

Agenda Item No. 4(g)

**DERBYSHIRE COUNTY COUNCIL**

**MEETING OF CABINET MEMBER – HIGHWAYS, TRANSPORT AND  
INFRASTRUCTURE**

**31 January 2019**

Report of the Strategic Director – Economy, Transport and Environment

**CODE OF PRACTICE FOR WELL-MANAGED HIGHWAY  
INFRASTRUCTURE – APPROVAL OF TECHNICAL STRATEGIES AND  
PLANS**

(1) **Purpose of Report** On 26 July 2018, Cabinet agreed to receive further reports to approve documents pertaining to the New Code of Practice for Well-Managed Highway Infrastructure once they had been finalised (Minute No.186/18 refers). This report provides details of those technical documents finalised to date for which approval is sought.

(2) **Information and Analysis** On 26 July 2018, a number of documents were approved, these included a Highway Infrastructure Asset Management Policy, a Highway Infrastructure Asset Management Strategy and Plan, a Network Hierarchy Plan, a Resilient Network Plan, a Data Management Strategy, a Highway Infrastructure Assets Safety Inspection Manual and a Highways Communication Strategy. Over the last six months, work has been underway to implement these documents and develop the supporting documentation, principles and processes. As a result, approval is being sought for revisions to the following documents as described below:

- **Highway Infrastructure Assets Safety Inspection Manual** – this document has been reviewed and amended following the Highway Inspectors' comprehensive training and workshops which have resulted in constructive feedback on implementing the manual. Additionally, the existing supporting computer systems have been developed and tested and have resulted in a number of procedural changes to the manual.
- **Reactive Maintenance Teams Operational Manual** – this document sets out how the reactive teams operate within the County and has been reviewed to align with the new Highway Infrastructure Assets Safety Inspection Manual.

The proposals set out to deliver a new risk based approach to the recording of identified safety defects and their repair within current budgetary constraints across the highway network. Safety will remain the Council's key driver in

delivering a Safe and Reliable Network. However, levels of service across the network will remain dependent on the available budget, using asset management processes to ensure the most efficient and effective spend.

(3) **Financial Considerations** The delivery of levels of service will remain subject to budgetary availability.

(4) **Legal Considerations** The Council has a duty under Section 41 of the Highways Act 1980 to maintain publicly maintainable highways. Section 58 of the Act provides a defence to actions resulting from failure to maintain a highway where the Council is able to prove it has taken such care as is reasonably required to prove it ensures that the highway in question was not dangerous to traffic.

Developing and setting out the Council's risk based approach will enable the Council to deliver its services in line with existing statutory and national best practice and will provide a firm foundation in defending claims made against the Authority.

(5) **Human Resources Considerations** The development and implementation of a risk based approach, as set out in this report, can be accommodated within the existing staff resource.

(6) **Social Value Considerations** A risk based approach to the maintenance and management of the highway infrastructure network will enable the businesses, residents and visitors of Derbyshire to benefit from a safe and reliable network.

## **Other Considerations**

In preparing this report the relevance of the following factors has also been considered: prevention of crime and disorder, equality and diversity, environmental, health, property and transport considerations.

(7) **Key Decision** No.

(8) **Call-In** Is it required that call-in be waived in respect of the decisions proposed in the report? No.

(9) **Background Papers** Held on file within the Economy, Transport and Environment Department. Officer contact details – Neill Bennett, extension 38659.

- (10) **OFFICER'S RECOMMENDATIONS**      That the Cabinet Member:
- 10.1 Approves the revisions to the Technical Manuals forming the basis of this report and attached as background papers.
  - 10.2 Delegates responsibility for detailed changes to the manuals contained within this report, recommended through reviews to the Strategic Director – Economy, Transport and Environment.

**Mike Ashworth**  
**Strategic Director – Economy, Transport and Environment**

# HIGHWAY INFRASTRUCTURE ASSETS SAFETY INSPECTIONS MANUAL

JUNE 2018

AN ELEMENT OF THE HIGHWAY INFRASTRUCTURE  
ASSET MANAGEMENT SYSTEM

## Document Information

Title Highway Infrastructure Assets Safety Inspection Manual  
Author: Teri Ford  
Reviewed: Neill Bennett

## Document Issue Status

TABLE OF AMENDMENTS					
NO	APPROVAL DATE	SECTION	PARAGRAPH	DETAILS	AUTHOR
1	25/07/2018	All	All	First Issue	TF
2	08/01/2019	see review schedule 1		First Review	TF

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## 1 BACKGROUND

- 1.1 This document supersedes the previous document titled – ‘*Highway Safety Inspections Manual (Instructions to for Safety Inspections)*’ dated July 2013.
- 1.2 The changes required to the previous version, as set out in this new edition, are essential to reflect the 2016 Code of Practice for Well-Managed Highway Infrastructure and the 2013 Highways Maintenance Efficiency Programme (HMEP) Highway Infrastructure Asset Management Guidance. This document forms part of the suite of ‘Highway Infrastructure Asset Management’ documents.
- 1.3 This manual is intended for employees involved in the safety inspections of Derbyshire’s highway network, whether that be through routine safety inspections or ad-hoc safety inspections generated as a result of an enquiry investigation. It is not intended to cover inspections of Public Rights of Way (unless they form part of the footway hierarchy within or on the fringe of urban areas). The use of this Manual applies to adopted highways only.
- 1.4 The safety inspection includes those highway infrastructure assets within the following main asset groups:
- carriageways, including on-road cycle ways
  - footways, including shared use
  - structures
  - drainage
  - street lighting
  - traffic management and management of electronic traffic equipment
  - street furniture, including pedestrian barrier/restraint system and traffic signs
  - trees and verges
- 1.5 This is a controlled document and it will be updated as details of legislation, updates to the Code of Practice for Highway Maintenance Management, other national guidance and resources etc. change.

## 2 THE NEED FOR HIGHWAY INFRASTRUCTURE ASSET SAFETY INSPECTIONS

- 2.1 As the Highway Authority, Derbyshire County Council (DCC) has a statutory duty to maintain highways maintainable at public expense under Section 41 of the Highways Act 1980. Neglecting this duty can lead to claims against the County Council for damages resulting from a failure to maintain a highway.
- 2.2 Section 58 of the Act, allows the Council to use a ‘**Special Defence**’ in actions against it for damages for non-repair of a highway if it can demonstrate that it has taken such reasonable care to ensure that the highway was not dangerous to traffic having regard to:
- a. *The character of the highway and the traffic which was reasonably to be expected to use it*
  - b. *The standard of maintenance appropriate for a highway of that character and used by such traffic*

- c. *The state of repair in which a reasonable person would have expected to find the highway'*
- d. *Whether the highway authority knew, or could reasonably have been expected to know, that the condition of the part of the highway to which the action relates was likely to cause danger to users of the highway'*
- e. *Whether warning notices were displayed when immediate repair could not reasonably be expected.*

- 2.3 The establishment of an effective regime of inspections, assessment, recording and prioritisation of defect repairs is a crucial component of highway maintenance. It provides a robust framework to address key objectives for the maintenance of the highway in a safe and serviceable manner, as required by Section 41 of the Highways Act 1980 and consistent with the Council's Highways Infrastructure Asset Management process.
- 2.4 Case history demonstrates that the Highway Authority must also record all customer reports of highway defects, however, not all defects, which the Authority becomes aware of by inspection or customer report, need to be repaired. All defects are recorded in 'Confirm' and these records may also be used as evidence to show that the Highway Authority has acted reasonably.
- 2.5 The Highways Communications Plan details the expectations that can be anticipated when an enquiry is made by a member of the public. It outlines the approach to keeping stakeholders informed and aware of our work on the highway, using the most suitable communication channels, whilst ensuring that there are appropriate opportunities for feedback from users.

### 3 PURPOSE OF SAFETY INSPECTIONS

- 3.1 Safety inspections are designed to identify, assess, record and prioritise the repair of defects which may present an immediate danger or significant inconvenience to users of the highway. A defect may apply to the structural condition of the highway or the infrastructure assets contained within the highway boundary. In addition, safety inspections may be used to identify defects of a lesser magnitude which may be included within future programmes of planned maintenance work to preserve the highway infrastructure assets and keep the highway in a serviceable condition, or to indicate that a more in depth service inspection may be required. This is in line with our overall aims of network safety, serviceability and sustainability. This manual does not include inspections for snow and ice. Winter maintenance and adverse weather policy and practice is provided in a separate document.
- 3.2 Safety inspections are supplemented by other inspections and assessments undertaken in line with national standards and/or good practice. These are discussed in the Condition Inspection Manual.
- 3.3 Safety inspections are visual inspections undertaken in accordance with risk assessment as outlined through the risk based approach in Section 6 of this document. They are designed to provide complete, accurate and timely information, as far as is reasonably practicable, on the safety maintenance needs of the highway infrastructure network and its ancillary assets based on site observations and



measurements. These are applied through a risk based approach reflective of the characteristics of the defect, the local environment and network usage.

## **4 PERSONS UNDERTAKING INSPECTIONS**

- 4.1 The person undertaking an inspection should be provided with appropriate training, regular updates and audited and accredited as competent in the required field of expertise. Training should have been undertaken to the DCC required level, which includes Lantra accredited training, and the Inspector is required to undergo continual professional development, to be regularly audited and appraised annually to ensure continuing capability within the field.
- 4.2 The Inspector is responsible for the accuracy of that inspection and the recorded information. In certain circumstances, that person may be called into Court to substantiate their inspection records. Any employee involved in the inspection process may be required to provide information relating to third party claims received and provide statements towards the defence of claims where the County Council's legal and insurance representatives are involved.
- 4.3 It is desirable that all personnel involved in safety inspections should be included on the National Register of Highway Inspectors currently held by the Institute of Highway Engineers.
- 4.4 All personnel undertaking a safety inspection must demonstrate competency in the current Chapter 8 safety at street works and road works.

## **5 NETWORK HIERARCHY AND SAFETY INSPECTIONS**

- 5.1 An integrated Network Hierarchy is crucial to asset management. The network hierarchy is a series of network hierarchies that have been identified for each road user type. The network hierarchy is user defined, based on usage and not dependent on the current road classification system. A Resilient Network has been developed and has the highest priority.
- 5.2 DCC has set its own standards for the frequency of its highway safety inspections. The frequencies have been determined for each Network Hierarchy, using a risk based approach based on usage, ie the hierarchy with the most usage has the highest inspection frequency. The frequencies are shown in the table overleaf. These have been approved by Elected Members.
- 5.3 Each part of the network is assigned a hierarchy which relates its importance to usage. These hierarchies are stored in Confirm and records are kept of hierarchy changes.
- 5.4 Hierarchies need to be as dynamic as possible and regularly reviewed to reflect changes in network characteristics and functionality, so that maintenance policies, practices and standards reflect the current situation rather than the use expected when the hierarchy was originally defined and or last modified.

