



# **Highway Asset Management Strategy**

***September 2015***

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## 1. Foreword by Council Simon Jones – Portfolio Holder for Highways and Transport.

Shropshire Council recognises the importance of its highway infrastructure and how an effectively maintained and managed network contributes to the achievement of its corporate goals. It understands that effective asset management is a platform to deliver clarity around standards and levels of service, and to make best use of its available resources.

The Highway Asset Management Strategy sets out how the Council will best manage the Highway Network taking into consideration customer needs, local priorities, asset condition and best use of available resources.

This document presents the Council's Strategy for the management of the Council's highway assets as at July 2015 and allows planning for the longer term.

It has been produced following the assessment of Stakeholders consultations over a six week period of autumn 2015, customer needs, local priorities and asset condition. It also ensures that both short and long term needs are appropriately considered, whilst delivering a minimum whole life cost approach to our highway assets.

The strategy will be used to inform the highway maintenance schemes that are to be implemented within the Shropshire Council forward programme.

This strategy covers all highway maintenance activities funded by revenue and capital streams. It does not directly relate to capital improvements but where linkages exist these are identified.

The Highway Asset Management Strategy will also be used to inform priorities in the Council's corporate planning process and will support the continuous improvement of highway asset management.

The strategy will be a key in formulating our approach in managing our most valuable asset and public infrastructure from autumn 2015 for the longer term.



## 2. Asset Management Policy

Shropshire Council is committed to adopting an asset management approach for the county highway network in order to support the Council's vision:

### **"A flourishing Shropshire"**

The Council places a high significance on its transport network, its most valuable asset. The network is vital to the economic wellbeing of our residents and businesses. The comfort and safety provided by our roads and streets is important to the quality of life in Shropshire.

Our asset management mission:

**"To provide a highway network that enables Shropshire to flourish by investing to give great value now and in the future and giving our customer's confidence in the decisions we make."**

As a highway authority, Shropshire Council has a statutory duty to maintain, operate and improve the highway network on behalf of all its customers. We aim to do this through providing high value services in a legally and environmentally compliant and sustainable manner, without compromising the health and safety of our employees or customers.

Our focus will be on achieving the following outcomes:

#### **A safe network**

- complying with our obligations to maintain safety
- helping users to feel safe

#### **A serviceable network**

- ensuring the highways network remains available for users
- achieving and maintaining desired degree of integrity
- maintaining appropriate levels of reliability and journey times
- achieving and maintaining a target condition of all major assets

#### **A sustainable network**

- minimising cost over time
- maximising value to the community through sustainable economic development
- maximising environmental contribution
- efficient use of natural resources

We will achieve these by developing strategies, plans and processes that will:

- define desired levels of service for highway assets, in consultation with stakeholders.
- adopt a life-cycle approach to planning asset investment and management decisions
- balance competing needs across the highway network and select options that best meet desired outcomes

- monitor, evaluate and, where required, improve service delivery
- manage the risks of asset ownership and operation to ensure continuity of service
- provide for present needs whilst sustaining natural resources for future generations
- adopt a continuous improvement approach to asset management policies and practices
- empower and motivate the entire workforce involved in the operation and maintenance of the highway network
- adopting collaborative and joint working initiatives to deliver effective and efficient services

This policy will be kept under review and subject to change in the light of external or organisational drivers and developments in applicable fields, such as technology, operational tactics or asset care techniques.

