Birmingham Local Highway maintenance funding in 2025 to 2026 Report

Our highway network

Birmingham City Council has one of the largest road networks in the country. It is the most valuable physical asset for which the Council is responsible for. The road network is fundamental to the economic, social and environmental wellbeing of the community.

Implementing a highway asset management approach helps us to understand the assets we are responsible for, measure and monitor how they perform, and determine the funding strategies needed to mitigate the demands placed upon them. Our Highways Asset Management Policy has been developed with an associated Asset Management Strategy to ensure that the principles of asset management are embedded in the delivery of our highway services. This enables us to meet and adapt to the ever-changing needs and priorities of the network, and deliver a more efficient, sustainable, and low carbon highway service that supports Birmingham's climate change aims.

This policy links our asset management objectives with the wider highway and transport objectives, at both a national and local level. This aligns with the Councils' Corporate Plan (2022 – 2026). We believe this strategy is bold, does not shy away from the challenges facing the city and contributes to the Council's overarching objectives to level up. Consistency with strategic priorities is critical to stimulate synergy, drive change and provide clarity and stability of the council's vision.

Lengths of highways, footways, cycleways and tunnels

Type of highway	Length in kilometres (km)
A road	306km
B and C roads	305km
U roads	2,021km
Total roads	2,632km
Footways	5,127km
Other public rights of way	370km

Type of highway	Length in kilometres (km)
Cycleways	20km
Tunnels	1km

We have full and comprehensive asset strategies for all assets. All assets are managed in full compliance with Well Managed Highways Infrastructure Code of Practice, DMRB and ADEPT/RSTA guidelines where applicable. Please see a breakdown of other assets that we are responsible for.

Amount of Structures

Type of structure	Unit Quantity
Bridges	589
Retaining Walls	193
Sign / Signal Gantry	48
Total Structures	830

Amount of Powered Apparatus

Type of powered apparatus	Unit Quantity
Lighting Column	98,731
Illuminated Sign	14,154
Illuminated Bollard	4,414
Belisha Beacon	694

Type of powered apparatus	Unit Quantity
Flood Light	233
High Mast	29
School Crossing Patrol Beacon	396
Subway Unit	124
Wall Unit	278
Signals	1,225

Lengths of guardrail and safety fence

Type of barrier	Length in kilometres (km)
Pedestrian Guardrail	109km
Safety Fence	26km

Lengths / amount of drainage

Type of drainage	Length in kilometres (km) / Unit Quantity
Channel	522km
Beany Block	8km
Aco Drainage	3km

Ditches	12km
Gully's	106,866

Lengths of road marking / studs

	Length in kilometres (km)
Road Marking	1,706km
Road Stud	29km

Amount of street furniture

Type of furniture	**Unit Quantity**
Benches	816
Clocks	5
Cycle Stands	1,026
Detector Loops	3,836
Fountains	5
Grit Bins	1,300
Non Illuminated Bollards	41,583
Non Illuminated Traffic Signs	73,226

Type of furniture	Unit Quantity
Street Name Plates	27,462

Amount of Trees

	Unit Quantity
Trees	78,610

Highways maintenance spending figures

Year	Capital allocated by DfT (£)	Capital spend (£)	Revenue spend (£)	Estimate of percentage spent on preventative maintenance	Estimate of percentage spent on reactive maintenance
2025 to 2026 projected	£50,300,000	£26,354,432	£62,522,209	25%	59%
2024 to 2025	£50,000,000	£4,410,479	£51,975,125	4%	49%
2023 to 2024	£50,300,000	£16,683,441	£77,621,543	15%	73%
2022 to 2024	£50,000,000	£29,032,263	£68,107,538	28%	65%
2021 to 2022	£50,300,000	£26,994,315	£56,889,764	26%	55%
2020 to 2021	£50,300,000	£12,274,738	£43,033,187	12%	41%

Additional information on spending

Birmingham's Highways Maintenance and Management services are currently delivered through a PFI contract.

The contract combines approximately £50m PFI funding from government in the form of PFI credits, in addition to the council's ring-fenced revenue budget contribution - approximately £56m per annum (indexed) for the purposes of providing routine and reactive maintenance, and major planned maintenance and investment works on the city's highway network and highway assets.

