

Highways Infrastructure Asset Management Strategy 2023 - 26

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Foreword

Milton Keynes' *Highways Infrastructure Asset Management Strategy*, sets out our plans for the maintenance and operation of the highway infrastructure assets of Milton Keynes over the coming years, recognising their vital role ensuring the vitality of our communities and the success of our local and regional economy and the resultant growth.

Our highways infrastructure asset management strategy will enable us to demonstrate responsible custodianship of the council's most valuable asset and will provide us with the tools to make the best possible use of our funding through the adoption of a planned, preventative approach to maintenance that will save money over time. Our strategy is consistent with current national guidance and industry best practice and will assist us to secure future funding as our evidence base.

Milton Keynes is leading the way in adopting and developing new technologies to improve transport, and our highways infrastructure asset management strategy will help us to provide the necessary infrastructure to ensure that we make the best use of the opportunities that these technologies present.

This strategic approach to highways asset management will allow us to make informed choices to carry out the right maintenance in the right place at the right time. The network will be in better condition and performing more effectively to provide safe, comfortable travel for all types of road user and providing streets that are more attractive for residents, to the benefit of us all.

Executive Summary

The highways network is Milton Keynes' most valuable asset, valued at circa £5.5 billion (source WGA). This includes all aspects of the network including structures, footways, drainage, street lighting as well as carriageways. In order to maximise the available resources, we need to ensure we manage the maintenance and investment of all of these elements in the most cost effective way.

The current state of the network has been made possible by the asset management approach that Milton Keynes undertaken in alignment with the current term service contract and prudential borrowing investment, utilising prudent investment strategies for major assets such as carriageways and street lighting. Our original asset management policy and strategy were agreed in November 2015 and the policy was updated in March 2017 and now March 2023. To support the revised policy and to ensure our approach continues to be in line with published national guidance and best practice, the asset management strategy has been reviewed.

This revised strategy reinforces the need to ensure that all aspects of the network are managed in a way that allows smarter decisions to be made to carry out works in the most effective and efficient manner which provide best value for money. This strategy further embeds a culture of considering the whole life of the assets, thus allowing more cost-effective proactive improvements that can be planned in advance.

Furthermore, since the adoption of the original asset management policy and strategy, new national guidance in the form of *"Well Managed Highway Infrastructure: A Code of Practice"* was published in October 2016 that promotes a risk-based approach to asset management based on the establishment of appropriate local levels of service. Councils must have adopted the recommendations of the new Code of Practice by October 2018; this new strategy shows we are already ahead of the game.

Finally, the strategy has been set out to show that Milton Keynes is adopting best practice in asset management that will stand us in good stead when it comes to bidding for future funding from central government.

The new strategy aims to explain clearly and concisely how we manage the highway network and to demonstrate that we are using our resources properly and effectively to provide safe, comfortable travel for all types of road user and providing streets that are more attractive for residents, to the benefit of us all.

Introducing Highways Asset Management

The highway infrastructure network of Milton Keynes is the most valuable asset the council owns, valued at around £5.5 billion, and plays a vital role in supporting the community and economy of the city.

Our infrastructure network is made up of many different types of assets including roads, footways, Redways (cycle routes), streetlights, bridges and underpasses, signs and signals, trees and

landscaping. Each of these has different needs for management and maintenance to ensure that they deliver the quality of service that our residents and businesses expect.

In common with other local authorities and central government, Milton Keynes has adopted a technique known as *Asset Management* to ensure good value through the best balance of spending, quality of service and risk to road users and the council, both now and over the long term.

This document sets out our highway asset management strategy over the next three years and reinforces the commitment to good asset management we make in our *Infrastructure Asset Management Policy*. It defines our objectives for the management of our highway network and identifies how this will promote the council's aims for Milton Keynes. Figure 1. Describes the relationships between the full suite of asset management documents.

Asset Management Priorities

Our as part of our commitment to the implementation of best practice asset management techniques for the management of the Milton Keynes Road network, we have determined a number of priorities that will form the basis of our implementation and ongoing operation of asset management.

Our asset management priorities support the objectives for transportation in Milton Keynes identified in our *Local Transport Plan* and its successor, the *Mobility Strategy*, which both in turn support the *Council Corporate Plan* for the community. The *Mobility Strategy* will support and facilitate innovation in transport technology and promote the concept of smart, sustainable, shared mobility. It will respond to the significant increase in demand for mobility that comes with predicted population growth. Our ambition is to lead the way in transport innovation.

Figure 1 describes this relationship and identifies our asset management priorities and supporting service priorities, which are described later.

Our asset management priorities set the strategic direction for highways infrastructure asset management for Milton Keynes and support our service objectives, which help us to measure the quality of the service we provide.