5.5 Highway Inspectors are able to evaluate their inspection routes when changes occur in characteristics and functionality and, as a result, they can make recommendations for a hierarchy review as they see appropriate.

5.6 Footway and cycleway hierarchies can be different to carriageway hierarchies and therefore some roads have different hierarchy classifications and potentially different inspection frequencies for carriageways, footways and cycleways.

**All defined inspection frequencies should be maintained in accordance with Table 1 below.**

<b>TABLE 1 FREQUENCY OF INSPECTIONS</b>			
<b>Feature</b>	<b>Hierarchy</b>	<b>Category</b>	<b>Frequency of Safety Inspection</b>
<b>Carriageways</b>	Resilient Network	Priority network required to maintain economic activity and key services	1 month
	Network Hierarchy 1	Annual Average Daily Traffic Flow $\geq 9000$	1 month
	Network Hierarchy 2	Annual Average Daily Traffic Flow $\geq 6000$ and $< 12000$	1 month
	Network Hierarchy 3	Annual Average Daily Traffic Flow $\geq 3000$ and $< 8000$	1 month
	Network Hierarchy 4	Remaining Strategic Regional Routes, Main Distributor Roads and Secondary Distributor Roads	1 month
	Network Hierarchy 5	Remaining Link Roads	3 months
	Network Hierarchy 6	Remaining Local Access roads that are not a cul-de-sac	1 year
	Network Hierarchy 7	Remaining Local Access roads that are a cul-de-sac	1 year
<b>Footways</b>	1A	Prestige Area	1 month
	1	Primary walking route (including shared use facilities)	1 month
	2	Secondary walking route (including shared use facilities)	3 months
	3	Link Footways	As for c/way
	4	Local Access Footways	As for c/way
<b>Cycleways</b>	A	Carriageway – Contiguous or shared	As for c/way
	B	Footway – Contiguous or shared	As for f/way

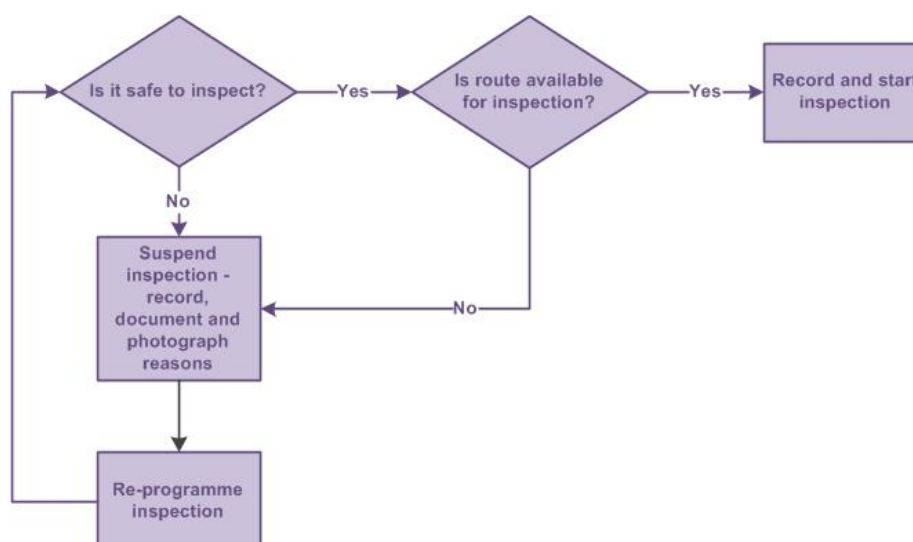
5.7 Where carriageway and footway hierarchies intersect, for example, at pelican or zebra crossings, bollards or other defined crossing points at junctions, the higher inspection frequency should always take precedence in determining the inspection frequencies, defect definition and responses. This principle should also apply to intersections between carriageways and cycle routes and between cycle routes and footways.

5.8 Tolerance levels for safety inspection frequency are shown in the table below:

TABLE 2 SAFETY INSPECTION FREQUENCY TOLERANCE	
Inspection Frequency	Tolerance
Monthly and 3 monthly	+/- 10 days
6 monthly	+/- 15 days
Annually	+/- 30 days

5.9 Structures safety inspections are not carried out on a specific frequency and are a reactive process which will only occur after an event, such as a flood or after an enquiry.

5.10 Before an inspection takes place, each section of the route is assessed for its availability and whether it is safe to complete the inspection. If, for any reason, part or all of the route cannot be inspected, then the inspection is recorded as suspended, and the reasons and photographs recorded as appropriate. The route or route section is then reprogrammed for inspection at the next available opportunity. If sections of a route continue to be unavailable due to the presence of street works or parked vehicles, then it may not be practicable to inspect those parts of the highway that are obstructed to the same standard as the rest of the highway. The process is shown below:



5.11 Due to the differences in categories between carriageways, footways and cycleways, it may be necessary in certain instances to inspect each element at different times. Conversely, there will be instances where the frequencies for each are the same. These elements may, therefore, be inspected at the same visit.

5.12 Link footways are linking local footways through urban areas and busy rural footways. They are **not** interlinking footways, which are, for example, footways between two housing estate roads.

- 5.13 DCC will ensure that the routes include the existing highway network and any newly adopted highways, where appropriate. These will be added to the inspection routes as necessary.

## 6 RISK BASED APPROACH

- 6.1 The new Code of Practice does not specify defined intervention levels where action is required to rectify a defect. It allows local authorities to decide if or what investigation criteria is appropriate and requires a risk based approach to the identification, assessment, evaluation and priority of defects.
- 6.2 The safety inspection regime uses a defect risk assessment process to determine the degree of risk a defect, which meets an investigation criterion, impacts upon all highway users and not just motor vehicle users. All risks identified through this process have to be evaluated in terms of their significance, which means assessing the likely impact should the risk occur and the probability of it actually happening.
- 6.3 The **impact** is quantified by assessing the extent of the damage likely to be caused should the risk become an incident. As the **impact** is likely to increase with increasing speed, the amount of traffic and type of road are clearly important considerations in the assessment.
- 6.4 The **probability** is quantified by assessing the likelihood of users, passing by or over the defect, encountering the risk. As the **probability** is likely to increase with increasing vehicular or pedestrian flow, the Network Hierarchy and defect location are, constantly, important considerations in the assessment.
- 6.5 To guide the inspectors in the risk assessment, the system asks a series of questions relating to impact and probability for each defect type. A definition guide to these questions is provided in Appendix A.
- 6.6 The result of this assessment defines an appropriate response from immediate to no further action. However these risk assessed response times may be suspended if a state of emergency situation has been declared for either part or the whole of the County as itemised within the State Emergency Policy?
- 6.7 There are two tables overleaf, Table 3 for those defects located on the carriageway, and Table 4 for those defects located on the footway:

TABLE 3		CARRIAGEWAYS DEFECT RISK ASSESSMENT									
		PROBABILITY OF INTERACTION WITH HIGHWAY USER									
		Rare		Unlikely		Possible		Likely		Almost Certain	
LIKELY IMPACT	None	1	2	3	4	5	6	7	8	9	10
	Negligible	2	4	6	8	10	12	14	16	18	20
	Minor	3	6	9	12	15	18	21	24	27	30
	Moderate	4	8	12	16	20	24	28	32	36	40
	Serious	5	10	15	20	25	30	35	40	45	50

TABLE 4		FOOTWAYS DEFECT RISK ASSESSMENT				
		PROBABILITY OF INTERACTION WITH HIGHWAY USER				
		Rare	Unlikely	Possible	Likely	Almost Certain
LIKELY IMPACT	None	1	2	3	4	5
	Negligible	2	4	6	8	10
	Minor	3	6	9	12	15
	Moderate	4	8	12	16	20
	Serious	5	10	15	20	25

<b>Category 4</b> Consider an appropriate response including no further action	<b>Category 3</b> Repair within 28 days	<b>Category 2</b> Make safe or repair within 9 days	<b>Category 1</b> Make safe or repair within 32 hours
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Defects identified that pose a threat to life are considered an emergency. The defect must be responded to, normally within 2 hours, and either made safe or repaired urgently. Until the response team arrives the inspector must stay with the defect if it cannot be made immediately safe by the inspector and it is safe to do so. Any make safe actions undertaken by the Highways Inspector should be recorded using the “Fix Now” function.

## 6.1 Category 1 Defects

- 6.1.1 These are **all** defects that require action to repair or make safe at the time of inspection, **if reasonably practicable**. Generally, in this context, making safe may constitute displaying warning notices, coning off and/or fencing off to protect the public from the defect. If it is not possible to correct or make safe the defect at the time of inspection, repairs or other actions of a permanent or temporary nature should be carried out as soon as possible. Category 1 defects must take first priority of the available resources and budgets.

- 6.1.2 Category 1 pothole defects, wherever possible, should be repaired permanently. A temporary 'plugged' repair may be required to make them safe if a permanent repair is not possible, i.e. due to the location requiring further traffic control or weather conditions that may prevent a successful permanent repair. However, these need to be reassessed and possibly downgraded to a Medium or Low Risk defect once they have been made safe but they must remain a defect as the repair is temporary in nature. Temporary pothole repairs can also be considered if the road has been designated for more extensive patching or resurfacing works.

## **6.2 Category 2, 3 and 4 Defects**

- 6.2.1 These are defects which do not require action to repair or make safe at the time of inspection. Three categories of risk have been identified which each have different response requirements.