Presently the Council and DfT are in discussions on the remaining term of the PFI but in the interim will continue to ensure the delivery of services via the current interim services contract.

Carriageway Strategy

To identify the need to maintain a road we need to know its current condition and have knowledge of the rate of deterioration. To understand and record the condition we undertake surveys on a regular basis.

Programmes of work are developed by locating the carriageway section on a lifecycle timeline. We can do this by using the condition data taken from the surveys.

Once we know where in its lifecycle a road section is, we can predict the maintenance needs for that road section. We understand the lifecycle of the asset here in Birmingham because we have analysed extensive records of highway maintenance. We have taken this data and compared it to national standardised data. The result is a well-informed lifecycle for each treatment that we will use to maintain the network.

The ability to make the right decision at the right time is key to effective lifecycle planning. Using the data available from the condition surveys will ensure that the asset will provide the required level of service over its expected life span at the most efficient cost.

It is unrealistic to develop an individual lifecycle for every road section, instead we have developed a realistic scenario for each of the network hierarchies. Each road section is then assigned the relevant lifecycle and is modelled to produce the best whole life cost for asset management.

Preventative Maintenance

Preventative maintenance for the pavement network falls under two separate treatment types: major treatment (resurfacing – due to structural issues in the pavement) and preventative treatments (increase lifespan of the pavement).

Major treatments

Surface course inlay, also known as plane and inlay, is a road resurfacing technique where the existing road surface is removed by planing (milling) and then replaced with a new surface course material. This method is often used on urban roads and when the existing road surface or other layers have deteriorated significantly.

Full depth reconstruction involves the complete removal and replacement of a road's bound layers to address severe deterioration. This intensive process is typically undertaken when a road's condition has significantly declined, requiring a more substantial repair than resurfacing or patching.

Preventative treatments

Rejuvenators are a treatment used to extend the life of asphalt roads by restoring the properties of the aged bitumen binder. It's a spray-applied emulsion that penetrates the asphalt, reversing the effects of oxidation and weathering, preventing cracks, and waterproofing the surface.

Preservatives are a treatment used to seal cracks and apply protective coatings to prevent further deterioration from factors like water ingress, oxidation, and wear and tear.

Surface Dressing involves spraying bitumen binder (a sticky tar-like substance) on a clean, dry road surface, over which stone chippings are spread (small, consistently sized aggregate). The surface is rolled to embed the stones into the bitumen although some loose stones will remain on the road surface for about a week. The weight of vehicles passing over these loose stones will force them into the bitumen to finish the new road surface.

Micro-Asphalt is used to seal the existing road surface, improve the texture, and enhance skid resistance. This type of surface treatment can prolong the life of a road by up to 10 years. It is mostly used in residential areas with slower moving traffic. The work involves applying a base and top layer of slurry to the existing road surface. The treatment acts as liquid when first applied, but this dries within 30 minutes and is then ready for traffic.

Preventative Maintenance Spend

The following tables outline where the preventative maintenance spend was allocated for the financial year period 2020-2025.

Pavement treatment lengths (Preventative Maintenance Spend)

Year	A road	B road	C road	Unclassified road	Footway
2020-2021	12km	3km	2km	24km	28km
2021-2022	15km	8km	8km	25km	104km
2022-2023	11km	4km	9km	51km	100km
2023-2024	1km	1km	2km	15km	0km
2024-2025	0km	0km	0km	2km	0km

Structures, Signals and Lighting (Preventative Maintenance Spend)

Year	Structures	Signals (replacement)	Lighting (replacement)
2020-2021	0	0	1,008
2021-2022	0	0	1,320
2022-2023	0	8	1,649
2023-2024	0	18	784
2024-2025	0	1	783

The purpose of the reactive service is to maintain a safe network for all of the highway users. This includes winter maintenance whereby we grit the roads and pavements to ensure that the network is safe to travel.

Methods by which defects / maintenance become known to the city council are as follows:

Arboricultural Inspections

Arboricultural inspections are crucial for assessing and managing trees on public land, ensuring safety, and complying with planning regulations. These inspections are typically conducted by accredited arboricultural officers and they involve evaluating tree health, identifying potential hazards and advising on necessary maintenance or management.

