ATKINS

Transport Infrastructure Asset Management Strategy

Coventry City Council

11 December 2015

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1. Introduction

The Importance of Highway Infrastructure to Coventry City Council

Coventry's transport infrastructure provides a vital public asset for all the communities in the City and is important as a key contributor to the economic growth of the City. In addition to meeting the needs of the City's residents and supporting the local businesses, the local highway network is by far the most valuable publically owned asset managed by Coventry City Council (CCC). It has a total replacement cost of £1.69 billion, therefore the importance of effective and efficient management together with adequate investment year on year cannot be understated.

Why Asset Management?

Asset Management is a strategic approach to managing the highway infrastructure assets that seeks to optimise the value of highway assets over their respective whole life. CCC recognises that by taking an asset management framework approach to its infrastructure maintenance, funds will be spent efficiently through long-term planning activities that prevent expensive short-term repairs. This approach not only maximises value for money, by ensuring informed investment decisions are made, but additionally manages risk and as a result maintains a transport network that has safety, sustainability and accessibility at its core for all road users.

Asset Management Policy

Coventry's Asset Management Policy is a high level document which establishes the Council's commitment to highway infrastructure asset management and demonstrates how the asset management approach aligns with the City's corporate vison and objectives. As a result all asset management stakeholders have a line of sight between highway asset management and the high level direction of the Council.

Asset Management Strategy

This Asset Management Strategy sets out how the Asset Management Policy will be delivered. It is informed by the adoption of the asset management framework which establishes the activities and processes that are necessary to develop, document, implement and potentially continually improve the highway asset management service within CCC. This Strategy is aligned to the City's corporate objectives and seeks to follow the latest asset management advice, particularly from the Highway Maintenance Efficiency Programme (HMEP) led by the highway sector and supported by the Department for Transport (DfT).

In support of the Council's Plan 'Coventry, a Top 10 City, our vision and priorities for the next 10 years (Revised in 2015)', CCC recognises that an asset management framework approach to the maintenance of its highways infrastructure assets supports the delivery of the Council's vision:

Our Vision for the future:

"Globally connected - Promoting the growth of a sustainable Coventry economy"
"Locally committed - Improving the quality of life for Coventry people"
"Delivering our priorities with fewer resources - Making the most of our assets "

Six priorities have been developed to support achieving this vision:

- Creating the infrastructure for the City to grow and thrive
- Raising the profile of Coventry

- Create an attractive, cleaner and greener City
- Improve the health and wellbeing of local residents
- Make savings so that we can continue to support front-line services
- Change how we work to become more flexible and adaptable

West Midlands Transport Plan - Shared Vision

"To make the West Midlands Metropolitan Area more prosperous, healthier and safer, offering a high quality and attractive environment where people will choose to live, work and visit, and where businesses thrive and attract inward investment."

West Midlands Goals to support the Vision are :

• To support economic growth, reflecting the Area's major contribution to the regional and national economies (KO1)

• To tackle climate change (KO2)

• To improve safety, security and health (KO3)

• Is accessible to all, in an area of wide cultural and ethnic diversity, (KO4) and

• Enhances quality of life and the built environment (KO5)

Service and Contract Delivery Objectives

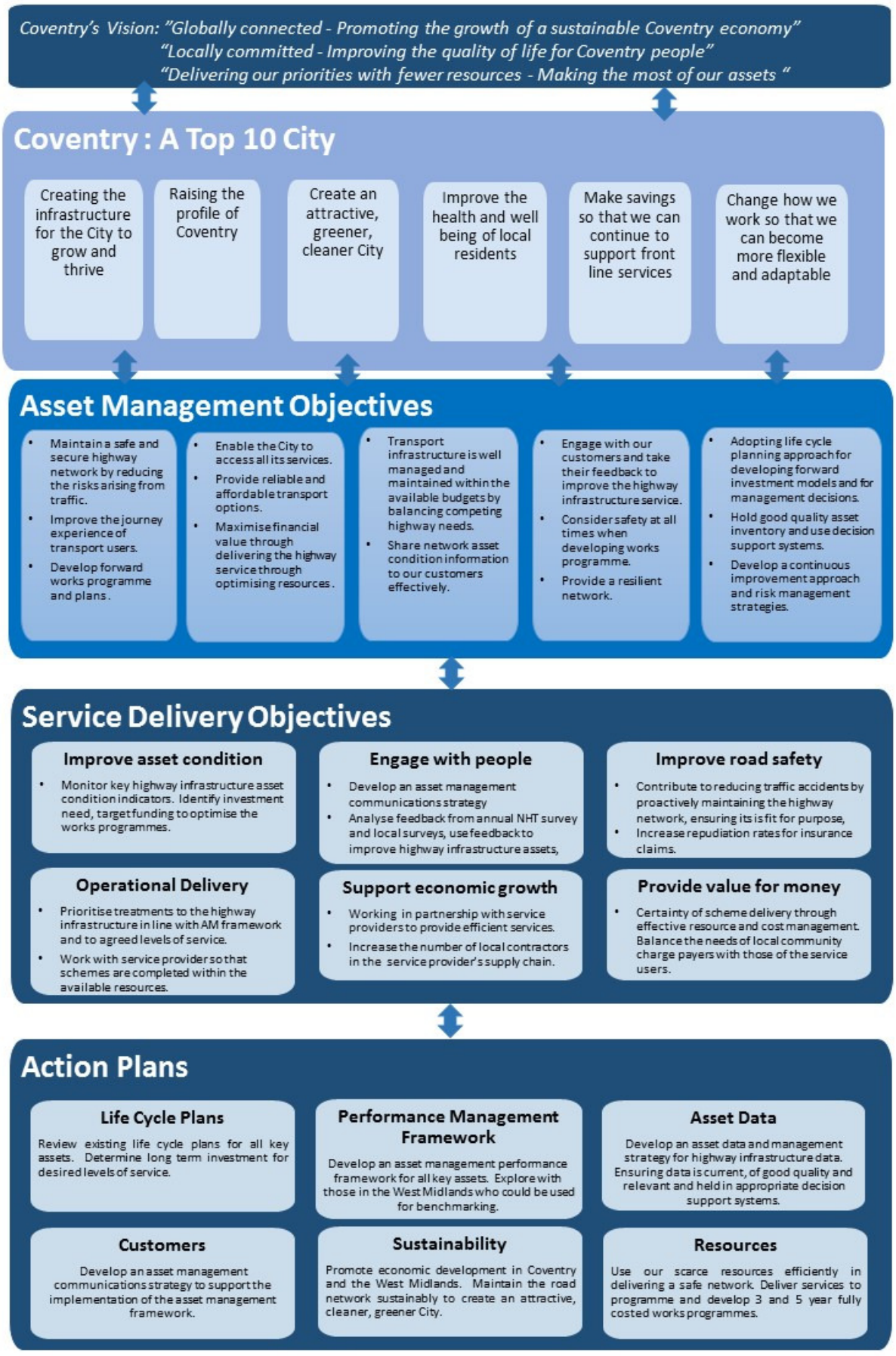
CCC recognises that the delivery of an efficient highway asset management service cannot be done without effective maintenance of the highway infrastructure. It is therefore essential that all its highway infrastructure supports the City's objectives, is maintained to affordable and agreed levels of service. The Council is committed to investing in its transport assets to deliver the optimum infrastructure condition for the investment available, and intends delivering this through the asset management framework approach.