## **6.3 Ancillary Defects**

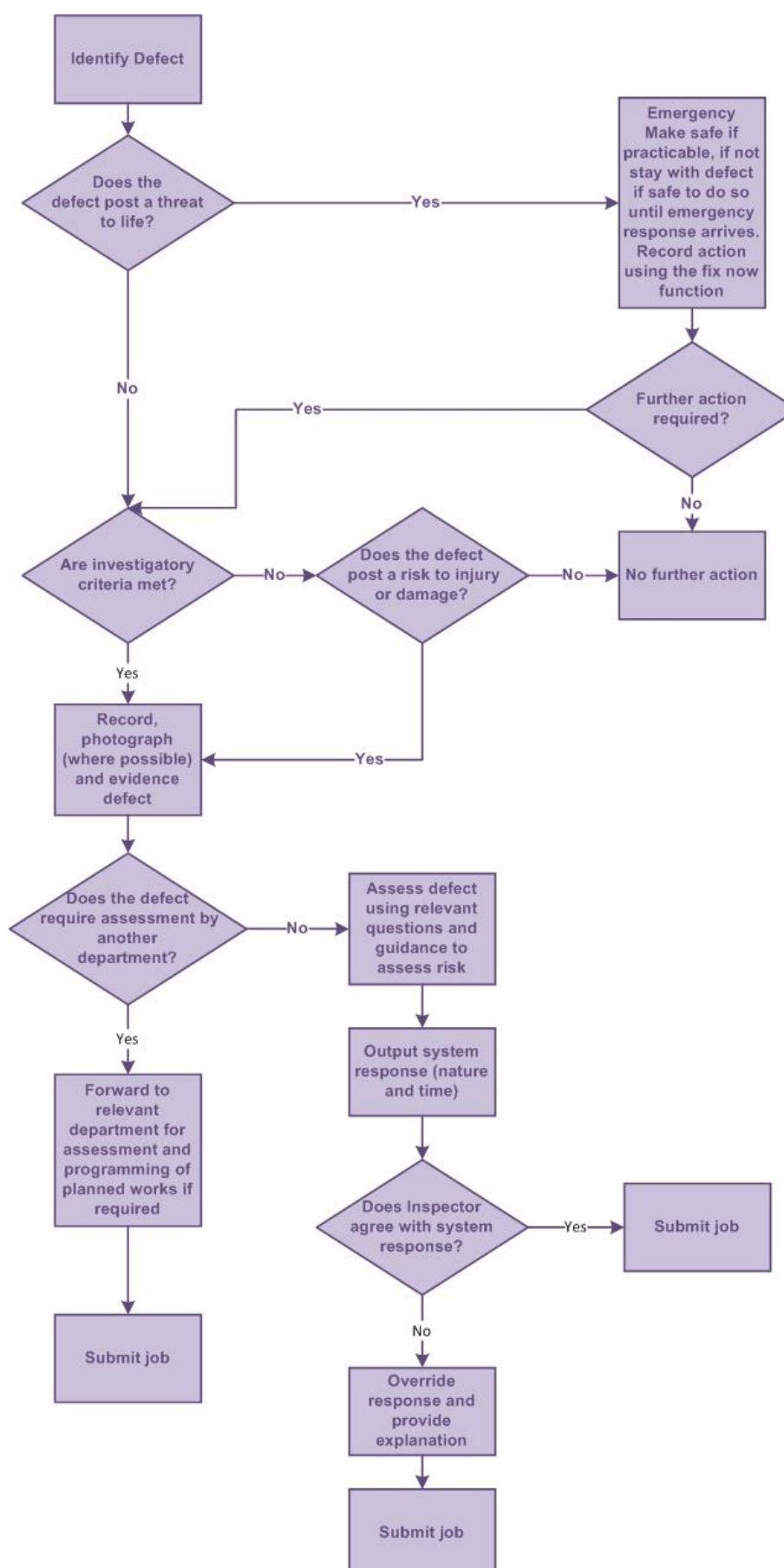
- 6.3.1 Not all defects can be rectified by the Highway Authority and require action by others. These defects will be directed, via the hand-held device, to the Control Centre or action officer for distribution to other sections or agencies, as appropriate.
- 6.3.2 Ancillary defects may range from those that need prompt attention to those that are deemed not to present an immediate or imminent hazard.

## **6.4 Examples of Defects**

- 6.4.1 The classifications, guidance and remarks are contained in Appendix B.

## **6.5 Defect Reporting Process**

- 6.5.1 The defect reporting process is shown in the figure overleaf:





## 7 METHOD OF INSPECTION AND RECORDING

### 7.1 General

- 7.1.1 Inspections must be carried out in a safe manner so as not to endanger staff or the public. All operations **should have a current risk assessment** and all documents are available on either Dnet or in EDRM as appropriate.
- 7.1.2 When an Inspector identifies defects on the highway, the opportunity is available to identify hazards that potentially could affect work teams or contractors undertaking the subsequent repair. This hazard identification is not only a duty of Designers under Construction Design Management (CDM), but is an important part of risk evaluation in departmental procedures and leads to improved efficiency when work teams or contractors are mobilised. The document CDM (GCP 15) is available on either Dnet or in EDRM.
- 7.1.3 The document 'Working on the Highway' (GCP 9) advises employees of safety precautions that **must** be followed in order to reduce the risk of such collisions, not only to themselves, but to all road users. It must be adhered to and is available on either Dnet or in EDRM.
- 7.1.4 If in doubt, consult your manager and/or refer to the risk assessments and general codes of practice.

### 7.2 Driven Inspections

- 7.2.1 Highway Infrastructure Assets Safety Inspections, when driven, **must** be undertaken by **two people** in a suitable vehicle travelling at an appropriate speed that will enable adequate recording of defects, with one driving and the other inspecting. The driver will not be expected to be actively involved in identifying and recording defects, but will concentrate on ensuring the safe passage of the vehicle. Where the Highway Inspector determines that, in their reasonable opinion, the inspection cannot be undertaken and defects effectively observed from the vehicle, then the inspection will be walked.
- 7.2.2 A highway with footways on either side must be driven in both directions.
- 7.2.3 The survey vehicle should be equipped with high intensity roof-mounted, flashing beacons and high visibility reflective markings as a minimum, with other additional features being required subject to certain situations that may include, for example, high speed roads and highly trafficked roads etc.
- 7.2.4 The inspection of any Traffic-sensitive streets should be surveyed at off-peak times, where practical.

### 7.3 Walked Inspections

- 7.3.1 Highway infrastructure assets can be inspected by one person on foot if the person is walking on a footway and can inspect the footway and carriageway at the same time.



- 7.3.2 All Category 1 and 2 footways (if there is a footway on both sides of the road) are to be inspected in both directions.

## **7.4 Alternative Methods**

- 7.4.1 Where alternative methods are available, such as drones or high resolution photography, they will be considered and tested to assess whether they provide a viable alternative method under appropriate circumstances.

## **7.5 Recording**

- 7.5.1 The inspection regime must be applied and recorded systematically and consistently. As well as information relating to defects, all inspections must also, therefore, record the following through the use of a hand held device (HHD) capable of transferring data from the field into Confirm:

- Time of inspection and defect identification
- Route section availability for inspection and if safe to inspect
- Weather conditions
- Any unusual circumstances of the inspection
- Person(s) conducting the inspection

- 7.5.2 Each inspection must record the following:

- The relevant Unique Street Reference Number (USRN) for the named street.
- All actionable defects found must be recorded as part of the inspection
- If no defects are present this must be recorded as part of the inspection
- Photographs taken of each actionable defect showing scale and context must be attached to the enquiry or defect if an inspection has been walked. For a driven inspection, photographs should be taken only where practical and safe to do so
- Be time and date stamped

- 7.5.3 High Risk defects which require immediate attention should be transferred from the device as soon as the inspection on a particular street has been completed. If it is not possible to transfer the defect(s) at the time of inspection, it must be transferred within **1 hour** of it being recorded or as soon as practicable. Low Risk defects can be transferred once an inspection has been completed.

- 7.5.4 All records will be kept in accordance with the Data Management Strategy and all inspections will be retained by DCC for future reference.

## 8 REVIEW PROCESS

- 8.1.1 This manual will be supported through a formal review process which will generally occur annually. However, feedback and lesson learned will also be reported and any resulting changes required to the manual or process will be disseminated through the monthly Inspector's team meetings as a regular agenda item.

### APPENDIX A – QUESTION DEFINITIONS

#### Probability Questions:

Confirm Detail	Definition
P2 Both Sides of Cway?	Does the defect alter the path of vehicles into the path of oncoming traffic?
P3 At High Risk location?	Is the defect located in the wheel track/cycle track/pedestrian desire line?
P4 At Hazard location?	Is the defect located at a hazard ie on a bend, outside a school, at a junction, at a crossing?
P6 Debris/Spillage on Hway?	Is there a debris/spillage on the highway?
P7 Affect the Fway?	Does the defect affect the footway?

#### Impact Questions:

Confirm Detail	Definition
I1 Speed Limit > 40mph	Is the speed limit greater than 40mph?
I2 Impact Non-Motorised Users?	Does it impact road users such as pedestrians, cyclists etc?
I3 Impact Grade	<b>Negligible/None</b> – no injury and/or wear and tear only on vehicle <b>Minor</b> – slight bruise/muscle injury and/or instant vehicle repair required eg puncture <b>Moderate</b> – injury not requiring hospital treatment and/or damage to running of vehicle eg wheel damage <b>Serious</b> – injury requiring hospital treatment and/or significant damage to vehicle ie suspension breakage, body damage
I4 Worsen By Next Inspection?	Will the defect cause the asset condition to deteriorate further <b>before the next inspection</b> ? This is less likely to occur where inspections occur frequently ie monthly
I5 Does it affect cyclist? (was previously entitled Affect Peds & Cyclists)	Is it located on a dedicated cycleway, or a segregated footway/cycleway or at an identified high risk cycle location?
I6 Temporarily Made safe?	Have temporary measures been required to make it safe?



## APPENDIX B – EXAMPLES OF HIGHWAY DEFECTS



The defects listed are **not** exhaustive and the Inspector will need to use risk assessments to decide what is likely to be hazardous, as local circumstances will apply.

How these defects should be treated will depend on the particular circumstances and the nature and speed of response required.

The following defects listed below will be applied to the appropriate element of the highway. A more detailed description of each defect and the position within the highway is provided defect by defect.

