



Milton Keynes
City Council

Road surface treatments

Mini guide

Highways Service
2024/2025

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Introduction

MK City Council is the Highway Authority for the Milton Keynes Borough which means that we are responsible for keeping the public highway safe and in a good condition for road users. Only adopted roads are maintained by the Council, this is explained further in the next section.

With over 1300 km of road to maintain and another 2000 km of redway and footway surface too, it's a big job for the Highways team.

The roads mainly fit into three categories - one type is part of the unique grid road system built between 1969 and 1994. The roads are labelled H and V to show if they are horizontal, East to West, or vertical, North to South. All H roads are 'Way' e.g. Dansteed Way and all V roads are 'Street' e.g. Saxon Street. Many are dual carriageway, include up to 70mph speed limits and have wide verges.

Each of the names have some link to the local area such as Monks Way which passes Bradwell Abbey and Watling Street which is an old Roman and Saxon road. Where the grid roads meet they intersect with a roundabout.

The second type are those built before the new city of Milton Keynes and the residential (estate) roads. This incorporates the old towns of Newport Pagnell, Stony Stratford, Bletchley, Fenny Stratford and Olney. These are single carriageway and can be narrower in places. There are also a large number of rural roads between the villages mainly in the north of the borough.

The third type is the A roads. Across the MK Borough there is the A421 (H8), A509 and the A508. The A5 is under the management of Highways England. These main roads are key to connecting MK to our neighbouring areas and are busy routes.

All these types of road have their own challenges as they will vary in material, width and condition.

Adopted and unadopted roads

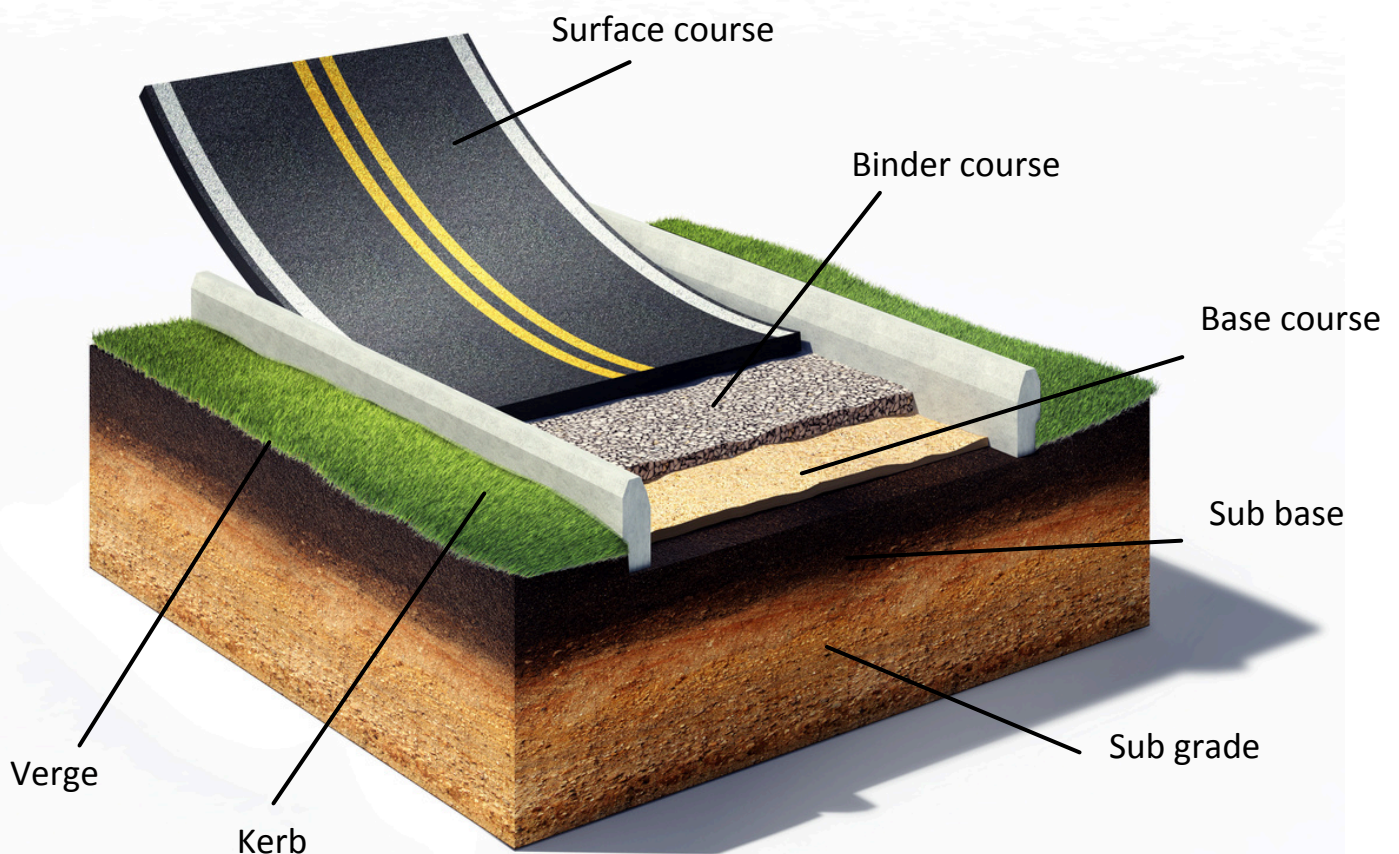
MK City Council only maintain road, redways and footways that have been adopted. This means that the council has ownership of the road or footway and pays for the maintenance and repair from the public purse. This also includes keeping the road or pavement clean and gritting in the winter if needed.