Contribution of Highways to Economic Growth and Transport Objectives

CCC recognises the need to maintain its highway network through effective utilisation of resources by balancing customer needs with available budgets and providing maximum returns on council charge payers' money. The key objectives are to provide a safe and secure road network which provides accessibility to businesses and recreational facilities through affordable levels of service. CCC manages its resources efficiently and aspires to continue to do so for the future. It believes that a well-connected and well-maintained transport network will aid Coventry and the West Midlands Metropolitan Area becoming more prosperous, healthier and safer, offering a high quality and attractive environment

CCC's corporate objectives are set out in its Council's Plan 'Coventry, a Top 10 City, our vision and priorities for the next 10 years (Revised in 2015)'. We will promote the growth of a sustainable Coventry economy that benefits the City by making it more accessible for businesses, visitors and local people through better road, rail and digital connections. A well maintained network can make a significant contribution towards meeting these corporate objectives, which can be delivered through setting a series of asset management objectives. CCC asset management objectives are summarised in the table below, which shows how each contributes to the wider Coventry corporate vision and objectives and the West Midlands Transport Plan vison and goals.

Figure 1-1 Relationship between Council Vision and Asset Management Objectives



2. Asset Management Framework

This AM strategy uses the highway asset management framework from the HAMP Highway Infrastructure Asset Management Guidance (HAIMG) published in 2013. The framework summarises all activities and processes that are necessary to develop, document, implement and continually improve the approach to asset management. The framework is shown in Figure 2-1 and is summarised below.

Asset Management Context

The asset management context encapsulates a variety of relevant and influencing factors that need to be taken into consideration when determining the Council's expectations for the asset management service. These factors include: National transport policy, Council vision and West Midlands transport policies, expectations of stakeholders and legal and financial constraints.

Asset Management Planning

This sets out the key activities that are undertaken by CCC as part of the asset management planning process. The activities include:

- **Asset Management Policy** – CCC's published commitment to highway infrastructure asset management.
- **Asset Management Strategy** – CCC's published statement on: how the asset management policy will be implemented through the asset management framework, and includes the strategy for each key assets, and the commitment to continuous improvement.
- **Asset Performance** – CCC's agreed levels of service to be delivered by Coventry's Planning, Transportation and Highway Services Group (PTH) and how its performance will be measured and reported.
- **Data** – CCC's data management strategy, without which informed decisions could not be made.
- **Lifecycle Planning** – CCC's lifecycle plans for key assets which when combined with investment options and affordable levels of service. Decision makers are able to make informed choices about optimum investment and levels of service as a minimum requirement going forward.
- **Works Programmes** – CCC's programme of works for all assets and each highway infrastructure key asset.

Asset Management Enablers

Asset management enablers are the series of supporting activities that facilitate the implementation of the asset management framework. They include

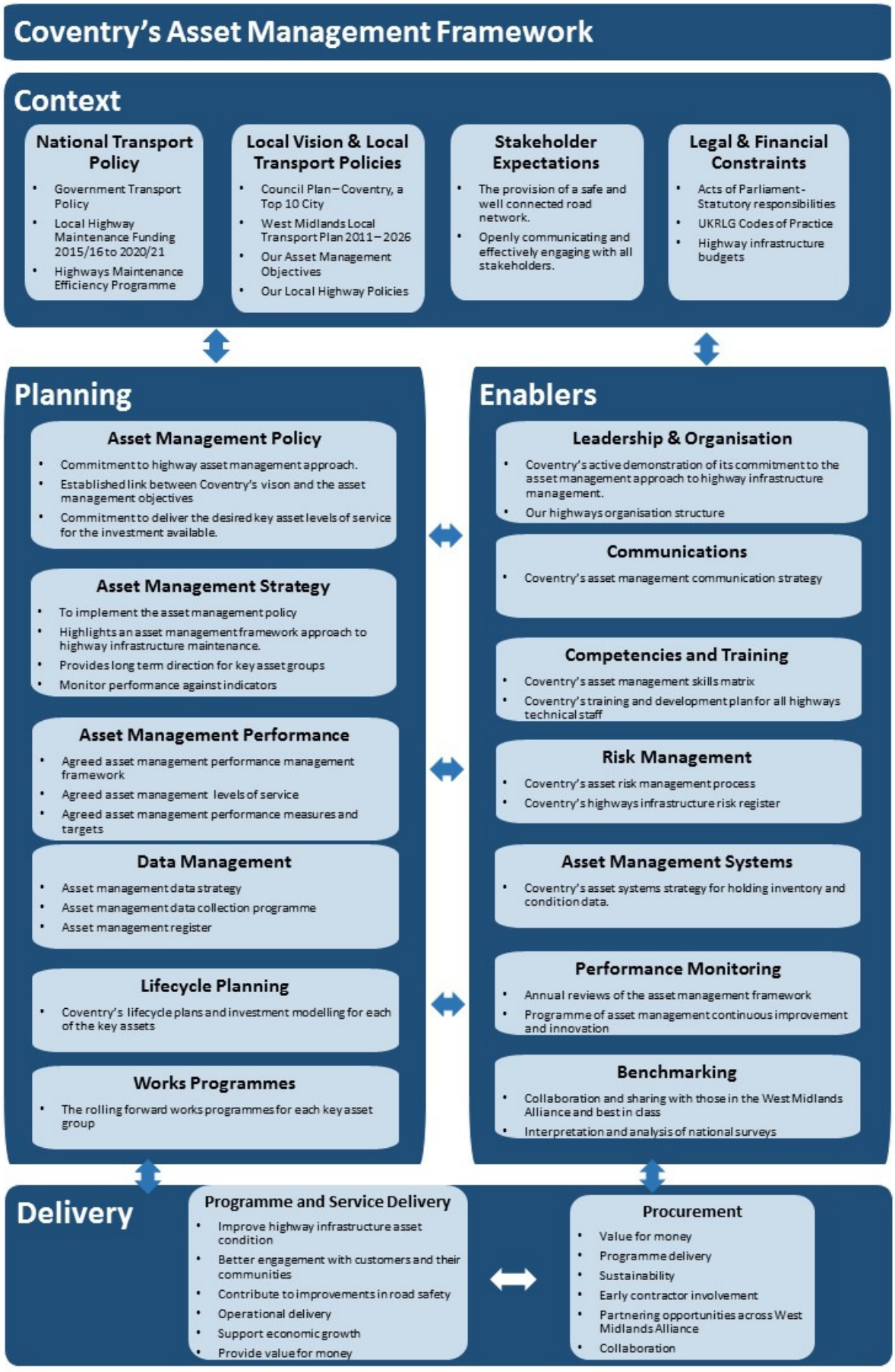
- Developing asset management leadership throughout CCC from councillors, chief officers and decision makers, and the asset experts.
- The adoption of an asset management culture;
- Effective asset management communications strategy.
- Collaborating with all stakeholders to deliver an effective asset management service
- Developing asset management competencies and skills for all staff within the service.
- Effective risk management for PTH.
- A strategy for asset management decision support systems
- A means of measuring the performance of the asset management framework
- A means of benchmarking asset management progress with neighbouring councils in the West Midlands and with the best in class.

- Collaborating with other highway authorities within the West Midlands Alliance area.
- Fostering a culture of continuous improvement and innovation in asset management and works delivery.

Service Delivery

As set out in Section 1, the delivery component of the framework sets out how the highway service will be delivered. This is based on an established set of objectives for service delivery and procurement of service providers. .

Figure 2-1 Asset Management Framework



3. Asset Management Strategy for Key Asset Groups

Introduction

This section summarises the existing highway infrastructure assets, its current condition, where data is available, and a summary of the asset management strategy to be adopted for each asset type in the future. An understanding of, and stakeholder agreement to the respective levels of service for each main asset type is key for the successful delivery of this strategy.

Highway Asset

The highway asset is shown below together with a summary of its current condition.