Structures Inspections

Structures are inspected every two years through either a General or Principal inspection by a team of trained and accredited inspectors. Defects identified will be given a maintenance prioritisation ranking. The structures asset management team will prepare a schedule of all defects (workbank) and identify the corresponding date of inspection, severity, maintenance priority and date by which the defect needs to be repaired.

Safety and Service Inspections

Roads, pavements and cycleways are inspected at regular intervals (ranging between once every month and once a year, depending on road classification), by a team of trained and accredited Highway Inspectors. Busier roads and pavements are inspected more frequently due to the higher risk of a defect causing a problem to pedestrians, cyclists or motorised vehicles. During an inspection, the Highway Inspector will look for potholes, trips and other damaged highway infrastructure that needs repair in line with the standards set out in the Service Inspection Strategy. When these are identified, an order is placed for repair.

Member of Public

There will be times when defects occur between our regular safety inspections. If we don't know about them, we can't fix them. If you see a defect, you can report this to us using our online reporting tool.

We ask you to give us your contact details in case we need more information. You can also receive status updates on your report by providing this information. Make sure you do not put yourself or anyone else in danger when obtaining details about the fault. To investigate a pavement or road problem, we will need to know:

- an accurate location (including landmarks, house numbers or road junctions)
- a detailed description of the problem (e.g. pothole size, position in the road)

Once we receive your report it will be assessed to determine if it is an emergency. If so, it will be actioned immediately and, if necessary, it will be made safe. All other requests will be investigated within our routine timescales by a Highway Steward / Inspector to assess the severity of the defect against our repair criteria.

The streetlights within Birmingham are fitted with an intelligent lighting system which allows the self-identification of faults. It is likely that we will know there is a problem before it can be reported. However, if there is a persistent problem you can report these here.

Typical Defect Types

- Potholes, rutting, gaps / cracks, sunk ironwork on the carriageway > 40mm.
- Potholes, rutting, gaps / cracks, sunk ironwork on the footway / cycleway > 20mm.
- Debris, spillages or contamination on the carriageway or footway such as diesel or oil.
- Surface water discharging across the highway.
- Damaged Street Lighting, illuminated traffic signs and bollards or exposed cables.
- Damaged, rocking, missing or dislodged kerbs.
- Damaged street furniture and barriers (pedestrian guardrail, safety fences, bollards, benches, non-illuminated signs, street name plates etc).
- Damaged or non-operational traffic signals.
- Faded road markings.

The most common road user issue relates to potholes on the network, please see the tables below which outline how many potholes have been repaired and the percentage that this amounts to as part of our reactive maintenance budget.

Reactive maintenance budget on pothole repair

Year	Percentage of reactive maintenance spent on pothole repair
2024 to 2025	33%
2023 to 2024	44%
2022 to 2023	44%
2021 to 2022	42%
2020 to 2021	69%

Estimate of the number of potholes filled

Year	Estimate of the number of potholes filled
2024 to 2025	4,514
2023 to 2024	9,332
2022 to 2023	6,616
2021 to 2022	7,157
2020 to 2021	9,710

Condition of local roads

Our condition surveys conform to national standards and are processed using accredited systems. The surveys establish key characteristics of the network including surface condition and skid resistance.

All of our surveys are uploaded to our Management Information System (MIS) Confirm, this holds all of the condition surveys since 2010 which acts as a powerful tool for understanding depreciation of the network.

To understand the condition of our classified roads we use the nationally recognised Road Condition Index (RCI). Road condition assessments on the road network have been captured using SCANNER laser-based technology for the period 2010 to 2024 (no survey during 2020 due to covid) and from 2025 we have adopted the PAS2161 collection method (please see additional section on condition for further information).

Between 2010 to 2020 the full network was surveyed over a rolling three year period, following covid a decision was taken to survey the network over a single year as this would provide the current condition of the network.