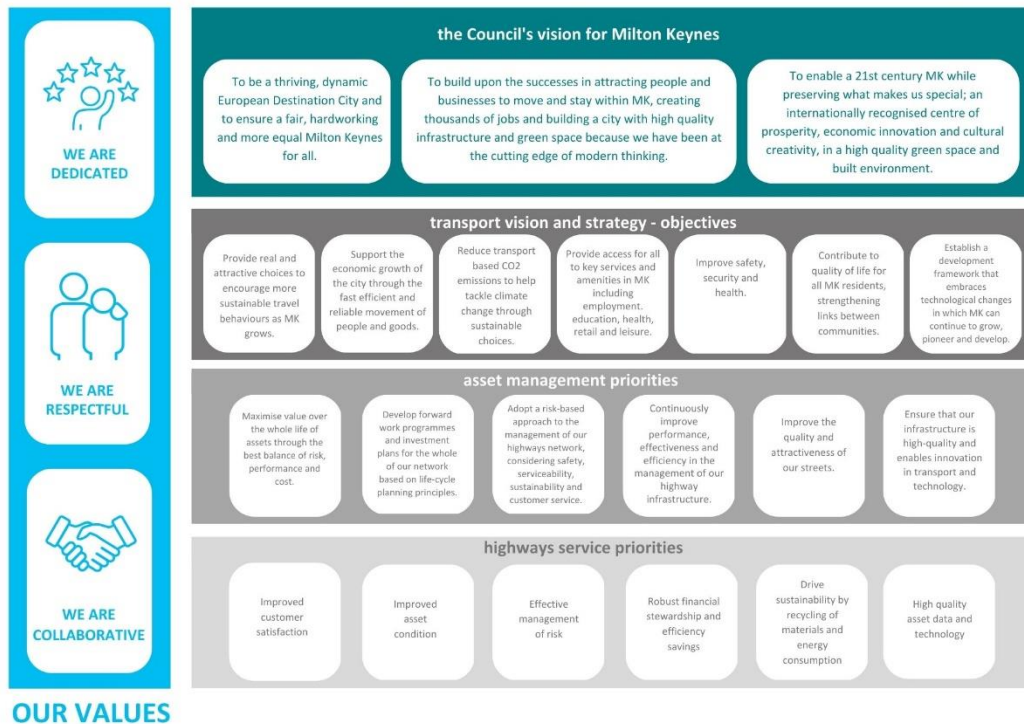


Fig1 . Asset management priorities and links to corporate vision and values.

Asset management objectives

Statutory obligations and national good practice

Milton Keynes City Council has a number of legal obligations and powers that govern the way that it manages the road network.

The *Highways Act 1980* sets out the main statutory duties for the council, which include a duty to maintain roads in safe condition. The *Traffic Management Act 2004* also gives the council the duty to keep the traffic moving on the road network, while the *Flood and Water Management Act 2010* covers the management of flood risk associated with extreme weather.

In addition to legal duties, there are a number of sources of national good practice guidance including the UK Roads Liaison Group's *Highway Infrastructure Asset Management Guidance Document* and its *Well-Managed Highway Infrastructure Code of Practice*. Although Milton Keynes are not obliged to follow this guidance, doing so helps us to make sure that the services we provide are consistent with those provided by other authorities and enables us to demonstrate that we are following national good practice when bidding for central government funding.

What is highways asset management planning?

Highways asset management is a well-established approach to the maintenance and operation of the road network that plans for spending over its whole life to enable smarter decisions on how, where and when to carry out work in order to make best possible use of the funding available to the benefit of the community.

The main features of highways asset management planning are:

A strategic approach

Asset management promotes a more business-like way of managing maintenance and operation of the highway network. It aims to minimise costs and risks while, at the same time, providing the best possible condition and performance of the network in order to make the best possible use of the available funding.

Asset lifecycle planning

Asset management planning move away from a short-term, reactive approach, which is inefficient, does not provide a permanent cure and is more costly in the long term.¹ By considering the whole lifecycle of an asset, maintenance can be planned in advance at the most appropriate time to prevent more costly future repairs.

Risk management

An important part of our approach to highways asset management is the management of risk; this does not only mean safety risk, although this is an important aspect, but also financial risks and risks to satisfaction of the users of our network. The asset management plan provides the evidence to allow us to assess risk and to prioritise spending to reduce risk.

Asset information/Data Management

A vital element of good asset management planning is good quality information about what assets make up the highway network, how old they are, how long they are designed to last, what condition they are in and how they are performing. By using this information, we are able to make better decisions on where, when and how to carry out works on the network. This enables us to provide evidence to justify investment in the highway network and to assess the benefits of that investment as well as the future risks if we do not carry out works. We have invested and developed a bespoke Highways asset management system (Asset Management Expert – AMX) that will allow capture, monitoring and management of all of our assets and to establish detailed accurate methodology for whole life management.

Service objectives and targets

Good asset management is founded on an evidence-based understanding of the quality of service that we can afford to provide. We will determine service objectives, which we will measure through a number of performance measures, and will set targets for our performance, that are both affordable and ensure that we do not expose ourselves, and the users of the network, to an

¹

unacceptable level of risk. Ultimately, the aim of our asset management plan is to improve the quality of the services we provide to our users.

Benefits of asset management planning

Asset management planning is a well-established technique, both in the UK roads sector and internationally, producing clear benefits to councils and communities, including:

- Cost savings, with expected savings through long-term lifecycle management of assets
- Making the best use of limited funds
- Improved risk management
- Ensuring resources and investment are targeted to have greatest impact
- Providing the evidence to justify investment in highway maintenance
- Better roads and service to road users leading to customer satisfaction
- Improved performance leading to economic benefits for local businesses and residents