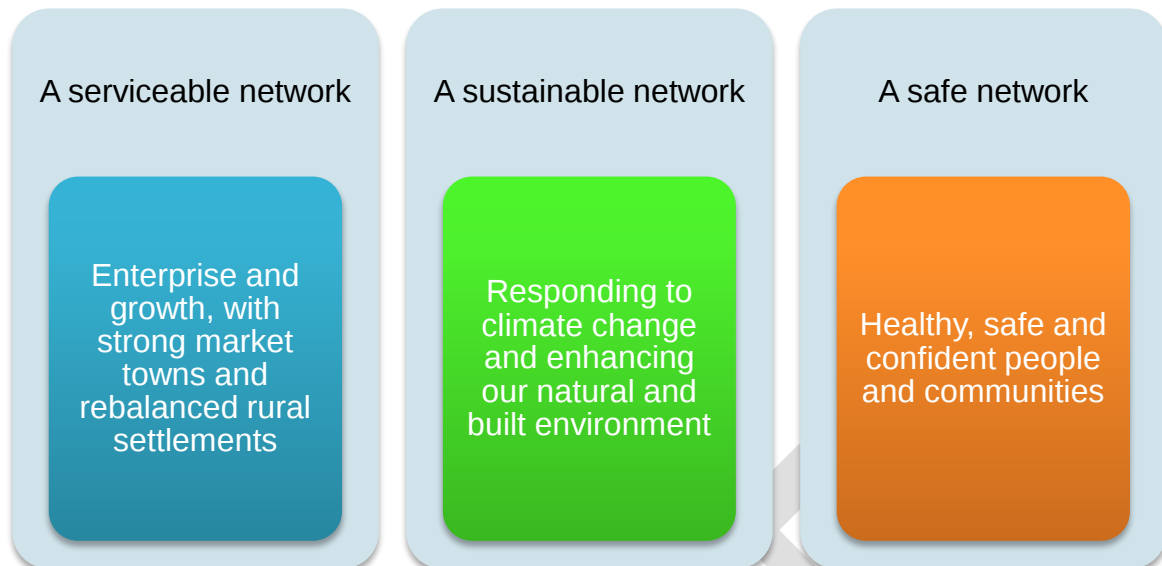
### 3. ALIGNMENT TO SHROPSHIRE'S CORPORATE OBJECTIVES

This strategy sets out how our long term objectives for managing the highways asset will be met, and are aligned to Shropshire Council's corporate objectives. As set out in Shropshire Community Strategy 2010 – 2020, the 3 key priorities are:



The successful achievement of these relies on a well maintained and well managed highways network to facilitate movement in a safe and reliable manner.

**Figure 1. Relationship between the outcomes of this strategy and the Council priorities.**



## 4. ASSET MANAGEMENT FRAMEWORK

The Highway Infrastructure Asset Management Guidance published by UK Roads Liaison Group (UKRLG) sets out a framework which describes all asset management activities and processes that are necessary to develop, document, implement and continually improve asset management practices. These activities and the approach to their delivery should be clearly documented and accessible to relevant stakeholders, but the guidance recognises that individual authorities need to be flexible in the application of the framework to accommodate their own requirements.

The guidance recommends that the framework is developed by individual highway authorities to meet their needs, aspirations and their starting point on the asset management journey.

**Organisational context:** This establishes the context for highways asset management in Shropshire. The context links the Council's vision and priorities with the asset management mission and objectives.

**Asset management planning:** Sets out the strategic planning of the policy and the strategy, but is also where the aspirations for the highways asset and the levels of service are defined. The communication strategy contains how we will communicate with our stakeholders both in giving information and seeking knowledge. Tactical planning is where decisions are made which affect the outcome of the process and determine whether the strategic objectives are met.

**Implementation and delivery.** Enablers are the activities which promote positive asset management. Leadership is critical as are appropriate systems for managing data and information. Performance management confirms the direction of travel

towards our objectives and facilitate communication with stakeholders. Operations and service delivery is where work is done, this stage see the implementation of the strategic and tactical planning processes.

