

## Appendix 2

# Highway Safety Inspection Manual

October 2018



### **Purpose of this Manual:**

As a Highway Authority, we have a duty of care to maintain the safety and accessibility of highway infrastructure that is kept at public expense, as outlined within Section 41 of the Highways Act 1980. For the purposes of Section 58, which provides for special defence, Derby City Council will undertake safety inspections of the highway network.

With the introduction of Well-Managed Highway Infrastructure - A Code of Practice: October 2016, the inspection process has been reviewed in line with adopting a risk-based approach. This document provides operational guidance to those officers involved in undertaking highway safety inspections, to ensure a consistent citywide approach.

## Control

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Key stakeholders / contributors	<ul style="list-style-type: none"> <li>• Highway Asset Owners and Inspectors</li> <li>• XAIS Asset Management Ltd</li> <li>• Midland Service Improvement Group</li> <li>• Legal Services (Risk and Insurance)</li> <li>• Weightmans Solicitors</li> <li>• Cabinet Member for Neighbourhoods and Streetpride</li> <li>• Shadow Cabinet</li> <li>• Communities Scrutiny Review Board</li> </ul>
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Policy or strategy type ( <i>statutory/non statutory and/or internal or external</i> )	Compliance with the Well-Managed Highway Infrastructure - A Code of Practice: October 2016 is non statutory, but provides current national guidance and best practice on the most efficient way to comply with our statutory duty under Section 41 of the Highways Act 1980. This manual is an external document. The primary evidence to be used in any defence against third party claims under Section 58
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## Foreword

The local highway network in Derby is the most valuable publicly owned asset, with a replacement value of approximately £2.8billion, with the carriageways and footways alone valued at £1.2billion. It is used every day by residents, businesses and visitors to the city and provides a vital contribution towards the economic, social and environmental well-being of Derby.

By highway infrastructure assets, we mean any asset owned by Derby City Council within the highway boundary, including carriageways, footways and cycleways, structures, drainage, street lighting, traffic signals and all street furniture.

This new Highway Safety Inspection Manual: October 2018 aligns with the Council's vision for Derby and describes how we have adopted Section B.5 of the Well-Managed Highway Infrastructure - A Code of Practice: October 2016. It provides operational guidance to Highway Inspectors in completing highway safety inspections, through a consistent city-wide approach of inspections, assessment and recording.

The new code significantly changes from the reliance on nationally set standards and recommendations to a risk-based approach to highway asset management, appropriate to the City's road network. The purpose of a risk-based approach for highway safety inspections is to determine the scale of the risk presented by a highway defect, in order to prioritise the appropriate category of response.

Derby City fully embrace the new Code of Practice. It is a cause for optimism and provides greater flexibility, as it can be developed to fit our local needs specifically. We have the opportunity to complete more planned and preventative maintenance through the safety inspection process and enable much more efficient and sustainable use of the operational resources.

The Highway Safety Inspection Manual: October 2018 is a dynamic document and is subject to amendments, as we continually review and reflect changes in the network's characteristics and functionality.

The manual forms part of the Highway Infrastructure Asset Management Framework, which was adopted by Derby City Council in September 2018 and is key to continuing our asset management approach in maintaining the network and major highway infrastructure. All documents are available on the authority's website.

## Introduction

As a Highway Authority, we have a duty of care to maintain the safety and accessibility of highway infrastructure that is kept at public expense.

The principal legal requirements are contained in the Highways Act 1980. Section 41 sets out the legal duty to maintain the highway, that is 'a highway authority is under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered...'. For the purposes of Section 58, a 'special defence in action against a highway authority for damages for non-repair of highway' we need to 'prove that the authority had taken such care as in all the circumstances was reasonably required to secure that the part of the highway to which the action relates was not dangerous for traffic.'

The main purpose of Highway Infrastructure Safety Inspections is:

- for Derby City Council to meet and provide evidence towards its statutory obligation to maintain the highway in a safe condition
- to identify safety defects that are hazardous or likely to create a danger to highway users or seriously impact the wider community
- to determine the extent of defects requiring prompt repair and their timing
- to reduce the likelihood of liability claims arising and to provide a defence against such liability claims
- to identify defects which should be repaired to avoid problems developing and which can be dealt with as part of a works programme.

Additionally:

- they can provide data on the condition of network assets to aid the Highways Infrastructure Asset Management process
- help meet Derby's objective to increase the proportion of planned maintenance.

From October 2018 and in line with the Well-Managed Highway Infrastructure - A Code of Practice: October 2016, Derby City Council will undertake risk-based assessments in accordance with local needs, context and priorities. Trained and competent Highway Inspectors will continue with their safety inspections as before. A dangerous defect will not have changed because of the introduction of this code. We will continue to demonstrate reasonable care has been taken to identify and respond appropriately to a defect which presents a danger to road users. However, they will now consider the potential consequences of that defect and the likelihood of the risk occurring by a dynamic risk assessment. Their on site evaluation will determine the scale of risk, by the category of response applied.

The most prevalent defect identified through safety inspections are potholes. In line with national guidance: HMEP: "Prevention and a Better Cure - The Potholes Review: April 2012", Derby City Council aim to reduce the number and frequency of potholes occurring through initially, high-quality pothole repair materials and techniques and then through medium to longer term high quality planned preventative maintenance. Wherever possible, first time permanent repairs will be instructed, which in turn will strengthen the fabric of the highway and the resilience of the network.

