



Milton Keynes Highways Network Resiliency Plan – 2026/27

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Version 2.0**



**Milton Keynes
City Council**

Document Control

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Highways Resilient Network Plan — Milton Keynes

This document demonstrates Milton Keynes' approach to managing its Resilient Highways Network. It is a live document which will be reviewed a minimum of every 12 months and will align to any changes in national guidance and/or changes to legislation. This document provides links to national guidance and also current local policies/strategies that are Milton Keynes-specific (e.g., net-zero targets, hospital location, local resilience arrangements, grid roads).

1. Executive summary

Milton Keynes will adopt a risk-based Resilient Network that: (a) identifies a small set of lifeline routes and assets to prioritise in extreme weather and other disruptive events; (b) embeds climate/sustainability goals (MK net-zero by 2030) into resilience actions; (c) uses data, rapid impact assessment (RIA) and multi-agency information call (MAIC) to drive decisions; and (d) formalises governance, training and mutual-aid arrangements through the Thames Valley Local Resilience Forum and MK Resilience Group. This plan draws on the existing current MK policies and strategies and national LHA best practice. ([Milton Keynes City Council](#))

2. Purpose & objectives

Purpose: keep Milton Keynes' essential movement, emergency access and critical services functioning during and after disruptive events while reducing climate impact and improving recovery speed post event.

Core objectives

- Keep lifeline links open to hospitals, emergency services, strategic freight routes, and key supply hubs.
- Protect and prioritise critical drainage and flood hotspots.
- Maintain network during 'Winter Season'
- Reduce operational carbon and support MK's net-zero by 2030 commitments. ([Milton Keynes City Council](#))
- Build capacity for rapid assessment, multi-agency response and resilient recovery.

3. What the “Resilient Network” is for Milton Keynes

Definition: a deliberately small subset of the highway/grid network — routes/links that must be kept functional (or rapidly restorable) in major incidents because they:

- Provide access to Milton Keynes University Hospital. ([Milton Keynes University Hospital](#))
- Blue Light Hub – central control facility for all emergency blue light services.
- Area strategic connectors to the Strategic Road Network (M1) and trunk roads (A5, A421), and key freight/industrial areas. ([Milton Keynes City Council](#))
- Connect major public transport nodes and bus interchanges, depots, and waste/utility-critical sites.
- Serve as primary evacuation or relief corridors for communities.

Rationale: keeping the Resilient Network deliberately small concentrates resources, improves operational clarity during crises and mirrors best practice for LHAs.

4. Resilient Network (this has been formalised on a GIS map – Appendix A)

Use the MK grid-road hierarchy as the baseline (grid roads are the natural top layer for MK).

Prioritise :

High priority (lifeline / 24/7 access)

- Roads providing access to Milton Keynes University Hospital (Standing Way / H8/V8 corridors). ([Milton Keynes University Hospital](#))
- M1 junction links and A421 corridors to M1 (primary SRN interfaces). ([Milton Keynes City Council](#))
- A5 and A509 strategic approaches and primary grid roads linking large residential districts to the city centre and major employment areas (including interchanges to A421). ([Milton Keynes City Council](#))

Secondary resilient routes

- Main parkway/grid roads serving bus corridors and freight access to key employment parks.
- Routes to water treatment works, power substations, and major utilities identified in the Infrastructure Delivery Plan. ([Milton Keynes City Council](#))

Notes: a definitive Resilient Network GIS layer has been created and uploaded onto the Highways asset system (AMX), which will underpin all operational and communications actions. This can be found in Appendix A in this document.