DRAFT

**ORGANISATIONAL  
CONTEXT**

|                                                                                                     |                                                                                                                                         |                                                                                       |
|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b><u>Corporate Vision</u></b><br><i>Shropshire Community Strategy – ‘A flourishing Shropshire’</i> | <b><u>Local Transport Policy</u></b><br><i>Shropshire Local Transport Plan Strategy – Summary 2011-2026</i>                             | <b><u>Stakeholder Expectations</u></b><br><i>NHT customer surveys</i>                 |
| <b><u>National Transport Policy</u></b>                                                             | <b><u>Political Commitment</u></b><br><i>Council Members &amp; Senior Officers support for effective and efficient asset management</i> | <b><u>Financial</u></b><br><i>DfT Funding Model Challenge &amp; Incentive Funding</i> |

**ASSET MANAGEMENT  
PLANNING**
**STRATEGIC ASSET MANAGEMENT PLANNING**

Asset Management Policy: Incorporating principles and vision  
 Asset Management Strategy: Long-term approach, objectives, outcomes  
 Asset Management Communication Strategy  
 Performance / Service Levels

**TACTICAL ASSET MANAGEMENT PLANNING**

Asset Hierarchy: a road hierarchy specific to Shropshire’s needs is currently in use, but may need to be amended to better reflect Shropshire’s current requirements.  
 Asset Data & Information: routine data collection for all assets, including a rolling programme of carriageway, drainage, footways and visual inspections of street lighting  
 Lifecycle Planning: carried out analysis and secured additional funding for major asset types (i.e. Carriageways, Footways, Structures)  
 Levels of service: setting performance standards will be a priority for Shropshire  
 Works Programmes: developing work programmes based on prioritisation process and balance of structural + preventive maintenance

**IMPLEMENTATION & DELIVERY**
**ASSET MANAGEMENT ENABLERS**

Leadership & Commitment  
 Asset Management Information Systems  
 Performance Monitoring – Benchmarking, Performance Review & Continuous Improvement  
 Resourcing / Outsourcing & Supplier Management  
 Risk Management  
 Collaboration & Communication

**OPERATIONS & SERVICE DELIVERY**

Routine & Cyclic Maintenance  
 Delivery of Projects – Capital Programme Delivery  
 Safety & Serviceability Inspections  
 Asset Management Improvement Action Plans

## 5. THE EXISTING HIGHWAYS ASSET



The following table outlines the quantity of major assets on the Council network:

| Asset type      | Quantity                 | Condition                                                                                                                                                                                                                        |
|-----------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Carriageway     | 5,150 km                 | Asset condition is comparable with other rural shire authorities. 13% of the carriageways could be considered for maintenance.                                                                                                   |
| Footway         | 1,350km                  | Approximately 2% of footways could be considered for maintenance                                                                                                                                                                 |
| Structures      | 1015                     | The Bridge Condition Indicator for the stock of bridges is 80%                                                                                                                                                                   |
| Drainage        | 85,290 gullies           | Gully data recorded and cleaning programme is ongoing.                                                                                                                                                                           |
| Street lighting | 18,311 columns           | The average age of columns is 24 years.                                                                                                                                                                                          |
| Traffic signals | 116 signal installations | The equipment associated with traffic signals in good condition, only smaller projects of upgrading pedestrian crossings required over the next 3 years and few major junctions in the next 5 years requiring Capital allocation |

Customer preferences indicate that managing the condition of the carriageway assets is a priority, as it is perceived as being the asset with most need for improvement and in more need of attention. This has been acknowledged in creating this strategy for each asset as outlined below.

In the application of the strategy it is important to recognise that the unavailability of certain routes and infrastructure would have a greater impact on Shropshire's economy and communities than others. Developing an asset hierarchy will help identify critical highway infrastructure which forms a crucial part of the highway network, and whose management may need to be prioritised over that of other routes where the impact of non-availability is significantly lower. Developing and

applying an asset hierarchy can help address this issue, and ensure the needs, priorities and actual use of each road in the network is considered when developing a maintenance strategy.

