety defects identified through robust planned inspections to plot the locations graphically which can be interrogated to identify areas of the network which require maintenance treatment, thus increasing proactive maintenance. The introduction of 'Confirm' for the recording of public interface issues allows data to be fed into the scheme identification process, collating numbers and types of defects for future interrogation. We are pleased to report that insurance claims against Somerset are falling year on year and now represent 33% in terms of number of those received in 2001.

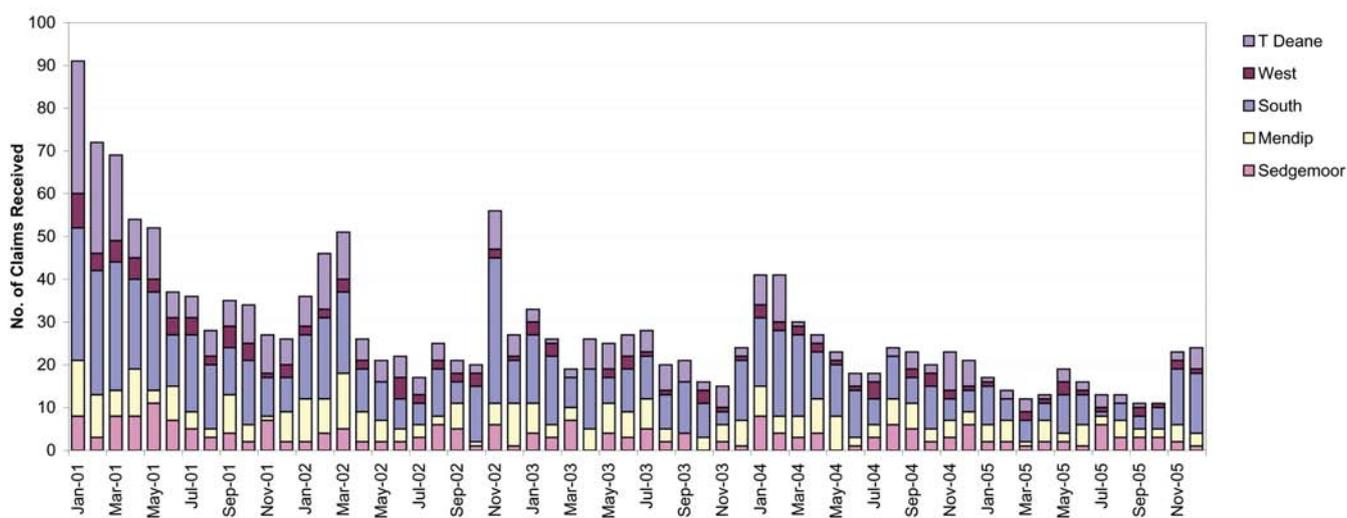


Figure 10.1 Reduction of Insurance Claims, 2001 to 2005



## 10 MAINTENANCE

The use of these surveys and other information will be used to form the basis of the schemes for future highway structural maintenance programmes for the following types of work: resurfacing, reconstruction, surface dressing, footways, drainage and earthworks. These works will be aligned to the Asset Management Plan to ensure the correct treatment is carried out at the correct time using an objective and robust priority ranking system.

The development of an operational Service Management Centre in Somerset will also collect valuable defect data on the highway for future scheme identification. The Service Management Centre is a central resource, provided by our service provider, for the management initially of emergency service gangs and then moving to the management of more planned maintenance works. It records all the emergency defects and then, knowing where all the gangs are from Global Positioning System (GPS) tracking units, mobilises the nearest available resource to rectify the defect within the required time. The development of the Service Management Centre is bringing significant cost savings to Somerset as a result of this due to more efficient control, tracking of the resources and improved prioritisation of works.

We have moved from reactive budgets for Lines and Signs to 90% planned budgets. We now have programmed maintenance of these items by route, for main roads, and by areas for local roads. We aim to roll out this methodology across all assets as soon as practical. This will be set out in our TAMP.

We work with Devon Materials Laboratory and South West Materials Group to ensure that there is a consistent approach to material supplies across the region and that innovation is shared.

### Highway Lighting

Somerset has a stock of approximately 46,000 highway lights and 6,000 illuminated signs and bollards, which on average increase by around 2% per annum. The highway lighting stock is now substantially beyond its design life with 33% being in excess of 21 years old and 14% being concrete construction.

The most recent scheduled inspection completed in 2002 indicated that some 14% (approx 6,600 units) require remedial repair or total replacement. The recent change allowing LTP funds to be used for lighting replacement will allow us to partially arrest the increase in the units that require repair or replacement. We are pursuing options to introduce an accelerated programme of replacement to help us deliver more quickly some of the reductions in accidents, crime and the fear of crime, and more energy efficient operations.

### Public Rights of Way

Following a full network inspection of the 6115km of Rights of Way (RoW) in 2005/06 an inspection programme will be established based on public RoW prioritisation categories. This work will influence the discussions and decision making within the Transport Asset Management Plan.