5. Risk assessment — Milton Keynes priorities

Key hazards (local emphasis)

- Flooding / surface water: flash flooding and overloaded drainage on grid roads and hotspots. (MK has specific drainage vulnerabilities noted in the Infrastructure Delivery Plan.) ([Milton Keynes City Council](#))
- Severe weather (storms, high winds), heatwaves and drought (affecting pavements, embankments and materials). ([Milton Keynes City Council](#))
- Winter specific hazards (snow, extreme low temperatures, frosts and ice storms)
- Utility loss (single-feed gas or other single points of failure highlighted in IDP). ([Milton Keynes City Council](#))
- Geohazards (localised ground heave, embankment instability).
- Cyber and communications failures (affects telemetry, traffic signals, telemetry to OCH and public messaging).

Method: combine historic incident logs, drainage hotspot registers, utilise NUAR/utility data where possible, BGS geohazard data and RIA outputs to produce ranked vulnerability maps. (Follow the national approach recommended in the Resilient Summary.) ([Thames Valley Local Resilience Forum](#))

6. Governance & partnerships

Lead owner: Milton Keynes City Council Highways (with a named DEPRO/ Resilience Lead / Service Manager). Use the MK Resilience Group (links into Thames Valley LRF) for multi-agency coordination. Network management is the duty of the nominated Network Manager (Streetworks team) - this role will play a key part in the recovery phase. ([Milton Keynes City Council](#))

Key partners & roles

- Thames Valley Local Resilience Forum — strategic coordination and wider area risk register alignment. ([Thames Valley Local Resilience Forum](#))
- Milton Keynes University Hospital (healthcare lifeline) — clinical and ambulance access coordination. ([Milton Keynes University Hospital](#))
- Strategic road operator (National Highways) — SRN interface (M1/A421). ([Milton Keynes City Council](#))
- Utilities (water companies, gas, electricity, telecoms), rail and bus operators, Ringway/term contractors.

Decision structures

- Tactical Incident Hub (OCH / Operational Control Hub based at Bleak Hall) for highways operations with MAIC link for information sharing.
- Clear delegations for closures / resilient network prioritisation agreed with police and emergency services in advance (multi-agency justification for strategic closures).

Operational Partners

- Highways contractor to provide operational resources
- Highways contractor to resource and host OCH at Bleak Hall
- Environment and Housing contractors to provide additional resource

7. Operational arrangements (preparedness, response & recovery)

Preparedness

- Maintain a named Resilient Network GIS layer on AMX, live drainage hotspot register and an indexed asset criticality list.
- Pre-season briefings for summer (heat/drought/wildfire readiness) and winter (gritting) with contractors, Elected Members and partners.

Rapid Impact Assessment (RIA)

- Adopt a formal RIA methodology (8–48 hours post event) to measure lifeline functionality and prioritise stabilisation vs repair. Use RIA outputs to trigger MAIC actions and targeted resource deployments.

Incident response

- Use the OCH as single operational source of truth (CCTV, telematics, weather feeds, gully/asset status, AMX/Hub-AI dashboards where available).
- Pre-agreed exigency contract clauses to allow term contractors to mobilise urgent works without procurement delay.

Recovery & stabilisation

- Apply the “stabilisation” concept: provide immediate safety measures then develop staged repair plans with costings and timescales (use multi-year programmes where required). Note: Draw lessons from Cumbria IRP style approaches for funding and delivery.

Communications

- Use social media, city webpages and one.network style feeds to publish real-time closures and travel advice; integrate this into MAIC for public messaging.

8. Asset management & drainage

Drainage

- Implement an asset led gully cleaning programme

- Dedicated Code of Practice to enhance understanding and management of all drainage assets affecting the highway
- Add map layers on the existing asset management system (AMX) of the local water authority assets to enable end to end visibility and impacts.
- Drainage inspection regime focused on hotspots; cleanse and maintain gullies on a risk-based schedule informed by flood callout history and forecasted events. Invested in sensors in gullies, remote active telemetry in underpass wet well pumps and gully-sucker standby locations for hotspots.
- Dedicated flooding modules in the highways asset management system (AMX). Digitisation of outstanding piped drainage assets.