## Highway Asset Hierarchies

Currently Shropshire manages the carriageway asset according to a hierarchy based on Well Maintained Highways Code of Practice as set out in the table below:

| Category | Hierarchy Description | Type of Road General Description                                                                                                     | Description                                                                                                                                                                                                                                                                                                                                             |
|----------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Motorway              | Limited access motorway regulations apply                                                                                            | Routes for fast moving long distance traffic. Fully grade separated and restrictions on Use.                                                                                                                                                                                                                                                            |
| 2        | Strategic Route       | Trunk and some Principal 'A' roads between Primary Destinations                                                                      | Routes for fast moving long distance traffic with little frontage access or pedestrian Traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.                                                                        |
| 3a       | Main Distributor      | Major Urban Network and Inter-Primary Links.<br><br>Short - medium distance traffic                                                  | Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40 mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.                                                                                     |
| 3b       | Secondary Distributor | Classified Road (B and C class) and unclassified urban bus routes carrying local traffic with frontage access and frequent junctions | In rural areas these roads link the larger villages and HGV generators to the Strategic and Main Distributor Network. In built up areas these roads have 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On-street parking is generally unrestricted except for safety reasons |
| 4a       | Link Road             | Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions                         | In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two way traffic. In urban areas they are residential or industrial interconnecting roads with 30 mph speed limits random pedestrian movements and uncontrolled parking                                      |
| 4b       | Local Access Road     | Roads serving limited numbers of properties carrying only access traffic                                                             | In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.                                                                                                            |

The hierarchy of our footway network is similar to the current Well Maintained

Highways Code of Practice structure and is shown below:

| Category | Category Name            | Description                                                                                      |
|----------|--------------------------|--------------------------------------------------------------------------------------------------|
| 1        | Primary Walking Routes   | Busy urban shopping and business areas and main pedestrian routes.                               |
| 2        | Secondary Walking Routes | Medium usage routes through local areas feeding into primary routes, local shopping centres etc. |
| 3        | Link Footways            | Linking local access footways through urban areas and busy rural footways.                       |
| 4        | Local Access Footways    | Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.       |

While this hierarchy is a useful starting point, it is worth noting road classification should not be used as the sole basis for developing a hierarchy, as there may be differences between the classification of the road and its function or its criticality. Also, within Shropshire there are different characteristics that influence use of carriageways based on either a rural or urban setting, and as such, a more meaningful carriageway hierarchy based on road use would enable asset managers to make better decisions regarding the asset.

## 6. STRATEGIES FOR MAIN ASSET GROUPS

Shropshire's road network provides the backbone of its economy and that the maintenance of its highways in an appropriate condition is paramount. One of the primary roles for highways network is to provide connectivity for communities across the county. Management of improvements and maintenance of the highways network is influenced by both condition as well as use of the assets, and Shropshire Council takes a proactive approach to balancing the needs of less trafficked roads against the larger, main roads that provide key linkages between town centres and promote economic development.

An underlying principle of sound asset management practice adopted by Shropshire Council is the use of preventive maintenance measures, in particular the use of efficient cost surfacing treatments on both the urban and rural road network. These approaches are set out in the asset-specific strategies following.

For each asset, a brief description of the condition of the asset is provided, followed by a statement of the desired outcome this strategy seeks to achieve (which is aligned to the overall objectives). The maintenance approach required to deliver each outcome is then described.

The matrix below provides an overview of the outcomes of the strategy for each of the major asset types in terms of the change for the Shropshire highways network from the present position: Reduce / Maintain / Enhance covering the extent and the condition of the asset as well as information about the asset and operation of the asset:

|             | Carriageways                                             | Footways                                  | Structures                   | Drainage                      | Street Lighting                       | Traffic Signals              |
|-------------|----------------------------------------------------------|-------------------------------------------|------------------------------|-------------------------------|---------------------------------------|------------------------------|
| Extent      |                                                          |                                           |                              |                               |                                       |                              |
| Condition   |                                                          |                                           |                              |                               | Reducing the average age of the asset |                              |
| Information |                                                          | Improving our inventory                   |                              | Improving our cleansing data  | Improving our cable inventory         |                              |
| Operation   | Cyclical preventative maintenance regimes on minor roads | Cyclical preventative maintenance regimes | Improved life cycle planning | Risk based cleansing approach | Increased use of low energy light     | Optimised maintenance regime |

|          |
|----------|
| Reduce   |
| Maintain |
| Enhance  |

With the exception of street lighting, the extent and condition of the major assets in this strategy is aimed to be maintained; a steady-state approach. It is important to highlight that while this strategy is not directly linked to funding, its aims have been validated against the funding levels currently in place and the current prices in our term maintenance contract. In other words, the strategy has challenging, but achievable goals. It follows that changes in funding levels and/or prices to carry out work will have an impact on the actual outcome of this strategy.

