HIGHWAY MAINTENANCE OPERATIONAL PLAN

May 2021

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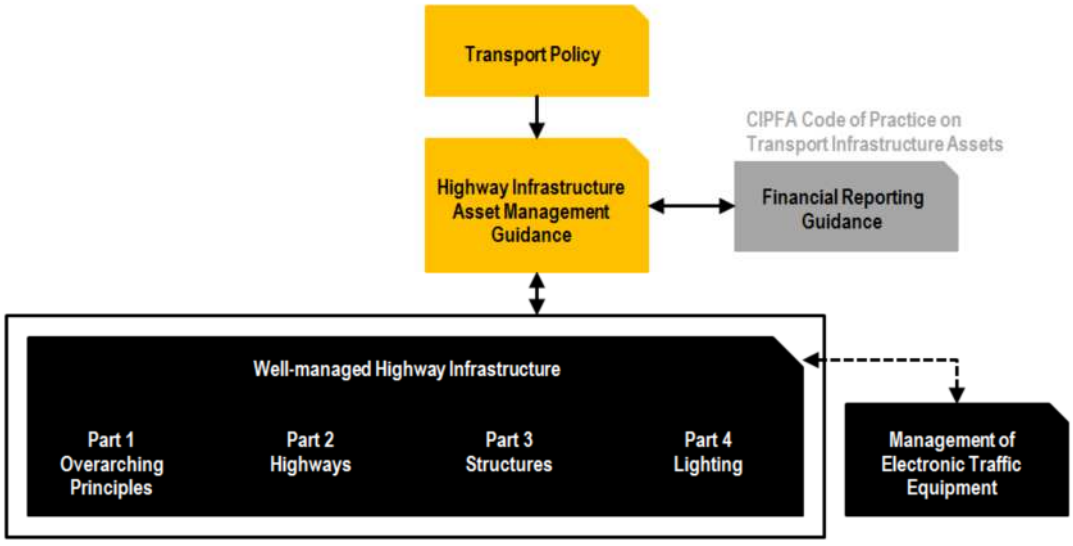
SECTION 1 - INTRODUCTION

Suffolk County Council is the local highway authority for all non-trunk roads maintainable at public expense within Suffolk. As the local highway authority, the County Council has to fulfil a number a number of statutory duties, many of which are contained in the Highways Act 1980. Other legislation impacts upon the County Council's highway maintenance powers and duties and reference is made to some such legislation within this document. 'Suffolk Highways' delivers the highway maintenance function on behalf of Suffolk County Council.

National recommendations for the provision of the highways maintenance service used to be defined in three specific Codes of Practice – Well-Maintained Highways, Well-Lit Highways and the Management of Highway Structures. The content of these three Codes of Practice was brought together under a replacement overarching Code of Practice entitled **Well-Managed Highway Infrastructure** published on the 28 October of 2016.

The general principles and content of the Well-Managed Highway Infrastructure were shared within the highways sector to ensure that local highway authorities could contribute to its evolution. This new Code of Practice encourages the development of a locally determined risk-based approach to highway maintenance, aligned to central government's expectation that local highway authorities will adopt appropriate asset management. The following diagram helps to illustrate this broader context.



The Well-Managed Highway Infrastructure Code of Practice is not a statutory document but comprises a framework of guidance and standards for the highway maintenance service. As a national document, the Code of Practice has recognised that there has been increasing divergence from the principles and practices recommended in the aforementioned three Codes of Practice due to financial pressures, the need for local discretion and diversity in service provision and differing local service users' priorities.

This **Highway Maintenance Operational Plan** represents Suffolk Highways' interpretation as to how the local highways maintenance service should be provided to both accord with the Council's statutory duties and be aligned to the philosophy of the Code of Practice. This Highway Maintenance Operational Plan has been developed alongside Suffolk's Highway Infrastructure Asset Management Plan (HIAMP) and will continue to evolve as the HIAMP is developed and implemented.

This Highway Maintenance Operational Plan or 'HMOP' supersedes previous versions and was developed as part of the Highways Transformation Programme. As this HMOP represents formal Council policy, it has initially been approved by Suffolk County Council's Cabinet with authority delegated to the Assistant Director Operational Highways in consultation with the Cabinet Member for Highways, Transport and Rural Affairs to make subsequent minor amendments to its content.

Although the HMOP is aligned with Well-Maintained Highway Infrastructure (WMHI) Code of Practice and the Council's HIAMP, it does not include the County Council's approach to the maintenance of structures within the highway (bridges, culverts and retaining walls) which is addressed through other forms of national guidance.

SECTION 2 - THE HIGHWAY NETWORK

2.1 ROAD CLASSIFICATION

Roads may be distinguished as: classified numbered ('A' and 'B') roads; classified un-numbered ('C') roads; or unclassified ('U') roads. The assignment of road classification to 'A', 'B' or 'C' roads must be approved by the Department for Transport.

The road numbers for 'A' and 'B' roads are allocated by application to the Department for Transport whilst the road numbers for 'C' and 'U' roads are allocated by Suffolk County Council.

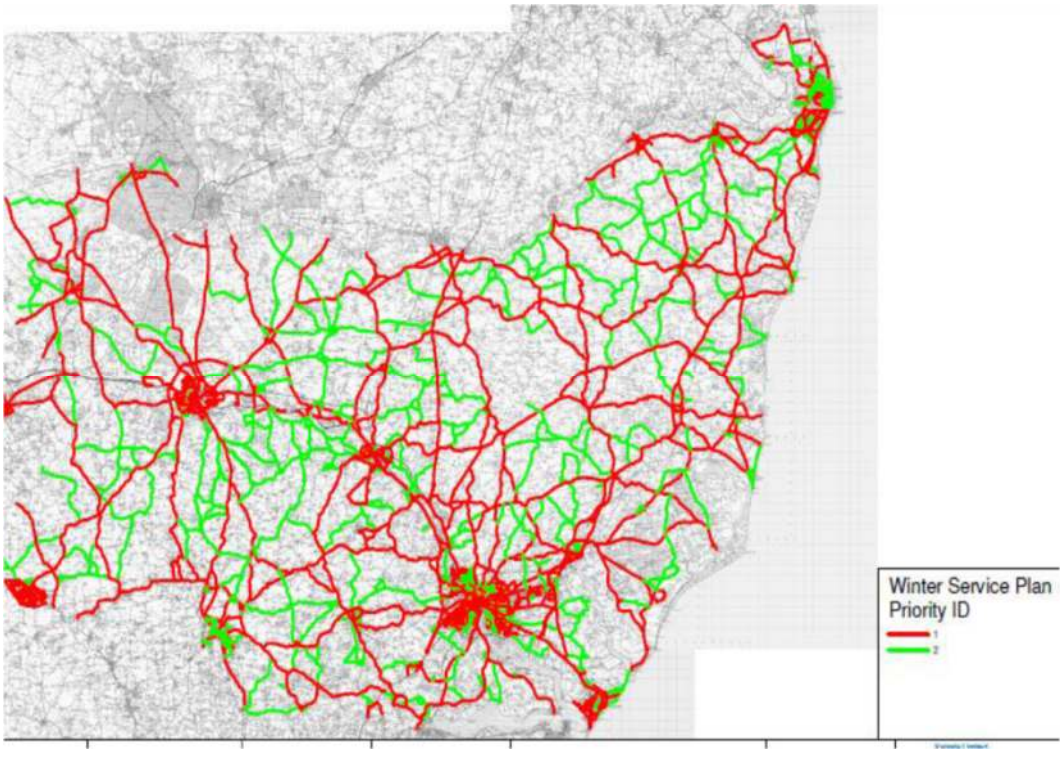
2.2 PRIORITISATION OF MAINTENANCE

The system of classification as used by central government does not necessarily reflect the needs, priorities and actual use of each road in a local highway network. A number of factors may define the relative importance of roads which, in turn, may help determine their respective maintenance regime. Such factors will include:

- importance (e.g. a road leading to a major hospital);
- environment (e.g. rural, urban, busy shopping street, residential street etc.); and
- usage (e.g. traffic flows, bus routes and the like).

It is important that any maintenance strategy reflects these factors and prioritises roads accordingly.

This approach to road classification is followed in Suffolk by assigning roads within a defined hierarchy. This hierarchy of roads is used to prioritise maintenance and, although not the single arbiter, is a key link between maintenance policy and its day-to-day application. An example of this prioritised approach to maintenance for specific roads would be the Council's precautionary winter treatment network, as shown in the following diagram for 'Priority 1' and 'Priority 2' roads:



2.2.1 Carriageways

The WMHI Code of Practice contains guidance on the development of a carriageway hierarchy, although it is accepted in that document that there will inevitably be significant variations from the guidance to suit local circumstances. The guidance given in the WMHI Code of Practice is as follows:

Table 1 – Factors to Consider – Carriageways

CATEGORY	TYPE OF ROAD GENERAL DESCRIPTION	DESCRIPTION
Motorway	Limited access - motorway regulations apply	Routes for fast-moving, long distance traffic. Fully grade separated and restrictions on use.
Strategic route	Trunk and some principal 'A' class roads between primary destinations	Routes for fast-moving, long distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.
Main distributor	Major urban network and inter-primary links. Short to medium distance traffic	Routes between strategic routes and linking urban centres to the strategic network with limited frontage access. In urban areas, speed limits are usually 40 mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.
Secondary distributor	B and C class roads and some unclassified urban routes carrying bus, HGV and local traffic with frontage access and frequent junctions	In built-up areas, these roads have 20 or 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On-street parking is generally unrestricted except for safety reasons. In rural areas, these roads link the larger villages, bus routes and HGV generators to the strategic and main distributor network.
Link road	Roads linking between the main and secondary distributor network with frontage access and frequent junctions	In urban areas, these are residential or industrial interconnecting roads with 20 or 30 mph speed limits, random pedestrian movements and uncontrolled parking. In rural areas, these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two-way traffic.
Local access road	Roads serving limited numbers of properties carrying only access traffic	In rural areas, these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas, they are often residential loop roads or culs-de-sac.
Minor road	Little used roads serving very limited numbers of properties.	Locally defined roads.