Highways Asset Management Documentation

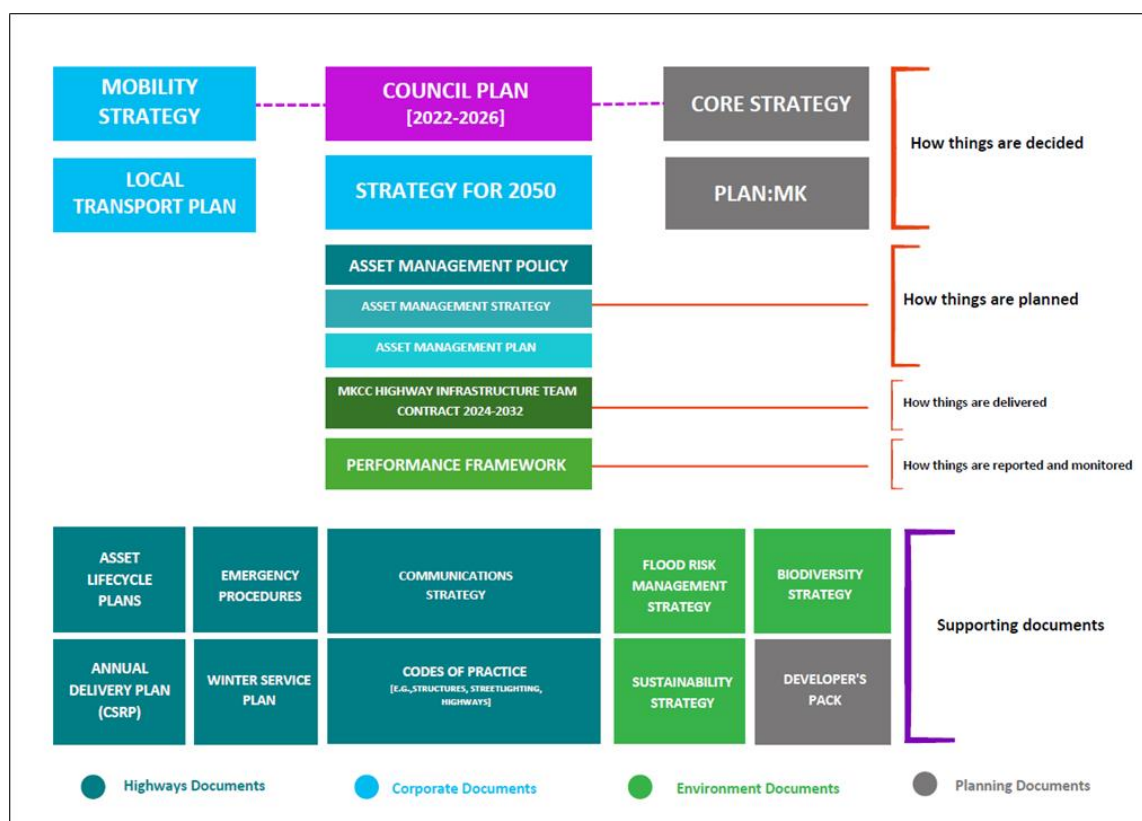


Fig. 2 - Highways Asset Management Documentation

Highways Asset Management in Milton Keynes

About Milton Keynes

Situated at the centre of England's Economic Heartland; mid-way between London and Birmingham, and between Oxford and Cambridge (centre of the Ox-Cam Arc), Milton Keynes was the most successful New Town in the UK with recent attainment of city status in 2022. We have attracted

generations of people and businesses to move to and stay within Milton Keynes, created thousands of jobs and built a city with high quality infrastructure and green space because we have been at the cutting edge of modern thinking.

The majority of the 'New Town' infrastructure was created between 1967 and 2010 with a peak of construction seen in the 1980's this asset was built to the design standards of the day mainly with high quality materials.

In 1997 with the impact of the local government re-organisation Milton Keynes became a Unitary Authority and absorbed areas formerly under Buckinghamshire County Council.

We are responsible for maintaining the public highway infrastructure network in Milton Keynes. Valued at £5.5 billion, this is the most valuable asset under our control, supporting a demand for travel that is expected to increase by 70% by 2040. The highway network includes:

- 1,526 km of roads
- 1,135 km of footways
- 346 km of cycle routes (Redways)
- 763 bridges and other structures
- 54,400 streetlights
- 27,370 traffic signs
- 72,000 road drains
- 41 sets of traffic lights
- >1,000,000 square metres of verges
- 114,000 highway trees

as well as pedestrian signals, kerbs, land, safety fences and guardrails, road markings, bus stops, cycle racks, other street furniture, and other hard standing areas.

Future opportunities and demands

Historic maintenance backlog

Historically, levels of maintenance funding had been insufficient to maintain the highway network in a steady state condition and the previous strategy has been to prioritise the roads in the worst condition. This has led to an increasing backlog of repairs and a steady decline in the overall condition of the network.

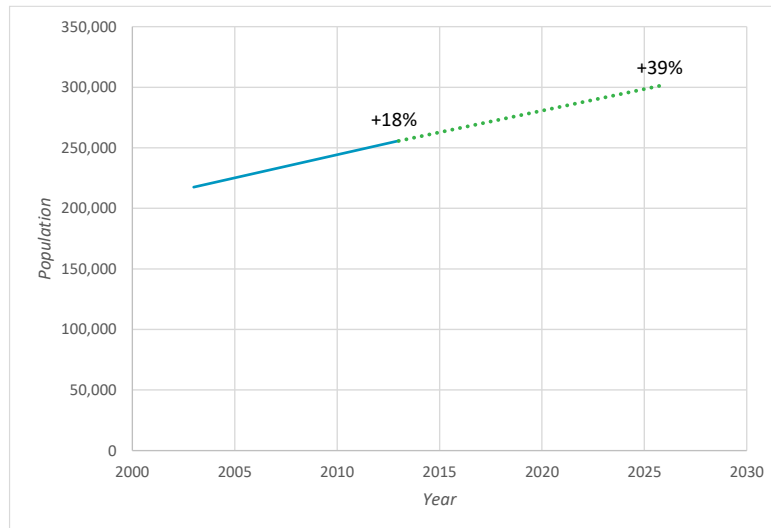
In addition, it has long been understood that Milton Keynes' highway network, having been constructed within a relatively short period, would require significant as many of the highway assets start to reach the end of their working lives at the same time. In 2011 we estimated that this backlog was £87 million for highways, £48 million for streetlights, and £31 million for bridges.

In 2012, the council agreed to use *Prudential Borrowing*² for increased planned maintenance on the basis that increased short-term investment would reduce the maintenance backlog and allow us to bring the network to a steady state condition, thereby saving money in the long-term.

²

This investment has allowed us to carry out more preventative maintenance and to start to move towards a more sustainable asset management approach, which will mean that, over the long term, this investment will be repaid through savings on short-term maintenance costs.

Planning for population growth



Milton Keynes is one of the fastest growing areas in the country; between 2003 and 2013 Milton Keynes increased by 38,100 people (+18%) to 255,700. The Population Bulletin 2013/14 outlines that the high population growth is expected to continue into the future. The population is forecast to grow to 302,100 people by 2026. This is an increase of 49,700 people or 19.7% between 2012 and 2026. In order to meet the housing needs of this growing population, it will be critical that the highway network supports and serves the new developments and provides good access to for all residents. For the highway network to continue to provide the fast, efficient and safe movement of people and goods, a larger proportion of journeys will have to be made by sustainable modes such as walking and cycling.

