

Highways Maintenance Interim Report for the DfT

June 2025

Our highway network

Milton Keynes City Council (MKCC), as the Highway Authority, manages and maintains everything to do with the highway network throughout the Council area.

This includes not just roads, footpaths and Redways (cycle paths), but also streetlights, traffic lights, traffic signs, drainage and structures (e.g. bridges and underpasses).

Type of asset	How much we manage
Roads	1,493km
Footpaths and rights of way	925km
Redways (cycle paths)	341km
Electrical (including street lights, bollards, underpasses, traffic lights and zebra crossings)	62,961
Highway drains	75,388
Bridges and culverts	781
Other structures (including porte cocheres in CMK, retaining walls etc.)	374

These totals increase constantly as improvements are made and new areas brought under Council management. On average we adopt an extra 1.6% of highway network each year.

The road network is broken down into different classes, from major 'A' roads like Monks Way (H3 – the A422) to 'Unclassified' roads such as those within estates and in rural areas.

Road class	How much we manage
A roads	118km
B & C roads – including most grid roads	315km
Unclassified roads	1,060km
Total	1,493km

How much we spend on maintenance

The money used for highway maintenance is broken down into 'capital' spend, mainly for long term improvements, and 'revenue' spend, mainly for day-to-day repairs. Some of the capital spend comes from the Department for Transport (DfT).

The table below shows how much we have spent on each type of work for the last five years, plus a projection for how much we will spend in the current year.

Year	Capital allocated by DfT (£)	Capital spend (£)	Revenue spend (£)	Estimated percentage of spend on...	
				Preventative maintenance	Reactive maintenance
2020/21	9,303,000	14,056,179	5,289,000	77%	13%
2021/22	7,936,000	11,750,953	6,596,000	70%	16%
2022/23	7,936,000	11,748,970	8,971,000	63%	20%
2023/24	9,880,200	17,831,533	8,595,000	72%	15%
2024/25	8,743,000	12,291,423	8,694,000	65%	19%
2025/26*	10,718,000	21,050,711	7,436,000	77%	9%

* = projected spend

The capital spend figure covers improvement work to existing roads, but not major projects such as building new roads, access to housing developments etc.

The revenue spend figure covers maintenance expenditure on all of the Council's asset types, including street lighting and winter gritting, plus the amount we spend on energy.

This year roughly 77% of the total spend is allocated to investment in improvements and preventative work, while 9% is allocated to reactive works. The remaining amount is split between service costs (8%) and energy (mainly for street lighting – 6%).

The revenue spend has reduced this year due to savings in energy costs as a result of the capital investment in LED lighting.

How we split preventative and reactive work

As above, highways maintenance budgets are funded from both capital and revenue sources. The definition is that capital funding is used for improvements to assets, while revenue funding is used for maintenance.

With the introduction of greater focus on asset management, the move to lifecycle planning and the importance of a preventative approach, we undertook a re-evaluation of budgets. MKCC agreed a specific programme of prudential borrowing, where additional capital was borrowed to invest in assets and start to address repair backlogs through the use of larger programmes of surface treatments.

Our budgets are primarily split to classify capital funding as preventative treatments, including surface dressing, micro-asphalts and inlay surfacing, while revenue funding is used to fund general maintenance day to day activities.

However certain activities within the revenue-funded 'core services' are considered as preventative, as they are actions we take before problems happen, and by carrying them out we will prevent the problem from happening, or the asset from deteriorating. Examples of this are cyclic gully cleaning, jet cleaning of drainage pipes, servicing of electrical assets such as pumps, servicing of fibre networks and painting lamp posts to reduce rusting.

This assessment is reflected in the percentage split in the tables above, with all capital schemes classified as preventative and added to the revenue-funded preventative works included.