A number of parameters measured in these surveys are used to produce a road condition indicator which is categorised into 3 condition categories:

- green – no further investigation or treatment required (good state of repair)
- amber – maintenance may be required soon (some deterioration apparent)

- red – should be considered for maintenance (poor condition and likely to require maintenance within the next twelve months)

Percentage of A roads in each condition category

Year	Percentage of A roads in red category	Percentage of A roads in amber category	Percentage of A roads in green category
2020	3%	20%	77%
2021	5%	24%	72%
2022	5%	24%	71%
2023	5%	23%	72%
2024	6%	26%	68%

Percentage of B and C roads in each condition category

Year	Percentage of B and C roads in red category	Percentage of B and C roads in amber category	Percentage of B and C roads in green category
2020	2%	18%	80%
2021	3%	19%	79%
2022	4%	20%	76%
2023	4%	20%	76%
2024	6%	25%	69%

To understand the condition of our unclassified roads we use the nationally recognised Road Condition Index (RCI). Road condition assessments on the road network have been captured using a detailed visual inspection (DVI) for the period 2010 to 2023 (no survey during 2020 due to covid and 2024 due to PFI contract tender process) and from 2025 we have adopted the PAS2161 collection method (please see additional section on condition for further information).

Between 2010 to 2023 the full network was surveyed over a rolling two year period.

A number of parameters measured in these surveys are used to produce a road condition indicator which is categorised into a single condition category:

- red – should be considered for maintenance (poor condition and likely to require maintenance within the next twelve months)

Percentage of U roads in the red condition category

Year	Percentage of U roads in red category
2020	12%
2021	9%
2022	9%
2023	9%
2024	8%

Birmingham City Council is responsible for 2,632 km of carriageway and is committed to managing skid resistance levels of road surfaces across this network to achieve acceptable road user safety in a cost-effective manner.

The maintenance of adequate levels of skidding resistance on carriageway is a most important aspect of highway maintenance, and one that contributes significantly to network safety. Skid resistance can be improved at relatively low cost and provides

substantial benefits to communities, making this aspect of highways maintenance a cost-effective use of Council resources.

Skid resistance is a measure of the frictional properties between the tyre of a moving vehicle and the road surface which directly affect the ability of a driver to slow / stop the vehicle. As such, it is a key component of road safety. Skid resistance is considered in wet conditions, since the skid resistance of a wet or damp road surface can be substantially lower than the same surface when dry.

The skid resistance of a surface decreases over time due to the effects of traffic and weathering.

Routine monitoring of skid resistance is carried out annually across the network using a Sideways-force Coefficient Routine Investigation Machine (SCRIM) to provide an average deficiency measurement known as the Characteristic Skid Coefficient (CSC) and combined with other data to determine areas for further investigation and potential treatment.

The following table outlines the percentage of the network at or below investigatory level.

Percentage of principal and non-principal roads at or below investigatory level

Year	Percentage of Principal roads at or below investigatory level	Percentage of Non-Principal roads at or below investigatory level
2020	14%	14%
2021	27%	14%
2022	11%	12%
2023	21%	22%
2024	41%*	56%*

**There were survey issues in the 2023 survey, this was due to the contractor's benchmark data being corrupted and lack of quality assurance documentation being provided to explain the reasons for the increase in deficient subsections*

Additional information on condition

From 2026 to 2027 a new methodology will be used based on the BSI PAS2161 standard. Local Highway Authorities will be required to use a supplier that has been accredited

against PAS2161. This new standard will categorise roads into 5 categories instead of 3 to help government gain a more detailed understanding of road condition in England.

Category	Description	Potential maintenance treatment option
1	No deterioration	Pavement is not considered for maintenance
2	Minor (and/or aesthetic) deterioration	Light maintenance – for example, minor patching
3	Moderate deterioration	Localised intervention or mid-life preventative maintenance – for example, surface dressing, patching, crack sealing
4	Moderate to severe deterioration	Rehabilitative maintenance, perhaps full carriageway – for example, resurfacing with thin overlay/surface dressing and multiple patching, edge haunching
5	Severe deterioration	Structural maintenance – for example, full carriageway resurfacing or reconstruction

Birmingham City Council have been surveying the road network with a supplier since June 2024 in readiness for the new standard and to date it represents a significant improvement in our ability to accurately understand the condition of our road network. This has enabled us to assess the current condition of our road network and to develop works programmes, furthermore, using this method we are able to do this in more detail than ever before, more frequently as we undertake our A roads on a monthly basis, B and C roads on a three monthly basis and our unclassified network on an annual basis.