## 10.2 BRIDGES

The programme of bridge assessments identifies that, as of January 2006, 51 out of a total of 1443 remain to be started. Within the replacement programme 245 assessments require final closing out, which might include further assessment in order to maximise capacities and thereby reduce avoidable and more expensive strengthening work. It is anticipated that the programme of assessments will continue until 2006/2007.

Pending completion of the assessment programme it is understood that 50 further bridges require strengthening work so that they are satisfactory in the long term for highway loading and are sufficiently safe for, and accessible by, the full spectrum of anticipated use.



## MAINTENANCE 10

In terms of structural (preventative) maintenance, as of January 2006, 80 structures are estimated to require an investment in excess of £50k each in major capital maintenance work. Beyond this, resulting from a comprehensive analysis of risk prioritisation, a significant amount of the remaining structures require a lesser but equally important investment to overcome issues identified generally in the following categories:

- Bridges in locations where road casualties are occurring;
- Reducing the risk of 'Accidental Road Vehicle Incursion onto Railways';
- River foundation damage (also known as 'scour' or 'washout');
- Weak parapets and edge protection;
- Bridges and structures where size, vehicle clearance and road alignment may present a potential hazard;
- 'Overbridges' with 'fragile' supports;
- Reinforced concrete deterioration;
- Long term water ingress through older structures; and
- Other serious/progressive structural deterioration.

Routine bridge maintenance is identified from inspection criteria specifically aimed at targeting the following:

- Safety of all highway users;
- Structural deterioration that can be arrested with a better value of investment now rather than later in the programme; and
- Structural deterioration that might impair access.

New disciplines associated with development of Somerset's Asset Management Plan and the Code of Practice for the Management of Highway Structures are assisting in the improvement of the Council's understanding of its highway structure assets and their maintenance needs. This will inevitably mean estimates and investment commitments will require review throughout the LTP2 period.

### 10.3 VALUE FOR MONEY THROUGH ASSET MANAGEMENT

Corporate Asset Management within Somerset has made major strides over the last few years, and we are currently preparing the TAMP. The starting point of managing our highway assets is to align decision making and operational actions with County policy and our LTP objectives and strategies. A review of the Property Asset Management Plan is also taking place ready for 2006 in line with the latest property and financial guidance. These plans will be closely aligned so that they can be combined into a single plan in the future, with the potential to be driven by a common GIS, improving customer focus and service.

The starting point of managing our assets is to align decision making and operational actions with County Policy.

Asset management considers the following key factors as a basis for effective planning:

- Inventory;
- Condition;
- Sufficiency; and
- Suitability.

The Council's Capital Strategy forms the financial basis for delivery of the Asset Management Plan, and establishes priorities and risks. LTP2 capital requirements are integrated within the corporate capital strategy and our service planning and financial planning processes will enable us to actively manage programme delivery and manage risks.

## 10 MAINTENANCE

### 10.3.1 Links to Wider Policy

This LTP has shown that national, regional and local stakeholder influences have been taken into account whilst developing the County's policies and priorities.

The TAMP is managed by the Environment Directorate which has its own Service Plan (2005 to March 2008) that converts the overarching broad and strategic policies and priorities into specific and operational ones.

Within this Directorate, there are currently three major streams that have an influence on the way in which the assets are managed. These are: Strategic Planning for transport policy including the creation of assets through LTP and developer schemes, Highways for highway maintenance as set out in the Highway Network Management Plan, and Rights of Way for PROW management.

The TAMP will ensure that these main streams will become more fully integrated to obtain optimal allocation of resources for the creation, management, operation, preservation and enhancement of the infrastructure to meet the needs of current and future stakeholders.