Table 3-1 Summary of Highways Assets

Asset Group	Quantity	Condition
Carriageways A roads	89 km	A roads are in good reportable condition, with good customer satisfaction.
B roads	69 km	B roads are in good reportable condition, with good customer satisfaction
C roads	64 km	C roads are in good reportable condition, with good customer satisfaction
Unclassified roads	655 km	UC roads are in good reportable condition, with good customer satisfaction
Footways	2,161Km.	Approximately 64% of the network is identified as requiring maintenance.
Structures	Over 500 structures of which 308 are owned by CCC, the others by third parties. These impact upon the highway, hence the need to manage their condition through PI and GI inspections. Structures on rights of way network require only visual condition inspections.	The condition of the CCC structures assets is measured primarily by two factors, BSSCI (Bridge Structural Stock Condition Indicator) and BSCI crit (Bridge Structure Condition Indicator critical) that are derived from bridge inspections. At present the BSSCI puts the average condition of the Coventry stock at 82%. The BSCI crit value of the Coventry stock is 64%
Drainage	55,000 drainage gullies	The highway drainage assets that have been identified are thought to be in good functioning condition and are regularly inspected/surveyed. There is however no formal condition score for any of the drainage assets.
Street Lighting	28, 5000 street lighting columns and wall mounted lanterns.	Street lighting is maintained via the Street Lighting PFI Contract, and the output specification.

	4,000 lit traffic signs and beacons and 1,500 lit traffic bollards.	
Traffic Signals	127 signal controlled junctions, 98 pedestrian crossings, and 115 school patrol flashing lights.	

Existing Road Hierarchy

The carriageway asset is currently categorised according to a hierarchy based on its current traffic flows and not on road classification, the purpose of the hierarchy is to easily identify the roads with greatest use, traffic flows, highest traffic speeds, which the present road classification no longer reflects the true traffic flows and importance of the road.

To address this problem, a categorisation hierarchy has been derived and is set out within the current national Code of Practice "Well-maintained Highways". This gives the local authority the opportunity reflect local circumstances and as a result tailor funding and operational maintenance more appropriately.

Coventry have recognised that over the last few years they have prioritised funding to classified roads and their unclassified roads have been allowed to deteriorate a little. It is now their intention to increase the capital funding for unclassified roads which will improve their condition, and at the same time allow a managed decline in the condition of some of the classified network. Through adopting asset management principles, Coventry is able to ensure the whole network is fit for purpose and is sustainable.

Table 3-2 Road Network - Hierarchy

Coventry's Category		General Description
2	Strategic Route	Principal 'A' roads between Primary Destinations
3a	Main Distributor	Classified B Roads - Major Urban Network and Inter-Primary Links.
3b	Secondary Distributor	Classified C Roads carrying local traffic with frontage access and frequent junctions
4a	Link Road	Unclassified roads linking the Main and Secondary Distributor Network with frontage access and frequent junctions
4b	Local Access Road	Unclassified roads serving limited numbers of properties carrying only access traffic

Carriageways

Coventry's carriageways carry a high volume of both commercial and private vehicle traffic and the carriageway is vitally important to the local community and the wider economy. The highway asset in Coventry is over 800 km in length and covers the length and breadth of the City, the network is crucial to the day to day functions of the City. The City is predominantly urban which means that the road network is in constant operation and has to accommodate all types of road users. Therefore the condition and availability of the carriageway is of great importance and value.

The condition of the carriageway asset is measured through both visual and machine based annual condition surveys. These surveys, when processed through March Pavement Management System (PMS), are used to identify sections of the network that are deteriorating, and need treatment or further investigation. The current carriageway condition figures show that Coventry is one of the top performing authorities in the country:

A Roads	98% in good condition with 2% (1.8 km) where structural maintenance should be considered
B and C Roads	95% in good condition with 5% (6.7 km) where structural maintenance should be considered
Unclassified Roads	83% in good condition with 17% (111.4 km) where structural maintenance should be considered

By adopting an asset management approach to highway maintenance, it will allow Coventry move to a more needs based approach so that optimum treatments are undertaken thereby spending capital funding wisely and delivering the best whole life costs.

The carriageway network has benefited from both annual capital and revenue funding to maintain its overall condition, however, in recent years there have been opportunities to supplement this funding through DfT top up funding addressing recent severe weather damage. Whilst this additional funding is welcomed it does not hide the fact that in real terms funding for highways has decreased, particularly the local revenue funding. The result of this is that we are challenged with delivering our priorities with fewer resources; and there is no doubt that effective asset management should enable us to optimise the funding allocated.

Planned maintenance is delivered through the annual capital programme and is derived from the carriageway condition data combined with other local key weighted factors such as works co-ordination, councilor ward priorities, supported petitions, and the insurance claims data. This combination of factors produces a prioritised list of schemes far greater than the funding available, therefore decisions have to be about which schemes are to be treated and which not. The final approved list of schemes is shared with ward councilors for information.

Reactive maintenance, such as minor carriage patching and pothole filling, is funded from the annual revenue budget which has reduced in recent years and is expected to reduce further over the coming years. By employing an asset management framework approach through optimum treatments, there is likely to be improved carriageway condition, better coordination of road maintenance and improvement activity, and as a consequence CCC will continue to increase the value of its carriageway assets, improve the network resilience and reduce the burden on revenue funding through effective long-term preventative work.

Short Term Desired Outcomes (current year): To deliver the current annual carriageway programme, achieving performance targets of

A Roads	98% are considered to be in good condition with the remaining 2% where structural maintenance should be considered.
B and C Roads	95% are considered to be in good condition with the remaining 5% where structural maintenance should be considered.
Unclassified Roads	83% are considered to be in good condition with the remaining 17% where structural maintenance should be considered.

Medium Term Desired Outcomes (2-5 years): To keep the A, B and C roads at steady state and strive to improve the condition of the unclassified road network. Implement the feedback from the customer satisfaction survey (NHT).

Long Term Desired Outcomes (5-10 years): Achieve steady state condition through the adoption of good asset management principles. Arrest any decline in the condition of the carriageway so that the future funding is sufficient to maintain the carriageway network.

Approach: Desired outcomes will be achieved through the continued development and implementation of the carriageway element of the asset management strategy and the Coventry Highway Asset Management Plan, following best practice and collaborating with our stakeholders.

Footways and Cycleway

One of the aspirations of the Council Plan is to improve the quality of life for Coventry residents by helping them lead healthier lifestyles and improving wellbeing. Footways and cycleways can be seen as critical assets in achieving this aspiration and are used both for utility and recreational purposes as a means of access to work, schools and community services as well as to open spaces, recreational areas and residential settlements. In addition to the health benefits from walking and cycling, a well maintained footway network provides local residents and visitors to Coventry with a viable alternative to car travel and aids social inclusion, particularly improving accessibility for vulnerable people.

Coventry City Council is responsible for the maintenance of over 2,000km (1,350 miles) of footway, the majority of this being in an urban environment. The footway hierarchy is detailed in the table below.

Coventry Category	Network Length	Category Name	Category Description
1	795km	Prestige area and primary walking routes	Busy urban shopping and business areas and main pedestrian routes.
2	1,111km	Secondary walking routes	Medium usage routes through local areas feeding into primary routes, local shopping centres, etc.
3	172km	Link footways	Linking local access footways through urban areas and busy rural footways.
4	83km	Local access footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs

Coventry also maintains 58.3 km of cycleways. The combined footway and cycleway asset is valued at nearly £198 million. The typical footway annual maintenance budget is around £700,000, less than 8% of the total highway maintenance budget. The inventory and condition data that CCC currently hold for footways is about 80% complete, therefore it is recognised that further work to collect the outstanding inventory and condition data is an important part of improving the asset management process.