Whilst the carriageway hierarchy within Suffolk is based upon the guidance in the WMHI Code of Practice, experience of individual roads and their maintenance requirements, together with the principles of risk assessment, have been used in formulating the most meaningful hierarchy for Suffolk.

The resultant road hierarchy is identifiable by the descriptions set out in the table below for the various Road Types. It should be noted, though, that it was considered appropriate to differentiate between rural and urban 'main secondary distributor roads' (Road Type 3b). This is because such rural roads carry a higher speed of traffic than the equivalent (30mph) urban roads and thus have an increased maintenance risk associated with its defects.

Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
Strategic 'A' roads	Main distributor - major urban network and inter-strategic routes	Main rural secondary distributor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac

More detailed descriptions can be found here: www.suffolk.gov.uk/categories-of-roads

2.2.2 Footways

Footway maintenance standards, in common with carriageway maintenance standards, are unlikely to be reflected by road classification. Pedestrian usage is more important than the categorisation of the road.

The guidance given in the WMHI Code of Practice is as below:

Table 2 – Factors to Consider – Footways

CATEGORY	DESCRIPTION
Prestige walking zones	Very busy areas of towns and cities with high public space and street scene contribution.
Primary walking routes	Busy urban shopping and business areas and main pedestrian routes.
Secondary walking routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
Link footways	Linking local access footways through urban areas and busy rural footways.
Local access footways	Footways associated with low usage, short estate roads to the main routes and culs-de-sac.
Minor footways	Little used rural footways serving very limited numbers of properties

Local factors such as the proximity of schools and shops are also important in this context. Therefore, a separate footway hierarchy has been developed to assist with the prioritisation of the maintenance of footways, albeit that there are no identifiable prestige walking zones in Suffolk.

The WHMI Code of Practice recognises that the assignment of a footway to a particular category is a matter for local discretion and such discretion has been applied in the development of the footway hierarchy for Suffolk.

Footway Type 1	Footway Type 2	Footway Type 3	Footway Type 4 (Mandatory Cycle Lanes C/Way)
Busy urban shopping and business areas	Medium use routes, local areas local shopping areas	Linking local access ways through urban areas and busy rural areas	Low usage

Controlled pedestrian crossings within the carriageway will attract the maintenance standards associated with the relevant footways.

2.2.3 Urban Rights of Way

Some footpaths within urban areas are recorded on the definitive map as public rights of way. Within urban areas these may provide a functional route to shops, schools etc. Some of these footpaths are bound material. Where footpaths are bound then they will be assigned an appropriate category within the footway hierarchy and will be inspected and maintained accordingly.

Most unbound footpaths in urban areas are managed as part of the wider public rights of way network and surface inspection and maintenance is undertaken on a mainly reactive basis.

2.2.4 Cycleways

The WMHI Code of Practice recommends that the maintenance of cycleways should be prioritised and so its prioritisation principles are to be applied to within Suffolk. The guidance given in the WMHI Code of Practice is as below:

Table 3 – Factors to Consider – Cycle Routes
Description
Cycle lane forming part of the carriageway, commonly a strip adjacent to the nearside kerb. (identified above as 'Footway Type 4'); Cycle gaps at road closure point (no entry to traffic, but allowing cycle access).
Cycle track - a highway route for cyclists not contiguous with the public footway or carriageway; Shared cycle/pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated (which could be Footway Type 1, 2 or 3)
Cycle trails, leisure routes through open spaces. These are not necessarily the responsibility of the local highway authority, but may be maintained by an authority under other powers or duties.

SECTION 3 - STANDARDS AND POLICIES

3.1 HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT PLAN (HIAMP)

On 10 November 2015, Suffolk County Council approved the adoption of a new Highway Infrastructure Asset Management Policy (which reflects Suffolk's Local Transport Plan aims and supports the corporate priorities) and a new Highway Infrastructure Asset Management Strategy (which set out how an asset management approach would be implemented and how managing the condition of the highway network by Suffolk Highways would be assessed). The Strategy identified that a new Suffolk Highway Infrastructure Asset Management Plan would be developed to replace the Transport Asset Management Plan (TAMP) which was introduced in 2011. The TAMP set out a framework for the maintenance of the County Council's transport assets in Suffolk.

This Highway Maintenance Operational Plan (HMOP) is regarded as part of the HIAMP and provides the details of how Suffolk Highways aims to deliver its reactive service. The chart below (drawn from the Department for Transport sponsored Highway Maintenance Efficiency Programme documentation) indicates how these various documents are inter-related with other guidance and parameters.

3.2 WINTER SERVICE PLAN

Other than the Local Transport Plan, this Highway Maintenance Operational Plan and the relatively recently established Highway Infrastructure Asset Management Policy, Strategy and Plan, there are relatively few formal plans and policies applicable to highway maintenance. One such plan, however, is the Winter Service Plan which details Suffolk County Council's current policies and procedures for dealing with frost, ice and snow on the highway network.

Although some further consideration must be given to how the Winter Service Plan aligns with the need to have a local 'resilient network' (consistent with the requirements emanating from the 2014 Transport Resilience Review), the Council's Winter Service Plan can be found at:

https://www.suffolk.gov.uk/gritting

The winter service itself covers three basic categories: pre-treatment; post-treatment; and snow clearance. Whilst the Winter Service Plan identifies the overall expectations of how adverse winter weather is to be addressed, the detailed arrangements for the delivery of the winter service are defined in Suffolk Highways' winter service operational plan. This latter document is annually reviewed and links to the County Council's Emergency Response Plan.

In general consistency with the prioritisation of roads identified in Section 2.2.1 above, the winter maintenance service focuses on providing preventative maintenance treatment on a prioritisation basis. The more strategic part of the network falls under Priority 1 (or 'P1') and, at present, these roads combined by the slightly less important Priority 2 (or 'P2') roads currently comprise 51% of the overall highway network. These P1 and P2 routes are depicted in Section 2.2 above.

Footways will not generally receive any pre-treatment (although some salt may reach footways as a consequence of the preventative treatment of the adjacent road surface) but post-treatment will be carried out in severe conditions as resource allows, on a similar hierarchical basis. Equally, depending on available resources, there may be pre-treatment of the strategic network of main urban cycle routes across the County under the same treatment regime that applies to P2 routes.

More recently the "duty to grit" (introduced under The Railways and Transport Safety Act, 2003) has placed more emphasis on the need to treat highways before the formation of ice. In severe weather conditions (snow or ice), P1s and then P2s will therefore take priority for treatments and only when this part of the network is reasonably clear will resource be diverted to deal with other problems. A network of farmers and other contractors across the County can be called on in the case of heavy snow falls to help deal with specific areas. In the severest of conditions, it is likely that a central control would be set up to continuously monitor the situation and the need for additional resource.

Public information about the current winter maintenance service and the status of salting arrangements is available on the County Council's web site. However, the winter maintenance service will need to be reviewed given that Appendix H of the Well-Maintained Highways Code of Practice (which focuses on winter maintenance) is not given the same amount of prominence in the WMHI Code of Practice. The contents of Appendix H will revert to merely advice that can be obtained from the National Winter Service Review Group website.

SECTION 4 - RISK MANAGEMENT

4.1 SAFETY INSPECTIONS

4.1.1 Introduction

Local highway authorities are under a duty to maintain public highways by virtue of Section 41 of the Highways Act 1980, to enable safe passage of highway users. There is an acknowledgement that not all highways can be in perfect condition all of the time and, in this circumstance, a defence under Section 58 (i.e. that reasonable care has been taken to ensure that the highway is not dangerous) is relied on in the event of third party insurance claims.

4.1.2 Standards

All carriageways, footways and cycleways are inspected at regular intervals ranging between monthly to 12 monthly periods depending on the road / footway type. These safety inspections are undertaken to detect defects likely to present a danger or nuisance to the travelling public, and to rectify them with an appropriate degree of urgency.

To ensure Suffolk Highways' inspection teams remain Covid secure, all carriageway inspections are undertaken by a single Suffolk Highways representative in a slow-moving vehicle. Footway inspections are walked or undertaken by a single representative in a slow-moving vehicle.

Unsurfaced roads ('green lanes') including unbound laybys are not routinely inspected but, to reflect their local use by limited vehicular traffic, equestrians and pedestrians, inspections may occasionally be undertaken. However, as funding for work on these roads is very limited, only minor repairs may consequently be undertaken, solely in order to keep the lanes open to local users, as and when practical to do so.