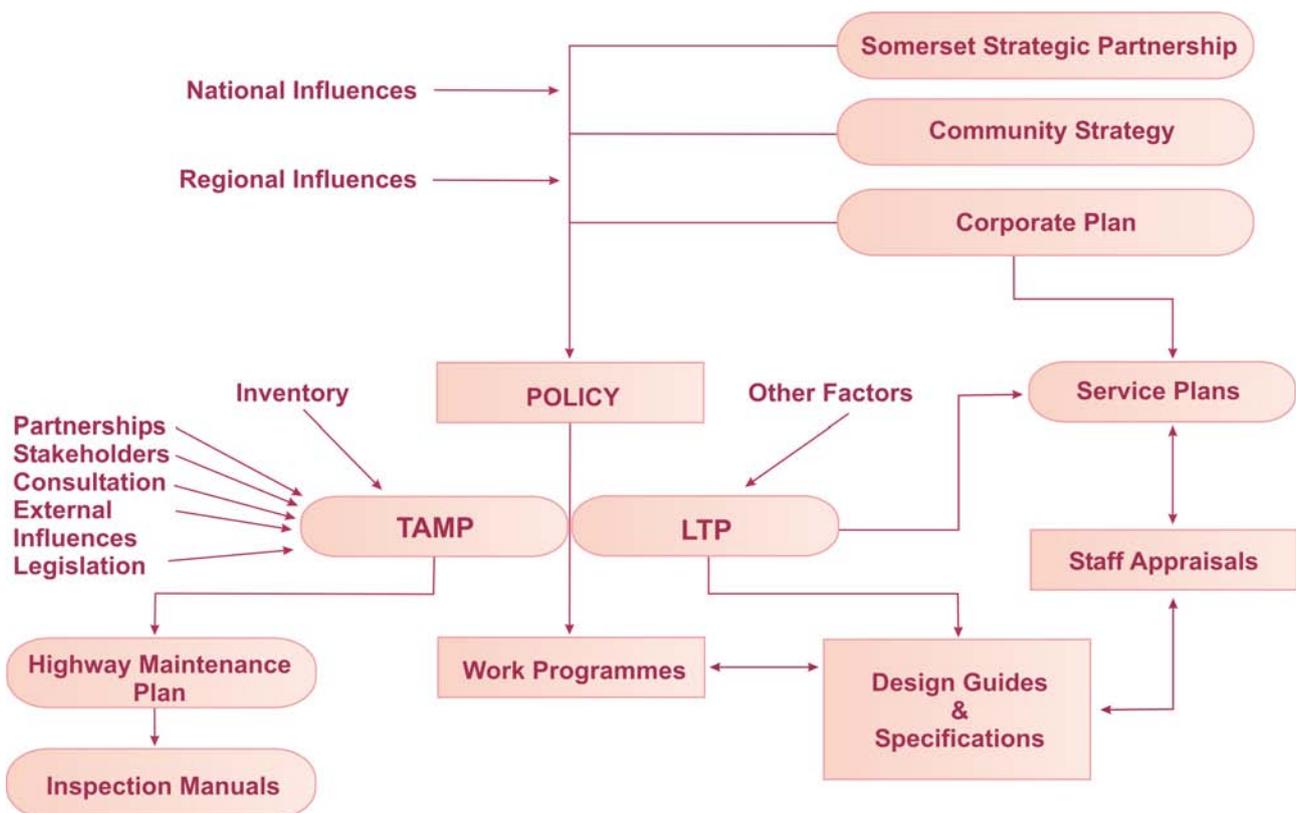


Figure 10.2 Relationship Between the TAMP and Other Documents

### 10.3.2 Our Approach to Asset Management

The TAMP is made up of several key areas of work outlined below:

**Asset Management Plans** are the individual lifecycle plans that discuss an asset in detail, for example footways. We consider quantities, condition, levels of service, whole life management needs, and resources to arrive at a preferred method of looking after that particular asset. We aim to arrive at an optimal work programme for around a twenty year period. These plans will identify gaps in our knowledge and our performance, any risks that may hinder service delivery and suggest proposals for developing the service.

**The Highway Asset Management Plan (HAMP)** takes the work of the AMP for all the physical assets associated with the highway, including those that are not always maintained by the authority. This is to ensure we know what to do should we discover them causing a danger or obstructing the highway for example. The HAMP is the decision part of the process, assessing the proposed individual work programmes, risks and budget constraints and arrives at an optimum works programme for the whole of the highway maintenance delivery service.

#### Development of our Transport Asset Management Plan (TAMP)

Our TAMP is the document that looks at trying to get more out of our assets than simply managing them in an efficient way (HAMP). The TAMP is the crucial link between the LTP and asset management. It adds value to the HAMP by clearly setting out corporate goals, objectives and strategies by which the assets will be managed and takes into account long term plans and future influences.

We are committed to developing this plan because we understand that benefits will ensue (some of these are outlined below). It is also recognised that there are several other drivers: Code of Practice for Highway Maintenance, 'Rethinking Construction' which advocates an integrated approach to the planning and delivery of infrastructure works, Whole of Government Accounting which requires commercial style accounts to be drawn up using Generally Accepted Accounting Principles by 2006, and the Prudential Code requires local authorities to have explicit regard to option appraisal in terms of being affordable, prudent and sustainable. The Gershon Report states that local authorities could make 2.5% savings if their procurement strategies were region based which supports the requirements of Best Value to obtain 2% per annum efficiency savings.

Many of the elements of good asset management are already in place and are explained in the Highway Network Management Plan, Highway Safety and Maintenance Manuals and contract requirements for scheme briefs. This asset management plan will bring all aspects under one umbrella.

The objectives of the Highway Network Management Plan (HNMP), which have been in place since 2003, are:

- Minimise reactive work, consistent with maintaining safety, in order to maximise the level of planned works;
- Adopt 'whole life' cost principles to maximise the benefit of investment being made in the highway;
- Provide budgets based on a 'needs' basis;
- Provide a responsive and consistent interface with the public;
- Develop risk management techniques; and
- Implement a performance management regime.

We have already made significant progress towards these objectives, and will build on this as we develop the TAMP.



## 10 MAINTENANCE

The following paragraphs explain what we have accomplished so far, what we are currently doing, and what our strategies are for developing this Plan.

