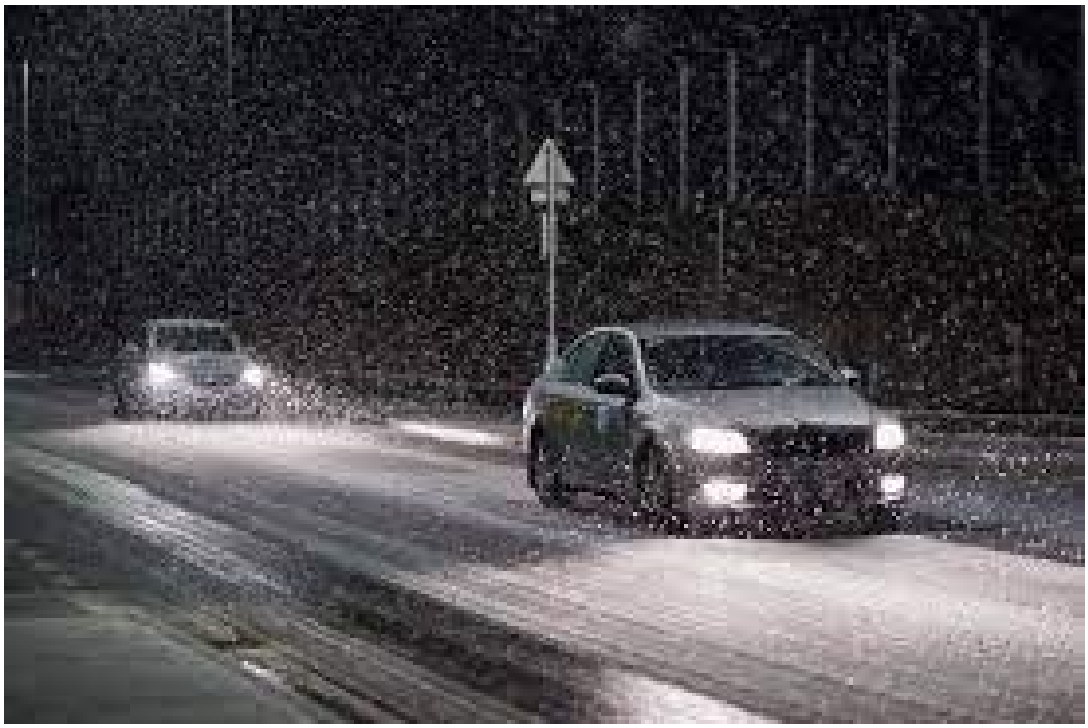
MANCHESTER
CITY COUNCIL



Resilient Network Plan

Highways, Neighbourhoods Directorate

Table of Contents

Record of Amendments 3

1. Introduction 4

2. Definition of the Resilient Network 4

3. Managing disruptive events 5

3.1 Greater Manchester (GM) Resilience 6

3.2 Risks and Management 8

Appendix 1 – Map of Manchester's Resilient Network 9

Resilient Network Plan

Record of Amendments

Issue No:	1.0 / 2022
Status:	Draft
Date:	May 2022
Author:	Tony King
Reviewed by:	Steve Robinson
Owner:	Manchester City Council
Approved by:	Executive
Target Review Date:	May 2024

Amendments List

Version	Amendments	By	Date

1. Introduction

- Appropriate management of the highway network requires local authorities to prepare for potentially disruptive events, therefore maintaining a network which is resilient to disruption is a critical function of a local highway authority.

- The effects of climate change on our highway assets have already been seen during several wet and windy weather events in recent years, as well as extreme temperatures. Our longer-term approach to highway asset management will need to consider what effect climate change may have on investment priorities and lifecycle costs of our highway assets. We will consider this impact by:

  - Working towards climate actions that promote the retention and replenishment of nature and the biodiversity environments, by setting targets for future highway schemes procurement in order to maximise opportunities for Biodiversity Net Gain and implementation of green SUDs.

  - Carrying out risk assessments and developing mitigation measures for the effects of extreme weather on our highway infrastructure assets.

- This Resilient Network Plan has been developed to conform to the recommendations set out in the Code of Practice Well-managed Highway Infrastructure, published in October 2016 and founded on the key principles of Best Value and Risk Assessment. It is closely connected to the Manchester's Highway Asset Management Strategy and follows the principals set out in that document.

- We have identified a Resilient Network (RN), which receives priority regarding maintenance and other measures to minimise the risk to the city both in terms of economy and in access. The highway network routes making up Manchester's RN are those routes which are deemed essential to the highway network and do not necessarily follow road classification or road hierarchy.

- 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

- 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 absolutely vital to maintaining economic activity and access to key services during extreme weather emergencies and other major incidents.

- The purpose of defining this network is to identify the most critical routes and associated highway assets, so that planned whole asset maintenance on that part of the network may be prioritised. In doing so, we can ensure that our defined RN is less prone to failure and in turn improve the council's resilience to extreme weather events, industrial action and major incidents.

- 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.

- 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 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

- A plan of our RN is shown in Appendix 1. This is reviewed at least every 2 years or following changes to the highway network to ensure that it is still relevant.

3. Managing disruptive events

- 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.

- 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.

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

3.1 Greater Manchester (GM) Resilience

- 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

- This builds on nearly two decades of multi-agency working to plan and to respond to civil risks and emergencies within the context of the Civil Contingencies Act 2004. It incorporates learning from efforts in GM and across the world to reduce the risk of disasters and crises. It has been created using the processes and tools developed by 100 Resilient Cities (now the Resilient Cities Network) which aim to catalyse the strengthening of urban resilience in our cities and city-regions.

- 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.

- 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.

- The Greater Manchester Generic Response Plan describes the multi-agency response arrangements in an emergency and highlights the need to consider the recovery phase.

- 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.

- RN plans for all 10 GM districts were completed and collated by the GM asset management group in 2018 and a map produced. Discussions were held with each local authority with several amendments made in order to achieve synergy between all 10 district networks. The proposed GM RN was then presented at the Resilience Development Group (RDG) meeting on 11th 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).

- 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 Key Route Network (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.

3.2 Risks and Management

- The following table shows the potential events leading to disruption on the Resilient Network, mitigating actions, response and recovery actions:

Event	Mitigating actions	Planning	Response	Recovery
Intense rainfall & flooding	• Carry out targeted gully cleansing at flood sites • Prioritise drainage improvement schemes on Resilient Network • Invest in remote monitoring systems at known flooding sites to enable a more effective response.	• Maintain accurate and up to date information about flood incidents • Local Flood Risk Management Strategy • Surface Water Management Plans	• Drainage Service Standards review • Secure capital investment into Drainage Infrastructure to improve resilience performance	• Regular review of the Drainage Improvement Plan
Extreme winter and severe weather	• Designing for resilience • Develop response to exceptional heat	• Winter Service Plan • Develop response to exceptional heat.	• Prioritise incident response (e.g. storm damage) on Resilient Network • Post event reviews • Winter Service Plan • Develop response to exceptional heat.	• Winter Service Plan • Develop response to exceptional heat • Post event reviews
Asset deterioration or failure	• Carry out regular inspections and surveys • Prioritised planned maintenance on Resilient Network • Designing for resilience	• Maintain accurate and up to data asset information • Carry out regular inspections and surveys	• Prioritised reactive responses on Resilient Network • Post event review.	• N/A
Other major disruptive event	• Designing for resilience	• Major Emergency Plan	• Prioritising street works management on Resilient Network • Prioritising incident management on Resilient Network • Major Emergency Plan	• Major Emergency Plan • Post event reviews

Appendix 1 – Map of Manchester's Resilient Network