4.1.3 Carriageway Safety Inspection Frequency

Road Type	Inspection Frequency	Tolerance for completion in relation to due date
2 - Strategic routes	1 month	5 working days
3a - Main distributors	1 month	5 working days
3b - Secondary distributors	3 months	10 working days
4a - Local roads	6 months	10 working days
4b - Local access roads & minor roads	6 months	10 working days
5 - Unsurfaced unclassified roads (green lanes)	Inspection on complaint only	

In the event that the surface of the carriageway cannot be adequately seen during a safety inspection (e.g. due to parked cars), reasonable efforts shall be made to complete the inspection. To accommodate staff commitments/availability and exceptional weather events, a tolerance is built into the timing of any safety inspection relative to the "due" date.

4.1.4 Carriageway Condition Inspection

In addition to the carriageway safety inspections identified in Section 4.1.3, there should be at least one overall carriageway condition inspection each year so as to assess the overall deterioration of each road. The purpose of this minimum annual condition inspection is to provide input into the development of the asset management-led programmes of future work with a particular focus on prioritised preventative maintenance opportunities.

4.1.5 Footway Safety Inspection Frequency

Footway Type	Inspection Frequency	Tolerance for completion in relation to due date
1 - Primary walking route	1 month (on foot)	5 working days
2 - Secondary walking route	6 months (on foot)	10 working days
3 - Link footway	12 months (on foot)	10 working days
4 - Local access footway & minor footway	12 months (by car)	10 working days

Category 4 footways have limited use and consequently most of these can be inspected by two Suffolk Highways representatives in a slow driving vehicle. However, if the surface of the pavement cannot be seen from a vehicle, that section must be inspected on foot and recorded as such. To accommodate staff commitments/availability and exceptional weather events, a tolerance is built into the timing of any safety inspection relative to the "due" date.

4.1.6 Footway Condition Inspection

In addition to the safety inspections identified in Section 4.1.3, there should be at least one overall footway condition inspection each year so as to assess the overall deterioration. The purpose of this minimum annual condition inspection is to provide input into the development of the asset management-led programmes of future work with a particular focus on prioritised preventative maintenance opportunities.

4.2 CATEGORIES OF WORK

As shown in the table below, categories of response time for work have been developed for reactive works (Categories 1 to 6), potential future works (Category 7) and planned work (Category 8). Timescales for Categories 2 to 5 are recorded as working days and this is defined as starting at 00.01hrs the following working day to when the order is submitted for work. This enables the time between the placing of the order and midnight to be used to forward programme the remedial work and to enable full working days to be available for completion of such works.

The delivery of highway maintenance can be very disruptive to road users, particularly on the busier roads and footways but, for the most part, it really is a matter of ‘short-term pain for long-term gain’. Over the last decade or so, highway maintenance has moved further and further towards reactive maintenance – tackling defects when they get really bad – rather than either trying to tackle those defects at an early stage to prevent them getting worse or preventing the defect from forming in the first place. The latter isn’t always possible so the Suffolk Highways’ HMOP approach is to tackle defects at an earlier stage.

It is not possible for works to be carried out everywhere at the same time and so there has to be prioritisation and that has to be undertaken adopting a risk-based approach. The busier a road or footway is in terms of traffic, the greater the chance of a defect causing a problem. Effectively, Suffolk Highways is giving greater priority to the roads that carry most vehicles and less priority to the quieter roads.

The WMHI Code of Practice suggests that timescales for repairs should reflect the element of risk involved. Although this means that different local highway authorities will have different response times, it does recognise that the condition and type of local road networks vary significantly. For example, some city and metropolitan councils have no rural roads whilst some county councils may have a limited number of urban roads. One size does not fit all.

Suffolk Highways' approach is to define timescales that can be met across the entire county, irrespective of whether the work is in an urban or rural environment. Equally, at the moment, the working week is Monday to Friday (with an out-of-hours service in operation at night, at weekends and on bank holidays) – but that situation might have to change as our road network becomes busier and busier and the idea of a 24/7 service has to be put into effect.

Cat 1	2 hours
Cat 2	2 working days
Cat 3	5 working days
Cat 4	10 working days
Cat 5	20 working days
Cat 6	8/14 calendar weeks*
Cat 7	Potential future works
Cat 8 & 9	Planned works
* 8 weeks is used in matrices B and C only. For all other relevant matrices the 14 week timescale applies	

Suffolk Highways is linking a category of repair to a specific timescale – as set out in the table above. Once a defect has been assessed (either after it has been detected from a highway inspection or public notification by email, telephone or, more preferably, on-line reporting), an order for repair work will be raised. If the matter is serious to life and limb – i.e. it is a Category 1 defect – the clock will start ticking immediately after the repair is ordered.

4.3 REACTIVE WORKS (Categories 1 to 6)

The WMHI Code of Practice notes that local highway authorities should adopt a risk-based approach and a risk management regime for all aspects of highway maintenance policy. There are deliberately no prescriptive or minimum standards in that Code of Practice so as to avoid operational constraints that local courts inappropriately assess performance against.

Adoption of a risk-based approach, taking account of the advice in the WMHI Code of Practice, has enabled Suffolk Highways to establish and implement levels of service appropriate to Suffolk's circumstances.

The categories of work noting Suffolk Highways' response time for dealing with safety defects have been developed by reviewing the location (severity) and size (likelihood) of the defect. By assessing multiple criteria, response times are more effectively defined by way of 'Defect Response Matrices' with the defined timescales for intervention geared towards, as far as practically possible, providing a 'right first time' permanent repair.

4.4 POTENTIAL FUTURE WORKS (Category 7)

As identified above, there isn't enough funding in place to put right everything on the local highway network straight away – so, some work just has to wait. And that includes tackling what many people will consider to be 'potholes'.

The 'potential future works' for rectifying the defect within the yellow markings in the photograph below would not be to just fill the hole – but to consider carrying out a patch repair for that hole and the surrounding area (which has actually been scarred by a vehicle fire). One visit, one repair treatment.

However, that repair would form part of a wider order in that area for a road patching gang to make the entire visit an economically sensible one – and so it may be a number of months before it is tackled.

There will be many instances where defects that are defined as Category 7 defects (i.e. not of sufficient degeneration to warrant remediation within a defined timescale) will not be ordered for an isolated repair in the short, medium or long term. Such defects, however, may be rectified as part of an asset management-led preventative maintenance treatment arising from the condition surveys identified in Sections 4.1.4 and 4.1.6

4.5 PLANNED WORKS (Category 8 and 9)

There are certain activities that Suffolk Highways carry out on a regular or 'cyclic maintenance' basis such as cleaning out road gullies, cutting back overgrown grass verges and the re-profiling of drainage grips.

Suffolk Highways also carries out annual programmes of road marking renewals, surface dressing, surface treatments, resurfacing, patching and slurry sealing of footways.

These types of programmes and cyclic maintenance are all forms of 'planned work' and are ordered as either Category 8 major works or Category 9 minor works.

Category 8 and Category 9 works follow different internal processes relating to the determination and management of the Construction (Design and Management) Regulations 2015

If a defect on the local highway network has been reported and there are planned works there in a reasonable timescale, it may be unlikely that any additional activity takes place to correct that defect beforehand. However, if the defect is reported and there is future programmed work to be carried out, a repair (perhaps temporary) may have to be made in any case if there is too great a time gap between the defect being reported and when the planned work is scheduled to take place.

SECTION 5 - ENVIRONMENT AND SAFETY CONDITION AND MAINTENANCE STANDARDS

5.1 GRASS CUTTING

5.1.1 Safety

Grass is cut for safety purposes to maintain visibility for highway users and to ensure that road and footway widths are not reduced by overgrowing vegetation. In areas where no footway exists, there may be a need to provide a safe refuge on the highway verge for pedestrians, particularly on busy roads.

Section 96 of the Highways Act 1980 does not define either the frequency at which grass should be cut, nor does it describe the maximum height it may grow to before it is cut. However, grass verges must be maintained so that it does not create 'such a situation as to hinder the reasonable use of the highway by any person entitled to use it, or so as to be a nuisance or injurious to the owner or occupier of premises adjacent to the highway'.

5.1.2 Serviceability – amenity cutting in urban areas

Grass cutting in urban areas, and on housing estates, is carried out by district/borough councils for amenity purposes to a higher frequency than that required for highway safety. In order to avoid duplication, the County Council contributes towards the cost of cutting undertaken by the district/borough councils under the terms of a service level agreement (SLA). The area cut by district/borough councils is scheduled and is subject to annual review as new roads are adopted.

5.1.3 Sustainability

There is the potential for conflict of interests between grass cutting and conservation issues, with wild plants being mown before they have flowered and seeded. Although some low growing species thrive in the cut areas, elsewhere they would be smothered by more dominant varieties.

The County Council works with Suffolk Wildlife Trust (SWT) to manage about 100 Roadside Nature Reserves. Each site is promoted for its special ecological content. The sites are marked by posts to ensure cutting does not take place at inappropriate times. However, at least one cut is essential to keep the more dominant species at bay and this is usually in September to October, with a possible springtime cut. Within *Areas of Outstanding Natural Beauty* (AONB) or *Sites of Special Scientific Interest* (SSSI), the Council is now entering into asset management schemes with English Nature.