### **Benefits achieved prior to development of the TAMP:**

- Detailed analysis of the Code of Best Practice resulting in improvement actions;
- Road, footway and cycleway hierarchies defined for maintenance;
- Highway Safety Inspection Manual prepared and issued (borrowed by several other authorities). This allowed us to concentrate on 'safety first' policy resulting in:
  - All safety defects identified and repaired (additional budget needed & provided);
    - Less dangerous defects after first year;
    - Less public loss; and
    - Reduction in claims (65% reduction in number over 4 year period).
- Analysis of defect causes led to correct repair first time resulting in less abortive work and longer life repairs;
- First time repairs of potholes resulting in less public disruption;
- Introduction of "How do we look after ..." service manuals resulted in more planned work that includes small footway schemes, road patching, homogenous repair for gully surrounds, minor drainage schemes to keep water off the road;
- Schemes include additional features such as kerb and footway repairs when road is resurfaced to maximise benefits and reduce traffic interruptions;
- £250k reactive road marking budget now £220k planned work with only £12k reactive;
- Find and fix vehicle restraint barrier inspections;
- 80% surfacing works accomplished before October (during the correct time of year);
- Several recycling performance targets set and accomplished;
- County designed Highway Scheme Proposal Register is used to co-ordinate works, saving abortive works;
- Contracts written and contract administered in a performance management ethos; and
- Work with neighbours.

### **Benefits achieved to date during development of the TAMP:**

- Bridge vehicle restraint barriers being inspected and fixed with road ones;
- Structures team are working closely with PrOW;
- Highway retaining walls (less than 1.5m) are now being looked after by Structures team;
- Maintenance works are being more directed towards LTP2 desired outcomes;
- Maintenance hierarchies mapped to freight routes;
- Scheme designers workshop set out 'design for whole life costing' and 'minimise traffic disruption' during and after scheme construction;
- Development Control in agreement with TAMP ethos and Estate Roads Manual will be rewritten in accordance with TAMP;



## MAINTENANCE 10

- Traffic Control systems being given higher profile to assist with Traffic Management Duty;
- Maintenance project managers are aligning their project delivery with TAMP ethos and the “How do we look after ...” service manuals;
- Maintenance managers have been involved in developing the LTP2 and its scorecard;
- Links between Safety, Network Management, Sustainable travel, Maintenance and LTP strategy managers have been reinforced by the development of the TAMP;
- We have appointed a Highway Systems (IT) manager to consolidate and rationalise databases, spreadsheets and paper systems;
- Asset valuation has brought the finance team even closer to maintenance managers;
- Gully emptying vehicles are fitted with GPS and automated data collection telemetry systems;
- Winter vehicles are fitted with GPS and automated data collection telemetry systems; and
- Liaison with our neighbours has been enhanced.

### **Expected benefits following introduction of the TAMP:**

- TAMP will direct works to align with delivering LTP2 outcomes by using a prioritised ranking (scorecard) objective system;
- Staff resources optimised using PRINCE 2 project management approach;
- Maintenance optimised to reduce whole life costs;
- All project areas to have long term (20 year) plans that can be better co-ordinated reducing traffic disruption, improving purchasing power and improving public perception for joined up thinking;
- Whole life costing ethos rather than cheapest;
- Co-ordinated IT systems;
- Traffic Manager will have relevant information to hand to allow proactive network management;
- Benchmarking activities will be easier based upon this ethos;
- Data will be available to demonstrate to Members and the public value for money, where money is needed and the consequences of choosing various funding options;
- Long planned works can be co-ordinated at an earlier stage with Developers, Statutory Undertakers, Neighbours and the Highways Agency; and
- Schemes will be prioritised according to pre-determined rules.

### **Levels of Service**

The levels of service we provide are driven from legislation and public aspirations of service and condition of our assets.

Stakeholder aspirations are gleaned from a variety of sources including service specific surveys, before and after surveys and Somerset Influence Panel which is a random selection of 1500 from the 7014 members of the public on our survey panel. We also monitor our Customer Care data base (CONFIRM) to assess whether other surveys are reflected in the day to day issues of the public. We have performance monitors in place to measure our performance. The result of these help us to drive service improvement, both the way people are treated and the specific outcomes they expect. One area for improvement is to formally record the gap between customer aspirations and actual service delivery so that we can demonstrate the improvements we make.



## 10 MAINTENANCE

The contracts we award are based on quality submissions as well as financial implications, thus ensuring that we are not prejudicing our service requirements. As an example, our service delivery partner for highways has accreditation in:

- ISO 9001:2000 Quality Management System;
- ISO 14001:1996 Environmental Management System;
- OHSAS 18001:1999 specification for an Occupational H&S Management System; and
- Investors in People.

We have begun to align our service levels to the new Codes of Practice for Highway Maintenance Management, Management of Highway Structures and Highway Lighting Management launched during 2004 and 2005.