- 1.1 Pothole
- 1.2 Standing/running water
- 1.3 Embankment or bank slips
- 1.4 Spillages/obstructions/debris
- 1.5 Overriding
- 1.6 Defective high friction surface
- 1.7 Dangerous or obstructing trees
- 1.8 Obscured visibility and overgrown hedges, bushes and verges
- 1.9 Defective roadmarks
- 1.10 Defective ironwork
- 1.11 Defective cattle grid
- 1.12 Defective overhead cables
- 1.13 Defective roadworks signing
- 1.14 Obstructions – materials, goods, equipment, and signs
- 1.15 Cracks and gaps
- 1.16 Abrupt level differences/trip
- 1.17 Rocking flag
- 1.18 Damaged road restraint systems
- 1.19 Defective boundary fences
- 1.20 Streetlights, illuminated traffic signs and illuminated bollards
- 1.21 Defective road signs
- 1.22 Defective traffic signals
- 1.23 Damaged steps
- 1.24 Damaged handrails
- 1.25 Defective escape lanes/arrester beds
- 1.26 Carriageway/footway/cycleway Deterioration
- 1.27 Defective traffic calming features
- 1.28 Damaged kerb/channel
- 1.29 Street furniture

1.1 POTHOLE		Version 1.0 – 25 <sup>th</sup> June 2018
<b>Investigatory Criteria</b>		
An area of material loss resulting in a vertical edge depression.		
<b>Minimum criteria where applicable</b>		
<b>Carriageway</b>		40mm deep.
<b>Footway &amp; Cycleway</b>		20mm deep.
<b>Confirm Codes:</b>	Carriageway: RC01 Footway: RF01	
<b>Sample Photograph</b>		
<b>Carriageway</b>		<b>Footway/Cycleway</b>
		
<b>Response</b>		
<ol style="list-style-type: none"><li>1. Undertake defect reporting process.</li><li>2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.</li><li>3. Forward to relevant department for further investigatory work/assessment if required.</li></ol>		
<b>Notes and Further Investigation</b>		
<ul style="list-style-type: none"><li>• The footway investigatory criteria will be applied to a carriageway at defined pedestrian crossing points, where there is a marked cycle lane on the carriageway, or where there is a high risk to cyclists on the carriageway.</li><li>• Consideration should be given for powered two wheeled vehicles, cyclists, equestrians and pedestrians as appropriate.</li><li>• Where multiple defects have been identified and assessed with the same defect response time output then these may be inputted as one defect. However, it should be possible to identify each defect from the information provided to ensure that the correct defects are repaired.</li><li>• If defect forms part of possible NRSWA reinstatement failure contact NRSWA inspector to establish if within guarantee period. If it is confirmed within period record use code IT03 if not record as above response.</li></ul>		

1.2 STANDING/RUNNING WATER		Version 1.0 – 25 <sup>th</sup> June 2018
<b>Investigatory Criteria</b>		
Standing or running water on carriageways where excess water requires signing and guarding or properties are at risk of severe flooding.		
<b>Minimum criteria where applicable</b>		
<b>Carriageway</b>	If, after 24 hours from when rain has ceased, the road is impassable, or it is forcing vehicles, cyclists or pedestrians away from the nearside of the carriageway by more than 1m, or if vehicles have to cross the centreline marking.	
<b>Footway &amp; Cycleway</b>	If, after 24 hours the footway is impassable	
<b>Confirm Codes:</b>	Carriageway: RC02, RC03, RC04, RC05, RC06, RC07, RC08, RC09 Footway: RF02, RF03, RF04	
<b>Sample Photograph</b>		
<b>Carriageway</b>	<b>Footway/Cycleway</b>	
		
<b>Response</b>		
<div>1. Undertake defect reporting process.</div> <div>2. Attempt to clear standing water if appropriate.</div> <div>3. If unable to clear water either: use flood sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.</div> <div>4. Investigate permanent solution.</div> <div>5. Forward to relevant department/other body if required.</div>		
<b>Notes and Further Investigation</b>		
<div>• During prolonged heavy rain, standing / running water will not be treated as requiring further investigation.</div> <div>• Consultation will be required with adjacent landowner/occupier where appropriate.</div> <div>• Statutory undertakers should be contacted where appropriate.</div> <div>• Flooding of properties to be reported to the Flood Risk Team create an enquiry and link to the defect.</div>		

**1.3 EMBANKMENT/BANK SLIPS/ RETAINING WALL COLLAPSES**

Version 1.0 – 25th June 2018

**Investigatory Criteria**

An embankment, bank slip or retaining wall collapse obstructing a highway surface or leaving the haunch exposed or unsupported.

**Minimum criteria where applicable**

<b>Carriageway</b>	When the road is obstructed or support lost; or it is forcing vehicles, cyclists or pedestrians away from the nearside of the carriageway by more than 1m; or if vehicles have to cross the centreline marking; or if cyclists have to cross a cycle lane boundary marking.
<b>Footway &amp; Cycleway</b>	A slip when either material has deposited on the footway so that it is blocked, pedestrians are forced off of the footway, or leaving the footway foundation exposed or unsupported.
<b>Confirm Codes</b>	NR01, NR02

**Sample Photograph**
**Carriageway/Footway/Cycleway**

**Response**

1. Undertake defect reporting process.
2. Any debris should be recorded as a separate defect (using 1.4). Consider other traffic management requirements until obstruction removed and any underlying problems are resolved.
3. Damage to structure should be logged and forwarded to structures for further investigation and assessment.

**Notes and Further Investigation**

- Consultation will be required with adjacent landowner/occupier where appropriate. Where washout/slips occur frequently, the procedures for powers under Section 151 of the Highways Act 1980 should be followed.
- Clear any gullies that are blocked and outfall through retaining walls, significant collapses and cost can be avoided by quick action.
- If significant support removed from carriageway, road/lane closure may be needed.



**1.4 SPILLAGES/DEBRIS****Version 1.0 – 25th June 2018****Investigatory Criteria**

Spillages include: hazardous liquid, effluent, diesel, oil, petrol and mud.  
Debris on the carriageway, examples include: fallen trees or tree limbs, excessive surplus surface dressing chippings, debris dropped from vehicles, excessive mud, sand, animals, soil or slurry.

**Minimum criteria where applicable**

<b>Carriageway</b>	Item causing immediate danger to highway users.
<b>Footway &amp; Cycleway</b>	Item causing immediate danger to highway users.
<b>Confirm Codes:</b>	Carriageway: RC10, RC11, NR03 Footway: RF05, RF06, NR03

**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
3. Treat spillage with appropriate material and sweep surface if necessary.
4. Clear obstruction if possible and investigate a permanent solution if required.

**Notes and Further Investigation**

- Where a spillage is, or could be, of a hazardous nature, remedial action must be undertaken strictly in accordance with the Health and Safety Manual to protect operatives and road users.
- General detritus/rubbish clearance is a District/Borough responsibility.
- Isolated incidents may be removed to an appropriate temporary location for removal later.
- Dead animals should be moved to the adjacent verge and the District/Borough Council contacted to arrange removal.
- Landowners should be investigated and contacted through Highways Hub for mud deposits.

**1.5 OVERRIDING** **Version 1.0 – 25th June 2018**
**Investigatory Criteria**

An area of verge immediately adjacent to the carriageway generally rutted below the level of the carriageway.

**Minimum criteria where applicable****Carriageway**

Greater than 100mm drop-off at the edge of an unimpeded road

**Confirm Codes:** RC12

**Sample Photograph****Carriageway****Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.

**Notes and Further Investigation**

- Edge deterioration that has broken away should be reinstated as like for like.



**1.6 DEFECTIVE HIGH FRICTION SURFACING**      **Version 1.0 – 25th June 2018**
**Investigatory Criteria**

A loss of aggregate or fatting up within a high friction surface or slippery covers within a high friction surface.

**Minimum criteria where applicable**
**Carriageway**

Report any areas where serious loss of skidding resistance suspected.

**Footway & Cycleway**

N/A

**Confirm Codes:** NR04

**Sample Photograph**
**Carriageway**

**Response**

1. Undertake defect reporting process.
2. Erect slippery road signs if necessary.
3. Forward to traffic and safety team for further investigation and assessment.

**Notes and Further Investigation**

- Permanent action to be undertaken in accordance with the Council's Skidding Policy.
- All slippery covers within high friction surfacing, see 1.10 Defective Ironwork.

**1.7 DANGEROUS OR OBSTRUCTING TREES****Version 1.0 – 25th June 2018****Investigatory Criteria**

A tree requires investigation when it is: obviously diseased, leaning precariously towards the highway (especially if the inspector considers it to have moved towards the highway since the last inspection), or it is damaged or has damaged or dead limbs which could fall directly onto the highway user or is obstructing.

**Minimum criteria where applicable**

<b>Carriageway</b>	The minimum vertical clearance over the carriageway needs to take account of the traffic using the route (minimum clearance of 5m).
<b>Footway &amp; Cycleway</b>	Obstructing the clear passage of pedestrians/cyclists forcing them off the footway/cycleway, or it reduces the vertical clearance above the footway to less than 2.1m or 2.3m on a cycleway.

<b>Confirm Codes:</b>	Carriageway: RC13 Footway: RF07
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**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
3. Forward to tree inspector for further investigation and assessment if required.
4. Initiate noticing procedure via Highways Hub for overgrown vegetation if appropriate.

**Notes and Further Investigation**

- Separate specialist technical tree inspections are completed by the designated tree inspectors and these inspections follow the guidelines held within the Highway/Countryside Tree Inspections document.
- Responsibilities for landowners/occupiers with trees adjacent to the highway, and the powers of DCC in this respect, are contained in Section 154 of the Highways Act 1980. Where possible, the landowner/occupier should be given the opportunity to undertake the appropriate remedial work and retain ownership of any waste material.
- When a dangerous or damaged tree is identified as a safety defect, details of the tree should be forwarded to the Tree Inspector for further investigation and assessment.

**1.8 OBSCURED VISIBILITY AND  
OVERGROWN HEDGES, BUSHES & VERGES**
Version 1.0 – 25<sup>th</sup> June 2018**Investigatory Criteria**

Obscured highway visibility due to overgrown/overhanging vegetation, including obscured traffic signal heads, street light lamp, regulatory/warning traffic sign or bollard.

**Minimum criteria where applicable**



<b>Carriageway</b>	Overhanging/overgrown in sight lines at bends, junctions or laybys. Overgrown hedges and bushes when obstructing the highway user; or obstructing the clear passage of the highway user or it is forcing vehicles, cyclist or pedestrians away from the nearside of the carriageway by more than 1m; or vehicles have to cross the centreline marking; or if cyclists have to cross a cycle lane boundary marking.
<b>Footway &amp; Cycleway</b>	Overhanging/overgrown in sight lines at locations where pedestrians/cyclists are encouraged to cross the carriageway; or it is overhanging the highway and obstructing the clear passage of pedestrians/cyclists forcing them off the footway/cycleway, or it reduces the vertical clearance above the footway to less than 2.1m or 2.3m on a cycleway.
<b>Confirm Codes:</b>	Carriageway: RC14, RC15 Footway: RF08, RF09

**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. Cut back overgrowth or, if required either: close road/footway or stay with defect to make safe if safe to do so using the Fix Now function.
3. Initiate noticing procedure for private overgrown vegetation by creating an enquiry and linking it to the defect and forwarding to Highways Hub for action.

**Notes and Further Investigation**

- Responsibilities for landowners/occupiers with hedges, trees and bushes adjacent to the highway, and the powers of DCC in this respect, are contained in Section 154 of the Highways Act 1980.
- Where possible, the landowner/occupier should be given the opportunity to undertake the appropriate remedial work and retain ownership of any waste material. However this should be completed within the output risk assessed defect response time provided for inclusion in the correspondence.