5.1.4 Standards

Single swathe widths (1.2 metres) are cut along most rural verges, increasing in width to incorporate visibility splays at junctions, bends and in front of signs. Often verges are wider than 1.2 metres and the vegetation beyond this point will remain largely untouched at these locations, so allowing nature to run its course.

The following table details numbers of cuts per year assuming average growth rates. Limited additional cutting may be required at times of exceptional growth when road safety may otherwise be jeopardised.

Location	Standard of grass cutting
Urban areas	Full highway verge width – a minimum of 2 cuts per year
Rural verges	'A' and 'B' roads: 2 cuts per year of first 1.2 metre swathe and visibility splays at junctions, bends and signs. Minor roads ('C' and 'U'): 1 cut per year of first 1.2 metre swathe and visibility splays at junction, bends and signs. Additional localised cutting may be undertaken where required for safety reasons; • Grass overhanging a footway causes people to walk in the road. • It would encourage journeys to school by walking or cycling. • Access to village centres by means other than car would be difficult or dangerous. • There are potential safety hazards caused by long grass at obscuring visibility. • Cuttings/embankments require safety or amenity trimming.
Roadside nature reserves	Single cut generally in the autumn in accordance with the requirements of the Suffolk Wildlife Trust, but a cut in the spring may be necessary as advised, for certain species.

Visibility of signs should be maintained as far as possible by additional grass cutting or very localised hedge cutting. Hedge cutting should be undertaken after the end of August/before the start of March to avoid disturbance to nesting birds in all but urgent safety problems.

5.2 WEED CONTROL

5.2.1 Safety

Weed growth can impair safety for highway users by reducing available road and footway widths. The Weeds Act 1959 lists a number of weeds which can be injurious to human or animal health. It places a duty on controllers of land to eliminate the following scheduled weeds from their land to prevent seeds contaminating their neighbours' land:

Spear thistle	*Cirsium vulgare*
Creeping or field thistle	*Cirsium arvense*
Curled dock	*Rumex crispus*
Broad leaf dock	*Rumex obtusifolius*
Common ragwort	*Senecio Jacobaea*

The Wildlife and Countryside Act 1981 specifies control of certain plants such as giant hogweed or Japanese knotweed. Giant hogweed can cause problems in the form of blistering to the skin.

5.2.2 Standards

Location	Frequency
Footways and immediately adjacent kerbed channels	Once per year; generally undertaken in the spring/summer using a systemic weed killer.
Noxious weeds	Where a problem is identified then a one-off treatment, or series of treatments, will be arranged (see notes below).

5.2.3 Treatment of noxious weeds

As common ragwort can be fatal to livestock, central government introduced The Ragwort Control Act in 2003 with the specific purpose of controlling its spread. In July 2004, DEFRA published the Code of Practice on How to Prevent the Spread of Ragwort.

Based upon an historic assessment of the risk versus the associated cost, Suffolk County Council does not carry out annual inspections specifically to identify areas of infestation. Following the notification via public contact of infestation sites, Suffolk Highways will investigate and categorise the risk that such sites pose.

Any high risk sites (i.e. where ragwort is present and is flowering/seeding within 50m of land being used for grazing or forage production) will be cleared, subject to landowner co-operation and prior action. If landowners fail to act similarly on their own land, recolonization of highway land will occur, rendering Suffolk Highways' intervention (i.e. clearance by hand-pulling, bagging and disposal to licensed landfill sites) unnecessary.

Medium risk sites (i.e. where ragwort is similarly present but only within 50m to 100m of grazing/forage production land) will be monitored to anticipate any change from medium to high risk.

No immediate action will be taken at low risk sites (i.e. where ragwort is more than 100m away from grazing/forage production land).

5.2.4 Giant hogweed

Giant hogweed is present in isolated parts of the county and looks similar to very large cow parsley, growing to 12 feet high. Barbs under the leaves and the stem contain a poisonous sap which can photo-sensitise the skin, causing blistering requiring hospitalisation. It can be chemically weed killed early in the season but must later be bagged and disposed of at a licensed landfill site by a specialist weed control contractor.

5.3 SKIRTING

5.3.1 Safety

Edge maintenance or skirting of carriageways, footways and cycleways is necessary to prevent encroachment of grass reducing available width.

5.3.2 Standards

Skirting of carriageways is undertaken in preparation for surface dressing or other maintenance treatment. Footway skirting is undertaken where it is essential for pedestrian safety (e.g. where pedestrians may be forced to walk in the carriageway) and in preparation for slurry sealing or other maintenance treatment.

5.4 TREES AND HEDGES

The management of highway trees will generally be consistent with the contents of the Highway Infrastructure Asset Management Plan and Suffolk County Council's emerging 'Tree Policy'.

5.4.1 Safety

Trees and hedges growing on or adjacent to the highway can become a serious hazard to highway users if they become unstable or decay or if they encroach onto footways, carriageways or visibility splays. Root growth can damage pavements causing trips to develop which are potentially dangerous to pedestrians. Roots can damage underground apparatus or private property. Trees take moisture from the ground which can cause the ground to settle or heave resulting in damage to roads or footways.

5.4.2 Standards

Almost all hedges are owned by the adjacent property owner. Where a problem is identified, every effort will be made to ensure (through formal enforcement) that the landowner cuts back the offending overgrowth to the highway boundary in an agreed manner.

In rural areas, work to trees within the highway will be mainly reactive, in response to safety concerns. In urban areas, proactive management of trees in the highway is encouraged, although work is completed on a priority basis as funding is very limited.

Maintenance will be required from time to time to mitigate the adverse effects of trees or to maintain the condition of a tree. A qualified arboriculturalist may be used to inspect trees of specific concern. Work is only undertaken after informing/consulting with local councils and adjacent property owners, unless it is very urgent. Work to trees in conservation areas and trees subject to tree preservation orders will require the authorisation of the relevant district or borough council.

For any tree that must be removed from the highway due to being dead, diseased or vandalised every attempt will be made to plant a new tree in a location that requires the minimum amount of root protection/containment, accords with the Highways Act 1980 and has the potential to flourish in appropriate ground conditions. This would preferably be in wide highway verges away from all bound material highway surfaces or in non-highway locations (such as local amenity, landscaped areas). This approach should also be followed for new tree provision in general.

5.5 DRAINAGE SYSTEMS

5.5.1 Safety

Accumulations of water on carriageways, footways and cycleways can increase risks to the safety of highway users, particularly on high speed roads and when standing water exists in freezing conditions.

Displaced covers and frames can be a hazard to pedestrians and a potential hazard to drivers and cyclists. Damaged covers may collapse leaving a void in the highway.

5.5.2 Standards

Cleansing is undertaken to remove the build-up of detritus that occurs in gully sumps and other drainage channels.

Drainage Feature	Inspection and Cleansing Standard
Gullies	Highway (i.e. carriageway and footway) gullies shall be cleansed on average at 12 monthly intervals. However, gullies prone to regular silting or blocking by leaves and at high risk locations should be cleansed at more frequent intervals, by local prioritisation. Piped connections to a sewer/ditch should be checked at the time of cleansing but may require separate treatment if this cannot be readily achieved at the time.
Kerb offlets	The cleansing frequency shall be the same as for gullies with the detritus cleaned from mouth of offlet, and adjacent carriageway and piped connection shall be checked by flushing but may require separate treatment if this cannot be readily achieved at the time.
Roadside grips	An annual programme will be undertaken for mechanical auger or hand cutting either to a ditch (where possible) or to soak away in the adjacent verge.
Piped drainage systems & culverts under roads.	Inspected and cleaned out when blockages are identified or reports of flooding are received. Reference should be made to Matrix E below.
Catchpits and soakaways Oil Interceptors	Inspected and cleaned out when blockages are identified or reports of flooding are received. Reference should be made to Matrix E below Some catchpits and soakaways prone to regular silting scheduled for annual inspection and clean. As per manufacturer's recommendations.
Highway authority ditches	Cleared of vegetation and dug out when blockages are identified or reports of flooding are received.
Other ditches	Owner requested to undertake clearance when blockages are identified or reports of flooding are received.
Covers and gratings	Covers and gratings will be inspected as part of each safety inspection and during scheduled cleaning. Missing or damaged covers will be replaced. Reference should be made to Matrix D below
Linear drainage systems/kerbs/ACO/ path channels.	Some linear drainage systems prone to regular silting will be scheduled for annual inspection and clean. Reference should be made to Matrix E below Inspected and cleansed when blockages identified.

5.6 SWEEPING

5.6.1 Safety

A build-up of detritus on the surface of the carriageway can:

- lead to localised loss of skidding resistance increasing risk of accident;
- lead to blockage of drainage paths and drainage systems increasing the risks of localised flooding;
- be unsightly

5.6.2 Serviceability

Under the terms of the Environmental Protection Act 1990, street cleansing, including sweeping, is the responsibility of the district/borough councils. The Act requires district/borough councils to meet specified response times for the removal of litter from the highway. Detritus falls within the description of litter.

The district/borough councils meet their obligations under the Act by carrying out routine sweeping of the highway at intervals determined by the nature of the road or footway. Most rural roads are not routinely swept and here district/borough councils adopt a regime which responds to individual requests for cleansing.