### Value of Assets

The assets will be, where possible, valued in financial terms. However, we will recognise that many of our assets form an environmental benefit for people and wildlife. These will be collated and taken into account when developing this Asset Management Plan. We will therefore look at whole life costing, life cycle energy consumption and other corporate vision documents such as biodiversity. Somerset are collating, on behalf of the authorities in the South West, individual scheme Gross Replacement Costs (GRC) for Highways and Bridges so that we can agree region GRCs as recommended in the Roads Liaison Group national Guidance Document for Highway Infrastructure Asset Valuation, which is a document most authorities are committed to. We have also agreed on Baxter inflation rates to ensure that the agreed GRC do not diverge in later years. We will now begin to work together to better understand the documents method of depreciated costing and renewable accounting.

### Creation of Assets

When considering scheme design, even at conceptual stages, the LTP strategies are taken into account. We have checks in place to ensure that schemes do deliver benefits to the community in accordance with our LTP requirements. One area for improvement is to move to a more robust mechanism for assessing whole life costs. This will ensure that ongoing maintenance needs will be taken into account at design stage, thus developing sustainable asset management practices. This will also include new Developers' scheme proposals.

### Managing Our Assets

We currently manage assets through 'super projects' where key managers have responsibility for ensuring that the assets of their particular project are moving from reactive to planned maintenance, considers public aspirations, ensuring improved and innovative methods of delivery and ensuring that continuous performance is achieved. The HNMP and a key LTP objective, to arrest the rate of deterioration of assets, are the drivers for each project. Each project reports to the Highway Network Management Board on a regular basis, which ensures that objectives are being delivered in an effective and coordinated way.

Somerset Highways achieved runner-up in the Highway Magazine's 'Most Innovative Local Authority of the Year' award 2004. Performance monitoring forms an important management tool and the County has recently purchased bespoke software to assist with performance management.

### Major Maintenance of the Highway

Significant work required on the highway is identified through mechanical and visual surveys. The 10-year recovery plan, supported by a 'Local Public Service Agreement', is monitored through several BVPI's. Schemes are designed taking into account current condition, proposed traffic use and costs.



## MAINTENANCE 10

The first objective within the 10-year recovery plan was to halt the deterioration of the principal network by 2004. This has been accomplished. The next, and more challenging objective, is to begin recovery of the network to a steady state that fulfils the aspirations of the public. This will be the main focal point of analysis during the development of managing asset improvements.

Over the last two years we have also been adding value to the work we must do by including desired improvements, as a result of either public aspirations or good management of the network. Such improvements would include constructing drop-kerbs allowing for better pedestrian movement, repositioning of gullies out of wheel lines and renewal of adjacent signs and lines.

We will be moving towards an objective priority ranking of schemes that will take into account the LTP2 objectives in this document.

### Asset Records

The highway inventory is the foundation stone on which an asset management process can be built. We hold inventory information that was originally collected during the late 1980's. Although information is updated, we believe that this data set is around 85% accurate. We will therefore be evaluating the importance (relevance) and accuracy of each data set so that we can embark upon new inventory collection in a cost efficient and meaningful way. We are converting data from an 'inventory' only data base (HERMIS) into our newly purchased software (CONFIRM). We will use this system to manage our highway assets. For example, work will only be undertaken on an asset and therefore newly found assets will have to be recorded before work can be done on them, thereby improving the asset data set all the time.

The results of the public rights of way condition survey will inform the new PRow database at the end of 2006. This system will be used to proactively manage the network.

### Co-ordination of Works: HPSR Environmental

We have a duty under the New Roads and Streetworks Act (NRSWSA) which will be developed under the Traffic Management Act, to coordinate works on the highway. Our main tool for managing future works programmes is our computerised map based Highway Scheme Proposal Register (HPSR Environmental). This is a register of proposed works commissioned by County (major, improvement and maintenance), Developer and Statutory Undertakers.

HPSR Environmental has been recognised nationally and Somerset County Council received a Green Apple Award presented by the GREEN organisation that 'recognises companies, corporations and individuals who have a positive environmental policy and are making an effort to preserve and protect the environment for future generations'.

#### Examples of how Asset Management will help deliver the LTP objectives.

**Casualty Reduction:** new schemes and minor works will be designed to ensure safety is improved wherever possible; highway maintenance will be targeted where there is a potential for reducing casualties, and assets which could potentially affect safety (such as verges, drainage, carriageways, signs, road markings, lighting, traffic control systems, safety fencing and guardrail ) will be proactively maintained. In accordance with our safety strategy the TAMP will also focus on route consistency.



## 10 MAINTENANCE

**Congestion:** new schemes and minor works will be designed to minimise congestion, maintenance operations will endeavour to reduce restrictions on traffic and wherever possible all works, including those of Statutory Undertakers, will be co-ordinated using the County's computerised map based Highway Scheme Proposal Register (HSPR). Through coordination, we aim to maximise network availability.

**Accessibility:** we will identify maintenance works on footways, cycle routes and public rights of way to improve access to basic services. This will particularly help with our aim to strengthen accessibility in our market towns through targeted proactive maintenance.