What we do with the capital spend

Capital projects carried out over the last five years include:

- 28km of roads (just under 2% of the network) have been fully resurfaced
- 53km of roads (around 3.5% of the network) have had a surface treatment applied – where the top layer is refreshed without digging up the whole surface
- 27,000 square metres of roads have had preventative patches applied – where the road appears in a poor overall condition but did not need fully resurfacing and was not suitable for surface treatment, we may repair a smaller area of the road to improve the condition
- 33,000 streetlights have been converted from old energy-inefficient lamps to LED light sources, and we have installed a management system for all street lights which allows us to monitor faults and manage light levels remotely. These investments have reduced the Council's electricity bill and carbon impact significantly.
- 19,000m of street lighting cable from the 1970s has been replaced to bring the network up to modern electrical standards
- All of the traffic lights (12 sites) in Central Milton Keynes have been upgraded
- 384 structures have been improved, strengthened or refurbished

Day-to-day activities carried out using the revenue spend include:

- Repairing potholes and other problems with roads, footpaths and Redways (such as damaged kerbs or paving)
- Repairing or replacing bollards and signs
- Repairing failed streetlights, illuminated signs and traffic lights
- Electricity costs for streetlights, illuminate signs and traffic lights
- Cleaning drains (26,000 per year)

- Refreshing painted lines
- Salting ('gritting') roads and footpaths in the winter

Road surface repairs

About 32% of our reactive maintenance spend for the road surface goes on repairs to relatively small areas, which are carried out throughout the year. These are identified in regular safety inspections and by reports from road users.

We measure these repairs in terms of the surface area repaired (in square metres), so we don't count individual potholes. We have now developed a definition (detailed below) which allows us to count an 'equivalent number' of potholes based on the number of square metres repaired. This means that we can retrospectively calculate this 'equivalent number' from data held in respect of previous years.

Pothole definition

Our Code of Practice for Highway Inspections defines a pothole as measuring at least 30cm across, and when we do a repair we will always allow 10cm either side to make sure the repair is a regular patch which fits well with the existing road surface.

This means that the minimum size of a pothole repair is 50cm x 50cm or 0.25 square metres. So every square metre of repairs can be said to be the equivalent of four potholes, and the table below is calculated on that basis.

The table below shows the repairs carried out over the last five years. In future we may include a count of potholes 'saved' in areas which have had preventative surface improvements, using the same calculation.

Year	Surface area repaired (square metres)	Estimate of equivalent number of potholes
2020/21	5,434	21,736
2021/22	4,695	18,780
2022/23	4,836	19,344
2023/24	6,550	26,200
2024/25	2,912	11,648

Condition of local roads

Every year we carry out a survey to help us understand the overall condition of the road network.

For major roads, this is done using a laser-based technology called SCANNER, which measures several different factors in the road surface and construction to come up with a ‘road condition indicator’.

These indicators are then placed into three condition categories:

- green – no further investigation or treatment required
- amber – maintenance may be required soon
- red – should be considered for maintenance.

These categories help us assess which sections of road to add to our long-term programmes. A ‘red’ section of road is not necessarily in immediate need of attention – which would be picked up by our regular safety inspections – but is a section which should be **considered** for maintenance in the next cycle.

Starting in 2026, a new standard for road condition will be used across the country, called PAS2161. Instead of three condition categories there will be five, and all suppliers of surveys will need to be accredited to the same standard. This is to help us and the government gain a more detailed understanding of road condition.

The tables below show the survey category scores for the last five years on each type of road.

Road condition – major roads

Year	Percentage of roads in each condition category - A roads only		
	Red	Amber	Green
2020/21	0.7	12.0	87.3
2021/22	1.0	12.0	87.0
2022/23	1.7	13.4	84.8
2023/24	1.4	12.7	85.8
2024/25	3.3	25.1	71.6

Year	Percentage of roads in each condition category - B&C roads only		
	Red	Amber	Green
2020/21	1.1	14.3	84.6
2021/22	1.8	16.2	82.0
2022/23	1.9	16.0	82.1
2023/24	1.9	14.7	83.4
2024/25	2.9	20.1	77.0

The major roads in the tables above are surveyed in full every year.

Road condition – minor roads

Year	Percentage of unclassified roads in Red condition
2020/21	5.3
2021/22	7.6
2022/23	20.9
2023/24	26.0
2024/25	26.0

We aim to survey 25% of the unclassified road network every year. This is done using a different method, known as Coarse Visual Inspection. The overall condition is totalled over the four-year survey period.

Additional information on road condition

We experienced a drop in overall road condition across the classified and unclassified road network in 2024/25. This was anticipated, and was largely linked to the procurement of a new highways contract.

2024/25 was a transitional year as we began a new long-term maintenance contract. The process was both extensive and complex, including awarding the contract, ‘demobilising’ the existing arrangements, and mobilising the new contract during the service year. As a result the normal operational planning and delivery of services was interrupted.