## 6.1 CARRIAGEWAYS



Carriageways form the majority of the highway asset, these range from busy A class roads to minor lanes; some carriageways remain unmetalled. The structure of these assets has been evolved rather than designed; consequently the construction is not consistent even when some knowledge of the pavement exists.

As mentioned earlier, the hierarchy of carriageways is based on the current Well Maintained Highways Code of Practice, however is currently being reviewed to test for suitability for future long term maintenance planning.

An overview of Shropshire roads (carriageways) is shown below:

| Length of Network (km) |       |       |       |
|------------------------|-------|-------|-------|
| Class                  | Rural | Urban | Total |
| A                      | 352   | 98    | 450   |
| B                      | 427   | 136   | 563   |
| C                      | 1592  | 173   | 1765  |
| Unclassified           | 1727  | 645   | 2372  |
| Total                  | 4098  | 1052  | 5150  |

Rural C & Unclassified roads are narrow county lanes and comprise 3319 km or 65% of the network.

### Current Challenges:

Asset condition is average considering the network as a whole; the network condition indicators are comparable with other rural shire authorities.

However there are concerns about the condition of some minor roads. These minor roads, typically consisting of little pavement structure, are at most risk of rapid deterioration due to the ingress of water and overloading. Investment in these roads is more challenging to justify with the other demands on more popular routes, however these roads remain crucial links for our communities.

### Desired Outcome:

Carriageway condition is maintained with minimum whole life cost supported by steady state investment.

## Proposed Asset Strategy:

Lifecycle Planning will be adopted to establish a baseline funding requirement for the network. As a result, investment shall be targeted where the money will return greatest whole life cost.

An assessment of the demand on the network will be carried out to enable targeted investment aligning with the “A Flourishing Shropshire Vision” and commensurate with use.

Maintenance should be undertaken just before the onset of rapid deterioration and before structural treatments are required. Resurfacing and surface treatment only is desired.

On the rural minor network particularly, we will establish a cyclical approach to surface treatment which is conservative in order to protect against water ingress and localised rapid deterioration.

## 6.2 FOOTWAYS & CYCLEWAYS



Although the majority of footways are in urban areas, there are many rural footways within villages and hamlets and providing links between villages. The majority of our footways are bituminous, although there are significant lengths of flagged footways and a small amount of modular footways mostly in the town centres. Footways are crucial. While carriageways provide the main component highway, footways are essential for all users to connect homes and businesses. For many vulnerable road users, footways are their only link to travel and access public transport.

Table 1 below describes the different types of footway present in Shropshire.

**Table 1. Area of footway maintained**

| Construction | '000 m <sup>2</sup> |
|--------------|---------------------|
| Bituminous   | 2,318,668           |
| Flagged      | 126,008             |
| Block        | 24,183              |
| Concrete     | 13,737              |
| Total        | 2,482,596           |

### **Current Challenges:**

The condition of footways has not been routinely measured for many years. When last measured, around 15% of main footways required maintenance. We have yet to complete the measurement of condition on all footways including minor (Category 3 & 4) footways but consider this figure still to be representative all footways.

### **Desired Outcome:**

Footway condition is maintained with minimum whole life cost supported by steady state investment.

### **Proposed Asset Strategy:**

We will establish a baseline funding requirement for the network using sound life cycle planning.

Using a network level survey, identify areas of deterioration and prioritise work according to 'Community value'. Definition of this 'Community value' shall include economic value in town centres and utility for vulnerable road users where flagged footways may present particular risks, Areas where overrun is a major factor should be considered for strengthening. Localised treatment should be considered first, longer lengths of resurfacing shall be selected only where economically justified. In terms of programming maintenance and improvement works, schemes will be considered in localities to minimise the impact on communities. On the bituminous footway network, establish a cyclical approach to surface treatment which is conservative in order to protect against water ingress and localised rapid deterioration. Identify which footways are no longer used and downgrade these with a new low use hierarchy and relevant signing.