Despite having the unique Redway network, the proportion of journeys to work made by foot or cycle is relatively low at 9% in 2011. We will look for ways to improve and encourage greater use of these facilities.

We are implementing a programme of enhancements to the Redway “Super Routes”. Increasing cycling will reduce transport costs, save money and help the environment. Fewer car journeys can reduce traffic, congestion and pollution, improving the health of communities. Most individuals could meet recommended physical activity levels simply by adding more cycling to their daily lives. This programme will serve as an exemplar project for other authorities, positioning Milton Keynes as a leading smart City and low carbon economy. The Redway improvements include:

- Improved signage
- Junction and access point Improvements
- Cycle counter installation
- Improved lighting

These improvements aim to increase in the number of people travelling to work on bike, which will in turn reduce car congestion and improve health.

Network resilience

In 2014, the Department for Transport (DfT) undertook a review of the resilience of the UK transport network to extreme weather events.

A number of recommendations were made as a result, for both the short and longer term. What follows is the key short-term recommendation for the local highway network contained within *Well Managed Highway Infrastructure: A Code of Practice*.

"It is recommended that Local Highway Authorities identify a 'resilient network' to which they will give priority, in order to maintain economic activity and access to key services during extreme weather. Where Authorities have held formal reviews of the winter's events, they should ensure that these are enacted; Authorities which were not affected should nevertheless continue to prepare themselves for future extreme weather."

This recommendation aligns with our wider strategies, including the *Thames Valley Local Resilience Strategic Roads Plan*, as well as our *Winter Service Plan* and *Local Flood Risk Management Strategy*. The latter sets out our corporate strategy for adaption to the future impacts of climate change. The development of a resilient network also directly supports our *Mobility Strategy*.

In developing the resilient network, priority has been given to the two greatest risks to the highway network: i.e. snow/ice and flooding.

Use of technology

As a Smart City, Milton Keynes is keen to embrace the use of new technology on the network. This includes autonomous vehicles, SMART traffic & parking monitors, intelligent Urban Traffic Management and Control (UTMC) systems, smart lighting, variable message signs, noise and air

quality sensors, and electric vehicles and charging points. Although, this will increase the number of assets that we have to maintain, it will also provide us with access to better information about the performance of the assets, enabling us to use modern technology to deliver an enhanced service to Milton Keynes.

Asset management allows for the possibility of new, as yet unknown types of asset, and is flexible to allow us to provide for future investment and maintenance for such assets.

MKCC is investing in a Central Management System (CMS) by 2024 on all its street lights this will provide a 'Mesh' network to remotely control the street lights and open the network to be able to receive additional sensors.

MKCC also now routinely uses Viasala AI to monitor road and redway condition including deterioration modelling to inform scheme selection through a detailed system of defect analysis incorporated into the new asset management system (AMX).

How are we funded ?

Central government funding

Like other local highway authorities, the majority of our highway maintenance funding comes from the Department for Transport (DfT). There are a number of elements to this funding; some are based on the length of highway network within an authority, others may be bid for to fund major maintenance projects or network improvements. The *Local Highways Maintenance Incentive Fund* is based on self-assessment and encourages local highway authorities to follow an asset management approach and adopt efficiency and best practice principles for local highway maintenance.

Once the central government funding has been allocated, the council determines the final highway maintenance budgets based on priorities across the full range of council services.

Prudential borrowing

Historically, we have spent approximately £7.1 million each year maintaining the highway network, this has included £3.7 million on planned maintenance and £3.4 million on reactive and routine maintenance. However, this has been insufficient to prevent the build-up of a significant maintenance backlog.

In 2012, through Prudential Borrowing (see *Historic maintenance backlog*), we were able to secure £50m of additional funding over a 7-year period to invest in the repair and replacement of highway assets. This allowed us to start to address the maintenance backlog and move us towards a more sustainable approach to maintenance, where our annual funding balances with the annual deterioration of our assets.

Internal revenue funding

Revenue funding comes from council tax, various grants to the council and from income generation. The revenue budgets were originally built up based on an assessment of the costs to provide a service and opportunities to raise income. Each year, an assessment is made to ensure that this position is realistic. Where costs are increasing, either due to policy changes or factors outside our control, budgets are increased. Where service or policy changes are made to reduce costs, reductions are made to the budgets accordingly. The end result aims to be a financial envelope for each service that

is affordable to the council overall and one which allows the service to meet its statutory and policy objectives.

Section 106 / Tariff Funding

S106 funding is a legal agreement paid by developers to the council to cover the cost of the impact of growth. For highways, more development means more impact on our roads, redways and footways so S106 may be used to help with this such and could fund all or part of a scheme. There are strict rules around S106 and what it can be spent on.

There are several large expansion areas of development across Milton Keynes so a unique 'umbrella' S106 fund was created called the MK Tariff. The overall total of developer contributions to the Tariff will be around £310m. This money is re-invested into a programme of strategic and local infrastructure projects mainly led by the council.