Pavement & structure resilience

- Trials and adoption of new materials to provide added durability to pavements and structures.
- Include design optioneering taking into account climate impact factors.
- Develop tools to monitor susceptible pavements during heat events (thermal stress mapping)
- Prioritise works that increase robustness of Resilient Network links (pavement section improvements, improved drainage, raised footways where needed). Use low-carbon materials and circular economy principles where possible (aligns with MK sustainability goals). ([Milton Keynes City Council](#))

Data & digital: NUAR, AMX/Hub-AI, telemetry, weather sensor & forecasting

- Utilise weather forecasting services historically set up for winter periods to monitor road temperatures during summer seasons.
- Integrate utility asset information to identify single points of failure (NUAR & IDP inputs) and feed datasets into OCH mapping dashboards for live situational awareness. ([Milton Keynes City Council](#))

9. Sustainability & carbon alignment

Actions aligned to MK net-zero (Council commitment)

- Invest in new materials and processes to reduce construction carbon footprint
- Develop a Carbon Toolkit guide following learning from Adept Live Labs 2 to assist in decarbonisation journey covering design, specification and construction.
- Depot energy-efficiency (solar, EV charging), low/zero diesel fleet for sub-4.25t vehicles, trials for alternative fuels for larger plant, electrification of handheld plant. ([Milton Keynes City Council](#))
- New highways term contract has targeted plans for sustainability/carbon reduction to assist in achieving the local authority targets

Resilience co-benefits: prioritise low-carbon materials that also improve flood/heat resilience (e.g., permeable surfacing on selected corridors, SuDS where appropriate).

10. Training, exercising & competence

- Lead by Emergency Planning. Implement a SQEEP programme: Gold/Silver/Bronze incident command training (MAGIC / TEM courses), RIA exercises, MAIC tabletop exercises with partners and contractors. Ensure H&S protocols for crews (double-crewing in high risk).
- Service area specific training (i.e. winter forecasting, flood forecasting)
- DEPRO senior authority officer on call
- 24/7/365 fully-trained Highways Duty Team on call
- Dedicated out of hours call centre (01908 226699)

11. Monitoring, reporting & review

- As part of MK City Council's asset performance framework we have set performance targets for the three primary critical assets on the resilient network, these are carriageways, structures and drainage.
- Maintain KPIs for Resilient Network assets in Highways Network Performance Plan, create event summary report documenting RIA response times, drainage clearance backlog, and number of roads closed impacting the network. Report as required to Strategic Term Board and / or Health Check Board.
- Formal Plan review every 2 years and after any major event.

12. Immediate actions (first 6 months)

1. Approve Resilient Network governance and name the MK Highways Resilience Lead.
2. Produce and publish the Resilient Network GIS layer and distribute to Thames Valley LRF/MAIC partners. ([Thames Valley Local Resilience Forum](#))
3. Create a drainage hotspot priority list (use IDP and gully callout data) and deploy gully-sucker standby to top 10 hotspots in advance of flood warnings. ([Milton Keynes City Council](#))
4. Insert exigency clauses into term Highways Emergency Plan to speed emergency work mobilisation.
5. Align Resilient Network Plan with Winter Service Plan.
6. Run a multi-agency RIA table-top exercise based on a flash flood scenario affecting the hospital access corridor.

Key sources used

- MK Highways Emergency Plan
- MK Highways Winter Service Plan
- MK Highways Term Service Contract
- Milton Keynes Council — Sustainable MK / Net Zero & MK City Plan / Infrastructure Delivery Plan. ([Milton Keynes City Council](#))

- Milton Keynes University Hospital location and access. ([Milton Keynes University Hospital](#))
- Thames Valley Local Resilience Forum & MK Resilience Group references. ([Thames Valley Local Resilience Forum](#))
- Buckinghamshire “Resilient Network Plan 2025” for reference as a key network partner.

Appendix A – Highways Resilient Network Map

**Note : this is an extract from our highways asset management system
digitised map**



