



Resilient Network Plan

Highways, Neighbourhoods Directorate
May 2025

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Resilient Network Plan

Record of Amendments

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Amendments List

Version	Amendments	By	Date
1.1	Renumbering throughout, 1.2, 1.3, 2.5, 4.2, 4.7, 5.1 table, Appendix 1, Appendix 2.	TK	May'25

1. Introduction

- 1.1 Effective management of the highway network requires local authorities to proactively prepare for potentially disruptive events. Ensuring the network remains resilient to such disruptions is a vital responsibility of any local highway authority.
- 1.2 Recent years have demonstrated the impact of climate change on highway infrastructure, with severe storms and extreme temperatures affecting asset performance. As part of our long-term asset management strategy, we must evaluate how climate change may influence investment priorities and the lifecycle costs of highway assets. To address this, we will:
- Conduct risk assessments to evaluate how climate-related factors—such as increased rainfall or higher temperatures—may affect the durability and condition of specific assets, including road surfaces and drainage systems.
 - Explore adaptation measures, including:
 - Upgraded materials (e.g., heat-resistant asphalt, reinforced concrete)
 - Nature-based solutions (e.g., green verges, sustainable drainage systems)
 - Real-time monitoring technologies (e.g., embedded sensors)
 - Apply scenario analysis to model future maintenance strategies, helping to identify investment options and budget requirements under various climate scenarios.
 - Embed continuous improvement by regularly updating our strategies in response to emerging data, technologies, and best practices.
- 1.3 This Resilient Network Plan has been developed in alignment with the recommendations outlined in the Well-managed Highway Infrastructure Code of Practice (2016). It is based on the core principles of Best Value and Risk Assessment. The plan is closely linked to Manchester’s Highway Asset Management Policy and Strategy, and follows the principles established in that document.
- 1.4 We have defined a Resilient Network (RN) comprising key routes that are prioritised for maintenance and other interventions to reduce risks to the city’s economy and accessibility. These routes are considered critical to the functioning of Manchester’s highway network and have been selected based on their strategic importance, rather than road classification or hierarchy.
- 1.5 The RN sets out the following:
- Identifies the network routes that form the RN.
 - Identifies critical infrastructure.
 - Where possible, directs programmes of work on its highway assets to ensure resilience is maintained or improved upon.
 - Takes a risk-based approach on identifying the hierarchy category to ensure sufficient safety inspections are carried out on all its highway assets.
 - Leads cyclical maintenance teams to set gully cleansing, bridge drainage, and other environmental activities to ensure that they are adequate to keep drainage systems functioning to their maximum capacity.

- Links to the Council's Winter Maintenance Plan, i.e. the priority gritting routes are part of the RN.

2. Definition of the Resilient Network

- 2.1 While our winter and severe weather plans are about preparing for and reacting effectively to adverse weather conditions, our RN is defined as the portion of our highway network that is vital to maintaining economic activity and access to key services during extreme weather emergencies and other major incidents.
- 2.2 The purpose of defining the RN is to identify the most critical routes and associated highway assets, enabling us to prioritise planned, whole-asset maintenance on these sections. By doing so, we can reduce the risk of failure across this vital part of the network and enhance the council's overall resilience to extreme weather events, industrial action, and major incidents.
- 2.3 The overarching aims of Manchester City Council's RN are:
- to protect economic activity in and through the city.
 - to protect access to key services, and
 - to protect access to key infrastructure.
- 2.4 To achieve this, we have used the following criteria to identify and map a network of our most critical routes and highway assets:
- All roads included in our priority gritting routes.
 - All roads included in Manchester's Key Route Network (KRN).
 - Roads linking to key service locations, including
 - Critical Health infrastructure (hospitals, (particularly roads leading to their A&E entrances), ambulance stations, blood banks etc) as well as
 - Critical utilities/emergency services infrastructure such as fire stations & police stations.
 - Roads linking to critical power distribution sites / water treatment works or telecommunication hubs at risk of an impact from weather, GM waste disposal authority sites.
 - Roads providing access to key transport hubs – especially where linkages between them occur. Locations considered:
 - Key Railway stations, Metrolink stops, Manchester airport etc. and
 - Key bus stations / depots.
 - Roads linking to key locations of economic value:
 - Regional and District Centres; and
 - Significant retail / business parks.
 - Key roads assessed as having a high risk of flooding during periods of wet weather. These have been identified through historic flooding data as well as flood data on the gov.uk website below which highlights proximity to water courses and culverts and flood zone hot spots:

<https://flood-map-for-planning.service.gov.uk>

- 2.5 The RN is reviewed at least every 3 years or following changes to the highway network to ensure that it is still relevant.
- 2.6 A list of the roads included in the RN is shown in Appendix 1.
- 2.7 A plan of our RN is shown in Appendix 2.

3. Managing disruptive events

- 3.1 Specific risks to the highway are established by reviewing past occasions when events have affected highways/transport and by assessing how the impacts may become more frequent or severe in the future.
- 3.2 Resilience will be achieved through a combination of activities which will include:
 - Pre-planned diversions to allow continued movement of traffic.
 - Improved drainage systems.
 - Regular maintenance of existing drainage systems.
 - Pre-salting of affected routes.
- 3.3 Manchester has developed a Flood Risk Strategy to ensure the protection of property and infrastructure from flooding. This can be found on the link below:

[Manchester's Local Flood Risk Management Strategy \(LFRMS\) | Manchester's Local Flood Risk Management Strategy \(LFRMS\) | Manchester City Council](#)

4. Greater Manchester (GM) Resilience

- 4.1 Resilience across the wider GM region is defined by the Greater Manchester Resilience Strategy 2020-2030:

<https://www.greatermanchester-ca.gov.uk/media/4542/greater-manchester-resilience-strategy-2020-2030.pdf>
- 4.2 This approach builds on over two decades of collaborative, multi-agency works to plan for and respond to civil risks and emergencies, in line with the Civil Contingencies Act 2004. It incorporates lessons learned from Greater Manchester and global efforts to reduce the impact of disasters and crises. The framework has been developed using the methodologies and tools of 100 Resilient Cities (now the Resilient Cities Network), which aim to strengthen urban resilience across cities and city-regions.
- 4.3 The development of this Strategy has been steered by the multi-agency partnership that coordinates civil resilience in the city-region: the GM Resilience Forum. Currently chaired by GM Police, this Forum brings together over 80 agencies to assess civil risks, to mitigate these risks where possible, to plan to respond should an emergency occur and to support communities in the aftermath.
- 4.4 In the event of any major incident in GM, a Recovery Co-ordinating Group (RCG) is established by the Strategic Co-ordinating Group (SCG) in response to the incident and

would take over the strategic management of the incident once the Strategic Co-ordinating Group is stood down. In most circumstances the relevant local authority will chair the RCG and take the lead during the recovery phase. The recovery phase continues until the disruption has been rectified, demands on services have returned to normal levels, and the needs of those affected (directly or indirectly) have been met.

- 4.5 The Greater Manchester Generic Response Plan describes the multi-agency response arrangements in an emergency and highlights the need to consider the recovery phase.
- 4.6 The guidance is clear that any council's RN should align with their neighbouring authorities, so a Greater Manchester (GM) wide RN has been collated to ensure this connectivity.
- 4.7 RN plans for all 10 GM districts were completed and collated by the GM asset management group in 2018 and a coordinated map produced. Discussions were held with each local authority with several amendments made to achieve synergy between all 10 district networks. The proposed GM RN was then presented at the Resilience Development Group (RDG) meeting in October 2018. This covered consultation with all the GM authorities and the responder services including those outlined below:
 - Police.
 - Fire Service.
 - NHS Resilience Manager.
 - Ambulance Service.
 - Environment Agency.
 - Public Transport Operators.
 - Utility Providers.
 - Transport for Greater Manchester (TfGM).
- 4.8 The GM RN is based on risk and need as well as the road classifications of the network. It aligns with the GM Generic Response Plan as well as the wider resilience strategy for GM's KRN and aims to ensure that during extreme weather conditions access to key services and the necessary support to communities and the economy is maintained.