How are we organised

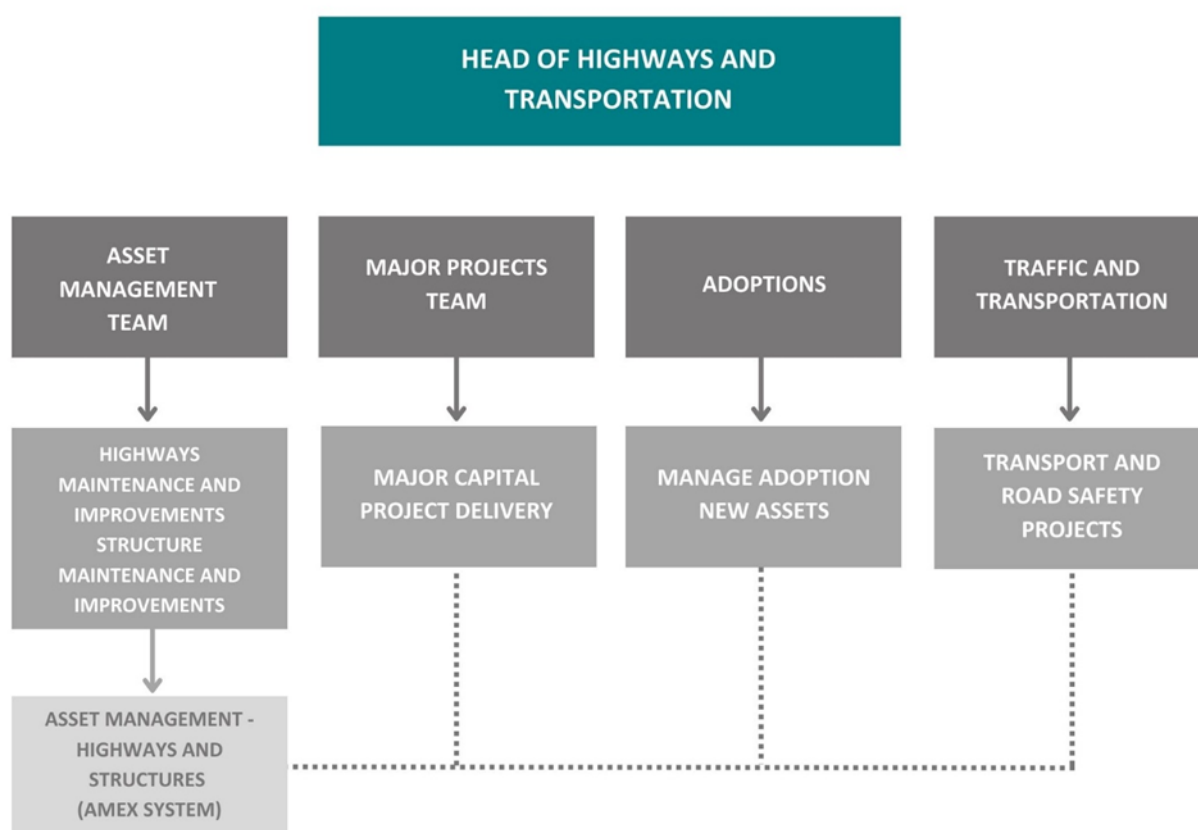


Fig 5 MKCC Asset Structure

Figure 5 describes the structure within Milton Keynes for delivery of highways infrastructure asset management. Although Milton Keynes council is ultimately responsible for maintaining the highway network, in 2014 we set up a seven-year collaborative partnership called 'MK Highways' with our highways service provider Ringway Infrastructure Services ('RIS Ltd'). Based at Bleak Hall, the RIS Ltd team works very closely with MK council officers on a daily basis.

We ensure our team continue to have all the skills and tools needed to manage the highway network and make the right investment decisions, including keeping up to date with developments in asset management standards, maintenance techniques and materials, and technology.

The original term contract is now at a point that we are entering the 'Commissioning' phase of a new contract that will commence in April 2024 and are changing a number of aspects of the contract to further enhance the management of the highway infrastructure. These are based on learnings from the current contract and changes in both strategy and adoption of innovations within the industry. In addition to this we have rationalised of asset management system into a single system that will be fully functioning in conjunction with the start of the new contract.

How do we consider the needs of stakeholders?

Our *Communications Strategy* will set out how the views and priorities of the public and other stakeholders will continue to provide an important input into the setting of highway maintenance priorities and service objectives, developing long-term maintenance programmes, and monitoring customer satisfaction. In particular, we will:

- Consult with local Parish and Town councils on long-term maintenance programmes
- Carry out customer consultations on large-scale maintenance schemes
- Hold regular Forums and Focus Groups in each of our five maintenance areas, attend public meetings and hold Parish surgeries
- Carry out 'live' social media events where members of the public can contact us and question officers in 'real time' to understand what is important and formulate future strategies/plans
- Hold 'listening days' in town centres and shopping centres by staff and council Members
- Carry out regular customer satisfaction surveys
- Work closely with the authorities customer care team with two-way sharing of data to understand trending issues and focus on customers.

We will continue to review the effectiveness of our communication and will seek new and innovative ways to engage with our stakeholders.

How do we manage risk?

In line with the recommendations in *Well Managed Highway Infrastructure: A Code of Practice*, we have adopted a risk-based approach for all aspects of highway maintenance. This includes carrying out regular safety inspections of all highway assets and prioritising repairs on a risk basis. As well as specific safety risks, this includes anything that might adversely affect the quality of the service we deliver, or our ability to deliver the service, both now and in the future.

We will continue to work to ensure that a risk-based approach is embedded within our culture and our approach to asset management. An example

For the council as a whole, the effective management of risk is an essential part of business planning and performance management.

Risks are assessed and documented in the service plans, embedding the management of risk consistently across all levels of the business using existing processes where appropriate e.g. service planning, appraisals, one-to-one reviews and team meetings to discuss risk. The council uses dedicated software to record risks and opportunities at all levels of the council.

Considering the environment

Context

Today, there is widespread global recognition that we must change how we live, work and travel to preserve the planet's scarce natural resources. We have set an ambition to be carbon neutral by 2030 and carbon negative by 2050. Milton Keynes already has made significant progress, achieving a 30% reduction in carbon emissions per head of population since 2013. We must continue this trend with a strong focus on emissions from transport as these have seen no reduction over the same period. And as individuals and businesses, we will all need to take action that contributes to meeting our ambitious targets.

Today, transport is the largest source of our carbon emissions. By 2050, our transport revolution – providing mobility for all – will help to make sure our carbon footprint is lower than any other UK city and one of the lowest in Europe

A service action plan will set out how the Sustainability Strategy will be delivered.

We also aim to create new green infrastructure and biodiversity assets that are interconnected and integrate with the way ecosystems work and enhance the capacity of our natural environment to provide ecosystem services.