5.6.3 Standards

Where a build-up of material presents a danger to users of the highway and its removal cannot wait until the district/borough council reacts or carries out their next routine cleanse, then emergency clearance may be warranted and the local highway authority will be responsible for arranging this. The response time will be dependent upon the nature of the detritus, and the risk it presents to highway users. These response times are noted in Matrix A.

Collection of detritus that can be reasonably dealt with by a sweeping or cleansing regime should be left to the respective cleansing authority to deal with.

5.7 TRAFFIC SIGNS AND BOLLARDS

5.7.1 Safety

Mandatory, regulatory and warning signs contribute to road safety by assisting highway users to identify safety risks, and separating potential traffic conflicts.

Clear direction signing can contribute to safety by reducing driver confusion and keeping traffic to appropriate routes.

5.7.2 Standards

For replacement of missing road signs, this is covered under Matrix G, including bollards displaying road signs. For bollards restricting access to the highway, the response to safety defects is covered in Matrix F.

5.8 ROAD MARKINGS AND STUDS

5.8.1 Safety

Mandatory, regulatory and warning road markings and studs contribute to road safety by assisting highway users to identify safety risks, and separating potential traffic conflicts.

Clear road markings and studs can contribute to safety by reducing driver confusion and keeping traffic to appropriate routes. They also assist in delineation especially in darkness and poor visibility. Road markings also help to manage the enforcement of safe designated parking/loading areas.

5.8.2 Standards

(a) Road markings

Road markings will be maintained in accordance with the table below on a rolling programme. Only road markings classified as a 'priority' that are identified during routine safety inspections as requiring maintenance will be added to the programme as an additional instruction.

(b) Road studs

Priority will be given to studs which give effect to regulations, double white systems and systems of road studs on principal 'A' class roads.

Feature	Maintenance Standard
Road markings	The following 'priority' road markings will be maintained: • Stop and give way markings; • Markings associated with traffic regulation orders; • Double white line systems; • Warning centre line markings (TSRGD Legend 1004 and 1004.1); • Markings associated with formal pedestrian crossing places (e.g. signalised/zebra crossings) and mini-roundabouts. Other markings will only be renewed, if still required, following obliteration by surfacing or surface dressing work, or other identified need.
Road markings in conservation areas.	Lines are to be narrow and primrose where required.
Road studs	Road studs associated with double white line systems and other priority markings (e.g. hatching edged by solid lines) will be maintained. Any loose road studs will be made safe. Other road studs will only be maintained following carriageway surface treatment and in response to specific hazards. Following a carriageway surfacing treatment, reflective road studs will not be replaced on 30mph roads that have a system of street lighting.

5.9 FENCES AND BARRIERS

5.9.1 Safety

Safety fences and barriers provide separation for traffic and vulnerable road users from each other and other hazards, e.g. watercourses. Unstable fences, walls and barriers adjacent to the highway can present risks to the safety of highway users. The reactive response to defects for safety fences and barriers is referenced in Matrix H.

5.9.1 Sustainability

Where safety fencing is provided or pedestrian barrier has been provided to guide pedestrians to the crossing point, a risk assessment (using LTN 2/09 for pedestrian guardrail, TD 19/06 for fencing) is to be carried out, to consider whether it is still necessary, before carrying out replacement.

Standards

Feature	Maintenance Standard
Safety fences (or 'vehicle restraint systems')	Damaged safety fences will be made safe and/or permanently repaired within the timescales noted in Matrix H.
Pedestrian barriers (guardrail)	Damaged barriers will be made safe and/or permanently repaired within the timescales noted in Matrix H.
Other fences	In most cases, this fencing will be owned by the adjacent property owner. The owner of the fencing will be contacted (if possible) and asked to make it safe. If the owner cannot be contacted, or will not make the fencing safe, repairs may be undertaken within the timescales noted in the relevant Defect Response Matrix or made safe in line with Matrix H. Other fences that are the responsibility of the highway authority will be made safe in accordance with the relevant Defect Response Matrix H if they present a danger to the highway user. The need for permanent repairs will be at the discretion of Suffolk Highways.

SECTION 6 - WORKS BY STATUTORY UNDERTAKERS

Statutory undertakers have a legal right to excavate in the highway to install, maintain and remove their apparatus. The conduct of this is regulated by the New Roads and Street Works Act 1991 (NRSWA) and associated regulations and codes of practice.

Section 50 of the Act also permits private builders to install, maintain or remove private apparatus such as sewers and drains in the highway under licence. The builder or person granted a 'Street Works Licence' becomes an 'undertaker' for the purposes of the NRSWA and therefore attracts the relevant duties and responsibilities imposed by the Act and associated secondary legislation and codes of practice.

Reinstatement of the highway is the responsibility of the statutory undertaker. The role of the County Council is to monitor all statutory and non-statutory performance, but not to supervise the whole works.

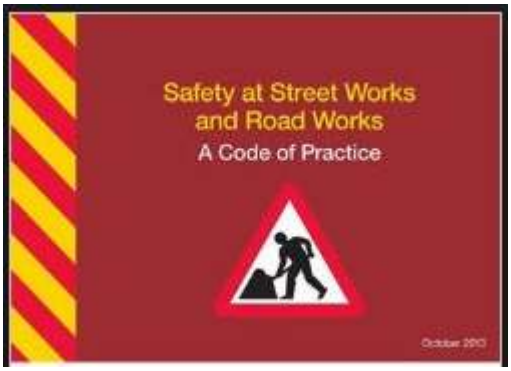
The legal duty for the provision of a safe highway still resides with the local highway authority, notwithstanding any other duties imposed upon statutory undertakers.

The Traffic Management Act 2004 (TMA) impacts upon how the County Council co-ordinates works. As a result, the County Council has appointed a 'Traffic Manager' (as defined within the TMA) whose role is to oversee the co-ordination of all works within the highway to minimise inconvenience to road users. To facilitate co-ordination and inspection, works are and will be notified in advance to the County Council under a formal notice system. The amount of notice required will vary dependent on the type of work and location. The County Council has powers to designate certain streets to restrict the working hours or to require special procedures or materials to be used, for instance in conservation areas.

Sample inspection, for which a fee is recoverable from the relevant undertaker, ensures work complies with national standards. Target levels of inspections are set as internal targets to help ensure that inspections are representative and fee income is maximised.

The performance of each undertaker and their contractors is monitored and recorded. Section 74 of NRSWA imposes financial penalties on undertakers who fail to comply with the requirements of the NRSWA.

Signing and guarding of works should comply with the *'Safety at Street Works and Road Works – A Code of Practice'.* Undertakers are required to implement the *'Code of Practice of the Reinstatement of Openings'.* There are other codes of practice covering co-ordination and inspections.



The performance standards which apply to the execution of the works themselves are set down in regulations and codes of practice. These are normally determined nationally and the County Council cannot impose more onerous standards or grant relaxations.

Performance issues can be raised with individual undertakers and at the 'Suffolk Highways Authority and Utilities Committee' (Suffolk HAUC)

In cases of persistent or extreme failure by a statutory undertaker to comply with legislation, the County Council has powers to prosecute.

Notes for guidance for Section 81 on how to address defects in statutory undertakers' apparatus can be found in Appendix 4

Appendix 1

DEFECT RESPONSE MATRICES - CARRIAGEWAY

The following matrices are to be used to direct when reactive works are required.

Regardless of the intervention criteria listed above, the application of higher standards may be considered appropriate in sensitive locations such as schools, shopping centres, hospitals, elderly accommodation and in sensitive/well used locations where there is no adjacent footway (e.g. a local walking route to a school).

The matrices have been developed through a risk-based approach relating to size and location. Should defects be smaller than those in the main matrix, guidance is provided in the notes section of the relevant matrix detailing how these defects will be categorised.

Defect Response Matrix A – Debris and Spillage

Matrix A - Debris / Spillage

		SEVERITY					
		Extreme	Major	Moderate	Minor	Minor	Negligible
		Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
		Strategic 'A' rd routes	Main distributor - major urban network and inter-strategic routes	Main rural secondary distributor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac
LIKELIHOOD	**Very Likely** Environmentally hazardous and trees in the carriageway	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours
	Likely Non-environmentally hazardous	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 4 10 working days	Cat 4 10 working days

Notes

Environmentally hazardous spillages include petrol, diesel, oil, other vehicle fluids, chemicals, bodily fluids and sewage.
Non-environmentally hazardous spillages include mud, sand, grain & dry goods. Removal of non-environmental spillages should only be instructed where the spillage represents a danger to road users and cannot wait until the next routine cleanse. Under the terms of the Environmental Protection Act 1990, street cleansing (including sweeping) is the responsibility of the relevant district and borough council.
For non-environmental hazards - the 2hr response is to attend and make safe, likely by signing. A further decision on how to cleanse or remove the debris will be managed at the Service Delivery Centre.
This matrix includes the adjacent footway.