5. Risks and Management

5.1 The following table shows the potential events leading to disruption on the RN, mitigating actions, response and recovery actions:

Event	Mitigating actions	Planning	Response	Recovery
Intense rainfall & flooding	<ul style="list-style-type: none"> Carry out targeted gully cleansing at flood sites Prioritise drainage improvement schemes on the RN Invest in remote monitoring systems at known flooding sites to enable a more effective response. 	<ul style="list-style-type: none"> Maintain accurate and up to date information about flood incidents Local Flood Risk Management Strategy Surface Water Management Plans 	<ul style="list-style-type: none"> Drainage Service Standards review Continue to bid for capital investment into drainage infrastructure to improve resilience performance 	<ul style="list-style-type: none"> Regular review of the Drainage Improvement Plan
Extreme winter and severe weather	<ul style="list-style-type: none"> Designing for resilience Develop response to exceptional heat 	<ul style="list-style-type: none"> Winter Service Plan Develop response to exceptional heat. 	<ul style="list-style-type: none"> Prioritise incident response (e.g. storm damage) on the RN Post event reviews Winter Service Plan Look to use innovative materials which are more resistant to higher temperatures. 	<ul style="list-style-type: none"> Winter Service Plan Include response to exceptional heat in our strategies & plans. Post event reviews
Asset deterioration or failure	<ul style="list-style-type: none"> Carry out regular inspections and surveys Prioritised planned maintenance on the RN Designing for resilience 	<ul style="list-style-type: none"> Maintain accurate and up to date asset information Carry out regular inspections and surveys 	<ul style="list-style-type: none"> Prioritised reactive responses on the RN Post event review. 	<ul style="list-style-type: none"> N/A
Other major disruptive event	<ul style="list-style-type: none"> Designing for resilience 	<ul style="list-style-type: none"> Major Emergency Plan 	<ul style="list-style-type: none"> Prioritising street works management on the RN Prioritising incident management on the RN Major Emergency Plan 	<ul style="list-style-type: none"> Major Emergency Plan Post event reviews

Appendix 1 – List of roads in Manchester’s Resilient Network

<u>Ward</u>	<u>Road</u>
Ancoats & Beswick	ALAN TURING WAY
Ancoats & Beswick	ASHTON OLD ROAD
Ancoats & Beswick	COUNCILLOR STREET
Ancoats & Beswick	GREAT ANCOATS STREET
Ancoats & Beswick	MERRILL STREET
Ancoats & Beswick	OLDHAM ROAD
Ancoats & Beswick	PALMERSTON STREET
Ancoats & Beswick	PIN MILL BROW
Ancoats & Beswick	POLLARD STREET
Ardwick	ARDWICK GREEN SOUTH
Ardwick	BENNETT STREET
Ardwick	BROOK STREET
Ardwick	BRUNSWICK STREET
Ardwick	CHANCELLOR LANE
Ardwick	DENMARK ROAD
Ardwick	DEVONSHIRE STREET
Ardwick	DEVONSHIRE STREET NORTH
Ardwick	DEVONSHIRE STREET SOUTH
Ardwick	DOWNING STREET
Ardwick	FAIRFIELD STREET
Ardwick	GORTON ROAD
Ardwick	HATHERSAGE ROAD
Ardwick	HYDE GROVE
Ardwick	HYDE ROAD
Ardwick	PLYMOUTH GROVE
Ardwick	POTTERY LANE
Ardwick	UPPER BROOK STREET
Ardwick	VAUGHAN STREET
Baguley	BARNACRE AVENUE
Baguley	CLAY LANE
Baguley	DOBBINETS LANE
Baguley	FIRBANK ROAD
Baguley	FLOATS ROAD
Baguley	GREENBROW ROAD
Baguley	HALL LANE
Baguley	HOLLYHEDGE ROAD
Baguley	MOOR ROAD
Baguley	NEWALL ROAD
Baguley	SOUTHMOOR ROAD
Baguley	TUFFLEY ROAD
Baguley	WHITECARR LANE
Brooklands	ALTRINCHAM ROAD
Brooklands	BROOKLANDS ROAD
Brooklands	CRANLEIGH DRIVE
Brooklands	FERNDOWN ROAD
Brooklands	GREEBA ROAD
Brooklands	LEDSON ROAD