Vision

We will integrate the economic, social, and environmental strands of sustainability into our service decisions in a manner which supports the UK Government's approach to sustainable development. We share the national vision of the UK being an EU leader of sustainable procurement and as such all MKCC Directorates will strive to opt for goods and services that minimise our impact on the environment and produce social and economic benefits.

Key Objectives

Our approach must ensure that we:

- Ensure excellent sustainable design
- Avoid the use of harmful materials

- Seek to be a carbon neutral by 2030, and carbon negative by 2050
- Reduce transport emissions by promoting low-emission vehicles and public transport;
- Ensure the source of transport power is sustainable
- Promote low impact and sustainable building methods and materials
- Continue to encourage waste reduction, reusing and recycling
- Ensure better water management and usage
- Environmental and social criteria are considered in the process of acquiring goods and services as part of supplier appraisal and specifications
- Value for money is delivered through the full consideration of quality and whole life costs
- Work with all landowners to encourage biodiversity
- We work with suppliers throughout the lifetime of the contract to encourage continual improvements in their practices

Environmental impact

We take our responsibility to the environment very seriously. Our sustainability initiatives include:

- Using low noise surfacing materials wherever we can
- Using environmentally friendly treatments and techniques wherever possible
- Recycling and reusing carriageway materials wherever possible
- Undertaking environmental assessments before the commencement of any projects/programmes of work to identify any risks
- Designing for the environment ie design lighting to account for ecological impact
- Specific assessments on Biodiversity
- Working with colleagues in the Ecology team to identify mitigations on projects

Sustainability

We also carry out specific sustainability checks whenever we carry out highway improvement schemes or programmes. These consider:

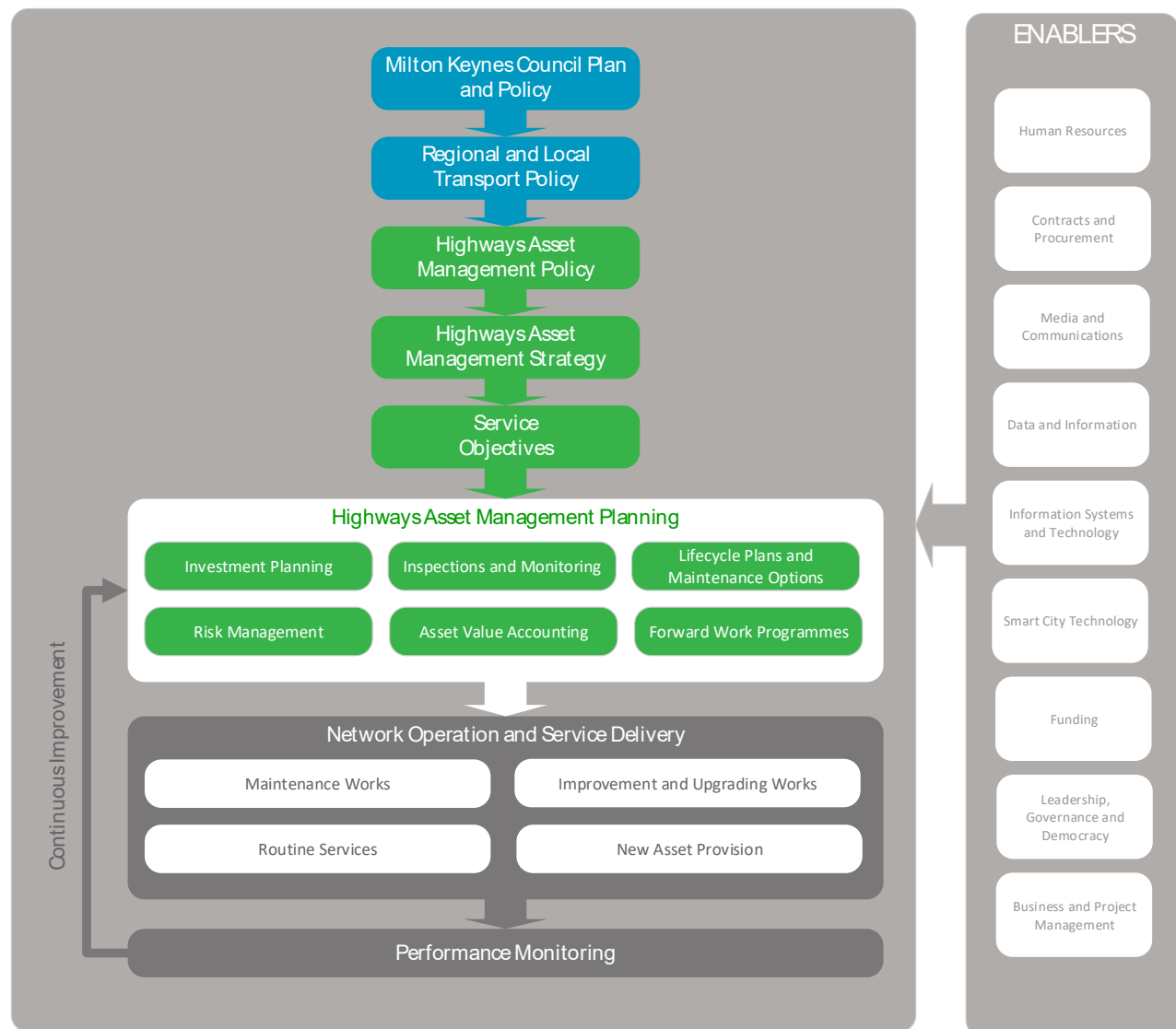
- Impact on local economy
- Contribution to local employment
- Engagement with local community
- Use of local materials
- Improving quality of public space
- Noise mitigation
- Mitigation of high flood risks
- Reduction in waste
- Treatment selection based on sustainability/biodiversity mitigation
- Use of re-used and recycled materials

Climate change and flood risk management

As a consequence of the increasing impact of climate change, we are experiencing a greater frequency of severe weather events, particularly flooding, which causes major disruption and

damage to the highway network. In order to minimise this effect it is a priority for our drainage systems to operate effectively. This requires us to maintain a high standard of cleansing and to make sure that new highway design allows for the forecast effects of climate change.

