

Definition of the Resilient Highway Network in Kent

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Version	Author	Date	Comment
0.1	Alan Casson	September 2017	Draft
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Introduction

Kent has some of the most intensively used roads in the country meaning that any disruption is felt very quickly by very many people. Ensuring these roads are as resilient as is practicable must be a priority. Resilience in this context is the ability of a road network to withstand not only the impacts of extreme weather (snow, ice or flooding) but also industrial action, major incidents and other local risks. It should therefore be maintained in a condition that makes it more resilient to failure and allows it to recover promptly from the effects of these events.

If there were unlimited budgets the resilient network could be considered to be all roads in the county; however, this is not the case. Therefore, the level of resilience sought for any length of road needs to be commensurate with its intensity of use, economic or social importance and the availability of alternatives. The more intensively used and economically or socially important a route is, the shorter the disruption that is acceptable.

Our Approach to Managing Highways for Resilience

Kent County Council (KCC) has long had robust systems in place to respond effectively to severe weather emergencies and we already take a tiered approach to the management of our 5,400 mile (8,700 km) highway network. Routine maintenance and investment is prioritised based on a maintenance hierarchy of major strategic (MS), other strategic (OS), locally important (LI) and minor (M) routes.

We also use this hierarchy to determine the Winter Maintenance Network, which defines the precautionary salting routes and totals about 1,560 miles (2,500 km) or 30% of the whole highway network. It includes all MS, OS and LI routes. There is a further refinement of this network, called the Minimum Winter Network, which determines the priority routes that are to be kept open in the event of a prolonged snow emergency. This network is around 750 miles (1,200km) in length, about 14% of the total network.

KCC also has a Severe Weather Plan which sets out how we will respond to and manage the effects of severe weather events including snow, ice, wind, rain and flooding. This too prioritises our response on MS, OS and LI routes.

Our Resilient Highway Network

While our winter and severe weather plans are about preparing for and reacting effectively to adverse weather conditions, our Resilient Highway Network 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 was to identify the *most* critical routes and associated highway assets, such as bridges, so that planned whole asset maintenance on that part of the network may be prioritised. In doing so, we can ensure that our defined Resilient Highway Network is less prone to failure and in turn

improve the county's resilience to extreme weather events, industrial action and major incidents.

Our definition of critical highway assets in this context is those whose failure to operate effectively would result in a route on the Resilient Highway Network becoming unusable, particularly in an emergency. Examples of this include; structures (weight restrictions on or total collapse of a bridge), drainage (extensive flooding of the carriageway caused by capacity or condition) and embankment, cutting or carriageway failure.

The overarching aims of Kent's Resilient Highway Network are:

- to protect economic activity in and through the county
- to protect access to key services, and
- to protect access to key infrastructure.

The aim of Kent's Resilient Highway Network is not:

- to provide a door-to-door service
- to link every community, or
- to provide evacuation routes.

To achieve this we have used the following criteria to identify and map a network of our most critical routes and highway assets:

- roads connecting main towns in the County of Kent with a population of 20,000 and above
- roads connecting main towns with Highway England's Strategic Road Network
- roads connecting main towns with main employment sites
- roads connecting with key operational services requiring emergency public access, such as hospitals with Accident and Emergency facilities
- roads connecting with key infrastructure, such as power stations and main transport facilities.

How we use the Resilient Highway Network

This network, and the identified critical assets on these routes, are incorporated into the maintenance regimes of all highway assets which may, depending on the asset, give rise to:

- additional maintenance interventions to ensure the asset continues to function (for example, an increased drainage cleansing frequency)
- the prioritisation of existing maintenance resource to mitigate the onset of deterioration of the asset, and
- fast tracking any works already in the programme to reduce the risk of failure of the asset.

How we ensure our Resilient Highway Network remains relevant

Our Resilient Highway Network is reviewed by KCC's Highways, Transportation and Waste's Divisional Management Team at least every two years and after any major

event to ensure it remains relevant as lessons are learnt and services and businesses within the county change.