1.9 DEFECTIVE ROADMARKS		Version 1.0 – 25th June 2018
<b>Investigatory Criteria</b>		
Faded or missing regulatory lines such as stop lines, double white line systems and parking enforcement lines.		
<b>Minimum criteria where applicable</b>		
<b>Carriageway</b>	N/A	
<b>Footway &amp; Cycleway</b>	N/A	
<b>Confirm Codes:</b>	NR05, NR06	
<b>Sample Photograph</b>		
<b>Carriageway</b>	<b>Footway/Cycleway</b>	
		
<b>Response</b>		
<div>1. Undertake defect reporting process.</div> <div>2. Forward to maintenance for further investigation and assessment. Advice to be sought from Traffic and Safety as required.</div>		
<b>Notes and Further Investigation</b>		
<div>• Non regulatory lining and missing studs are to be identified for lining and stud programmes and should be forwarded to maintenance for further investigation and assessment.</div> <div>• Major junction lining faults to be passed to Area Manager.</div>		



**1.10 DEFECTIVE IRONWORK****Version 1.0 – 25th June 2018****Investigatory Criteria**

A missing or broken cover to any chamber/box. A collapsed or collapsing chamber. A high or low cover or frame when the cover within the frame or the frame itself, is above or below the immediate surrounding carriageway level by 40mm or greater. A rocking cover when the rocking is greater than 40mm. A grating where the slots run parallel to the carriageway edge without lateral infill members. A slippery cover within an area of high friction surfacing.

**Minimum criteria where applicable****Carriageway**

High/low or rocking cover +/- 40mm.

**Footway & Cycleway**

High/low or rocking cover +/- 20mm.

**Confirm Codes:**

Carriageway: RC16, RC17, RC18, RC19  
Footway: RF10, RF11, RF12, RF13  
Statutory Undertakers: IC16, IC17

**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
3. If related to statutory undertaker's equipment follow New Roads and Street Works Area (NRSWA) Section 81 Defective Apparatus Confirm Connect Process Map.

**Notes and Further Investigation**

- Rocking covers in urban areas that move less than 40mm but under traffic cause noise levels unacceptable to persons living in the vicinity, are not a safety defect but should be rectified as soon as possible, using the Section 81 notice if appropriate.
- The footway investigatory criteria will be applied to a carriageway at defined pedestrian crossing points, or where pedestrians are encouraged to cross, or where there is a marked cycle lane on the carriageway, or where there is a high risk to cyclists on the carriageway.

**1.11 DEFECTIVE CATTLEGRIDS****Version 1.0 – 25th June 2018****Investigatory Criteria**

Any damage to the cattle grid panel or structure or a loose panel, rendering it dangerous; or damage to the associated fence or gate rendering it dangerous or not stock proof or when the voids between the bars are clogged up with debris to the point that stock can walk across without impediment.

**Minimum criteria where applicable****Carriageway**

N/A

**Footway & Cycleway**

N/A

**Confirm Codes:** NR07**Sample Photograph****Carriageway****Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.

**Notes and Further Investigation**

- Contact the landowner to remove stock if required, or request that stock is removed to enable side gates to be used if practicable.

**1.12 DEFECTIVE OVERHEAD CABLES****Version 1.0 – 25th June 2018****Investigatory Criteria**

Low cables across carriageways, footways and cycleways.  
A supporting pole or structure that is damaged or leaning dangerously, adjacent to the highway that could fall on to it or affect the cable it is supporting across the highway.

**Minimum criteria where applicable**

<b>Carriageway</b>	Vertical clearance to lower than 5m (16' 6") (Chapter 4 Traffic Signs Manual) Cycleway – vertical clearance to lower than 2.3m (7' 6")
<b>Footway &amp; Cycleway</b>	Footway - vertical clearance to lower than 2.1m (6' 10") Cycleway - vertical clearance to lower than 2.3m (7' 6")

**Confirm Codes:** UR01**Carriageway****Response**

1. Undertake defect reporting process.
2. If related to statutory undertaker's equipment follow New Roads and Street Works Area (NRSWA) Inspector to instigate Section 81 Defective Apparatus Confirm Connect Process Map.
3. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.

**Notes and Further Investigation**

- The height of a cable should be estimated and under no circumstances should it be actually measured by highway inspectors. Measurements should only be taken by a person holding a valid proximity permit.

**1.13 DEFECTIVE ROADWORKS SIGNING****Version 1.0 – 25th June 2018****Investigatory Criteria**

Any roadworks signing (including DCC or Statutory Undertakers works, or at scaffold or skips sites) that is not in accordance with Chapter 8.

**Minimum criteria where applicable****Carriageway**

N/A

**Footway & Cycleway**

N/A

**Confirm Codes:** Through enquiry system**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
2. Undertake enquiry reporting process.

**Notes and Further Investigation**

- Inspectors should contact the Highways Hub or NRSWA Inspector during office hours to report inadequate signing or guarding. Determine if a Section 65 notice is required.



**1.14 OBSTRUCTIONS – MATERIALS, GOODS, EQUIPMENT AND SIGNS**
Version 1.0 – 25<sup>th</sup> June 2018
**Investigatory Criteria**

Materials, goods, canopies, equipment or illegal signs that impede or obstruct pedestrians/cyclists, or restrict visibility

**Minimum criteria where applicable**

<b>Carriageway</b>	Vertical clearance to permissible overhanging signs or banners of less than 5m for carriageway
<b>Footway &amp; Cycleway</b>	Vertical clearance to overhanging signs or banners on a footway of less than 2.1m or 2.3m on a cycleway

**Confirm Codes:** Carriageway: RC20  
Footway: RF14

**Sample Photograph**

<b>Carriageway</b>			<b>Footway/Cycleway</b>
			

**Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function .

**Notes and Further Investigation**

- Where a notice is required, a Section 148 depositing anything whatsoever on the highway notice must be issued.
- Banners over the highway must be authorised under the 'Conditions for Erection of a Banner over the Public Highway'.

**1.15 CRACKS AND GAPS****Version 1.0 – 25th June 2018****Investigatory Criteria**

A crack or gap meeting the dimension criteria below:

**Minimum criteria where applicable****Carriageway**

Void is greater than 40mm deep, 20mm width and 200mm in length

**Footway & Cycleway**

Void is greater than 20mm deep, 20mm width and 200mm in length

**Confirm Codes:**

Carriageway: RC21  
Footway: RF15

**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
3. Repair as appropriate.

**Notes and Further Investigation**

- This defect does not apply to a kerb. For defects relating to kerbs see defect 1.28 Damaged Kerb/Channel.
- This defect is usually caused by the loss of mortar or the movement of flags and pedestrians may catch their heel or toes in the void.
- The footway investigatory criteria will be applied to a carriageway at defined pedestrian crossing points, where pedestrians are encouraged to cross, where there is a marked cycle lane on the carriageway or where there is a high risk to cyclists on the carriageway.
- If defect forms part of possible NRSWA reinstatement failure contact NRSWA inspector to establish if within guarantee period. If it is confirmed within period record use code IT03 if not record as above response.

**1.16 ABRUPT LEVEL DIFFERENCE/TRIP****Version 1.0 – 25th June 2018****Investigatory Criteria**

An abrupt level difference in the carriageway when it has a vertical displacement. A sharp edged defect on a footway/cycleway with a vertical deviation. For issues with Kerbs please see 1.28 Damaged Kerb/Channel.

**Minimum criteria where applicable****Carriageway**

Void is greater than 40mm deep.

**Footway & Cycleway**

Void is greater than 20mm deep.

**Confirm Codes:**



Carriageway: RC22  
Footway: RF16, RF17

**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
3. Repair as appropriate on footway/cycleway.
4. Forward to relevant department for further investigatory work/assessment if required, i.e. structures.

**Notes and Further Investigation**

- Examples of this defect include: uneven or broken flags, blocks, pavements; channels or edgings; damaged steps.
- The footway minimum dimensions will be applied to marked pedestrian crossing points within the carriageway, e.g. pedestrian crossings and pedestrian phase signalled crossings.
- If defect forms part of possible NRSWA reinstatement failure contact NRSWA inspector to establish if within guarantee period. If it is confirmed within period record use code IT03 if not record as above response.

1.17 ROCKING FLAG		Version 1.0 – 25th June 2018
<b>Investigatory Criteria</b>		
A moving flag, paviour, block or channel where on edge rises or falls.		
<b>Minimum criteria where applicable</b>		
<b>Carriageway</b>		Greater than 40mm.
<b>Footway &amp; Cycleway</b>		Greater than 20mm.
<b>Confirm Codes:</b>	Carriageway: RC23 Footway: RF18	
<b>Sample Photograph</b>		
<b>Carriageway</b>		<b>Footway/Cycleway</b>
		
<b>Response</b>		
<div>1. Undertake defect reporting process.</div> <div>2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.</div> <div>3. Relay or make safe rocking flag.</div>		
<b>Notes and Further Investigation</b>		

**1.18 DAMAGED ROAD RESTRAINT SYSTEMS      Version 1.0 – 25th June 2018**
**Investigatory Criteria**

A length of vehicular restraint system or safety fence, pedestrian guardrail or bridge parapet or retaining wall parapet with obvious impact damage; or missing, loose.

**Minimum criteria where applicable**
**Carriageway**

N/A

**Footway & Cycleway**

N/A

**Confirm Codes:**    NR08, NR09, NR10

**Sample Photograph**
**Carriageway**

**Footway/Cycleway**

**Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
3. Forward to Traffic and Safety Section (for vehicle restraint system and pedestrian guardrail/Structures (for bridge parapets) for assessment and planned works.

**Notes and Further Investigation**

- Any debris should be recorded as a separate defect (using 1.4).
- Vehicle restraint systems at railway level crossings and railway bridges must be inspected regardless of ownership and any defects reported to Network Rail as appropriate.
- When damage has been noted to a bridge or retaining wall parapet, the Inspector should contact the Bridges and Structures section or Highways Hub (outside office hours) for action.



**1.19 DEFECTIVE BOUNDARY FENCES & WALLS**

Version 1.0 – 25th June 2018

**Investigatory Criteria**

A length of boundary fence or wall with impact or other damage that would render it dangerous, or ineffective for stock proofing. A fence with an exposed length of tubular metal rail.