**Environment:** new schemes and minor works will be designed to preserve, where possible, the natural environment. using HSPR Environmental and our Biodiversity Action Plan.

**Economy:** we will identify maintenance works on strategic routes to improve all vehicle movements and in particular freight transport, supporting our economic performance.

### Management of the Physical Assets

Each asset type, for example carriageway, footway, public right of way, will take account of the strategies shown above when setting out the way their asset is to be managed. These individual plans will consider; quantities and locations, condition of asset and maintenance and upgrading requirements to sustain the agreed level of service (which is driven from legislation and public aspirations). These will be specifically linked to budget requirements.

The outcome of these plans is that service, budget and risks will be balanced. Routine, maintenance and replacement works will be identified for the asset's 'life' which will enable long term financial planning for the Council.

### Valuation of the County's Highways

Whole of Government Accounting will require that Highway Authorities value their highways and that this value will be contained within the Authority's accounts. There is national guidance on this valuation process and the TAMP takes account of this. The amount of natural depreciation of the highway will need to be offset by the amount needed to maintain the assets, to the stated level of service in the TAMP, to ensure that the value of the whole highway asset does not depreciate.

Following the development of our TAMP in 2006, we will be producing a valuation of our highway assets that will be based upon the national guidance. This will allow us to gauge if our estimates and assumptions are accurate.

During 2006/07, and future years, we will be continually updating our asset database to take into account new additions. Asset maintenance and creation will only be possible using our asset manager module of our SBS CONFIRM computerised management system. Valuation in 2007/08 will be based upon the updated inventory and Baxter inflated GRC.

### Cost Savings

We are striving to produce more efficient and effective services and fully expect to produce savings in accordance with Best Value and Gershon. One of the project outputs required from our TAMP project, which is based upon PRINCE2 methodology, will be assessing the costs and savings as the work progresses.

## 10.4 PROGRAMME & TARGETS

We place the very highest priority on the safety of our communities and road users. All scheme prioritisation is also influenced by route hierarchy, including strategic HGV routes and the strategic significance of settlements such as Taunton and Yeovil.

The identified list of schemes will be assessed and prioritised in line with the shared priorities relating to transport, as follows:

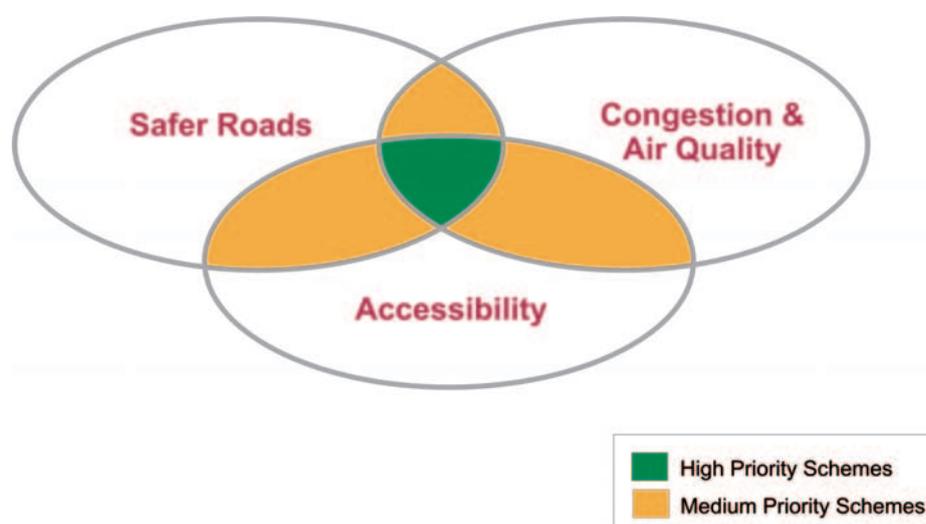


Figure 10.3 Maintenance Priorities

Table 10.1 Shared Priorities Delivered by Network Management Scheme

	Shared Priorities			Quality of Life, particularly Environment
	Congestion and Air Quality	Accessibility	Safer Roads	
<b>Capital Schemes</b>				
Fences, walls and barriers			✓	
Resurfacing	✓	✓	✓	✓
Reconstruction	✓	✓	✓	
Surface Dressing		✓	✓	
Footways	✓	✓	✓	✓
Drainage		✓	✓	✓

## 10 MAINTENANCE

	Shared Priorities			Quality of Life, particularly Environment
	Congestion and Air Quality	Accessibility	Safer Roads	
Earthworks		✓	✓	✓
Highway Lighting	✓	✓	✓	✓
Bridges		✓	✓	✓
<b>Revenue Schemes</b>				
Fences, walls and barriers			✓	
Safety Maintenance		✓	✓	✓
Environmental		✓	✓	✓
Routine - Safety Repairs		✓	✓	✓
Routine - Drainage Cleansing		✓	✓	✓
Emergency Maintenance	✓	✓	✓	✓
Winter Maintenance	✓	✓	✓	✓
Traffic Control Systems	✓		✓	
Public Rights of Way	✓	✓	✓	✓

An example of this is a resurfacing identified scheme on a roundabout where we would also investigate congestion issues, safety issues and visibility problems as well as other maintenance works whether structural or routine.