Footway condition is assessed through detailed visual inspections (DVI), with category 1 & 2 footways being inspected every 2 years, and category 3 & 4 every 3 years.

Current footway and cycleway condition data shows that 64% of the total footway network is in need of some form of treatment. This condition information along with data gathered from the corporate CRM system is used to prioritise and plan the footway maintenance programme.

Whilst the declared footway condition data may not be fully accurate, CCC is confident it is representative of the whole footway and cycleway assets and historically has been accepted as being appropriate.

Addressing the footway cycleway maintenance backlog is seen as a priority for the Council. This may require significant additional investment plus a change in the way in which maintenance for footways and cycleways are managed. This change is in the process of being implemented and a lifecycle plan for these assets, which helps understand future investment need is being developed. This will enable the prioritisation of maintenance in line with an asset management based approach and will provide evidence to make the case to decision makers for the necessary investment.

Short Term Desired Outcomes (current year): To maintain the present level of footway and cycleway condition. To continue to use footway and cycleway condition data to inform the annual footway maintenance programme. To update the footway and cycleway lifecycle planning model to support the level of investment required for various levels of service, which could include condition improvement, steady state, or managed deterioration.

Medium Term Desired Outcomes (2-5 years): To use the updated lifecycle planning outputs to demonstrate that the level of funds available are marginally sufficient and to support a business case for

additional footway and cycleway funding. Develop a 5 year Member endorsed forward plan of preventative maintenance for the footway and cycleway assets.

Long Term Desired Outcomes (5-10 years): As part of an asset management based approach to develop a compelling case for the long term investment in footway and cycleway maintenance and to implement programmes of work delivering best value against the Council's and the PTH objectives.

Approach: Desired outcomes will be achieved through the continued development and implementation of the asset management strategy in line with the Highway Asset Management Plan.

Structures

Coventry currently maintains approximately 300 structures which consist of bridges, footbridges, subways, culverts, Ring Road sign gantries, retaining walls and viaducts, these include Public Rights of Way structures as detailed in the Table below.

Structures of less than 1.5m span and retaining walls of less than 1.5m are not included in the inventory. It should be noted that the Structures Team currently provide technical approval for all structures on behalf of the Council in accordance with Departmental Standard BD2 for any structure smaller than the 1.5m as mentioned above.

Structure Type	Description	Number
Road bridge / viaduct /tunnel	For the passage of vehicles, cyclists and, where appropriate, pedestrians	124
Footbridge	Pedestrian with cycling provision where appropriate	54
Subway	Pedestrian / cycle access	32
Culvert	For the passage of water on natural streams or rivers	51
Ring road sign gantry	To support the signs and electrical equipment required, as specified by the appropriate personnel	18
Retaining wall	Retaining structure which supports ground either above or below a highway	29
Over bridge – building	Bridge over a highway or footway supporting a building or similar structure.	
Private bridges, basements or access tunnels	Although private, CCC has a responsibility for the effects of any increase in loading which are imposed on such structures.	
Non –adopted highway structures	Limited vehicle and /or pedestrian access which may include PROW (Public Rights of Way)	

The detailed asset inventory is held and managed in the bridge management system 'Bridge Station', in addition to this data there are retained electronic files, and older paper records.
Coventry is aware that basements, cellars and service tunnels exist which extend under the highway but records of these are incomplete. Funding and access constraints mean that it is not currently possible to undertake any inventory collection surveys. Where details are obtained on a piecemeal basis these are added to the inventory. The database is updated when new structures are added to the network.

There are a number of structures for which the Council is not responsible, yet may have a potential impact upon the highway such as those with low head rooms. They include:

- Disused rail bridges/subways
- Multi storey car parks (two are owned by CCC)
- Structures associated with pedestrian routes off the adopted highway
- Service tunnels
- Network rail bridges
- Buildings overhanging the highway

The condition of the structures asset is measured primarily by two factors, BSSCI (Bridge Structural Stock Condition Indicator) and BSCI crit (Bridge Structure Condition Indicator critical) which are derived from principal inspections (PI) and general inspections (GI). The inspections record the extent and severity of any defects and makes recommendations on how improvement should be considered. PIs are presently being carried out in line with the current Code of Practice 'Management of Highway Structures', and will be

moving to a risk based approach when the revised code is published during 2016. This is expected to make time and cost savings.

The current annual budgets available to maintain the structures asset are capital £400,000, revenue £100,000. Additionally, in February 2015 Coventry were successful in securing a total of £5m over 3 years through the DfT Challenge Fund process. This 3 year award should fund the essential maintenance and upgrade a section of the A4053 – Swanswell Viaduct. One of the requirements of the award was that a minimum of 10% match funding was required by Coventry, resulting in the fact that for the duration of this project the annual structures capital budget for the rest of Coventry's structures will be reduced by £183,000 per annum.

The 40 tonne bridge assessment programme has the capital works programme in place to complete the existing backlog of bridge repairs and upgrading generated from this programme to vehicular carrying structures, the purpose of the assessment was to ensure that Coventry's structures are capable of supporting the standard 40 tonne vehicles.

Coventry's ambition is to carry out bridge inspections using hand held devices, capturing data on site with direct upload into the BMS, saving time, improving accuracy and consistency of information.

Desired Outcomes: The principle factor for determining the forward strategy is to maintain the structures asset in a condition 'fit for purpose and safe for use'. The target is to adhere to the 10 Year Structures Plan and maintain the level of the BSSCI. Additional targets include addressing culverts that cause flooding to properties, enhancing safety at highway structures and mitigating railway sites where vehicle incursion is a potential concern.

Approach: The approach is to undertake the GI and PI programme to all structures, ensuring that the critical structural components have been checked for deterioration in line with best practice, and to develop a forward works programme in line with this strategy and to deliver the asset management policy. There are likely to be further financial pressures, with the potential to a reduced level of funding for the maintenance of the structures stock. The key structures driver is to ensure that the timing for intervention of any planned maintenance delivers the optimum return for that investment. This will be supported through the use of updated lifecycle planning using the Structures Toolkit to determine the likely future investment need to deliver agreed levels of service through the BSSCIs.

Drainage

As a unitary authority Coventry's drainage responsibilities includes highway drainage, land drainage, and flood risk management, with Severn Trent Water Authority holding responsibility for the maintenance of the majority of the piped systems. The main function of the highway drainage asset is to facilitate the removal of surface water from the highway to outfalls or watercourses, preventing standing water from forming on the carriageway, footway or cycleway thus allowing vehicles and pedestrians to pass safely.

To manage the highway drainage effectively Coventry hold a comprehensive highway drainage asset inventory derived from programmed CCTV surveys. In addition CCC have full access to Severn Trent digital records of their drainage assets and work closely with them to ensure system reliability and effective solutions to drainage issues.

The primary drainage assets for Coventry are highway gullies and piped drains, to which they maintain approximately 55,000 highway gullies. Coventry's drainage asset data is held on a GIS platform and is an essential and effective asset management tool. There is a process in place to capture all newly created drainage assets and update the inventory as necessary. The data set is centrally managed and therefore considered to be reliable and up to date.

As a Lead Local Flood Authority (LLFA) Coventry is responsible for the management of flood risk and as such promotes the use of Sustainable Drainage Systems (SuDS) wherever possible and suitable. A key function is that of statutory consultee in the planning process, the flood risk team currently assess all applications for flood risk implications. The Local Flood Risk Management Strategy (LFRMS) has been developed in partnership with other drainage stakeholders including Severn Trent Water, and the Environment Agency and is a published document on CCC website. The LFRMS sets out the responsibilities of the respective drainage stakeholders in Coventry and how they are working in partnership to coordinate local flood risk management. In addition to this there is a Surface Water Management Plan (SWMP) for Coventry which is a published document that sets out the long term plan for reducing the risk of surface water flooding throughout the city.