Asset Management Approach



Our Asset Management Approach

Figure 6, above, describes our overall approach to the asset management of the infrastructure asset that make up our road network.

Having determined the objectives and priorities for asset management from the council's overall priorities, we undertake various asset management planning activities in support of these:

- Planning for investment and funding
- Inspecting and monitoring the condition and performance of assets

- Planning maintenance interventions over the whole life of assets
- Managing risks
- Asset value accounting
- Developing forward work programmes

How do we plan investment?

Milton Keynes takes a co-ordinated “one council” approach to infrastructure investment, and have set up a Highways and Transport Infrastructure Board (HTIB) to identify and shape a pipeline of significant, capital development, regeneration and infrastructure schemes, covering Growth and Transport - including highways - which can best deliver our priorities such as:

- National and Regional infrastructure schemes such as EWR (East West Railway) and EWX (East West Expressway)
- Growth and regional SEMLEP (South East Midlands Local Enterprise Partnership) growth
- Plan MK and Future 2050
- Mobility Strategy

The HTIB evaluates potential schemes to determine if they meet the council’s objectives and represent good value for money and monitor the progress and success of schemes during implementation.

This aims to ensure a strategic approach to investment in the road network, taking into account maintainability and whole-lifecycle costs, consistent with good asset management principles.

Funding for maintenance and asset management comes from two separate sources:

Revenue

Funding that is raised from various grants and from council tax. This funding is generally used for reactive and routine maintenance (see *How do we decide where and when to do maintenance ?*). Revenue funding has generally been reducing in recent years.

Capital

Funding which is associated with our *Local Transport Plans*, supplemented by our Prudential Borrowing (see *Historic maintenance backlog*), S106, Tariff and other sources of funding from the Department for Transport (DfT) which we can bid for (see *How are we funded?*).

The recent shift in emphasis from revenue to capital funding is consistent with our asset management approach where we plan ahead to avoid the need for poor value reactive works, by keeping the network in better condition overall. Our aim is to move towards a preventative approach to the maintenance of highway and transport assets and prioritise those assets that have not yet fully deteriorated.

We develop forward programmes of planned work, on a short (1 year), medium (2-3 year) and long-term (3-5 years) basis. In order to assess whether works are required, when they are required, and what works are required we consider:

- Condition of the asset, measured by surveys and inspections
- Risk to safety, serviceability and sustainability of the asset
- Age of the asset
- Public reports
- The relative importance of the location
- How much funding is available
- Whether the works save money by preventing the need for more costly work in future

The factors that are used will vary between different asset types; for example whereas the decisions on works to structures and carriageways are more likely to be based on condition, for streetlights the age of the column is more likely to be a factor.

We consider a number of different options when deciding the best maintenance treatment with the aim of achieving the best balance of cost, improvement and risk over the whole life of the asset.

In planning for investment and in allocating funds to investment programmes, our long-term aim is to reach a steady state where we are meeting our service objectives and performance targets, and the deterioration on an annual basis is matched by annual funding.

For budgetary purposes, we divide our budget between Grid Roads, Principal Roads, Non-Principal Roads and Unclassified Roads, and different works and asset types. In the future, we aim to be more flexible and to direct funds where they will have the best impact, irrespective of asset type, type of works or type of road. We will implement tools that allow us to assess where best to allocate funding based on whole life costs and savings, risk to the council and to road users, and impact on our service objectives.

As well as maintenance works to repair and restore condition of assets, there will be occasions where we need to carry out works to improve and enhance assets (e.g. improving the capacity of a bridge, widening a road, changing the type of surface material or improving the street lighting). In addition, there will be new assets such as new signs and lighting columns and new asset types that may need to be installed (e.g. electric charging points). In carrying out these types of works, we will consider the need for asset management through the whole life of these assets, including any additional funding and maintenance requirements.

How do we decide where and when to do maintenance ?

In order to make sure that our road network is working well and providing a good quality of service, we carry out different types of maintenance:

- Reactive maintenance** Small scale works in response to reports from the public or from our own inspectors, to keep the network in a safe condition and to minimise risk to road users. Examples of this would be filling in potholes, repairing

streetlights that are not working or replacing signs that have been knocked down.

Routine maintenance Work carried out on a regular basis to keep the network in good condition and working well, such as cutting grass, emptying gullies, sweeping streets, and cleaning signs.

Planned maintenance Larger scale maintenance to ensure the network is in good condition, or to extend the life of an asset. Examples of this would be replacing the surface of the road or Redway, replacing the lighting columns in a street where they have reached the end of their useful life and major repairs to a bridge.

Because we have limited funding, we are not usually able to carry out all of the works that we would like to, except where safety is a factor. We therefore determine which works are most urgent, or which will save the most money in the longer term by reducing the need for more costly future maintenance.

We use a number of different sources of information in deciding which type of maintenance is required, and where and when it is needed:

- Regular inspections to determine condition and performance of an asset, including specialist surveys, for example testing the strength of elements within a structure and machine-based surveys of roads to determine defect condition status
- Reports of defects and problems from members of the public, as well as information from our own inspections to look for urgent defects, such as potholes
- Information about the age of an asset that allows us to determine when an asset is reaching the end of useful life

We will continue to make use of the latest developments in data collection technology, including automatic reporting from 'intelligent' assets such as some newer street lights and traffic lights, 'crowd sourced' information from users and vehicles. We have been trialling and building in ROAD AI technology into our new asset management system (Asset Management Expert - AMX) to determine condition, defects, scheme selection and deterioration.

In addition to this information, we have grouped and categorised our network and assets based on their importance to users and we use this 'hierarchy' in deciding where to carry out maintenance works.

An important part of our asset management approach is that when we are deciding priorities for works, we consider the costs over the whole life of an asset from when it is built or installed through to when it is replaced. As an example, we might resurface a road in preference to works on other roads that are in worse condition, because this would prevent the need for more costly works in future.