## 6.3 STRUCTURES



The Council is responsible for a wide range of structures, consisting of 835 highway bridges or culverts with a span of 1.5 m or greater, 175 highway bridges or culverts with a span less than 1.5 m, approximately 1,500 walls retaining a height of 1.35m or greater and 50 cattle grids.

### **Current Challenges:**

Detailed asset data exists for the majority of structures except for the retaining walls. A programme of retaining wall data collection was started in 2006 and covered approximately two-thirds of the highway road network and identified c1500 retaining walls associated with the highway, although liability and ownership issues have yet to be determined. With current funding only available to undertake responsive and an annual programme of inspection/ monitoring of highway bridges, the cost to complete the retaining wall exercise would be high and its needs would have to be questioned in the current financial climate.

The current bridge stock of c1000 highway bridges has an average bridge stock condition score of 80, which is considered to be in a 'good' condition. Unless the current level of funding is maintained, there is the potential for a rapid decline in bridge condition and backlog of maintenance works.

### **Desired Outcome:**

Our aim is to maintain the highway bridges and structures stock condition score in a steady state of repair by adopting a preventative strategy with the appropriate interventions which will deliver value for money against a backdrop of reducing capital and revenue budgets.

We will aim to meet statutory duties and maintain the bridge stock in a safe and serviceable condition by undertaking annual routine maintenance and continuing with the present 3-year strengthening/ replacement forward programme of works.

### **Proposed Asset Strategy:**

We will continue to adopt the well-established principles set out in the Management of Highway Structures: A Code of Practice (September 2005) to prioritise our inspections, substandard monitoring of weak structures and works programmes.

The existing prioritised maintenance works schedules and strengthening programmes are based on works priority, cost and strategic weighted factors such as road hierarchy, obstacle crossed, heritage status and length of structure. This bespoke toolkit will continue to be used to demonstrate the desired outcomes are being delivered in the most cost-effective manner with the funding available.

In the future, our aspirations are to adopt the CIPFA's Structures Asset Management Planning Toolkit (Structures Toolkit) to develop lifecycle planning and prioritisation needs; to assist with asset valuations and financial planning; and identify the appropriate level of funding required for future maintenance and strengthening.

## 6.4 DRAINAGE



This encompasses a wide range of assets, varying from piped systems to open watercourses, which assist in the council's duty to safely drain the highway and provide opportunities for the council to meet its obligations under the Water Framework Directive.

### Current Challenges:

Whilst asset data exists with regard to the majority of highway gullies, information on the associated outfall systems, of various types, into which they discharge is very limited. The collection of such data is high cost and a data collection exercise for the entire asset cannot be justified. A risk based approach to the collection of highway drainage asset data is therefore taken.

### Desired Outcome:

To meet statutory duties and maintain a safe, in flood risk terms, highway by continuing to assess and prioritise high risk flooding issues and programme them accordingly. Opportunities to work in partnership with other organisations and to deliver other benefits, such as those required by the Water Framework Directive, will also be sought.

- Highway drainage schemes which can deliver the highest outcome measure scores will receive the highest priority when it comes to the programming of their design and construction.
- Construction of highway drainage schemes will result in the delivery of the following outcome measures
- Fewer residential and business properties being at risk of flooding (measured

- as the number of residential or business properties protected)
- Fewer flooding related highway safety concerns (measured as the distance of highway better protected from flooding)
- Reduced pollution of watercourses through the transport of pollutants through highway drainage systems.

### Proposed Asset Strategy:

The existing prioritised highway drainage works programme will continue to demonstrate that outcome measures are being delivered in the most effective manner. The addition of a water quality outcome measure will demonstrate how the highway authority is aiming to have regard to the requirements of the Water Framework Directive.