The Transport Asset Management Plan (TAMP) will be key to the development of the scheme prioritisation and therefore it will need to be robust and demonstrate best value and best practice in maintenance techniques. The new Codes of Practice for Highway Maintenance Management, Management of Highway Structures and Highway Lighting Management launched during 2004 and 2005 will drive the way we look after these assets. The advice contained in these documents will inform the TAMP.

The prioritisation of any highway lighting replacement programme will on the basis of safety issues arising from inspections and the benefit to the community to ensure that where they are situated continues to provide the same or increased levels of accessibility and community safety for the users. One of Somerset's primary priorities is to address crime and the fear of crime and this can be achieved through effective highway lighting.



## MAINTENANCE 10

To continue to improve efficiencies to the highway lighting network, the Authority has entered into a performance based contract with the service provider, which gives the Authority increased control over revenue maintenance priorities. Further plans to introduce electronic remote monitoring are being actively considered.

The strategy to replace life-expired highway lighting units will be considered in the asset management plan to ensure the correct level of expenditure is identified to recover the asset to a safe and robust state.

The surface of most Public Rights of Way (PRoW) is vested in the County Council as the Highway Authority; the landowner's interest only extends to the sub-soil. The County Council will maintain the surface of the PRoWs appropriate to their designated route category and status so that they are safe and fit for all lawful public use. Consideration may be given for surface improvements necessary to satisfy new requirements set out in the CRow Act 2000 and the Disability Discrimination Act 1995.

We are responsible for most bridges on PRoW. Replacement and provision of new structures will be prioritised on the basis of public demand (except in so far as is necessary to comply with its legal maintenance duties), or those which form strategic links as identified in the Rights of Way Improvement Plan (RoWIP).

### **Innovation**

We have won four national Green Apple Awards for environmental excellence and innovation in both highways schemes and highway work co-ordination.

We have recently finished second in an award for the 'Most Innovative Local Authority' hosted by the Highways Magazine.

To enable surface dressing to be applied in more urban areas, it is intended to trial increased traffic management to create 'clearways' to allow embedment across the whole of the carriageway and the use of a graded aggregate in urban areas to ensure embedment over a range of surface conditions improving the process for local residents.

Innovation within our revenue funded bridge inspection and management work includes:

- The implementation of Bridge Condition Indicators (BCIs);
- The collection of data and risk assessments for;
  - Road vehicle incursion onto railways;
  - River foundation damage (also known as 'scour' or 'washout');
  - Weak parapets and edge protection; and
  - 'Overbridges' with 'fragile' supports.

We are also taking the lead in the South West with ideas to create a forum for sharing ideas and solutions to the problem of managing the accidental incursion of road vehicles onto railways. Since the Selby rail disaster the challenge has been given to both highway authorities and Network Rail to reduce the risk of such events. Our work on this is designed to enable ideas and solutions to be shared for the many different types of site and to reduce the obvious potential for 'wheel reinvention' and to share intelligence on the most effective and economic solutions. It is believed this could provide benefits at a national level.

## 10 MAINTENANCE

### 10.4.1 Programming

Once prioritised, maintenance schemes are entered into a sequential programme for stakeholder involvement, mapped to the existing content of the HSPR and at the project level cost benefit analysis and whole life costing is undertaken against value targets to ensure maximum return from the investment is made. From this process, an annualised maintenance scheme programme is developed, publicised and subsequently used as a measurement tool to track and record progress.

Programmes will be identified through the Asset Management Plan and will fall into 1-5 year programmes and over 10 years.

The Network Management partnering contract with our service provider contains targets to assist in the timely delivery of the maintenance programme:

Table 10.2 Maintenance Programme

Partnering Contract Indicators	Target
Percentage of resurfacing/reconstruction schemes completed	75% by end October
Percentage of surface dressing works (incl. preparatory works) completed	100% by end August
Percentage of pre surface dressing patching/ preparatory works for next season	100% 3 months in advance of surface dressing
Percentage of patching (excluding safety patching) completed	80% by end October

Bridge works are programmed to be carried out during the times of the year where construction efficiencies are the greatest and when environmental impacts and traffic congestion are minimised.

### Revenue Funding

Revenue works also present an important factor when considering future structural maintenance programmes as they will aid the structural maintenance of the highway and thus work integrally with the programme; the strategy for which will be detailed in the Asset Management Plan.

Routine maintenance work for PRoW will be funded by the Rights of Way maintenance budget. Structures and bridges over 6m are funded through Capital monies. Improvement schemes and non-statutory works will be addressed through the Rights of Way Improvement Plan (RoWIP) or through other sources of funding. The Council will not contribute to the improvement and repair of private roads (except insofar as is necessary to comply with its legal maintenance duties) over which there are also rights of way, unless the damage has been caused due to lawful public use of the way (excluding public use of byways open to all traffic - BOATS).