Desired outcome:
CCC will continue to keep the highway drainage asset in a serviceable condition by undertaking routine and planned maintenance, together with continuing CCTV drainage surveys as required. It is also proposed to improve the process by utilising all drainage asset data gathered during routine maintenance activities. We will also work to reduce flood risk across the City by working with all stakeholders and implement the LFRMS.

Approach –CCC will continue to undertake routine maintenance of the highway drainage asset (such as cleaning gullies) to comply with its statutory obligations and best practice. As a result of the limited highways budget. CCC's aim is to improve its highway drainage records related to culvert locations and upload in the central database. This will assist in assessing the impact of 'urban creep' on the drainage network. Drainage asset data is also being captured at source during gully emptying operations, including the level of detritus removed, this will be used to enhance the inventory record and assist with optimising future gully emptying programmes based upon route optimisation and costs savings.

Street Lighting, Illuminated Signs and Keep Left Bollards

Since 2010 Coventry City Council have been working in partnership with Balfour Beatty on a multi-million pound street lighting PFI contract to improve all lighting throughout the city. The 25-year concession involves the design, installation and maintenance of street lights, illuminated signs and illuminated bollards and the ongoing maintenance of all existing and new equipment. The contract aims to deliver a series of technical innovations which will reduce the energy consumption by 38%.

Coventry has approximately

- 28,500 street lighting columns,
- 4,000 lit traffic signs and beacons and
- 1,500 lit traffic bollards.

At the start of the street lighting PFI contract in 2010 around 17,000 lighting columns were beyond their original design life of 25 years and in addition a further 9,400 of the newer lighting stock did not meet the requirements of the British and European standards for street lighting.

During the Capital Investment Programme (CIP) the time expired lighting columns and those that would be time expired during the 25 year life of the contract have or will be replaced and the remainder of the lighting stock improved by modification to be compliant with British and European street lighting standards.

The street lighting PFI projects aims were to deliver the following benefits:

- Improve lighting levels.
- Improve road safety, in particular by reducing the incidence and severity of night time accidents.
- Improve the perception of street safety by reducing street crime and fear of night time crime.
- To protect the environment by optimising energy efficiency resulting in reduction of energy consumption, carbon emission and minimising light pollution.
- High quality maintenance and service standards.
- Improved lighting column structural integrity.

The street lighting PFI project was also intended to deliver the following key strategic aims of Coventry which, at the start of the service were:

- To secure and maintain the most efficient, effective and appropriate public lighting on the highway.
- To improve the safety for drivers, passengers, cyclists and pedestrians.
- Encourage walking, cycling and the use of public transport as alternatives to private car use
- To reduce street crime and the fear of crime.
- To enhance the local environment and enable communities and businesses to develop and flourish in a sustainable manner.
- To increase leisure and commercial activity after dark to enhance the vitality of the city.
- Aid and sustain community regeneration.
- Enhance the profile of priority neighbourhoods, key routes and landmark buildings.
- To reduce the impact of the lighting infrastructure on the environment and to reduce street clutter through greater utilisation of the lighting infrastructure.

The cyclic maintenance and reactive maintenance requirements for street lighting are set out in seven performance standards as set out in the output specification. The Service Providers performance against these standards are monitored through both the Payment Mechanism (level of payment earned by the service provider) and through continuous performance management undertaken through the Authority's contract management function. If the service provider fails to meet the required standards a financial penalty in the form of an adjustment to the monthly payment is made in line with the payment mechanism. If necessary the issue can be escalated to the Street Lighting Network Board.

The present performance of the street lighting PFI service provider is good and as the contract nears the end of its CIP, work is progressing moving it from a replacement and maintenance contract to one of maintenance only.

There has been a policy of de-illumination of both traffic signs and keep left bollards where compliance with current standards permits, as part of the drive for both reductions in energy and in operational costs post CIP.

As part of the CIP, a central management system (CMS) was installed, and techniques such as 'dimming and trimming' have been employed by the service provider to deliver the contractual energy reduction of 38% by the end of the CIP.

The use of LED lanterns have not yet been adopted apart from replacement of lit signs and bollards, canopy and tunnel lighting in the city centre and for all subway lighting. At the start of the contract, LED lanterns were not technically advanced as now, and a 38% reduction in energy was acceptable. The use of white light technology for all residential areas permitted a drop of one lighting class and the use of energy efficient lanterns enabled a reduction in the number of columns and luminaires.

Desired outcome: Routine inspection and maintenance, which are set out in the output specification, are vital to keep the street lighting assets in a serviceable condition and CCC will continue to monitor the performance of the service provider. Discussions on the wider application of LED lanterns plan to be undertaken to vire the whole life cost of this type of technology and the potential further energy savings that could be delivered through this approach.

Approach –CCC will continue to monitor the service provider's performance as part of its management of the street lighting PFI contract. Any further replace programmes for any columns post CIP, are part of the contracts 'lifecycle planning' and will be identified by the service providers condition surveys and funded by him.

Traffic Signals

Traffic Signals that work effectively and are technically up to date could be considered one of the key assets on the highway infrastructure network and their effective operation is important for the movement and safety of all vehicles and pedestrians.

Coventry has a collaborative framework contract with neighbouring local authorities for e.g. Solihull and Warwickshire for maintaining their traffic signals which is currently in year three of a seven years contract with Siemens. CCC has up to date inventory and condition data for traffic signals, pedestrian, pelican and puffin crossings and this is updated annually through annual inventory inspections and condition surveys, undertaken by the service provider and updated in their database.

Additionally as a part of the on-going maintenance of the equipment, electrical inspections are undertaken every six years by Siemens. Existing KPIs include urgent faults are to be rectified within two hours and non-urgent faults are attended and fixed by the end of the next working day.

CCC have implemented additional energy saving initiatives which include switching to LED lights, extra low voltage lights and part time signals at some locations.

CCC are also drilling down into the PIs and where faults are located and then identifying if there may be recurring faults or defects which if addressed will further improve the service.

There are lifecycle planning outputs for traffic signals, and it is the intention to update them to align with the service requirements and this AM strategy.

There are no proactive customer consultations for traffic signals, however CCC has used the NHT surveys this year and will be analysing the responses in due course.

The new 'totems' are designed to encourage feedback or comments from the broader public, and this should give an opportunity for more feedback/comments.

The present condition of the traffic signal assets, based upon condition and a risk based approach to prioritising has 30 sites in need of capital funds to keep them at steady state. The £150,000 capital funding allocated to traffic signals in 2015/16 had allowed just 4 junctions to be upgraded and asset condition addressed. There is a concern that future funding may be reduced and that the benefits of sustained long term funding will not be realised

There are no traffic signal condition targets, however these are to be developed in the near future.

The use of aluminium poles for traffic signal equipment is being rolled out, as with hinged poles. The former, while being potentially expensive will prolong the life of the poles and will generate whole life cost savings. The latter will reduce the costs for traffic management during maintenance operations.

Desired Outcome: CCC will continue to work collaboratively with Siemens and partnering local authorities while ensuring that safety continues to remain of paramount importance.

Approach: The current maintenance contract will continue to operate for routine activities. Although CCC has no traffic signal target condition indicators, by utilising good quality data, they can target their maintenance where it is most required. However, this will continue to be heavily dependent on available budgets.

Supplementary Highway Assets

The highway network is home to the key highway assets, and are covered in the previous sections of this AM strategy. There are also what are called the supplementary highway assets, these range from those that are important for network safety i.e. road markings and studs, traffic signs. There are others that enhance the network i.e. litter bins, bus shelters, seats and cycle racks.