## 6.5 STREET LIGHTING & TRAFFIC SIGNALS

The Council has a range of assets as shown in the table below:

| Asset Type                     | Number | Comments                                                                                |
|--------------------------------|--------|-----------------------------------------------------------------------------------------|
| Street lights                  | 18,311 | Columns, lamps, cabling, feeder pillars, wall mounted lanterns and sub-way wall lights. |
| Illuminated signs and bollards | 2,947  |                                                                                         |
| Signalised Traffic Junction    | 34     | Signalised junctions, cabling, feeder pillars, SCOOT and UTM systems.                   |
| Signalised Pedestrian crossing | 82     | This includes PUFFIN, TOUCAN and PELICAN controlled crossings.                          |
| Zebra Crossings                | 45     |                                                                                         |
| CCTV for Traffic monitoring    | 8      | Pan and tilt monitoring camera                                                          |
| Electronic signs               | 134    | School wig-wags, VAS and cattle crossing electronic signs.                              |



### a. STREET LIGHTING

Shropshire Council currently maintains 18,876 street lights. Of these, approximately a quarter (4,598) being over 35 years old and just 8% of the stock are low energy lighting. The majority of the existing columns are mild steel columns, there are also a significant number of reinforced concrete columns.

## **Current Challenges:**

An ageing asset with a high percentage of columns reaching the end of their life. There is a low percentage of low energy lighting across the county. In terms of customer satisfaction, there is a relatively low level of satisfaction with street lighting in Shropshire as determined by the NHT survey. Given the average age of the infrastructure along with low levels of low energy lamps, reduction of costs in the short term is significantly challenging.

One area identified as a matter of concern, due to the gap of asset information, relates to the Authorities cable network for Street lighting. This needs to be addressed and the information managed to enable scheduled maintenance to be undertaken and plans provided to third parties on request, reducing risks relating to nearby works in the highway.

Data capture electronically needs to be refined and developed further recording more detailed asset information by our term Contractors, which is the basis of all good inventories, streamlining the process and removing the need for double handling.

## **Desired Outcomes:**

- Planned improvement of the lighting stock including the provision of long life columns.
- Provision of low energy LED lighting, generating 51% energy savings
- Improved customer satisfaction.
- Reduced operating costs through the deployment of LED lighting equipment and a Central Management System (CMS).

## **Proposed Asset Strategy:**

- To support the Council asset management aims of Safety and Sustainability.
- We will continue to adopt the 'Well-lit Highways' principles set out in the 2004 code of practice to help achieve the delivery of Best Value services.
- The development of a life cycle planning strategy, this will be designed to show what activities are necessary during different stages of an asset's life, and to move from a reactive maintenance regime to a planned, sustainable asset management based approach.
- To improve the lighting asset leading to reduced operating costs and carbon emissions through the development and implementation of a funded long term replacement programme
- The aging street lighting column asset has led to the development of our "Invest-to-Save" proposal. The outcome will be a programme that will ensure that no columns are over 35 years old, columns that are failing structural tests will be replaced as a priority and there will be a reduction in the risk of catastrophic column failures. This is to limit liability claims and minimise maintenance requirements.
- Improvement in the way our term Contractors collect data electronically and the way this information will be provided and analysed to maximise its usefulness.

- To establish and maintain up to date and accurate inventory of all the authority's cable networks as part of its asset management system.

## **b. TRAFFIC SIGNALS**



There are currently 116 traffic signal installations within Shropshire, performing an important role in managing traffic flow, improving safety and providing road crossings for pedestrians and cyclists. Investment in Shropshire's Urban Traffic Management and Control (UTMC) is significantly enhancing the management capabilities of existing traffic signals to ease congestion and improve maintenance response times.

### **Current Challenges:**

Generally, the equipment associated with traffic signals in Shropshire is now in relatively good condition, with only the smaller projects of upgrading pedestrian crossings required over the next 3 years and a couple of major junctions in the next 5 years requiring Capital fund allocation.