Brooklands	SALE ROAD
Brooklands	WENDOVER ROAD
Burnage	BURNAGE LANE
Burnage	CROSSLEY ROAD
Burnage	ERRWOOD ROAD
Burnage	FAIR OAK ROAD
Burnage	GRANGETHORPE DRIVE
Burnage	LANE END ROAD
Burnage	MAULDETH ROAD
Burnage	PARRS WOOD ROAD
Charlestown	CHARLESTOWN ROAD
Charlestown	HOLLINWOOD AVENUE
Charlestown	MIDDLETON OLD ROAD
Charlestown	ST MARY'S ROAD
Charlestown	VICTORIA AVENUE EAST
Cheetham	BROUGHTON LANE
Cheetham	BURY NEW ROAD
Cheetham	CHEETHAM HILL ROAD
Cheetham	CHEETWOOD STREET
Cheetham	DANTZIC STREET
Cheetham	ELIZABETH STREET
Cheetham	GREAT DUCIE STREET
Cheetham	IRWELL STREET
Cheetham	MARLBOROUGH ROAD
Cheetham	SHERBORNE STREET
Cheetham	ST JAMES ROAD
Cheetham	WATERLOO ROAD
Chorlton	EDGE LANE
Chorlton	HIGH LANE
Chorlton	KENSINGTON ROAD
Chorlton	MANCHESTER ROAD
Chorlton Park	BARLOW MOOR ROAD
Chorlton Park	HARDY LANE
Chorlton Park	ST WERBURGH'S ROAD
Clayton and Openshaw	ASHTON NEW ROAD
Clayton and Openshaw	BANK BRIDGE ROAD
Clayton and Openshaw	BANK STREET
Clayton and Openshaw	CAPITAL ROAD
Clayton and Openshaw	CORNWALL STREET
Clayton and Openshaw	WHITWORTH STREET
Crumpsall	BURY OLD ROAD
Crumpsall	CHARMINSTER DRIVE
Crumpsall	CRESCENT AVENUE
Crumpsall	CRESCENT ROAD
Crumpsall	CRUMPSALL LANE
Crumpsall	DELAUNAYS ROAD
Crumpsall	HAZELBOTTOM ROAD
Crumpsall	LANSDOWNE ROAD
Crumpsall	MIDDLETON ROAD
Crumpsall	MILL BROW
Crumpsall	QUEENS ROAD
Crumpsall	SMEDLEY LANE