Defect Response Matrix B – Carriageway Level Difference

Matrix B - Carriageway Level Difference

		SEVERITY		
		Major	Moderate	Minor
		Road Type 2 & 3a	Road Type 3b	Road Type 4a & 4b
		Strategic 'A' rd Routes - Main Distributer - Major Urban Network and Inter Strategic routes	Main secondary distributor roads	Local Roads - Minor rural roads and urban culs-de-sac
		200mm length	200mm length	200mm length
LIKELIHOOD	**Very likely** >100mm	Cat 2 2 Working Days	Cat 3 5 Working days	Cat 5 20 Working Days
	Likely 40-100mm	Cat 4 10 Working Days	Cat 5 20 Working Days	Cat 6 8 weeks
	Rare <40mm	Defects under 25mm in depth do not need to be recorded.		

Notes

Examples of level differences may be where a concrete slab has risen or fallen above the adjacent slab, where a carriageway widening joint or haunch has risen or fallen in relation to the adjacent carriageway.

Consideration should be given to the location of the level difference within the carriageway, including how it relates to direction of travel.

Defect Response Matrix C – Carriageway Defects

Carriageway Defects - Matrix C

		SEVERITY		
		Major	Moderate	Minor
		Road Type 2 & 3a	Road Type 3b	Road Type 4a & 4b
		Strategic 'A' rd Routes - Main Distributer - Major Urban Network and Inter Strategic routes	Main secondary distributor roads	Local Roads - Minor rural roads and urban culs-de-sac
		Monthly	3 Monthly	6 Monthly
		200mm dia	200mm dia	200mm dia
LIKELIHOOD	**Very likely** >100mm	Cat 2 2 Working Days	Cat 3 5 Working days	Cat 5 20 Working Days
	Likely 40-100mm	Cat 4 10 Working Days	Cat 5 20 Working Days	Cat 6 8 weeks
	Rare <40mm	Defects under 40mm in depth do not need to be recorded.		

Notes

In sensitive/well used locations on 4a and 4b roads where there is no adjacent footway, elevate repairs to Cat 5. If within a controlled pedestrian crossing use Matrix K - Footway Potholes.

Laybys

Road type 4b applies to all bound material laybys (regardless of adjacent carriageway hierarchy)

Defect Response Matrix D – Ironwork

Matrix D - Ironwork

LIKELIHOOD	SEVERITY: Extreme	Major	Moderate	Minor	Minor	Negligible
	Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
	Strategic 'A' rd routes	Main distributor - major urban network and inter-strategic routes	Main rural secondary distributor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac
Very likely Missing >300 x 200mm	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours
Likely Missing <299 x 199mm	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 2 2 working days	Cat 2 2 working days	Cat 2 2 working days
Possible Sunken, risen, broken or rocking frame >100mm in depth	Cat 1 2 hours	Cat 1 2 hours	Cat 2 2 working days	Cat 3 5 working days	Cat 3 5 working days	Cat 4 10 working days
Unlikely Sunken, risen, broken or rocking frame 25mm to 99mm depth	Cat 2 2 working days	Cat 2 2 working days	Cat 3 5 working days	Cat 4 10 working days	Cat 4 10 working days	Cat 4 10 working days
Rare Noisy , worn and sunken, risen or rocking <25mm depth	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works

Notes

Reference required in ordering defect as to whether ironwork is missing, collapsed, sunken or broken.
For utility covers, refer to Section 81 notes for guidance.

Refer to Appendix 4 for Section 81 guidance on attending and reporting defective statutory undertakers' apparatus

Defect Response Matrix E – Flooding affecting the highway

Matrix E - Flooding affecting Highway (C/Way)

LIKELIHOOD		SEVERITY					
		Extreme	Major	Moderate	Minor	Minor	Negligible
		Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
		Strategic 'A' rd routes	Main distributor - major urban network and inter-strategic routes	Main rural secondary distrubutor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac
	Very Likely Potential dangerous flooding	Cat 1 2 hours	Cat 1 2 hours	Cat 2 2 working days	Cat 2 2 working days	Cat 3 5 working days	Cat 3 5 working days
	Possible Blocked drainage causing flooding on the highway	Cat 4 10 working days	Cat 4 10 working days	Cat 5 20 working days	Cat 5 20 working days	Cat 7 Potential future works	Cat 7 Potential future works
	Unlikely Blocked or silted up road gully, not causing flooding	Cat 5 20 working days	Cat 5 20 working days	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works

Notes

Blocked drainage systems will be attended to under the Matrix shown above. Remedial works will be carried out to unblock the system. (It may not be possible to treat within the timescales noted above if the drainage system is damaged or located within private land).

For blocked drainage causing flooding on the highway on Road Types 4a and 4b, review against cyclic programme before considering further action.

Blocked drainage systems will be attended to under this Matrix.

Defect Response Matrix F – Street Furniture

Matrix F - Street Furniture

LIKELIHOOD	SEVERITY					
	Extreme	Major	Moderate	Minor	Minor	Negligible
	Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
	Strategic 'A' rd routes	Main distributor - Major Urban Network and Inter Strategic routes	Main rural secondary distributor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac
Very likely Within or leaning likely to fall within the carriageway	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours
Likely Blocking the footway forcing pedestrian into the carriageway	Cat 2 2 working days	Cat 2 2 working days	Cat 3 5 working days	Cat 3 5 working days	Cat 4 10 working days	Cat 5 20 working days
Possible Within or leaning likely to fall within the footway	Cat 3 5 working days	Cat 3 5 working days	Cat 3 5 working days	Cat 4 10 working days	Cat 5 20 working days	Cat 7 Potential future works
Unlikely/Rare Within the verge	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works

Notes

Non-electrical equipment, including guard posts (bolllards) restricting access, including road sign posts and pedestrian barriers. (N.B. road sign plates and reflectorised bollards with road signs are covered in Matrix G).

If street furniture is within footway but pedestrians can safely travel past (including using the verge) without entering the carriageway, use the 'within the footway' row.

Defect Response Matrix G – Road Signs

Matrix G - Road Sign

LIKELIHOOD	SEVERITY: Extreme	Major	Moderate	Minor	Minor	Negligible
	Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
	Strategic 'A' rd routes	Main distributor - major urban network and inter-strategic routes	Main rural secondary distributor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac
Very Likely/ Likely Mandatory sign missing or heavily obscured	Cat 2 2 working days	Cat 2 2 working days	Cat 2 2 working days	Cat 4 10 working days	Cat 5 20 working days	Cat 5 20 working days
Possible Warning sign missing	Cat 5 20 working days	Cat 5 20 working days	Cat 5 20 working days	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works
Unlikely/Rare Regulatory, information, ADS or tourist sign missing	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works

Notes
Non-electrical equipment only. Include reflectorised bollards with traffic sign - for example dia. No. 610. Mandatory signs are referenced as Diagram No. 601.1; 606; 609; 610; 616; 670 for 30 and 40mph speed limit terminal signs and 773, 780A and 784.1 at railway level crossings.

Mandatory Diagram No.

601.1 | Dia 606 | Dia 609 | Dia 610 | Dia 616 | Dia 670

773 | 779 & 780A | 784.1

Warning Diagram No. 515

Triangular warning signs e.g.

Defect Response Matrix H – Fencing and Barriers

Matrix H - Fencing and Barriers

LIKELIHOOD		SEVERITY					
		Extreme	Major	Moderate	Minor	Minor	Negligible
		Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
		Strategic 'A' rd routes	Main distributor - major urban network and inter-strategic routes	Main urban secondary distributor roads	Main rural secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac
	Very Likely Bridge parapets	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours
	Likely Safety fences	Cat 2 2 working days	Cat 2 2 working days	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks
	Possible Pedestrian barriers - preventing unintentional carriageway access	Cat 2 2 working days	Cat 2 2 working days	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks
	Unlikely Pedestrian barriers - guiding to crossing points	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works
	Rare Other fences	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works

Notes

Where safety fencing is provided or pedestrian barrier has been provided to guide pedestrians to a crossing point, a risk assessment should be carried out to consider whether it is still necessary, before carrying out replacement.
For safety fencing and pedestrian barriers on Type 2 and 3a with 48hrs make safe response, permanent repair is to be delivered as Cat 6 (14 weeks)

Defect Response Matrix I – Kerbing

Matrix I - Carriageway Kerbing

LIKELIHOOD	SEVERITY					
	Extreme	Major	Moderate	Minor	Minor	Negligible
	Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
	Strategic 'A' rd routes	Main distributor - major urban network and inter-strategic routes	Main rural secondary distributor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac
Very likely >50mm	Cat 1 2 hours	Cat 1 2 hours	Cat 2 2 working days	Cat 3 5 working days	Cat 3 5 working days	Cat 3 5 working days
Likely 25 to 50mm	Cat 3 5 working days	Cat 3 5 working days	Cat 3 5 working days	Cat 4 10 working days	Cat 4 10 working days	Cat 4 10 working days
Unlikely <25mm	Defects under 25mm in depth do not need to be recorded.					

Notes
In this Matrix, the measurable defect is the extent to which any part of the kerb protrudes horizontally towards the carriageway from the face of the kerb. Any vertical protrusion relative to the top / horizontal surface of the kerb should be treated as a footway trip - please refer to Matrix L (Footway Trips).