The condition and usability of all of these supplementary assets determines the user's perception of the street, and whether Council's aim to "Create an attractive, cleaner and greener city" is achieved.

While supplementary assets may be of low intrinsic value compared to other highway assets, knowledge on the quantity and condition of these assets is important to ensure there is a complete highway inventory and condition set. Once established as with all the other highway assets, decision makers can make holistic highway asset investment decisions.

The optimum method of capturing the necessary data, is through a Supplementary Assets Action Plan. The first action is to determine whether the present supplementary inventory and condition data is of a quality and quantity that it be used as the core data going forward, or that is better to start afresh. The second action, is to collect supplementary asset inventory, and its asset condition. Once complete, Coventry will be able to make decisions relating to the quantity, location, value, and condition of all its supplementary highways assets. It is proposed that in this updating process the highest priority is given to pedestrian guardrails and non-illuminated bollards as these two asset groups have a high visual impact on the street scene and also support network safety.

At present the only inspection of supplementary assets is as part a safety inspection, and this only to identify safety concerns, therefore the overall condition of the assets is not known. Whilst the supplementary assets are considered to be managed effectively, it is not yet possible to use life cycle planning toolkit for investment modelling or use asset management techniques as there is currently insufficient inventory or condition detail.

Desired Outcome: To have a comprehensive inventory and condition rating for all supplementary highway assets, progress will be governed by available funding and resources.

Approach: CCC will review the level of information currently held for supplementary highway assets and develop the Supplementary Assets Action Plan, taking account of available funding, to gather the supplementary asset inventory and condition data.

4. Data Management

Asset management systems are designed to provide information on all highway assets their attributes, condition and through GPS network location, the extent and the overall performance of the highway network. If comprehensive, this approach gives confidence that the quality of the systems output is fit for purpose. Coventry recognises the quintessential role of good data management practice to drive continuous improvement and effective investment modelling based on sound asset management.

To gain the maximum benefit from AM, it is essential that all the asset data can be shared or accessed by all asset owners and service providers. For Coventry, the asset data sits within the already well established highway management system (CONFIRM HMS). This allows greater use of the data for operational purposes. The carriageway and footway assessment and condition data is managed using the MARCH pavement management system within which more detailed data analysis can be carried out and further asset inventories can be collected.

For traffic signals, CCC utilises the Siemens traffic signal system, with a software agreement with Siemens which is upgraded annually. This is a requirement of the traffic signal maintenance contract.

Balfour Beatty, the street lighting PFI service provider, manages the street lighting asset through Mayrise, which is recognised as the market leader for street lighting assets. As part of the output specification, the service provider is contracted to keep Mayrise up to date with changes to the inventory and to undertake defined inspections and surveys of the street lighting asset as set out in the output specification.

The highway drainage asset, is small in inventory, however as a result of the potential impact of climate change, a data management system is required to support highway drainage management both with respect to preventative and capital maintenance. It is proposed that a business case is developed to provide funding for a drainage management system, to determine Coventry's drainage need, determine the evaluation criteria to find and procure the most appropriate drainage data management system for Coventry.

In line with this Strategy, it is proposed that the collection and updating of all highway asset data continues, as it will support the delivery of the asset management objectives of the Council and will ensure that the outcomes for the individual asset strategies are met.

It is important that there is a robust asset data and management strategy for all highway asset infrastructure so that there is consistency in approach, as to where data is held, managed and how it is displayed in an appropriate GIS mapping system.

It is intended that the data gathered in these surveys, including details of inventory, asset location and performance, is recorded and stored in asset information databases wherein asset information can be easily interrogated to obtain information necessary for the day to day management of the asset. These decision support systems have an influence on the short and long term maintenance needs. As part of the implementation of asset management, CCC will review current data collection techniques and develop of a data management strategy.

5. Life Cycle Planning

One of the actions from this AM Strategy, CCC is to review the life cycle planning outputs for its key assets as these were originally done a number of years ago, before the HMEP Lifecycle Planning Toolkit had been launched. Life cycle planning provides network wide investment needs based upon achieving an agreed level of asset condition or the expected future condition of the asset as a result of a given level of investment.

Individual lifecycle plans, for carriageways, structures and ancillary assets, will represent the output of Coventry's lifecycle planning process. These plans are at the core of our approach to investment planning to inform senior decision makers of the investment need and likely condition of the respective highway assets.

6. Customer Satisfaction

The proposed asset management communications strategy will provide support and direction in developing a better understanding of asset management and improve customer satisfaction.

Additionally information will be extrapolated from the NHT Survey, the most recent being undertaken in October 2015.

There are new digital “Wayfinding Totems” in the process of being installed around the City - The Totems have been strategically installed in 16 locations and will serve as an electronic wayfinding application to help pedestrians find useful information about the city, maps, activities and tourism-rich content to access.

7. Asset Valuations

Currently, asset valuations are undertaken proactively using March PMS UKPMS, processes in accordance with Highways Asset Management Finance Information Group (HAMFIG) for each year updating the Gross Replacement Costs (GRC) and Depreciated Replacement Costs (DRC).

8. Best Practice

CCC is committed to the development of best practice and continuous improvement. CCC promotes the sharing of best practice to improve efficiencies through collaboration having been in a collaborative framework with other local authorities within West Midlands Highways Alliance Framework. CCC are members of the West Midlands Service Improvement Group (WMSIG), and the Midlands Alliance and proactively benchmarking with other authorities including reviewing asset data, sharing information for best practice, and discuss the outputs especially for ‘Amber’ values for each group of road network.

CCC have signed up to both the NHT annual customer surveys and CQC Efficiency Network to support their aspirations to be best in class.

9. Performance Monitoring

Performance monitoring of Coventry’s transport assets will be collaboratively reviewed with all stakeholders, including service providers. A set of performance indicators will be agreed with each to ensure that their respective contributions support fully the management of the assets.

The performance indictors will be reviewed at the respective progress meetings at each management level and to Councillors on a bi-annual basis. Levels of service will be monitored and where necessary may need amendment to satisfy the changing funding pressures.

Asset management practices is to examine whether CCC is implementing its service delivery and is fulfilling its AM objectives. In order to achieve this, an asset management implementation plan along with a road map should be developed. This will enable reviewing the progress against this plan and monitor performance to meet asset management objectives and service delivery objectives.

10. Strategy Review

This AM Strategy will be updated annually and next proposed review in late 2016 to align with any changes to the Council Outcomes and West Midland Local Transport Plan and the next submission of the Self-assessment Questionnaire where CCC will be aiming to be a Band 3 authority. This process will be managed and implemented by Coventry City Council.

Appendices

Appendix A. Coventry Asset Management Strategy - Meeting Notes

Project:	Coventry City Council Asset Management Support		
Subject:	Asset Management _ Strategy - Meeting with Asset Managers		
Date and time:	3rd Dec 2015	**Meeting no:**	2
Meeting place:	Coventry Depot	**Minutes by:**	Daniel Rawle
Present:	Tracy Cowley	**Representing:**	Coventry City Council
	Neal Thomas		Coventry City Council
	Sunil Budhdeo		Coventry City Council
	Neil Cowper		Coventry City Council
	Karen Seager		Coventry City Council
	David Elliott		Coventry City Council
	Chris Capps		Atkins
	Daniel Rawle		Atkins

11. Introduction – Asset Management Support Meeting

As part of the self-assessment questionnaire, process all local highway authorities are required to have an asset management (AM) policy and a strategy in place (Question 1). The AM policy links Coventry's corporate vision to their transport objectives giving stakeholders a clear line of sight between the two. The asset management strategy sets out how the AM policy will be delivered.