Crumpsall	WOODLANDS ROAD
Deansgate	ALBERT SQUARE
Deansgate	ALBION STREET
Deansgate	BLACKFRIARS STREET
Deansgate	BRIDGE STREET
Deansgate	BRIDGE STREET WEST
Deansgate	BRIDGEWATER VIADUCT
Deansgate	CHARLES STREET
Deansgate	CORPORATION STREET
Deansgate	CROSS STREET
Deansgate	DEANSGATE
Deansgate	GLOUCESTER STREET
Deansgate	HULME STREET
Deansgate	HUNTS BANK APPROACH
Deansgate	JOHN DALTON STREET
Deansgate	MANCUNIAN WAY
Deansgate	MEDLOCK STREET
Deansgate	MOUNT STREET
Deansgate	NEW QUAY STREET
Deansgate	NEW YORK STREET
Deansgate	OXFORD STREET
Deansgate	PARKER STREET
Deansgate	PETER STREET
Deansgate	PRINCESS STREET
Deansgate	QUAY STREET
Deansgate	TODD STREET
Deansgate	TRINITY WAY
Deansgate	VICTORIA BRIDGE STREET
Deansgate	VICTORIA STATION APPROACH
Deansgate	VICTORIA STREET
Deansgate	WATER STREET
Deansgate	WHITWORTH STREET WEST
Didsbury East	PARRS WOOD LANE
Didsbury East	SCHOOL LANE
Didsbury West	ELIZABETH SLINGER ROAD
Didsbury West	NELL LANE
Didsbury West	PALATINE ROAD
Fallowfield	WILMSLOW ROAD
Fallowfield	YEW TREE ROAD
Gorton and Abbey Hey	ABBAY HEY LANE
Gorton and Abbey Hey	CHAPMAN STREET
Gorton and Abbey Hey	FALMER CLOSE
Gorton and Abbey Hey	GLENCASTLE ROAD
Gorton and Abbey Hey	HAMMERSTONE ROAD
Gorton and Abbey Hey	HIGH BANK
Gorton and Abbey Hey	JETSON STREET
Gorton and Abbey Hey	KNUTSFORD ROAD
Gorton and Abbey Hey	LEVENSHULME ROAD
Gorton and Abbey Hey	RAILWAY STREET
Gorton and Abbey Hey	REDDISH LANE
Gorton and Abbey Hey	TAN YARD BROW
Harpurhey	CHURCH LANE

Harpurhey	COLLYHURST ROAD
Harpurhey	COLLYHURST STREET
Harpurhey	FACTORY LANE
Harpurhey	HENDHAM VALE
Harpurhey	LION STREET
Harpurhey	MONSALL ROAD
Harpurhey	MONSALL STREET
Harpurhey	MOSTON LANE
Harpurhey	NORTHAMPTON ROAD
Harpurhey	ROCHDALE ROAD
Harpurhey	SCROPTON STREET
Harpurhey	SLACK ROAD
Harpurhey	SMEDLEY ROAD
Harpurhey	THE GATEWAY
Harpurhey	TOPLEY STREET
Harpurhey	UPPER MONSALL STREET
Harpurhey	WATERLOO STREET
Higher Blackley	BLACKLEY NEW ROAD
Higher Blackley	HEATON PARK ROAD WEST
Higher Blackley	OLD MARKET STREET
Higher Blackley	VICTORIA AVENUE
Hulme	BIRCHALL WAY
Hulme	BOOTH STREET WEST
Hulme	BOUNDARY LANE
Hulme	CAMBRIDGE STREET
Hulme	CAVENDISH STREET
Hulme	CHARLES HALLE ROAD
Hulme	CHESTER ROAD
Hulme	CHORLTON ROAD
Hulme	CITY ROAD
Hulme	DAWSON STREET
Hulme	EGERTON STREET
Hulme	GREENHEYS LANE
Hulme	GROSVENOR STREET
Hulme	HIGHER CAMBRIDGE STREET
Hulme	LLOYD STREET NORTH
Hulme	OXFORD ROAD
Hulme	ROYCE ROAD
Hulme	STRET福德 ROAD
Levenshulme	ALBERT ROAD
Levenshulme	ALMA ROAD
Levenshulme	BARLOW ROAD
Levenshulme	BROOM LANE
Levenshulme	CROMWELL GROVE
Levenshulme	KINGSWAY
Levenshulme	MATTHEWS LANE
Levenshulme	MOSELEY ROAD
Levenshulme	MOUNT ROAD
Levenshulme	SLADE LANE
Levenshulme	STOVELL AVENUE
Longsight	EAST ROAD
Longsight	HAMILTON ROAD