Defect Response Matrix J – Verge Deterioration

Matrix J - Verge deterioration

			SEVERITY				
			Extreme	Major	Moderate	Minor	Minor	Negligible
			Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
			Strategic 'A' rd routes	Main distributor - major urban network and inter-strategic routes	Main rural secondary distributor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac
Verge deterioration			**300mm wide**	**300mm wide**	**300mm wide**	**300mm wide**	**300mm wide**	**300mm wide**
Any change in level difference between the metalled surface and the adjacent verge immediately adjacent to the carriageway edge over 10m in length	**Very likely** >150mm depth		Cat 2 2 working days	Cat 3 5 working days	Cat 4 10 working days	Cat 5 20 working days	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks
	Likely 100-150mm		Cat 3 5 working days	Cat 4 10 working days	Cat 5 20 working days	Cat 6 14 calendar weeks	Cat 7 Potential future works	Cat 7 Potential future works
	Possible 75-99mm		Cat 4 10 working days	Cat 5 20 working days	Cat 6 14 calendar weeks	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works
	Rare <75mm		Defects under 75mm in depth do not need to be recorded.					

Notes

If **verge deterioration** is greater than 7.5m and up to 10m in length, drop down 1 category; if the deterioration is greater than 5m and up to 7.5m in length, drop down 2 categories. Verge deterioration less than 5m does not need to be recorded.

Laybys
Refer to Matrix C - Carriageway Defects

Defect Response Matrix Q – Road Markings & Studs

Matrix Q - Road Markings & Studs

LIKELIHOOD		SEVERITY					
		Extreme	Major	Moderate	Minor	Minor	Negligible
		Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
		Strategic 'A' rd routes	Main distributor - major urban network and inter-strategic routes	Main rural secondary distributor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac
	Very Likely Stop line	Cat 3 5 working days	Cat 4 10 working days	Cat 4 10 working days	Cat 5 20 working days	Cat 5 20 working days	Cat 5 20 working days
	Possible Other priority road markings and studs	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks

Notes

Priority road markings are: stop and give way markings; markings associated with traffic regulation orders; double line systems; warning markings; formal pedestrian crossings places; mini-roundabouts
Priority road studs are those associated with double line road marking systems and other mandatory markings (e.g. hatching edged by solid lines).
Any loose road studs will be made safe.
Other road markings/studs will only be maintained following carriageway surface treatment and in response to specific

Appendix 2

DEFECT RESPONSE MATRICES – FOOTWAY AND VERGE

The following matrices are to be used to direct when reactive works are required.

Regardless of the intervention criteria listed above, the application of higher standards may be considered appropriate in sensitive locations such as schools, shopping centres, hospitals and elderly accommodation.

There is also a need to apply footway intervention criteria to areas of carriageway included within controlled pedestrian crossings.

The matrices have been developed through a risk-based approach relating to size and location. Should defects be smaller than those in the main matrix, guidance is provided in the notes section of the relevant matrix detailing how these defects will be categorised.

Defect Response Matrix K – Footway Potholes

Matrix K - Footway Potholes

		SEVERITY		
		Extreme	Major	Moderate
		Footway Type 1	Footway Type 2	Footway Types 3 & 4 (mandatory cycle lanes c/way)
		Busy urban shopping and business areas	Medium use routes, local areas local shopping areas	Linking local access ways through urban areas and busy rural areas - low usage
		Monthly	6 Monthly (Walked)	12 Months (Driven or Walked)
		100mm diameter	100mm diameter	100mm diameter
LIKELIHOOD	**Likely / Very likely** >40mm	Cat 3 5 working days	Cat 3 5 working days	Cat 4 10 working days
	Possible 20 - 40mm	Cat 4 10 working days	Cat 4 10 working days	Cat 5 20 working days
	Rare <20mm	Defects under 20mm in depth do not need to be recorded.		

Notes
The above standards apply if within a controlled pedestrian crossing point (e.g. signalised or zebra crossing)

Defect Response Matrix L – Footway Level Difference

Matrix L - Footway Level Difference

		SEVERITY		
		Extreme	Major	Moderate
		Footway Type 1	Footway Type 2	Footway Types 3 & 4 (mandatory cycle lanes c/way)
		Busy urban shopping and business areas	Medium use routes, local areas local shopping areas	Linking local access ways through urban areas and busy rural areas - low usage
		Monthly	6 Monthly (Walked)	12 Months (Driven or Walked)
		100mm length	100mm length	100mm length
LIKELIHOOD	**Likely / Very likely** >40mm	Cat 3 5 working days	Cat 3 5 working days	Cat 4 10 working days
	Possible 20 - 40mm	Cat 4 10 working days	Cat 4 10 working days	Cat 5 20 working days
	Rare <20mm	Defects under 20mm in depth do not need to be recorded.		
	Very likely Any change in level difference between the existing footway and adjacent verge - exceeding 100mm immediately adjacent to the walking surface over 1m in length.	Cat 3 5 working days	Cat 5 20 working days	Cat 7 Potential future works

Notes

Mandatory cycle lanes on the carriageway should be treated as Type 4 footway for intervention timescales.

Examples of level differences may be where a paving slab has risen or fallen above the adjacent paving slab causing an abrupt level difference in height between the two surfaces

Defect Response Matrix M – Footway Ironworks

Matrix M - Footway Ironworks

LIKELIHOOD	SEVERITY			
	Extreme	Major	Moderate	Minor / Negligible
	I	2	3	4 (Mandatory cycle lanes c/way)
	Busy urban shopping and business areas	Medium use routes, local areas local shopping areas	Linking local access ways through urban areas and busy rural areas	Low usage
Very likely Missing and collapsed >150 x 150mm	Cat 1 2 hours	Cat 1 2 hours	Cat 2 2 working days	Cat 2 2 working days
Likely Missing and collapsed <150 x 150mm	Cat 2 2 working days	Cat 2 2 working days	Cat 2 2 working days	Cat 2 2 working days
Possible Sunken or risen >20mm	Cat 2 2 working days	Cat 2 2 working days	Cat 5 20 working days	Cat 5 20 working days
Possible Broken	Cat 5 20 working days	Cat 5 20 working days	Cat 5 20 working days	Cat 5 20 working days
Unlikely Sunken or risen <20mm	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works
Rare Noisy / worn	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works

Notes
Reference is required in ordering a defect as to whether the ironwork is missing, collapsed, sunken or broken.
For utility covers, refer to Section 81 notes for guidance.
For broken covers, if the area broken is 150mm x 150mm or greater, use Missing and collapsed timescales.

Refer to Appendix 4 for Section 81 guidance – Attending and Reporting Defective Statutory Undertakers Apparatus

Defect Response Matrix P – Vegetation

Matrix P - Vegetation

LIKELIHOOD		SEVERITY					
		Extreme	Major	Moderate	Minor	Minor	Negligible
		Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b
		Strategic 'A' rd Routes	Main Distributer - Major Urban Network and Inter Strategic routes	Main rural secondary distributor roads	Main urban secondary distributor roads	Local Roads	Minor rural roads and urban culs-de-sac
		Monthly	Monthly	3 Monthly	3 Monthly	6 Monthly	6 Monthly
	Tree threatening the highway	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 2 2 working days	Cat 2 2 working days
	Branches threatening to fall into the highway or likely to be in collision with passing vehicles	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 2 2 working days	Cat 3 5 working days	Cat 3 5 working days
	Vegetation forcing pedestrians into the carriageway	Cat 2 2 working days	Cat 2 2 working days	Cat 3 5 working days	Cat 3 5 working days	Cat 4 10 working days	Cat 5 20 working days
	Vegetation forcing traffic into opposing traffic lanes or preventing access for emergency vehicles	Cat 3 5 working days	Cat 3 5 working days	Cat 4 10 working days	Cat 4 10 working days	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks
	Vegetation obscuring visibility at junction	Cat 4 10 working days	Cat 5 20 working days	Cat 5 20 working days	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks	Cat 6 14 calendar weeks
	Vegetation affecting overhead or underground utility equipment	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works

Notes

Refer to Road Sign Matrix G for vegetation obscuring signs. For fallen trees refer to the Debris and Spillage Matrix A. Branches are defined as being of significant size, in that if they fell they would cause serious injury or damage.
In terms of rows 1 and 2 this is also relevant to a highway tree or its branch, that may fall outside of the highway and has been risk assessed to potentially cause serious injury or damage.

Appendix 3

DEFECT RESPONSE MATRICES - ELECTRICAL ASSETS

The following matrices are to be used to direct when reactive works are required.

The matrices have been developed through a risk-based approach relating to the potential hazard and the likelihood that the hazard might cause harm.