**Minimum criteria where applicable**

<b>Carriageway</b>	N/A
<b>Footway &amp; Cycleway</b>	N/A
<b>Confirm Codes:</b>	NR11

**Sample Photograph**
**Carriageway**

**Footway/Cycleway**

**Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
3. Arrange for livestock to be removed from highway immediately.
4. If private fence/wall inform owner.
5. If DCC fence/wall arrange repair.

**Notes and Further Investigation**

- Any debris should be recorded as a separate defect (using 1.4).
- This defect also applies to a boundary hedge where the stock is straying on to the highway. The maintenance category refers to the carriageway, footway and/or cycleway the boundary fence protects.
- Ownership of the boundary wall should be determined and, in the case of a private wall, the private landowner is informed.
- If a highway wall, report damage to Structures section or Highways Hub (outside office hours) for action. When appropriate use local building control.

**1.20 STREET LIGHTS, ILLUMINATED  
TRAFFIC SIGNS & ILLUMINATED  
BOLLARDS**

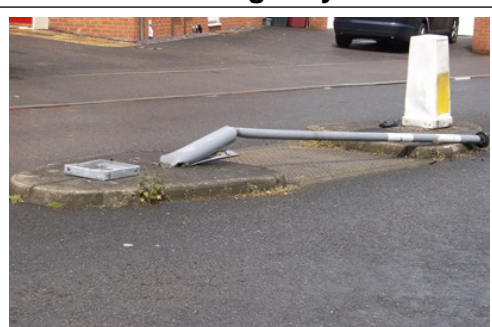
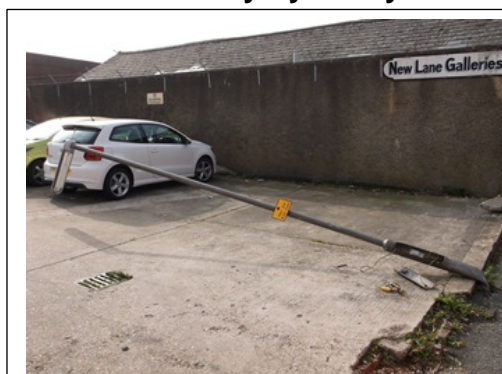
Version 1.0 – 25th June 2018

**Investigatory Criteria**

Any damage to a streetlight, externally and internally illuminated sign or bollard, where the electricity supply is exposed, or the column or lamp is unstable. An externally or internally illuminated sign or bollard where the illumination does not work.

**Minimum criteria where applicable**

<b>Carriageway</b>	N/A
<b>Footway &amp; Cycleway</b>	N/A
<b>Confirm Codes:</b>	Carriageway: NR12 Footway: NR13

**Sample Photograph****Carriageway****Footway/Cycleway****Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
3. Forward to street lighting section for action. If urgent defect then also ring 01629 531588, if no response 01629 538630, then 01629 531932

**Notes and Further Investigation**

- Under no circumstances should the Highway Inspector attempt to affect a repair.
- Any damage to the road traffic sign that is part of an illuminated or non-illuminated bollard should be noted as a damaged road traffic sign.

**1.21 DEFECTIVE ROAD TRAFFIC SIGNS AND POSTS**

Version 1.0 – 25th June 2018

**Investigatory Criteria**

Any regulatory/mandatory sign or warning signs relating to bridges, level crossings and deviation of route (bends) that is damaged, missing, faded, obscured or covered in dirt/algae. Any type of sign or bollard that is a danger to road users.

**Minimum criteria where applicable**
**Carriageway**

N/A

**Footway & Cycleway**

N/A

**Confirm Codes:** NR14, NR15, NR16

**Sample Photograph**
**Roadside**

**Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.
3. Forward to Traffic and Safety Section for assessment.

**Notes and Further Investigation**



**1.22 DEFECTIVE PERMANENT TRAFFIC SIGNALS**

Version 1.0 – 25th June 2018

**Investigatory Criteria**

Any defect on any type of permanent traffic signal, zebras, vehicle activated signs and flashing amber warning lights including traffic signal heads which are out of alignment and therefore not visible to highway users. Electrical or control boxes that are open or tampered with.

**Minimum criteria where applicable**
**Carriageway**

N/A

**Footway & Cycleway**

N/A

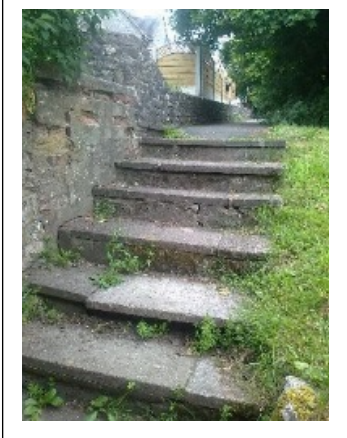
**Confirm Codes:** NR17


**Sample Photograph**
**Roadside**

**Response**

1. Undertake defect reporting process.
2. Forward to traffic signals for action.
3. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function.

**Notes and Further Investigation**

1.23 DAMAGED STEPS		Version 1.0 – 25 <sup>th</sup> June 2018
<b>Investigatory Criteria</b>		
A sharp edged defect with a vertical deviation from the adjacent surrounding area.		
<b>Minimum criteria where applicable</b>		
<b>Carriageway &amp; Cycleway</b>		N/A
<b>Footway</b>		20mm.
<b>Confirm Codes:</b>	RF19	
<b>Sample Photograph</b>		
<b>Footway</b>		
		
<b>Response</b>		
<div>1. Undertake defect reporting process.</div> <div>2. If required either: sign and guard area or close footway or stay with defect to make safe if safe to do so using the Fix Now function.</div>		
<b>Notes and Further Investigation</b>		

<b>1.24 DAMAGED HANDRAILS</b>		<b>Version 1.0 – 25th June 2018</b>
<b>Investigatory Criteria</b>		
A loose or broken handrail.		
<b>Minimum criteria where applicable</b>		
<b>Carriageway</b>	N/A	
<b>Footway &amp; Cycleway</b>	N/A	
<b>Confirm Codes:</b>	NR18	
<b>Sample Photograph</b>		
<b>Footway/Cycleway</b>		
		
<b>Response</b>		
<ol style="list-style-type: none"> <li>1. Undertake defect reporting process.</li> <li>2. If required either: sign and guard area or close footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function .</li> </ol>		
<b>Notes and Further Investigation</b>		

**1.25 DEFECTIVE ESCAPE LANES/ARRESTER BEDS**
Version 1.0 – 25<sup>th</sup> June 2018
**Investigatory Criteria**

Any obstruction in the vicinity of the lane. Weeds or compacted/uneven/lack of/contaminated material which prevent the effect of the arresting capability of the material.

**Minimum criteria where applicable**

<b>Carriageway</b>	N/A
<b>Footway &amp; Cycleway</b>	N/A
<b>Confirm Codes:</b>	NR19

**Sample Photograph**
**Roadside**

**Response**

1. Undertake defect reporting process.
2. If required either: sign and guard area or close escape lane/arrester bed or stay with defect to make safe if safe to do so using the Fix Now function .
3. Investigate permanent repair.

**Notes and Further Investigation**

- During the winter service period, consideration must be given to applying salt to the arrester bed material to prevent freezing.

**1.26 CARRIAGEWAY/FOOTWAY/CYCLEWAY  
DETERIORATION**

Version 1.0 – 25th June 2018

**Investigatory Criteria**

Includes spalling, depressions, bumps and rutting. The void from missing or sunken preformed flags, slabs, channels or pavements, pre-formed modules

**Minimum criteria where applicable**

<b>Carriageway</b>	40mm
<b>Footway &amp; Cycleway</b>	20mm
<b>Confirm Codes:</b>	Carriageway: RC24, RC25, RC26 Footway: RF20, RF21, RF22

**Sample Photograph**



<b>Carriageway</b>		<b>Footway</b>
		

**Response**



1. Undertake defect reporting process.
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe if safe to do so using the Fix Now function .
3. Investigate permanent repair.
4. Forward to relevant department for further investigatory work if required, i.e. structures - if defect is in the vicinity of a structure which could be the underlying cause.

**Notes and Further Investigation**


- For some carriageway defects it may not be possible to complete a permanent repair within the required risk assessed defect response time due to the size and location of the defect. In these cases an interim response should be provided, such as providing warning signs on the approaches to the defect, or minor patching within the risk assessed defect response time. A request for a permanent repair should be forwarded to the area district manager where further investigation should be undertaken for possible inclusion in the forward works programme.
- The footway investigatory criteria will be applied to a carriageway at defined pedestrian crossing points, or where pedestrians are encouraged to cross, or where there is a marked cycle lane on the carriageway, or where there is a high risk to cyclists on the carriageway.
- If defect forms part of possible NRSWA reinstatement failure contact NRSWA inspector to establish if within guarantee period. If it is confirmed within period record use code IT03 if not record as above response.

1.27 DEFECTIVE TRAFFIC CALMING FEATURES		Version 1.0 – 25 <sup>th</sup> June 2018
Investigatory Criteria		
Missing or loose sections within constructed and modular calming features or missing or proud bolts within a modular traffic calming feature.		
Minimum criteria where applicable		
Carriageway		40mm.
Footway & Cycleway		20mm.
Confirm Codes:	NR20	
Sample Photograph		
Carriageway		
		
Response		
<div>1. Undertake defect reporting process.</div> <div>2. If required either: sign and guard area or close road or stay with defect to make safe if safe to do so using the Fix Now function .</div> <div>3. Forward to Traffic and Safety Section for further investigation and assessment.</div>		
Notes and Further Investigation		



1.28 DAMAGED KERB/CHANNEL		Version 1.0 – 25 <sup>th</sup> June 2018
<b>Investigatory Criteria</b>		
(a) within a pedestrian or tactile crossing point. (b), all other locations.		
<b>Minimum criteria where applicable</b>		
<b>a) Pedestrian or tactile crossing point</b>		Missing/damaged/rocking - 20mm.
<b>b) all other locations</b>		Each location to be risk assessed
<b>Confirm Codes:</b>	Carriageway: RC27 (code to be used if no footway present) Footway: RF23 (code to be used if footway present)	
<b>Sample Photograph</b>		
<b>Pedestrian or tactile crossing point</b>		<b>All other locations</b>
		
<b>Response</b>		
1. Undertake defect reporting process.		
2. If required either: sign and guard area or close road/footway/cycleway or stay with defect to make safe make safe if safe to do so using the Fix Now function.		
3. Investigate permanent repair.		
<b>Notes and Further Investigation</b>		



1.29 STREET FURNITURE		Version 1.0 – 25th June 2018
Investigatory Criteria		
Damage to parking meters, speed cameras and grit bins.		
Minimum criteria where applicable		
Carriageway		Damaged causing immediate danger to highway users.
Footway & Cycleway		Damaged causing immediate danger to highway users.
Confirm Codes:	NR21, NR22, NR23	
Sample Photograph		
Roadside		
		