The new contract started in September 2024. As we could not begin planning with a contractor until the contract was awarded, much of our large planned programme of road surface treatments was deferred until 2025/26. This also resulted in the service reducing the amount of routine road repairs to only those which were safety critical. This pause in preventative treatment affected both the classified and unclassified network.

A key part of our asset management approach in respect of unclassified roads involves using additional funding which is made available specifically for surface treatments on a five-year cycle. As a result, the road condition on these roads fluctuates throughout the cycle, according to the timing of the treatment programme.

In addition to this, the SCANNER road condition surveys were also paused. Normally carried out in summer, this year they took place ‘out of season’, at a time when the road network is naturally in poorer condition, and this negatively affected the results for the classified roads.

Several sections of the road network are scheduled for major junction upgrades – again these were originally planned for 2024/25 but were also paused to coincide with the new contract, meaning road sections continued to deteriorate and only received minor repairs. Work has now commenced on this £90m programme, to be delivered by 2030.

Plans

Overall strategy

Our approach to asset management is set out in our Highway Infrastructure Asset Management Strategy (2023–2026). The highway network is Milton Keynes' most valuable asset, worth at least £7.1 billion to the city.

Our approach is strategic, pragmatic, preventative, and data-driven, helping us maintain safe, high-quality infrastructure while achieving best value for money for the residents of the city. We follow national best practice, including the 'Well-Managed Highway Infrastructure' code of practice, and take a risk-based approach that balances safety, serviceability, and financial efficiency. By focusing on lifecycle planning, we can make smarter decisions – carrying out the right maintenance, in the right place, at the right time.

We aim for the best long-term network condition, whilst recognising that it is also necessary to carry out short term reactive repairs on the grounds of safety. Where these are carried out, the new Highways contract specifically includes extended quality guarantees for all works, as well as requiring better collaboration of works, sustainability and innovation which will ultimately lead to an improved road condition.

To support this, we've invested in the Asset Management Expert (AMX) system, allowing us to record and analyse the condition and performance of the network in greater and clearer detail. This in turn helps us to carry out more targeted planning and use the resources we have in a more effective way.

Innovation and efficiency

Sustainability and innovation are key to our asset management approach. MKCC aims to be carbon neutral by 2030 and carbon negative by 2050. We're reducing emissions, using recycled materials, and promoting active travel through projects like the Redway 'Super Routes.' We constantly improve systems and processes to enhance service delivery and adapt to future demands, including innovative materials for repair works.

Specific innovations across the service include:

- Working closely with Vaisala, using and developing their Road AI system to survey the condition of the road and identify appropriate types of repair;
- Treating some roads with Elastomac – a new recycled material which smooths the surface without digging it up and provides a more robust and longer lasting repair;
- Installing communication cells on every streetlight, allowing us to monitor and control energy usage and respond quickly to faults;
- Bringing other transport-related services into AMX, so we can have a better overview of all assets supporting our Highways network;

- Working with TRL to install their latest Intelligent Traffic Signal Control system;
- Use of drones for inspections of bridges and structures;
- Introducing Virtual Reality for road scheme planning and design – we capture the site using a 360-degree camera and it can then be viewed in the office, reducing the time and travel of site visits;
- Developing remote flood and weather sensors for vulnerable sections of the network to improve resiliency;
- Carrying out additional road trials of the solar studs used in the LiveLabs2 trial adapting to issues on our network;
- Links with local technology companies to develop innovative network management solutions for Milton Keynes.

We are committed to continuous improvement, measuring maintenance performance against key performance indicators and benchmarking against other authorities using networks such as APSE and NHT.

2025/26 plans

The mobilisation of the new contract in 2024/25 meant that some capital improvement works, including road surface treatments, were paused until the current financial year.

Our total budget for highway work this year is £28.5m, and we expect this to be split so that roughly 77% is spend on planned and preventative maintenance, with around 9% being used for reactive works.

Improvements planned for the current financial year include planned works such as:

- 39km of carriageway surface improvements, including full resurfacing where needed, but also a variety of ‘surface treatments’ which are more efficient and less disruptive on certain types of road;
- schemes to improve and upgrade 30 footways and Redways (cycleways);
- inspection and repair projects for 30 bridges and other structures;
- upgrading another 4,000m of street lighting cable, replacing 150 lamp posts and finalising the conversion of the whole city to LED lighting – a further 3,000 lanterns.