Defect Response Matrix N – Street Lighting & Electrical Equipment

Matrix N - Street Lighting & Electrical Equipment

LIKELIHOOD	SEVERITY						
	Extreme	Major	Moderate	Minor	Minor	Negligible	Negligible
	Road Type 2	Road Type 3a	Road Type 3b	Road Type 3b	Road Type 4a	Road Type 4b	N/A
	Strategic 'A' rd routes	Main distributor - major urban network and inter-strategic routes	Main rural secondary distrubutor roads	Main urban secondary distributor roads	Local roads	Minor rural roads and urban culs-de-sac	Non Associated Footpath
Very likely Damaged equipment following a road traffic collison (e.g. lighting column, illuminated signage, electrical feeder pillar)	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours
Very likely Electrical cover missing, open or hanging, likely to fall (e.g. lighting column/lantern, Illuminated signage, electrical feeder pillar)	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours
Very likely Illuminated traffic bollard shell damaged and missing	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours
Possible/unlikely Illuminated signage not lit (i.e. lamp fault)	Cat 3 5 working days	Cat 3 5 working days	Cat 3 5 working days	Cat 4 10 working days	Cat 5 20 working days	Cat 5 20 working days	Cat 5 20 working days
Unlikely Street light not lit (i.e. lamp fault)	Cat 4 10 working days	Cat 4 10 working days	Cat 4 10 working days	Cat 4 10 working days	Cat 4 10 working days	Cat 4 10 working days	Cat 4 10 working days
Rare Street lighting column or illuminated sign post leaning but unlikely to fall	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works	Cat 7 Potential future works

Notes

Any street furniture identified on the highway where electrical wires are exposed must be treated as a Cat 1 defect.
Cat 3 to 5 street lighting and electrical faults identified should be called through to the Control Hub at the Phoenix House SDC.
Street lights that are not lit are automatically detected by the Intelligent Lighting System and do not require seperately recording.
If an illuminated traffic bollard shell is damaged but operational, drop down to a criteria for illuminated signage
A street lighting or illuminated sign post should only be recorded if there is clear movement of the ground around the base.
Repair times for street or sign lights assume no reliance on a third party e.g. network supplier.

Defect Response Matrix O – Intelligent Transport Systems

Matrix O - Intelligent Transport Systems

LIKELIHOOD		SEVERITY			
		Extreme	Major	Moderate	Minor / Negligible
		Priority traffic signal sites	Other traffic signal sites	Weather stations	VAS / VMS
	Very likely Road traffic collison	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours
	Very likely Electrical fault (exposed wires)	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours	Cat 1 2 hours
	Very likely Urgent faults (i.e. all lights out, omitting phase, numerous red lights out)	Cat 1 2 hours	Cat 1 2 hours	Cat 2 2 working days	Cat 3 5 working days
	Possible Non-urgent faults (i.e. lamp out, push button not working)	Cat 2 2 working days	Cat 2 2 working days	Cat 3 5 working days	Cat 4 10 working days
	Rare Broken loops	Cat 5 20 working days	Cat 5 20 working days	Not applicable	Cat 5 20 working days

Notes

All ITS faults identified should be called through to the Control Hub at the Phoenix House SDC.

Cat 1 is attended in 2 working hours.

Priority sites will be attended in 2 hours and brought back into operation in a further 6 hours. Priority sites are managed 24hrs.

For other sites, these are managed between the hours of 07.30 and 21.30, Monday to Friday. Any fault received outside of these hours as a Cat 1 or 2 will be made safe.

For traffic signals that are obscured by vegetation, use row 1.

Appendix 4

CYCLEWAYS INTERVENTION

The inspection criteria to be applied to cycleways will depend upon the status and position within the highway. (Appendix 2)

For mandatory cycleways, within the carriageway i.e. where defined by a continuous road marking, the relevant carriageway inspection frequency will apply, as will Category 4 footway intervention criteria. (Appendix 1)

For advisory cycleways within the carriageway i.e. where defined by an intermittent road marking, the adjacent carriageway inspection frequency will apply, as will the carriageway intervention criteria.

Shared cycleways and footways will attract the maintenance standards associated with the footway. This is appropriate since footways tend to attract higher maintenance standards than cycleways. (Appendix 2)

Appendix 5

SECTION 81 - NOTES FOR GUIDANCE

ATTENDING AND REPORTING DEFECTIVE STATUTORY UNDERTAKERS' APPARATUS

Section 81 of the New Roads and Street Works Act 1991 requires that all statutory undertakers must maintain their apparatus to the reasonable satisfaction of the respective street authority.

In cases where it is difficult or impossible to identify the utility, the local highway authority must accept responsibility for making sure the highway is safe under Section 41 of the Highways Act 1980.

First, a decision needs to be made as to whether the apparatus is dangerous or not. Whatever the case, it has to be determined whether an immediate 2 hour or 28-day response is required by the utility concerned.

Urgent
or
non-urgent

The decision on whether an occurrence is an emergency or non-emergency will, by necessity, be made when attending site. It should not be challenged unreasonably hence it is important that classifications are strictly applied.

Emergency – Section 52 of NRSWA 1991 defines emergency works as *'works whose execution at the time when they are executed is required in order to put an end to, or prevent the occurrence of, circumstances then existing or imminent (or which the person responsible for the works believes on reasonable grounds to be existing or imminent) which are likely to cause danger to persons or property'.*

- The site **must** be made safe to the signing, lighting and guarding requirements of the 'Traffic Signals Manual - Chapter 8' by an accredited emergency response gang (i.e. a Suffolk Highways reactive gang) and reported immediately to the owner of the apparatus stating, that Suffolk Highways has 'made safe' under the local highway authority's 'duty of care' and that the apparatus owner must attend and repair the apparatus within 2 hours.
- Dependent on the risk assessed, site attendance may be required until made safe. A fit-for-purpose vehicle must be used to warn road users of possible danger ahead and under no circumstances should unaccredited staff manage traffic Only accredited operatives can manage site and traffic management including stop/go boards, traffic signals and by hand directions.
- Footway apparatus defects – pedestrian sign boards may be used if appropriate, no accreditation required

Non-Emergency – apparatus not requiring emergency action that requires attention to comply with specifications or remove nuisance (e.g. noise) or has the potential to escalate to emergency status in the future. A 28-day response time is issued to the owner of the apparatus.

Identify owner of apparatus

Examples of apparatus requiring attention:

- Missing covers/frames;
- Sunken or raised covers/frames;
- Cracked or incomplete covers/frames;
- Rocking covers/frames;
- Cracked or damaged covers that tilt when trodden on or driven over;
- Worn/polished covers (such examples in carriageways or cycleways could be defined as an emergency depending on circumstances/location);
- Chamber collapses;
- Missing doors to cabinets and electricity sub-stations.

Identification of statutory undertaker ownership is normally easy to establish. If it is difficult to determine, Suffolk County Council's Network Assurance Team (i.e. the 'Network Co-ordinator') can issue notices to all statutory undertakers, allowing them to accept or deny ownership. The use of on-line apparatus records can also be used.

- **The site must be made safe if the defect is dangerous while ownership investigations are carried out.**
- **Inspection covers should not be lifted as there can be a danger from potentially combustible gases being ignited - as identified through risk assessment**

Out-of-hours reports

- Suffolk Highways attend and make safe in accordance with Defect Response Matrices
- Suffolk Highways reports details to the Network Co-ordinator at the start of the next working day on receipt of Suffolk Highways or Ipswich Borough Council CCTV report

KEY ACTIONS

- Make safe if required
- Urgent defects to be reported directly to the Network Co-ordinator
- Site / defect photograph – **MUST** be taken and either attached to Insight (i.e. Suffolk Highways' Highways Management System) or forwarded to the Network Co-ordinator. Evidence must be gathered, if required, for recharging costs and third party claims
- Mark-up – for clear identification when the statutory undertaker attends
- Location details – provide accurate information for effective reporting
- Follow up inspections by network inspectors through Insight system 'Inspections Due' reports

Document Control

Change History

Version	Date	Amended by	Change
1.0	12.07.2016	-	Approved by Cabinet 12 July 2016
1.1	01.09.2016	Liz Chenery	Section 3.2 – updated hyperlink to winter service plan
1.2	06.09.2016	Andrew Woodin	Section 2.2.3 – revision to description of how we manage unbound footpaths in urban areas
1.3	13.10.2016	John Clements	Section 5.4.2 – revision to wording for replacing/provision of highway trees
1.4	15.12.2016	John Clements	Section 2.2.1 – hyperlink added Appendix 1 – Matrix J – addition of verge deterioration Appendix 2 – Matrix L – addition of level difference Appendix 2 - new Matrix P - Vegetation
2.0	11.06.2019	John Clements	Section 4.2 – change to definition of timescales for Category 2 to 5 works Sections 5.1.4, 5.2.2 and 5.8.2 – revised standards Appendix 1 – Matrix B – simplification, Appendix 1 – Matrix C – simplification, incorporation of Matrix B, part of Matrix J relating to carriageway edge deterioration and standard for bound material laybys Appendix 1 - Matrix G – addition of chevron and railway level crossing signage Appendix 1 – Matrix J – removed part relating to carriageway edge deterioration (included in Matrix C) and revised verge deterioration criteria Appendix 1 - New Matrix Q – Road Markings Appendix 3 – New Matrix N – Street Lighting and Electrical Equipment Appendix 3 – New Matrix O – Intelligent Traffic Systems New Appendix 4 – Cycleway Intervention (moved from Appendix 3)
COVID-19 (Interim)	18/03/2020	Ben Cook	****INTERIM CHANGES** COVID-19 Outbreak** CAT 5 Response timescales amended (Covid) CAT 6 Response timescales amended (Covid) Single person vehicle inspections Covid secure Appendix 1 – Matrix K – simplification Appendix 1 – Matrix L – simplification
2.1	17/05/2021	Ben Cook	CAT 5 Response timescales amended (pre-Covid) CAT 6 Response timescales amended (pre-Covid) Single person vehicle inspection Covid secure retained

Approval

Role	Name	Signed	Date
Head of Operational Highways	John Clements	*John Clements*	17.05.2021