Response		
<ol style="list-style-type: none"><li>1. Undertake defect reporting process.</li><li>2. If required, sign and guard area or close road/footway/cycleway to make safe if safe to do so using the Fix Now function.</li><li>3. Forward to Highways Hub for notification to relevant body for repair to be completed.</li></ol>		
Notes and Further Investigation		
<ul style="list-style-type: none"><li>• Liaison may be required with Traffic Signals/Street Lighting.</li></ul>		

# REACTIVE MAINTENANCE TEAMS OPERATIONAL MANUAL

JANUARY 2019

AN ELEMENT OF THE HIGHWAY INFRASTRUCTURE  
ASSET MANAGEMENT SYSTEM

## Document Information

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## 1 BACKGROUND

- 1.1 This document supersedes the previous version of the Reactive Maintenance Teams Operational Manual issued on 6 May 2014.
- 1.2 The changes required to the previous version, as set out in this new edition, are essential to reflect the latest standards being adopted by the Council as guided by the Midland Service Improvement Group (MSIG)<sup>1</sup> the Highways Maintenance Efficiency Programme (HMEP)<sup>2</sup> and national guidance. This document forms part of the suite of 'Highway Infrastructure Asset Management' documents
- 1.3 This manual is intended for employees involved in providing a reactive response to the following:
  - a. *Customer enquiries and ad-hoc inspections*
  - b. *Defects identified during highway safety inspections*
- 1.4 This is a controlled document and it will be updated as details of legislation, national guidance and resources etc. change.
- 1.5 This document includes information on various inter-related topics and aspects of particular issues that may be covered in different places, therefore individual sections should not be read in isolation.
- 1.6 This document should be read in conjunction with the following documents, where appropriate:
  - a. *Highway Infrastructure Assets Safety Inspections Manual*
  - b. *2016 Code of Practice for Well-Managed Highway Infrastructure*
  - c. *HMEP CL 946SR Patching and Repairs to Potholes and Depressions (Including Emergency Patching)*
- 1.7 This manual is available from at least one of the following:
  - a. *in EDRM*
  - b. *your Line-manager*

## 2 THE NEED FOR REACTIVE MAINTENANCE

- 2.1 Under Section 41 of the Highways Act 1980 Derbyshire County Council has a statutory duty to maintain highways that are maintainable at public expense. Neglecting this duty can lead to claims against the County Council for damages resulting from a failure to maintain a highway.
- 2.2 Under **Section 58** of the **Highways Act 1980**, the highway authority can use a '**Special Defence**' in respect of action against it for damages for non-repair of a

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1 This Service Improvement Group is a collective of Midlands and North West English Shire Counties, Shire Unitaries and City Unitaries sharing Best Practice within the disciplines of Highways and Transportation.

2. The Highways Maintenance Efficiency Programme (HMEP) is a sector-led transformation initiative that will maximise returns from investment and deliver efficiencies in highway maintenance services.

highway if it can prove that it has taken such care as was reasonable. **Section 58** of the Highways Act 1980 also states that:

*‘The court shall, in particular, have regard to:*

- a. The character of the highway and the traffic which was reasonably to be expected to use it*
- b. The standard of maintenance appropriate for a highway of that character and used by such traffic*
- c. The state of repair in which a reasonable person would have expected to find the highway’*
- d. Whether the highway authority knew, or could reasonably have been expected to know, that the condition of the part of the highway to which the action relates was likely to cause danger to users of the highway’*
- e. Whether warning notices were displayed when immediate repair could not reasonably be expected.*

- 2.3 The Well-managed Highway Infrastructure – A Code of Practice 2016 defines reactive maintenance as follows:

**“attending to defects and other safety matters that require urgent action arising from inspections or user information in accordance with the locally determined levels of response”**

### **3 REACTIVE MAINTENANCE TEAMS**

#### **3.1 General**

- 3.1.1 The Reactive Maintenance Teams were introduced on 1st June 2013 throughout the County as part of the Road Works Centre Review.
- 3.1.2 The Reactive Maintenance Teams are multi-skilled teams which form part of the Council’s Direct Labour Organisation workforce. They operate throughout the six highway maintenance districts of Derbyshire. See Appendix A for a plan of the areas.
- 3.1.3 Each team comprises two operatives who generally work from a mid-sized commercial vehicle, which is equipped with a range of small plant, hand tools and materials that meet the needs of the work that they undertake.
- 3.1.4 The teams operate a 24/7 service however between the hours of 1600 and 0800 there is a reduced level of resources available.

#### **3.2 Assigned Duties**

- 3.2.1 The main aim of their responsibilities is to undertake permanent repairs and or make safe defects on any highway, which is maintainable at public expense. The work should be delivered within the respective timescales in all maintenance district areas of Derbyshire. See Section 6 for details on methodologies.
- 3.2.2 The work assigned for action by the teams is generally from either customer enquiries or from the Council’s highway inspectors who have identified defects during their highway safety inspections, but may also be from emergency services requesting assistance.

3.2.3 Low risk and non-urgent work may also be issued to the teams to deal with minor problems or as preventative work rather than reactive work.

3.2.4 The specified reactive maintenance tasks requested will generally be derived from the defect type and are shown in the table below:

<b>TABLE 1</b>		<b>REACTIVE MAINTENANCE TASKS</b>
	<b>Defect type</b>	<b>Potential Task(s)</b>
1.1	Pothole	Signing and guarding, or pothole repair Type A or B
1.2	Standing/running water	Attempt to clear water if appropriate, culvert screen clearing, signing and guarding
1.3	Embankment/bank slips/retaining wall collapses	Removal of obstruction, signing or guarding of area
1.4	Spillages/Debris	If required either: signing and guarding of area  Treat spillage with appropriate material and sweep surface if necessary
1.5	Overriding	Signing and guarding of area, reinstate edge
1.6	Defective high friction surfacing	Erect slippery road signs if necessary
1.7	Dangerous or obstructing trees	Signing and guarding of area, minor pruning.
1.8	Obscured visibility and overgrown hedges, bushes and verges.	Signing and guarding, cut back overgrowth, hedge cutting and strimming
1.9	Defective roadmarks	Signing if required
1.10	Defective ironwork	Signing and guarding, replace/relay/adjust gully grate and frame
1.11	Defective cattlegrids	Signing and guarding
1.12	Defective overhead cables	Signing and guarding
1.13	Defective roadworks signing	
1.14	Obstructions – materials, goods, equipment and signs	Signing and guarding
1.15	Cracks and gaps	Signing and guarding, repair as appropriate



<b>TABLE 1      REACTIVE MAINTENANCE TASKS</b>		
	<b>Defect type</b>	<b>Potential Task(s)</b>
1.16	Abrupt level difference/trip	Signing and guarding, repair as appropriate.
1.17	Rocking flag	Signing and guarding, relay or make safe rocking flag.
1.18	Damaged road restraint systems	Signing and guarding
1.19	Defective boundary fences and walls	Signing and guarding,
1.20	Streetlights, illuminated or variable message traffic signs and illuminated bollards.	Signing and guarding
1.21	Defective road signs	Signing and guarding, re-erect signage, replace post and sign
1.22	Defective traffic signals	Signing and guarding
1.23	Damaged steps	Signing and guarding, repair as appropriate
1.24	Damaged handrails	Signing and guarding
1.25	Defective escape lanes/arrester beds	Signing and guarding
1.26	Carriageway/footway/cycleway Deterioration	Signing and guarding, minor patching
1.27	Defective traffic calming features	Signing and guarding
1.28	Damaged kerb/channel	Signing and guarding, replace or relay kerbing
1.29	Street furniture	Signing and guarding, remove debris, replacing bollards

**Note: Signing and guarding incorporates all temporary traffic management measures including closure of the road/footway/cycleway**

## **4      HIGHWAY DEFECTS AND CUSTOMER ENQUIRIES PROCESS**

### **4.1      Highway Defects**

- 4.1.1 The aim of responding, as soon as practically possible, to identified safety defects is to remove or make safe those that have the potential to cause danger to highway users. Furthermore, this practice also helps to preserve certain assets and keep the highway in a serviceable condition. This is in line with the Council's overall objectives of network safety, serviceability and sustainability.

4.1.2 The safety defect reporting process is documented within the Highways Infrastructure Assets Safety Inspections Manual where identified safety defects are either risk assessed by the highways inspector, or forwarded to the relevant asset owner for action. For those that are risk assessed and require action a job is raised and forwarded automatically with the defect response time to the Highways Hub for scheduling.

4.1.3 Each job raised includes:

- The schedule of rates item code
- The schedule of rates item name
- Quantity
- Type of traffic management required
- Potential hazards
- Defect risk assessment questions and responses
- Risk assessed response time for repair
- Photograph of defect (if available)
- Additional comments

## **4.2 Customer Enquiries**

4.2.1 The enquiries process is outlined in a separate document. For those that require a time based response a job is raised which is scheduled by the Highways Hub.

4.2.2. Each job raised includes:

- Comments provided in the original enquiry
- The schedule of rates item code (the schedulers only use R105 Perm Repair Method A)
- The schedule of rates item name
- Quantity
- Response time for repair based on the locations position on the hierarchy

## **4.3 Highways Hub**

4.3.1 The Highways Hub has the responsibility for scheduling all reactive maintenance works. Jobs are raised from defects / enquiries and then they are scheduled to respective teams depending on the geographical area, work type and response type.

4.3.2 Jobs are allocated to each Reactive Maintenance Team to be carried out on a particular day. The jobs go directly from the Highways Hub to the team who receive them on a mobile device.

## **4.4 Construction Services**

4.4.1 Supervision staff can see what jobs are coming in and when by running a report. This gives the Area Contracts Manager (ACM) time to ensure that the Construction Design and Management (CDM) information, plant, materials and any traffic management are available on the day. The ACM is responsible for any noticing procedure that is required.

- 4.4.2 The Reactive Maintenance teams need to update the status of each job as the work proceeds. In particular, the teams must log 'job started' and 'job completed' times for each job when they arrive or depart from the location of the defect. Travelling time is not to be included in the time taken for a job.
- 4.4.3 The team is also required to record other information about the job, such as photographs, materials used, type of traffic management used and cable checks carried out etc. and whether a permanent repair has been achieved or whether a temporary repair has been undertaken, or it has been referred for more information etc.
- 4.4.4 The Reactive Maintenance teams must record job attributes and statuses, on their mobile device. For all jobs they must log:
- if a dynamic risk assessment has been undertaken on-site
  - if the Cat and Genny equipment has been used to trace for underground services
  - what type of Traffic Management that they have used
  - what type of material(s) they have used
  - the start time i.e. the time of arrival at the site
  - the completion time i.e. the time the job was completed and the time left site
  - the nature of the repair effected – permanent or temporary
  - if the job was not completed and the reasons why not
  - if the job requires further action and or referring elsewhere
  - alteration to the schedule of rates and quantity required
- 4.4.5 Photographs must be taken, as applicable, before and after each job.