### Our Environment

Our environmental policies associated with highway maintenance include:

- Use of recycling methods wherever possible;
- Use of modern resurfacing materials to reduce noise and vibration;
- Carry out works in a planned way that will keep congestion to a minimum;
- Carry out routine maintenance in a manner sympathetic to the local environment;
- Utilise scheme management to coordinate and eliminate abortive works;
- Comply with the Somerset County Council Biodiversity Action Plan.

With 53 road bridges carrying 'listed structure' status and 17 also being scheduled ancient monuments as well as many more bridges having old and historic structures, Somerset is proud of this part of its built heritage and works hard to carry out repairs and improvements in a sympathetic manner.

When physical maintenance or improvement works are proposed on PRoW, it is important to consider the visual impact of such proposals on the wider landscape, particularly within the boundary of any special environmental designation such as Areas of Outstanding Natural Beauty (AONBs), Special Landscape Areas (SLA)s and Exmoor National Park. Consultation with Local Authority Planning Departments will be made on cases where planning permission may be required for new routes.

Local environmental surveys are increasingly undertaken in potentially sensitive areas to identify programme constraints and working procedures that mitigate the risk of possible disruption to habitat and breeding cycles.

Our service provider uses its national resource to identify on a monthly basis any environmental impacts relating to works operations and management that industry have raised. These are analysed to ensure that current legislation and good practice is complied with.

### 10.4.2 Targets

The condition of the road network in Somerset is assessed by:

- Structural - residual life of principal roads measured by deflectograph in accordance with the CSS Recommendations;
- Surface condition/function - measured by SCANNER and CVI; and
- Safety - skidding resistance measured by the sideways force coefficient routine investigation machine (SCRIM).

The condition of the Highway Network is assessed by:

- Best Value Performance Indicators (survey results 2001 – 2005).

Table 10.3 Best Value Performance Indicators (Survey Results 2001 – 2005)

	2001/2	2002/3	2003/4	2004/5
<b>BVPI 96 (Deflectograph)</b>	6.2%	7.3%	4.7%	5.24%
<b>BVPI 223 (Scanner) (Replaces Deflectograph)</b>				30.36%
<b>BVPI 97a (CVI) <sup>(i)</sup></b>	5.7%	43.0%	44.9%	6.5%
<b>BVPI 97b (CVI)</b>	10.7%	51.5%	42.4%	10.9%

With respect to BVPI 97b, only 25% of the network is measured each year, therefore the results will vary over a four year period but by the end of the four years when 100% network has been measured the target will be 8.9%. It is difficult to propose a target for BVPI 223 due to the fact that this is the first year of the SCANNER results and we have no means of determining what the trend will be and whether this is a good or bad result.

i New methodology introduced after 2001/02 resulted in significant change to results. In 2004/05 the survey technique was rationalised to redefine 'edge deterioration' again significantly affecting the outcome.

## 10 MAINTENANCE

- Corporate Performance Assessment (CPA) Indicators for 2005/06 directly impacted by Maintenance activities are:

Table 10.4 CPA Indicators for 2005/2006 Impacted by Maintenance Activities

CPA Ref.	Data Item	PI's
E10	Condition of non principal classified roads	BV97a (BV224a)
E11	Condition of non principal unclassified roads	BV97b (BV224b)
E12	Reduced killed and seriously injured road casualties	BV99a (i)
E40	Reducing slightly injured road casualties	BV99c (i)
E18	Condition of footway	BV187

At present about 5.24% of the principal road network has 'zero residual life' or in other words is worn out. In addition a further 6.7% has a residual life of one to five years. If left untreated the zero residual life figure will rise to 12.4% or some 82km of road within the LTP2 period.

This is a good improvement on the figures reported in LTP1 where 7% of the network had zero residual life and a further 7% rested in the 5 year period of the plan. This decrease has been achieved by targeting expenditure to maximise each scheme's contribution to the network condition by prioritising schemes by their negative and 1-5 year life content.

When fully developed, the Asset Management Plan will be the key implementation tool for the principal road network maintenance strategy.

The condition of the principal road network has consistently been in the upper quartile nationally for at least the last 4 years. Subject to audit and confirmation by DfT the class "B", "C" and "D" roads are now in the upper quartile nationally.

Subject to audit, Somerset County Council has achieved the LPSA stretched target for condition of class "B" and "C" roads and is confident of achieving the LPSA stretched target for class "D" roads as well.

The Bridge Assessment Programme will conclude during 2006/2007 and the bridges that require strengthening will be completed by 2011. During the course of the current LTP bridge condition indicators, promoted by CSS, have been introduced nationally to bring a higher level of objectivity to bridge assessment work and these will be incorporated into the Asset Management Plan during its development.

BVPI 178 surveys cover a random 5% sample of the Rights of Way network length each year, 2.5% being surveyed in May and 2.5% in November.