Atkins have been commissioned by Coventry to produce the AM policy and strategy. In order to develop the AM policy and strategy, Chris Capps and Danny Rawle (Atkins) held a series of meetings with asset owners to discuss how they presently manage their respective assets, particularly through the quality and quantity of inventory and condition data, where the data is held, any performance indicators used, any condition targets, the different types inspections, and relevant maintenance regimes and any agreed levels of service.

The following tables provide the information gathered from the meetings with individual asset owners with regards to the aforementioned areas of interest.

Table 1. Drainage and Flood Risk Management – Neal Thomas, Flood Risk Manager

No	Asset Management information	Responses from Key Contact
1	Asset Data	Coventry hold a comprehensive drainage asset inventory derived from programmed CCTV surveys of the entire drainage network. All drainage asset data is available on a GIS platform and is accessible to view. There is a process in place to capture all newly created assets and add them to the inventory. The data set is centrally managed and therefore reliable and up to date. Asset data is also being captured at source during gully emptying operations, this will be used enhance the inventory and plan future gully emptying programmes giving route optimisation benefits and efficiency savings. Work is also being carried out to enhance the current information already held on highway culverts; this will assist in assessing the impact of 'urban creep' on the existing drainage network. As a unitary authority CCC responsibilities include highway drainage, land drainage, and flood risk management, however Severn Trent Water Authority are responsible for the majority of the piped systems within Coventry. CCC have full access to Severn Trent digital records and work closely with them to ensure system reliability and effective solutions to drainage issues.
2	Asset Condition	The known drainage assets are in good functioning condition and regularly inspected/surveyed. There is no formal condition score for any of the drainage assets
3	Life Cycle Planning	As the majority of the drainage assets are the responsibility of Severn Trent, no lifecycle planning has been undertaken.
4	Customer Surveys	Coventry have taken part in the NHT survey and as such will receive customer feedback about the services they provide, this information can then be used to review/improve the service where required as necessary. Customer information is also gathered from the CRM system and at regular 'Water Forums'. This data is not at present used proactively to develop and improve the drainage service.
5	Forward Programme	Coventry have a formal scheme development procedure in place that provides a prioritised forward programme of schemes. There is also a scheme delivery process which ensures consistency in delivery and value for money.
6	Benchmarking with authorities	Contact Neal for info
7	Flood Risk Management	As a Lead Local Flood Authority Coventry is responsible for managing flood risk in Coventry. A key function is that the drainage asset team are statutory consultee in the planning process; the o team currently assess all applications for flood risk implications. The LFRMS has been written and is currently going through the approval process. In addition to this there is a SWMP for Coventry has already been published.

No	Asset Management information	Responses from Key Contact
		Customer engagement through Ward Forums, Water forums.
8	Condition/Performance targets	Coventry has a robust management process for this asset and are in the process of developing formal condition indictors.

Table 2. Traffic Signals – Sunil Budhdeo, Transport Innovation Manager

No	Asset Management information	Responses from Key Contact
1	Asset Data	Coventry have a full inventory of their TS assets, a detailed breakdown, when the HAMP was written is set out in Table E9.2 , this is no longer current and is being updated. The TS data is held in different formats for different purposes; • the inventory information for calculating energy consumption is held locally on a spreadsheet (excel), • Inventory for asset management/maintenance is held on the Siemens 'In View' system which CCC have access to. • Asset information is also held on the traffic signals 'common database' which provides the asset manager with an overview of all TS equipment utilisation in any given geographic area.
2	Asset Condition	The TS maintenance contractor, Siemens, is responsible for the inspections, condition assessment and electrical testing of equipment. This provides asset data for CCC and provides reassurance that the TS assets are in good operational condition.
3	Life Cycle Planning	LCP for TS was completed for CCC when the HAMP was written, the output is available in the HAMP, and is likely to be updated to reflect service requirements and its delivery and will be reflected in the asset management strategy.
4	Customer Surveys	Customer feedback is not collected specifically for traffic signals, however recently introduced customer interface points 'Totems' allow customers to provide direct comments on any CCC service. The TS team carry out proactive engagement in advance, and post implementation, of their schemes. Where major junction improvements are planned public consultations are carried out including ensuring that the Ward members are informed. Coventry have taken part in the NHT survey and as such will receive customer feedback about the services they provide, this information can then be used to review/improve the service where required.
	Forward Programme	The current forward programme has been derived from the Siemen's annual report on the condition of the assets. As a result of the historic level of TS funding there are currently 30 sites in the programme requiring rehabilitation when prioritised by safety/risk, co-ordination with other works, and available funding.
6	Benchmarking with authorities	

No	Asset Management information	Responses from Key Contact
7	Budgets	The 2015/16 Capital budget is £150k; this has delivered improvements to 4 junction schemes and 4 pedestrian crossing schemes. There is a strong possibility that the TS budget could be, further reduced for 2016/17. However, the right investment in the asset now will provide long-term benefits and the potential for savings.
8	Condition/Performance targets	There are performance targets within the maintenance contract and the service provider provides an annual performance report on the TS asset. This is used to identify areas where there are repeat faults, failing equipment, and as a result targeted measures can then be put in place to identify the underlying problem and address these issues. Condition targets are not currently in place but are to be developed in the near future.
9	Efficiencies and innovation	All new TS supplies are now using low voltage switchgear and LED lanterns. The use of aluminium signal poles has been introduced across the network as aluminium offers a better whole life cost to galvanised steel posts. Another innovation is the installation of hinged posts for TS as these will dramatically reduce traffic management costs when carrying out routine maintenance to the heads.

Table 3. Carriageways, Footways – Neil Cowper, Head of Highways and Tracy Cowley, Highways Technical Services Manager

No	Asset Management information	Responses from Key Contact
1	Asset Data	Coventry have a complete highway network inventory, this is held and managed through the MARCH Pavement Management System. The inventory was last reviewed in 2008 to ensure that it was complete and was a copy of the highway network. Annual conditions surveys are carried out across the highway network to assess its condition and to inform the capital programme development. Surveys undertaken are SCANNER, DVI, and Grip tester. Other network functions such as defect reporting, works ordering, safety inspections, are all managed using the CONFIRM highway management system. Details of maintenance schemes (as built details) are recorded on the maintenance GIS layer. The Local Street Gazetteer is managed within the highways group and underpins both the PMS and HMS.
2	Asset Condition	Coventry is one of the top performing English authorities for its network condition, with the respective road classification levels

No	Asset Management information	Responses from Key Contact
		requiring investigation being A roads at 2%, B and C roads 5%, and UC roads at 17%. This good performance has been achieved through continual condition assessment and effective maintenance programming. The longer-term strategy is now likely to be to improve the condition of the UC network whilst allowing the classified road network to have a managed deterioration in their condition.
3	Life Cycle Planning	Carriageway lifecycle plans have recently been reviewed using a recognised deterioration model, other LCPs may require reviewing so as to provide consistency.
4	Customer Surveys	Coventry have taken part in the NHT survey and want to receive customer feedback from customers about the services they provide. This information can then be used to review/improve the highways service as necessary. In addition to the Survey Coventry have recently introduced customer interface points 'Totems' allowing customers to provide direct comments and feedback on any CCC service.
	Forward Programme	The annual carriageway and footway capital programme is developed from asset condition data combined with a number of local key weighted factors including as works co-ordination, councillor ward priorities, supported petitions, and numbers of insurance claims. This combination of factors produces a robust priority list of schemes. The footway schemes are also assessed in condition priority order but does not use the exact same methodology as for the carriageways because the same level of data is not available. The approved list of footway schemes is shared with ward members and discussed at ward forums.
	Benchmarking with authorities	CCC is a regular and proactive member of the West Midlands Highways Alliance and shares its data with the respective other LAs in the Alliance.
	Budgets	Coventry's carriageway and footway budgets have recently been supplemented with external funding, however in real terms the carriageway and footway budget has decreased over the last few years. It is therefore important that going forward the asset management strategy delivers affordable levels of service within the available budget and resources.
	Condition/Performance targets	Current carriageway and footway condition targets have been agreed and published on the CCC website, however these will be reviewed to ensure they are consistent with the new asset management strategy.
	Efficiencies and innovation	