In 2012 a gap analysis project following the METE (Management of Electronic Traffic Equipment) document was undertaken identifying the areas that required development looking at short, medium and long term plans. The recommendations identified following the review need to be quantified and implemented, forming the basis of the Street lighting and traffic signals asset management strategy.

The Confirm system holds much of the asset information needed for the asset management strategy. However, other information lies outside this system, notably in terms of detailed highways inventory information (held in a series of Excel spreadsheets) for Traffic Signals and Electronic signs.

Reviewing budget allocations against the demands of competing maintenance issues and maximising the use of both capital and revenue resource.

### **Desired Outcomes:**

Planned and cyclic maintenance of the traffic signal asset stock to minimise operating and replacements costs and to extend asset life.

### **Proposed Asset Strategy:**

Develop and implement the work already undertaken following the 2011 Code of Practice METE (Management of Electronic Traffic Equipment) document which establishes a series of good practice policies and procedures for the management and maintenance of fixed location electronic traffic equipment and has the principles of asset management at its core.

Further use of energy and cost saving technologies within the traffic signals assets such as completion of replacement programme of LED lighting heads for old-style halogen signal heads, and identification and implementation of traffic signal sites using extra low voltage (ELV).

## 7. DATA AND INFORMATION MANAGEMENT

Knowledge of the asset is used to describe the asset and its performance, and is essential to providing informed decision making and delivering an effective long term asset management approach. Accurate and reliable data enables asset managers to understand the asset better and to help drive continuous improvement.

Shropshire Council carries out routine collection of data to understand the condition of the network and support the development of maintenance programmes. A set percentage of the road network is surveyed every year using SCANNER, achieving complete network coverage and allowing data to be collected and analysed for deterioration. In addition, county-wide footway and drainage condition surveys are undertaken, with significant sections of footway data collected through the use of video survey equipment.



The data gathered in these surveys, including details on inventory, asset location and performance, is recorded and stored according to our asset information strategy. This vision for this strategy is “The asset management information you need is always available”. Three main repositories of asset information are used: Confirm asset management system which contains our main inventory and performance data, WDM UKPMS system which hold condition data about the carriageways and Geographic Information Systems which hold condition and inventory data as an alternative to Confirm. These systems will be used to achieve the top level outcomes of the asset information strategy which are:

- Our customers understand our decisions
- Wisdom informs future decisions

In order that the asset data remains fit-for-purpose our data collection processes and data management processes will be regularly reviewed.

## 8. KNOWLEDGE SHARING & GOOD PRACTICE

Shropshire Council is committed to developing and implementing best practice and will make best use of the following forums where appropriate:

- Midland Service Improvement Group
- Highway Maintenance Efficiency Programme (HMEP)
- The Chartered Institute of Public Finance and Accountancy (CIPFA)
- Highways Asset Management Financial Information Group (HAMFIG)
- UK Roads Board
- ADEPT Asset Management Working Group
- National and regional conferences
- Professional Institution engagement
- Competency training

Our highways service works collaboratively with our supply chain partners and neighbouring authorities where applicable, to identify and share good practice and improvements. Where appropriate, we will formalise collaborative working agreements with other local authorities and key suppliers.

## 9. PERFORMANCE MONITORING

As a key element of this strategy, we are developing a performance management framework that defines key performance areas of the highways asset, prescribes targets and measures actual performance against the agreed targets on a regular basis.

Monitoring the performance will involve regular review and checking that identified improvements are being implemented effectively, and ultimately that these improvements are contributing to the achievement of asset management objectives. Reporting of progress against these performance areas will also allow assessments to be made on progress and demonstrate continuous improvement.

This performance management framework will form a key element of our asset management framework implementation.

## 10. STRATEGY REVIEW

The strategy will be reviewed regularly to allow informed decisions to be made in order to accommodate any changes in funding and priorities within the longer term forecasts.

The strategy is based irrelevant of funding levels, and therefore, significant changes to the strategy will not need to be made if major changes in available budget occur.