TABLE 2		JOB ATTRIBUTES - POTHOLES
Attribute	Associated with	How recorded
CAT and Genny test carried out	CDM	Not Assessed (Default) Completed on Site
Type of Traffic Management used	CDM	Give and Take (Default) Lane Closure Mobile Work Priority Road Closure Stop and Go Stop Works Temporary Traffic Lights
Pothole Type	Quality of repair	Standard (Default) Cut Edge and Repair
Repair material used	Quality of repair	Not Required (Default) Cold Lay Hot Material Viafix

<b>TABLE 3</b>	<b>JOB STATUSES</b>
<b>Title</b>	<b>Description</b>
<b>Job Started - Risk Assessment Satisfactory</b>	This records the time the team arrives on site and work is initiated as scheduled
<b>Work in Progress</b>	This is when work has started, but it is not completed
<b>Job Returned to Roadworks Centre</b>	This is when no work has been undertaken, but the team should provide some details and photographs. These are then logged as 'Job Returned' to the Highways Hub for further action
<b>Job Passed to ACM</b>	This is when further actions by others are required to allow the works to progress
<b>Job Completed</b>	This is when a permanent repair or other works have been completed

4.4.6 After completing a job, the team need to transfer the updated job details back to the Highways Hub.

## **5 HEALTH & SAFETY AND CONSTRUCTION DESIGN & MANAGEMENT**

### **5.1 Health and Safety**

- 5.1.1 Repairs or making safe or amenity maintenance must be carried out in a safe manner so as not to endanger staff or the public. All operations should have a current risk assessment which must be followed by all staff. If in doubt, consult your manager and or refer to the risk assessments on either Dnet or in EDRM as appropriate.
- 5.1.2 Works on Derbyshire County Council's defined High Speed Roads (50mph and above) / High Volume of Traffic lengths may also require additional site specific risk assessments.
- 5.1.3 Works on any Traffic-sensitive/Permitted streets must be undertaken at off-peak times, unless works are defined as emergency. If emergency works a dynamic risk assessment must be undertaken and if in doubt, consult your manager immediately.
- 5.1.4 Other detailed categories of work e.g. clearing culvert trash screens, may also require additional risk assessments and toolbox talks etc.

### **5.2 Construction Design and Management (CDM) – (GCP 15)**

- 5.2.1 When an inspector identifies defects on the highway he / she may identify hazards that potentially could affect work teams undertaking the subsequent repair. This hazard identification is not only a duty of designers under CDM but is an important part of risk evaluation in departmental procedures and also leads to improved efficiency when work teams are mobilised and well prepared. It is essential that work teams take note of all information provided by the Highway Inspector.

5.2.2 GCP15 is available on either Dnet or in EDRM.

### **5.3 Working on the Highway (GCP09)**

5.3.1 This document advises employees of safety precautions that must be followed to reduce the risk of any incident, which may prejudice the Health and Safety of not only themselves, but all road users.

5.3.2 When undertaking any inspection or repairs of the highway, it is essential that the works team must wear high visibility clothing, including trousers, when appropriate.

5.3.3 GCP09 is available on either Dnet or in EDRM.

### **5.4 Toolbox Talk No. 3 – Working on High Speed Dual Carriageways**

5.4.1 This document reiterates the problems associated with works when traffic is travelling at high speed and what actions that can be taken to resolve them.

5.4.2 All Toolbox Talks are available on either Dnet or in EDRM.

## **6 WORKLOAD ITEMS**

### **6.1 Pothole Repair Methods**

6.1.1 All repairs shall ensure the presence of an impermeable seal with any joint and or interface with the surrounding material to prevent moisture ingress.

6.1.2 It is essential that pothole repairs are made permanent at every opportunity. In addition, they must be reported to that effect as the job is signed off.

6.1.3 A permanent repair installation shall not be undertaken unless weather conditions are such that the repair material will have at least 30 minutes in which to cure and harden.

6.1.4 Temporary repairs will be permitted, but only:

- a. to effect a permanent repair that requires considerable planning and will not allow the defect to be completed within the response time*
- b. when the pothole is part of an area of larger work, which is already organised in a planned programme of work e.g. extensive patching or resurfacing works and as a consequence, to effect a permanent repair would be a waste of resources*
- c. when the pothole is located where the need for further traffic management and or weather conditions may prevent a successful permanent repair*
- d. due to environmental issues such as bad weather*

**6.1.5 Method A** (Cut edges) - will be used where the existing material is sound adjacent to the pothole:

1. Saw the surfacing, to the correct depth, in a regular shape, such as a square or rectangle, ensuring that all loose and damaged material is enclosed within the saw cuts to help provide a cavity with straight vertical faces of the joints
2. Using the road-breaker, break out the damaged material back to the saw line
3. Thoroughly remove any standing water from the pothole
4. Thoroughly remove all loose material, by hand, brush and or blower
5. Evenly apply bond coat to thoroughly coat the sides and the base of the excavation to ensure full adhesion. The bond coat should be a cationic emulsion containing at least 60% bitumen and preferably applied by a suitable brush to achieve an even covering
6. Fill the void, to a slight surcharge, with approved material and if the hole is deep it should be laid in more than one layer with each layer receiving appropriate compaction
7. Thoroughly compact the replacement material to refusal using either a vibrating plate or roller or hand tools as necessary
8. Seal the joint with an approved sealer
9. Clear the site of all debris and leave neat and tidy

**6.1.6 Method B** (Uncut edges) - where the surrounding area adjacent to the pothole is cracked or deteriorated, the following process should be carried out:

1. Release and remove all damaged material such that the sides of the hole are uniform to a sufficient width and depth to take the repair material without it spalling away
2. Remove all standing water from the hole
3. Evenly apply bond coat to thoroughly coat the sides and the base of the excavation to ensure full adhesion. The bond coat should be a cationic emulsion containing at least 60% bitumen and preferably applied by a suitable brush to achieve an even covering
4. Fill the void, to a slight surcharge, with approved material and if the hole is deep it should be laid in more than one layer with each layer receiving appropriate compaction
5. Thoroughly compact the replacement material to refusal using either a vibrating plate, roller or hand tools as necessary
6. Seal the joint with an approved sealer
7. Clear site of all debris and leave neat and tidy

## **6.2 Performance Requirements for the Repair Material**

**6.2.1** The repair material shall have the following characteristics:

- a. It shall be capable of being arranged and spread by hand tools (not machine) to the appropriate thicknesses / layers and be able to be feathered at the edges when necessary with any larger aggregate being removed at the edges if required

- b. It shall cure to a strength such that it is capable of being trafficked by heavy vehicles without damage within 30 minutes of installation when laid at surface temperatures between 3°C and 40°C
- c. None of the material shall debond or delaminate when laid over any existing surfaces of the road for a period of at least seven days from installation. Any subsequent delaminated material shall not be of sufficient size as to cause a hazard to traffic
- d. It shall retain any surface applied aggregate
- e. It shall have a minimum shelf life of 12 months

6.2.2 The performance shall be regularly demonstrated at site installation trials and by laboratory evaluations.

### **6.3 Pothole Repair Materials:**

- a. Approved cold lay bound macadam
- b. Approved hot lay bound macadam
- c. Approved specialist, high specification, proprietary material such as 'Viafix' to be used in high stressed situations identified by the Inspectors in the case of defect jobs and by the gangs in the case of enquiry jobs.

### **6.4 Ironwork**

6.4.1 This may require making safe, re-setting and or replacing defective ironwork in the carriageway or footway.

6.4.2 If any lids are reported missing, they should be made safe by using either fitting plastic lids or by cones and, or barriers.

### **6.5 Kerbing**

6.5.1 This may require re-setting and or replacing defective kerbs or pointing up any potential trips.

### **6.6 Vegetation**

6.6.1 When vegetation is obstructing visibility splays, sight lines and road signs or pedestrian use of footways, it should be cut and or strimmed clear to establish full visibility / usability.

### **6.7 Salt Bins**

6.7.1 All Derbyshire County Council bins should be pre-filled or topped up prior to the winter season and subsequently re-filled in a regulated manner throughout the winter season.

### **6.8 Culverts – Blocked or Obstructed and Screen Maintenance**

6.8.1 This may require the cyclic / reactive cleaning of a highway culvert with or without a trash screen either preceding or during, or post flooding, or times of high flow in the watercourse.



6.8.2 The type of debris and trash either blocking or obstructing a culvert / watercourse or on and around the culvert screen will dictate the method(s) of removal; consequently, site specific risk assessments / method statements may be required.

6.8.3 Based on the above, specific tools may be essential when the work is issued and there may be particular site access issues.

## **6.9 Emergencies**

6.9.1 The Reactive Maintenance teams are required to respond to emergencies affecting the highway for example road traffic collisions, flooding and fallen trees etc.

## **6.10 Response Times**

6.10.1 All work is issued with a response time, which commences once the safety defect/enquiry is received:

- a. Emergency calls should be responded to within 2 hours
- b. Other response times are:
  - i. 32 hours - next working day
  - ii. 9 days
  - iii. 28 days

## **6.11 Cross-reference**

6.11.1 Further details are available in the Highway Safety Inspection Manual.

## **APPENDIX A – REFERENCES**

Any of the following publications may possibly be continuously being updated; consequently, care should be taken to refer to the latest version.

### **Highway Safety Inspections Manual (formerly Highway Safety Inspections [Instructions to Inspectors])**

This document is a companion for this manual. It is intended for employees involved in the safety inspections of Derbyshire's highway network. It is not intended to cover inspections of Public Rights of Way (generally rural footpaths and bridleways as shown on the Definitive Map), detailed Street Lighting inspections and other asset inspections.

### **3C Code of Practice for Temporary Traffic Management at Road Works**

This approved Code of Practice is a Technical Annex to the Council's HNMP. It was produced by the 3 Counties Alliance Partnership.

Its purpose is to promote uniform standards for installing temporary traffic management across the 3 Counties<sup>3</sup>.

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<sup>3</sup> In the future this may be adopted and maintained by the Midlands Highway Alliance (MHA)

## APPENDIX B – MAINTENANCE AREAS