Our indicative results are in the following table:

	A Roads	B and C Roads
No Deterioration (Lv.1)	88%	80%
Minor Deterioration (Lv.2)	7%	9%
Moderate Deterioration (Lv.3)	2%	2%
Moderate to Severe Deterioration (Lv.4)	1%	1%
Severe Deterioration (Lv.5)	1%	1%
Awaiting Survey	1%	7%

Plans

Overall strategy

Our principal asset manager and the team are responsible for the management of all highway assets. This is in line with the UK Roads Liaison Group HIAMG, such that all asset types are managed in an integrated, holistic, manner.

Asset deterioration is an inevitable consequence of aging, the existing construction materials, traffic volumes and characteristics, weather and in some cases, pollution. Asset deterioration models enable us to model the deterioration of assets against varying parameters. The model outputs are then reviewed by the experienced and capable asset management team. Straight line models are generally appropriate for assets such as lighting columns, traffic signs, street furniture etc. Carriageway deterioration models generally take an inverted "s" shape. This reflects the lower rate of deterioration of new or resurfaced carriageways which accelerates as the carriageway ages.

Timely intervention using preventative maintenance treatments can extend the surface life of the carriageways and delay the need for major intervention. Adopting an approach that focuses on preventative maintenance will extend the service lives of Birmingham's carriageways, optimise the whole life costs of maintaining the assets, supporting budget management and contribute towards the city's carbon reduction targets. In line with best practice, the use of low-cost repairs to extend the life of a carriageway is fundamental to our approach.

A lifecycle planning approach, as described in the HIAMG, will enable the maintenance strategy for all assets to be determined. However, the principal assets, where greatest

investment and/or risk will be incurred, should be considered as priorities and available resources optimised here.

Lifecycle planning is therefore likely to provide the greatest benefits for assets where large investments are made including carriageways, footways, structures and lighting.

All the maintenance solutions proposed will be as specified in the Design Manual for Roads and Bridges or road maintenance guidance documents issued by the Road Surface Treatment Association (RSTA) or the Asphalt Industry Alliance (AIA). Birmingham city council will monitor and review innovations in materials, technology and best practice to identify solutions that will offer benefits to the highway users. Any such innovations that are considered appropriate will be presented for consideration as trials or adoption and inclusion in the asset management toolkit.

Specific plans for 2025 to 2026

The following tables outline where the preventative maintenance spend has been allocated for the financial year period 2025-2026. It should be noted that this is provisional and subject to change.

Pavement treatment lengths (Preventative Maintenance Spend)

Year	A road	B road	C road	Unclassified road	Footway
2025 -2026	4 miles	3 miles	3 miles	10 miles	7 miles

Structures, Signals and Lighting (Preventative Maintenance Spend)

Year	Structures (repair)	Signals (replacement)	Lighting (replacement)
2025 -2026	20	To be Confirmed	1,000

Estimate of the number of potholes to be filled

Year	Estimate of the number of potholes to be filled
2025 - 2026	6,788

Streetworks

Birmingham's Network Management and Highways Approval Team, oversee the coordination, management and approvals of streetworks and other related on street activities in a number of ways. The quarterly statutory coordination meetings are held that looks at upcoming major street and road works. In addition to this due to the nature and extent of works activity in the City Centre core there are additional smaller subgroups that are held specifically to coordinate the activities in that area. For example, in the Eastside or Digbeth environs; there is separate monthly meeting as both Hs2 and TfWM tram schemes are being delivered in this area as well as the raft of private development and subsequent streetworks that this brings.

Also, during the approval of Permits, Highways Act Licences and events the Highway approval officers are checking for nearby works and taking steps to coordinate activities in close proximity.

The interim service contractor (ISC) will undertake weekly coordination of reactive and preventative works through geospatial analysis. This will identify where works can be rectified with a single visit thus enabling efficiencies with cost and a reduction in disruption to the residents of Birmingham.

Section 58 of the New Roads and Street Works Act 1991 is a legal notice which is served on all the 'statutory undertakers' who carry out work in the authority. It allows local authorities to protect sections of the highway from certain works, following substantial road works (e.g. resurfacing or reconstruction).