Longsight	HEMSWORTH ROAD
Longsight	HOLMCROFT ROAD
Longsight	KIRKMANSHULME LANE
Longsight	MELLAND AVENUE
Longsight	MELLAND ROAD
Longsight	STOCKPORT ROAD
Longsight	WEMBLEY ROAD
Miles Platting & Newton Heath	BRISCOE LANE
Miles Platting & Newton Heath	DEAN LANE
Miles Platting & Newton Heath	HULME HALL LANE
Miles Platting & Newton Heath	OLD CHURCH STREET
Miles Platting & Newton Heath	RIVERPARK ROAD
Miles Platting & Newton Heath	TEN ACRES LANE
Miles Platting & Newton Heath	THORP ROAD
Moss Side	MOSS LANE EAST
Moss Side	MOSS LANE WEST
Moston	BROADWAY
Moston	LIGHTBOWNE ROAD
Moston	MOSTON LANE EAST
Moston	NUTHURST ROAD
Northenden	ALLANSON ROAD
Northenden	CHURCH ROAD
Northenden	GREENWOOD ROAD
Northenden	KENWORTHY LANE
Northenden	LONGLEY LANE
Northenden	MILL LANE
Northenden	ROYALTHORN ROAD
Northenden	ROYLE GREEN ROAD
Northenden	WYTHENSHAW ROAD
Old Moat	BURTON ROAD
Old Moat	MAULDETH ROAD WEST
Old Moat	VICTORIA ROAD
Piccadilly	ADDINGTON STREET
Piccadilly	ANGEL STREET
Piccadilly	AUBURN STREET
Piccadilly	AYTOUN STREET
Piccadilly	CHORLTON STREET
Piccadilly	CHURCH STREET
Piccadilly	DALE STREET
Piccadilly	DUCIE STREET
Piccadilly	LEVER STREET
Piccadilly	LONDON ROAD
Piccadilly	MILLER STREET
Piccadilly	NEWTON STREET
Piccadilly	OLDHAM STREET
Piccadilly	PICCADILLY
Piccadilly	PORTLAND STREET
Piccadilly	SACKVILLE STREET
Piccadilly	SHUDEHILL
Piccadilly	STORE STREET
Piccadilly	SWAN STREET
Piccadilly	THOMPSON STREET

Piccadilly	WITHY GROVE
Rusholme	ANSON ROAD
Rusholme	BIRCHFIELDS ROAD
Rusholme	DICKENSON ROAD
Sharston	BROWNLEY ROAD
Sharston	PEEL HALL ROAD
Sharston	SHARSTON ROAD
Whalley Range	PRINCESS ROAD
Whalley Range	UPPER CHORLTON ROAD
Whalley Range	WILBRAHAM ROAD
Whalley Range	WITHINGTON ROAD
Withington	AMHERST ROAD
Withington	BEVERLY ROAD
Withington	BROOK ROAD
Withington	DERBY ROAD
Withington	EGERTON ROAD
Withington	LADYBARN LANE
Withington	TALBOT ROAD
Withington	WALD AVENUE
Woodhouse Park	M56 JUNCTION 5 TO TERMINAL 2 OFF SLIP
Woodhouse Park	M56 OUTWOOD LANE ROUNDABOUT TO END WORLD WAY ON SLIP
Woodhouse Park	M56 TERMINAL 2 TO JUNCTION 5 ON SLIP
Woodhouse Park	M56 TERMINAL 2 TO OUTWOOD LANE
Woodhouse Park	MANCHESTER EAST AIRPORT LINK
Woodhouse Park	OUTWOOD LANE
Woodhouse Park	OUTWOOD LANE WEST ROUNDABOUT
Woodhouse Park	POUNDSWICK LANE
Woodhouse Park	RINGWAY ROAD
Woodhouse Park	RINGWAY ROAD WEST
Woodhouse Park	RUDDPARK ROAD
Woodhouse Park	RUNGER LANE
Woodhouse Park	SHADOWMOSS ROAD
Woodhouse Park	SIMONSWAY
Woodhouse Park	STYAL ROAD
Woodhouse Park	THORLEY LANE

Appendix 2 – Map of Manchester’s Resilient Network