Another feature of our approach to highways asset management is that when we decide priorities for spending we consider all of the different assets that make up our road network. For example, we are able to redirect funding from carriageways to footways, where the priority is greater and where

greater benefit in terms of reducing whole life cost can be achieved. We have computer models that allow us to determine how best to allocate our limited funds between these different assets to achieve the best result.

New developments in technology such as the “Internet of Things” will increase our ability to monitor the maintenance need in real time and carry out analysis that is more sophisticated and modelling of current and future asset performance and maintenance need, leading to a more efficient use of resources. We are installing a Central Management System (CMS) on our lighting assets that will assist in the monitoring of this asset group including optioneering lighting strategies.

How is the service delivered ?

The operational delivery of works on the highway infrastructure is carried out by a single service provider under an NEC 3 Term Service Contract. Our current highways contract is with Ringway Infrastructure Services (RIS) Limited with whom the council has formed “MK Highways” as a collaborative partnership. This contract started in April 2014 and will operate until 2024. The commissioning project currently underway will appoint a service provider in April 2024.

The works contract and the MK Highways partnership foster an asset management approach to achieve maximum life from treatments and to minimise cost. New maintenance techniques and materials have been adopted to extend the life of roads, to prevent the need for more costly future works and to reduce the numbers of potholes. Similarly, on footways we have introduced innovative treatments to provide preventative treatments that preserve footways and cycle ways that have not yet fully deteriorated. The partnership has allowed us to introduce new technologies and analysis techniques to improve the asset management of our road network.

In addition to our collaboration with Ringway through MK Highways, we are exploring opportunities for collaborating with other local authorities in the region.

Ensuring the quality of services

We place great emphasis on ensuring that work that takes place on our road network is of high quality. We undertake site audits, carrying out checks on the quality of work and sending samples of material for testing. Where work is not up to standard, it is re-done by the contractor at no cost to the council. We check the quality of work for all of the reinstatements carried out by utility companies on the network. In addition, our highways contractor, Ringway has their own rigorous quality management system that is applied to the works they carry out for the council.

The authority has undertaken an end-to-end process review using the 'Systems Thinking' principles on both the Highways Enquiries and works processes. This was carried out independently of the service in order to provide a neutral review focussed on the improvement of the overall service. The outcomes have been implemented as part of the ongoing strategic aims to improve the customer experience. Ringway, as the incumbent contractor as part of its 'Quality Promises' within the contract carried out an efficiency review of the existing 'Winter Service' and as a result the number of routes

on both the primary and secondary network has been reduced. This required some additional initial investment in the vehicles to deliver this service but overall has provided cashable savings and efficiencies in the service. This review will be repeated annually to take into account newly adopted roads. We have recently implemented efficiency review findings for the street lighting service and for the provision of vehicle crossings. Post-implementation review of these changes have shown that they were fully adopted and that they created efficiency within the service.

How do we measure performance ?

Service priorities and performance targets

A key feature of asset management planning is the explicit statement of the standards of service provided by our road network for the funding available, and the monitoring of performance against those standards. We will establish service priorities based on consultation with our elected members, citizens and road users and will define performance measures and targets that set out the standard of service that we aim to provide.

We will assess the performance requirements for our network based on an understanding of current and future demands on the network by road users and the local economy and will use this to determine funding requirements and to assess the impact of various levels of funding on the quality of serviced that we are able to provide.

The performance measures and targets will help us to measure progress and will drive continuous improvement.

Figure 1 describes how the service priorities relate our performance measures and associated targets, developed in more detail in our *Highways Asset Management Plan*.

Benchmarking and efficiency

So that we can demonstrate that we are providing good value in managing our network, we will assess the performance of our road network and compare ourselves with other similar authorities, in the local region and nationally and use this to identify opportunities for improvements in our service delivery.

We will continue to institute a process to assess efficiency in how we deliver the service and compare our performance with those of comparable local authorities and to track improvements over time. We will establish measures of efficiency that will take into account expenditure, service quality and public satisfaction.

Through our relationship with the Midland Highways Alliance (MHA), which comprises 21 local highway authorities, we are able to compare, both formally and informally, our performance and to identify where we are performing well and where we need to target improvements.

In addition, there are various statistics that we are required to provide to the government that allow us to assess our performance against other local authorities on an objective national basis. These figures, published annually on the council website demonstrate that in recent years the condition of our assets compares well to other authorities. Highways asset management planning will help us to remain amongst the better performing authorities.

We will develop and publish an annual *Highways Infrastructure Asset Management Assessment Report*, which will show whether we are meeting targets for the condition and performance of our road network, and whether we are on track for the implementation of our asset management plan. This report will set out our efficiency performance and will identify where we have made efficiency improvements in the previous year, and where we will be targeting efficiency gains in the coming year.

Continuous improvement

We are committed to continuous improvement in the way we deliver the highways asset management service, in the quality of service provided by the road network, and in our efficiency gains.

We will carry out regular management reviews of our asset management processes to make sure it is effective and being followed. The reviews will identify lessons learned and instigate corrective actions where necessary as well as identifying opportunities for improvement.

We will identify an action plan that identifies short, medium and long-term priorities as part of a programme of improvements to our asset management approach. Our annual *Highways Infrastructure Asset Management Assessment Report* will assess progress in delivering this programme and will identify new actions to ensure that we continue to improve our working practices and continue to deliver savings and efficiencies.

We will seek out opportunities to improve the way that we deliver services and works on our network, through co-operation with other authorities and through collaboration with our service providers. We will undertake reviews of different service areas, drawing upon national good practice such as the *HMEP LEAN Toolkit*, to identify opportunities for efficiencies, cost savings and improvements to the way we deliver.

We will institute a regular process to review and to update our asset management approach to ensure that it continues to be relevant, is in line with national and international best practice, and continues to be working to meet the needs of our road users. Every three to five years we will undertake a comprehensive review and update of all of the documents that make up our asset management framework