The Council provides advance notice of these restrictions so that works promoters (Utility companies, or private contractors/developers) can arrange to conduct their works in advance of the restriction coming into force. This process promotes better works planning and co-ordination, helps minimise disruption to road users, and helps to prolong the life of the roads.

The restrictions can last up to 3 years following the completion of the works, dependent on the type of works and traffic sensitivity of the street or road. Works including emergency works, such as gas escapes or loss of power, and a new service or supply, are

exempt from the restriction. All other works outside the exempt categories require the council's consent.

Climate change, resilience and adaption

The highways network in Birmingham faces threats from climate change with the potential for increased flooding, more powerful storms and extreme temperatures all of which can cause defects to the road surface and disruption to everyday travel. The interim service contractor has set the target of net zero for Scope 1 and 2 emissions by 2030 and net zero for scope 3 by 2045.

They have been working to decarbonise our highway maintenance operations by:

- Trialling and investing in low carbon pothole repair equipment and material such as Roadmender (material used is 100% recycled content and produces no waste) and TexPatch material (permanent repair requiring no packaging waste or loose chippings).
- All fleet vehicles compatible with Hydrotreated vegetable oil (HVO) will be run on this fuel as an alternative to diesel. The HVO will be sourced through only approved suppliers which can prove the source is sustainable.
- Trialling a PPE recycling scheme for end-of-life PPE.
- Using electric powered plant to replace petrol powered equivalents. A trial of a 7.2 tonne electric tipper on the contract was completed in 2024 in our street lighting operations.
- Installation of 18 electric charging points at the Thimble Mill Maintenance Depot for charging of fleet and personal vehicles.
- Promoting cycle to work schemes in partnership with Halfords to reduce emissions and active travel to and from work.
- Working with nearby Aston University Energy and Bioproducts Research Institute (EBRI) to trial the use of their Biochar in our tree planting operations to assess the beneficial impacts on tree growth.
- Identify, with support of supply chain partners, aggregates and other road laying materials that have greater environmental attributes compared to primary sourced materials.
- Using the One Planet Action Plan (OPAP) and innovations groups on the contract to identify new materials and technology to help reduce emissions.

Moving forward, they will:

- Continue to work with supply chain partners to identify new, efficient methods of working and identifying new materials to be used on the highways. This includes trialling materials such as FlexMSE (a sustainable vegetated wall system) in structures repairs.
- Continue to decarbonise highway maintenance vehicles at an end of lease basis and replace with electric vehicles where possible depending on availability. They have a trial of a hydrogen fuelled vehicle planned for Summer 2025, the fuel for the vehicle will be sourced from near-by Tyseley Energy Park.
- Enhance the natural environment along highways through continued tree planting by their in house arboriculture team. Tree planting in the city will be designed to include species predicted to thrive in changing climate conditions.

A combined approach of carbon mitigation and adaptation will be required to ensure that we are reducing the emissions being produced to lessen the impact of climate change in years to come as well as adapting to the changes we are likely to experience.

Additional information on plans

Birmingham Connected will keep you up to date with the transport and infrastructure improvement activities going on in Birmingham and is built on the Birmingham Connected White Paper, our 20 year transport strategy.

Our goal is to create a transport system for everyone; one that puts people first and delivers better connections for citizens and businesses. We want to improve daily lives by making travel more accessible, more reliable, safer and healthier.

Delivering this vision means investment in our transport infrastructure: our railways, roads and cycling and walking routes.

This programme includes some big changes to Birmingham's transport system. There will be some unavoidable disruption, but we are committed to keeping Birmingham moving with minimum impact on everyday life while works are carried out.

The roadworks webpage will give you information on wider transport projects within Birmingham such as the Midland Metro expansion, nearby motorway projects in addition to utility works (such as gas, electricity, water and telecoms).

Letter drops and roadwork information boards will be used prior to construction and during roadwork sites to communicate important details to the public. As Birmingham is recognised as one of the most ethnically diverse cities in the UK, we will be utilising QR codes that will provide information about the organization undertaking the work, the

principal contractor, an emergency contact number, the duration of the works, and the reason for the disruption in a multiple of languages.