The number of potholes we are likely to need to repair depends on many factors, including how much preventative maintenance we can do on roads in poor condition. It is also heavily influenced by the weather – colder and wetter conditions can cause the road surface to deteriorate more than normal.

As potholes are repaired based on a safety code of practice, we can say from the above table (page 4) that in an average year we will repair the equivalent of **19,500** potholes.

Streetworks

We aim to improve the management of the highway network and minimise disruption to road users through better scheduling and oversight of activities.

Our emphasis is on maximising opportunities for people carrying out works to work together, reducing the number of days of roadworks and avoiding unnecessary additional damage to highway assets.

Every month we arrange a co-ordination meeting with organisations who carry out or are affected by roadworks, with special focus on reducing disruption to bus journeys. We also maintain a register of 'traffic sensitive' roads where works are even more carefully restricted. This network is reassessed frequently, most recently in 2024.

We check all works carefully before they are approved, to make sure they don't clash with other works. We also check that those carrying out the works are complying with their permits and finishing in time.

Climate change, resilience and adaption

Our Highways contract supports the Council's ambition to become a world-leading sustainable city by helping deliver its 2019–2050 Sustainability Strategy. Our contractor Ringway will help us achieve this by using its Environmental Management System (ISO14001 certified) and working towards the national standard for managing carbon throughout the life of the asset (PAS2080). A dedicated Sustainability and Social Value Coordinator will lead this work, supported by environmental experts.

A detailed **Carbon Reduction Plan**, updated each year, sets out how Ringway will cut emissions from vehicles, buildings, equipment and supply chains.

Key actions include:

- Reducing energy-related emissions by 10%;
- Switching to 100% renewable electricity at the depot;
- Replacing diesel vehicles under 4.25 tonnes with electric or low-emission options by 2027;
- Using smart scheduling to reduce travel and emissions;
- Using the Council's asset management system alongside specialist software to include carbon values for materials, allowing profiling at the level of individual activities;
- Training staff in carbon literacy to support the council's goal of becoming the first 'Carbon Literate Authority.'

The service is also implementing new practices to help **adapt for climate change**.

- Our contractor will incorporate local knowledge and flood data into the service's systems to help with prediction of sites at risk of flooding;
- The Council will aim to reduce flash flooding from severe weather incidents with innovative schemes such as redesigning tree pits for water storage, as well as preventative maintenance like tree root removal and re-lining drainage pipes;
- We are also trialling new road materials like polymer-modified bitumens, biogenic asphalts and porous paving, to reduce the effects of increased temperatures and rainfall.

The **wider environmental objectives** in the contract include:

- Sending no avoidable waste to landfill;
- Reusing all road materials locally;
- Reducing water use at the depot through rainwater harvesting and recycling under a Water Management Plan;
- Achieving at least **10% biodiversity net gain** through planting and habitat restoration;
- Cutting air pollution by using electric vehicles and greener construction equipment, as well as monitoring driving habits and miles driven, and promoting active travel.

This joined-up approach ensures highways work helps protect the environment, supports health, and keeps the city moving.

Additional information

We are investing up to £90m into improving key junctions on the grid road network so Milton Keynes can handle future traffic levels. These projects are funded by 'developer tariffs' - financial contributions that we collect from developers to minimise their impact on the highways network. Tariff money also helps us fund the infrastructure needed to support new growth and development in Milton Keynes as set out under the Council City Plan 2050.

We have identified several roundabouts where we need to make some improvements now to increase capacity and reduce congestion ahead of the growth expected up to 2045.

The first two junctions to be improved will be Monkston and Brinklow roundabouts, on the A421 and H7 Chaffron Way. As part of the tariff-funded works, we'll also be looking at schemes to improve these roundabouts:

- | | |
|----------------|------------|
| - Crownhill | - Loughton |
| - Elfield Park | - Kingston |

The Major Projects team within the Highways service completed traffic data collection, detailed modelling, feasibility and assessments to identify these priority roundabouts that will need additional works to help keep the network flowing in the future.

Improvements will include:

- Lane widening and reconfiguration;
- Increased roundabout size and lanes to increase network capacity;
- Enlarged roundabouts and/or signalization;
- Enhanced road markings and signage;
- Innovation through Artificial Intelligence.

MKCC Highways

June 2025

For further information please contact highways@milton-keynes.gov.uk