Unadopted roads are the responsibility of the landowner which may be a private resident, a company or a developer. The Council will not carry out any works including road sweeping or gritting on unadopted roads and there is no legal obligation for them to do so.

You can find out if a road is adopted highway using the [My MK Mapping tool](#) on the Council's website. Select this option and any areas adopted will be shaded in blue.

How roads are constructed

Roads are made up of several layers as show in the image below. Depending on the volume of traffic these layers may vary in depth for example, a busy dual carriageway will have a greater depth of asphalt (top layer) than a residential or quiet, rural road.



Inspections, planning and scheduling works

The highways inspectors carry out regular checks on all the main grid roads, A roads and other major roads across the borough. They also check any reported road defects that are made to the council.

The inspectors will check the condition of the road, look at any defects and report their findings back to the Highways team. This information is then used to decide where and when we carry out repairs and maintenance. We will also look at whether we can coordinate with other areas of the council e.g. landscaping, or where we can group works together and combine the costs.

Emergency repairs are carried out within a few hours for safety. Other works will be checked to see if they meet our intervention levels and criteria for repairs or maintenance.

Most of our resurfacing works will be carried out during between April to September. This is because the weather conditions are better for using hot materials on the roads.

More details about our Codes of Practice and intervention levels can be found on the MKCC website.



Traffic management is used before works begin to keep any pedestrians, cyclists or vehicles away from the location. A diversion route may be signed if there is a complete closure of the route.



Brinklow Roundabout being resurfacing in May 2021. The surface deteriorated after a very cold, wet winter making existing defects much worse. It was resurfaced to keep the road safe for all users.

GripFibre

GripFibre is a surfacing product that can be applied cold to certain types of road and footway surface. Fibres and aggregates (small stones) are mixed with the asphalt and applied in a thin layer over the surface.

This is a more cost effective type of treatment to prolong the life of the surface as it is applied in a thin layer, can be driven on quickly as it is applied cold and offers greater skid resistance and durability.

Surface dressing

More commonly known as chippings, surface dressing involves applying a thin coating of bitumen binder (hot black adhesive) on the existing surface and then the stone chippings are spread and rolled into the surface afterwards. Once vehicles moving over the chippings have pressed them into the surface over a few days, we may visit the location again to sweep up any remaining still loose from the edges of the road.

The chippings help to protect the road from air and water which can cause damage over time. They also provide additional grip for vehicles.

This option tends to be used on roads that are near the end of their life, still in a reasonable condition and haven't failed. Using chippings helps to prolong the life of the road.

Elastomac

A new technique and material being used in MK for some types of pothole is Elastomac.

Using a hot mix made from old recycled tyres and waste road surface material, this is a more eco-friendly option for repairing potholes.

The Elastomac is poured into the pothole, filling up the space and as it cools, it seals as a watertight membrane. Finally, aggregate dressing is sprinkled over the top. This is

This process helps to keep out surface water, a major contributor to creating potholes.

The Roadmender machine is versatile allowing the crew to heat up and apply the material quickly. It also does not require a circular saw or whacker plate machine to flatten the asphalt, greatly reducing the noise levels and crew required to do a repair.

Elastomac works on both asphalt and concrete roads and is designed for repairs to all types of defect including cracks, gully and other ironwork surrounds, joints, potholes, cracking, kerb channels and speed ramps.

Microsurfacing

Micro-surfacing is similar to surface dressing but it used on residential roads. Micro-asphalt surfacing involves spreading a fine cold mixed thin asphalt over the existing road surface. This helps to prevent water seeping into the road surface. It can help to prolong the life of the road by up to 10 years.

Spray injection patching

This process is used to repair potholes, small cracks and other defects mainly on residential roads. First, air is used to blow any loose stones away from the inside the pothole. A protective sealant is then added to help guard against water seeping in.

Finally an asphalt mix of aggregates (small stones) and bitumen is mixed and sprayed into the defect filling up any space. Once this is done, the patch will be compacted down and swept over to remove any loose stones.

This process is a quick, efficient way of repairing minor defects on quieter roads. Several potholes and other defects can be repaired in a short space of time with minimal traffic management.



A spray injection machine filling a road defect with a mix of small stones and bitumen.



An asphalt paver machine laying new asphalt onto a road. The highways operative controls the distribution of the hot material using a control panel. After this, it is compacted and finally rolled to ensure a smooth, set surface.