Table 4. Street Lighting (including illuminated signs) – Karen Seager

No	Asset Management information	Responses from Key Contact
1	Asset Data	An accurate and up to date street lighting inventory is available through the PFI service provider, Balfour Beatty (BB). This includes all illuminated signs and illuminated bollards inventory. The street lighting inventory is managed through the 'Mayrise' street lighting system, procured by BB but Coventry have access to interrogate as necessary. The street lighting inventory is updated as part of the PFI contract

No	Asset Management information	Responses from Key Contact
		performance regime and is accurate. Ward lighting is included within the PFI contract, owned by third parties, but excludes private streets for which there is no responsibility for CCC to maintain.
2	Asset Condition	As part of the capital investment programme, all lighting columns that were more than 5 years old at the start of the contract were to be replaced during the first 5 years of the contract. The PFI contact has an output specification, therefore CCC require BB to comply with the specification, in the most cost effective way. This includes condition inspections, electrical testing, and all routine maintenance of tall electrical apparatus included within the scope of the PFI contact.
3	Life Cycle Planning	Detailed lifecycle planning is not yet required as the street lighting infrastructure is in good condition and any replacement programmes required outside the capital investment programme will be funded by BB to comply with the output specification.
4	Customer Surveys	BB will undertake customer surveys as part of their works and provide feedback on performance to CCC.
5	Forward Programme	All contained in the output specification
6	Benchmarking with authorities	KS has attended National street lighting PFI events, however in recent years these have not been organised.
7	Condition/Performance targets	Street lighting performance targets are set and sit within the requirements of the PFI contract.
8	Efficiencies and innovation	The lantern type agreed at service commencement was not LED as with a central management system and other processes, BB have bene delivering around 38% of energy savings, as they declared as part of their quality bid in the PFI contact . Positive measures to reduce energy costs such as the 'dimming and trimming' initiative and now part night lighting. Further consideration is being given to the de illumination of roads and footways on some parts of the network; however this is a sensitive issue and will have to go through a consultation process.

Table 5. Structures and Bridges – David Elliott, Senior Structures Engineer

No	Asset Management information	Responses from Key Contact
1	Asset Data	Coventry currently maintains approximately 300 structures, which is any structure with a span greater than 1.5m, this includes Public Rights of Way structures. Those structures less than 1.5m span are on the inventory database but do not receive formal principal or general inspections. The detailed structures asset inventory is held and managed in the bridge management system 'Bridge Station', developed by bridge engineers for bridge engineers. In addition the general and principal inspection data is also kept locally in electronic files, and some of the older paper records have been retained. The inventory is updated when new structures are added to the network.
2	Asset Condition	The condition of each bridge is reflected in the Bridge Condition Index (BCI). Coventry has received major funding from different sources to improve its highway structures. Match funding requirements for some

No	Asset Management information	Responses from Key Contact
		of this funding, will see reduced investment in the overall bridge stock and could lead to a fall in BCI. Principal Inspections (PI) are being carried out in line with the current structures code of practice, but should be moving to a risk based approach when the new code of practice is published. This is expected to reduce time in inspection frequency and savings of resources.
3	Life Cycle Planning	LCP for Structures has been completed and the output is in the HAMP, the LCP will be updated to reflect service requirements and the proposed asset management strategy.
4	Customer Surveys	Customer surveys have not been undertaken specifically for structures but any customer enquires generated through the corporate CRM system are responded to and feedback taken as necessary.
5	Forward Programme	The present and forward programme is in place to address the existing backlog of bridge repairs and upgrading. (2001 40t loading assessment), once this has been achieved, the programme will be developed using asset management processes.
6	Benchmarking with authorities	
7	Budgets	The current budget is Capital £400k, and £100k revenue. However as previously mentioned an element of this funding may have to be used for match funding against major improvement projects.
9	Efficiencies and innovation	Coventry's ambition is to carry out bridge inspections using hand held devices, capturing data on site with direct upload into the BMS, saving time, improving accuracy and the consistency of information.

Table 1. Residual Services - Tracy Cowley, Highways Technical Services Manager

No	Asset Management information	Responses from Key Contact
	Residual Assets	Pedestrian guardrails, Non illuminated bollards,
1	Asset Data	During the development of the existing HAMP it was identified that there were some asset groups that had incomplete inventory and little condition data. Going forward Coventry want to be in a position to assess the quantity, location and condition of all its roadside assets, particularly pedestrian guardrails and non-illuminated bollards. The addition of this information will allow Coventry to review the on-street assets (street clutter) and be able to ensure that there is certainty in quantities and condition irrespective of the perceived risk profile.
2	Asset Condition	The safety of these assets is assessed during routine safety inspections; however, this is not an asset specific condition or inventory inspection so the overall condition of these assets is effectively unknown.
3	Life Cycle Planning	Whilst these assets are being managed well and there have been no failures, it is not yet possible to introduce life cycle planning to these residual assets as there is insufficient details held about the assets.
4	Customer Surveys	
5	Forward Programme	

No	Asset Management information	Responses from Key Contact
6	Benchmarking with authorities	
7	Budgets	

12. Summary of the findings from meeting

Based on the responses in the meeting and accompanying information provided to Chris and Danny, the following observations have been made.

Carriageways

There is comprehensive asset information which is effectively managed through reliable accredited systems. The network is in good condition and is reflected in the PI figures. Structured processes are in place to utilise asset data in developing the forward programme. A review of the current lifecycle plan would be beneficial.

Current hierarchy, inspection frequencies, and treatment standards will need to be reviewed when the new highways management guidance is available – moving to risk based approach.

Possible future work to link the Pavement management system (MARCH) to the Highway management system (CONFIRM).

Footways

The knowledge on footways is not as robust as the carriageways but data is available. A review of the data to identify any gaps is required. Current hierarchy, inspection frequencies, and treatment standards will need to be reviewed when the new highways management guidance is available – moving to risk based approach.

Street lighting

There is a long term PFI contract is in place which covers street lighting, illuminated signs, and illuminated bollards. The controls within the contract and the CCC project team are managing this asset and therefore little or no additional work is required at this point. Asset information needs to be updated to support the HAMP.

Drainage and food risk management

The drainage and flood risk management activities are currently being managed well and there are good links with Severn Trent water in maintaining the asset. Asset information needs to be updated to support the HAMP.

Bridges and structures

The structures are effectively manged through the BMS which is a standalone system, there is good asset inventory and condition information, however there are areas that require more work such as inventory of retaining walls, a longer term forward programme. Asset information needs to be updated to support the HAMP.

Traffic signals

Good asset information exists and condition is being improved, however the current maintenance programme is prioritised by risk and safety issues, future programmes will follow asset management principles.

Residual services

The information held against these 'other' assets is not in a consistent and reportable format. Data is collected on an ad hoc basis and is therefore not in a position to be used for effective asset management.

Data needs to be collected on a priority basis to be determined by senior asset officers. Resources and cost will determine how this data is collected, where possible data should be collected during routine maintenance operations. Initial steps will be carry out a review of the current data sets to understand the scope of the task.

Data Management and systems

Data management systems are in place and being used to manage assets, however an overview of the various systems used would be beneficial in identifying and gaps, duplications, improvements, and possible efficiency savings.