Derby City Council's asset management system Confirm will manage the safety inspection and defect repair regime. It will accurately record the inspector's activities and actions and along with photographic evidence, it allows for reports to be compiled for a sound defence against a highway liability claim. It also allows the data to be extracted and analysed against condition survey data to prepare medium-longer term planned and preventative maintenance programmes. The information can also be reported upon in response to public enquiries or complaints and advise residents on progress with pothole or other defect repairs and the expected level of service to anticipate.

Changes to the safety inspections methodology to adopt the recommendations of the Code of Practice and introduce a risk-based approach have been subject to consultations with key stakeholders, including internal Legal, Risk and Insurance colleagues, as well as Weightmans Solicitors. Collaboration through the Midland Service Improvement Group and with our surrounding authority, Derbyshire County Council have also informed the development of the manual, ensuring parity and consideration for the neighbouring network.

## 1. Infrastructure Assets

This Highway Safety Inspection Manual: October 2018 covers the safety inspection of the following assets/asset groups:

- Paved Surfaces
  - Roads (carriageways)
  - Footways
  - Cycleways
- Ironwork and Cattle Grids
- Road Markings
- Safety Barriers and Restraint Systems
- Street Lights and Illuminated Street Furniture
- Non Illuminated Signs and Posts
- Traffic Signals and Intelligent Traffic Systems
- Highway Drainage
- Highway Trees
- Structures
- Public Rights of Way

There is also a General Inspection to identify:

- Bridges, Structures and Retaining Walls (Visual Defects Inspection)
- Obstructions (including A-Boards, Trees and Vegetation)
- Boundary Fence Defects
- Obscured Visibility
- Temporary Roadworks Defects
- Unsafe Hoardings, Skips and Scaffolds
- Hazards during periods of flooding, ice and snow

## 2. Training and Competency

The Highway Inspector undertaking the safety inspection is responsible for the accuracy of both the inspection and the recorded information. In the event of a third party claim, they may be required to provide information relating to the claim and provide statements towards the defence. In the event of a claim litigating, that Highway Inspector may have to attend court to substantiate their actions and inspection records. A manager responsible for the policy and approved processes may also have to attend to validate the statement made by the Highway Inspector and on behalf of Derby City Council. They will have to articulate the reasoning behind the authority's approach and what led to the Inspector making the decision they did.

All Highway Inspectors employed by Derby City Council will hold a current and valid Lantra Approved Highway Safety Inspection Certificate which satisfies the requirements of the IHE certification scheme and enables Inspectors to be entered

onto the National Register of Highway Inspectors. They will also have completed other relevant training, including the NRSWA Streetworks Supervisors certificate.

Senior Management have also successfully completed the Institute of Highway Engineers Professional Diploma in Asset Management. This new qualification has addressed a key training gap in the highway sector, enabling authorities to better understand and manage risk and deliver improved performance of highway infrastructure assets within available budgets.

Full training and competency records are available for all key staff involved in the safety inspection process and will be monitored and updated on a regular basis. It details their key duties, relevant skills and qualifications and involvement in a full programme of workshops and activities, in the development of the new manual and in response to the Code of Practice. This has included:

- Internal workshops to
  - maximise local knowledge of the network and build the evidence base to develop the maintenance hierarchy for both carriageways and footways, which takes into account the use and functionality of each asset in Derby
  - a full review of common types of defect, where on the fabric of the highway the defect sits and what constitutes an emergency response
  - a full review of defect response times to reflect the level of risk associated with the defect
  - a full review of current inspection frequencies and whether it's appropriate to continue as we are
  - develop a new defect risk matrix through which an appropriate response can be determined and configured for safety inspections
  - determine how we will deal with defects which do not require immediate action but warrant consideration for preventative maintenance in future work programmes.
- dry runs to test and audit the new risk based approach and the highway inspector's compliance and consistency with the adopted approach
- determine highway asset risks at a strategic, tactical and operational level
- updated training in the general understanding of risk management, as well as defect specific, including highway tree management
- attendance at mock trials, held with solicitors and barristers to envisage how a claim may transpire in Court, using the new Code of Practice and the potential questions asked of Highway Inspectors and managers responsible for developing policy
- workshops with key authors of the new Code of Practice on what should be considered for an authority like Derby
- workshops with internal insurance, risk and solicitor colleagues as part of the development and implementation of the risk based approach, to understand the legal and financial implications of this exposure

- a presentation to the Institute of Highways and Engineers and peers from neighbouring authorities on our understanding and interpretation of what the Code of Practice means for Highway Inspectors
- attendance at regional and national workshops to benchmark progress, apply best practice and lessons learnt from other authorities to refine our approach, as well as present our own journey to date
- Working with neighbouring authorities and Derby Homes to ensure parity on networks
- Regular editorials and blogs in the Highway magazine to document our journey to adoption of the Code of Practice and membership with the IHE to support CPD.

### **3. Highway Network Maintenance Hierarchy**

In response to the new Code of Practice, the highway network has been divided into hierarchies, to recognise the impact certain routes have on the city's economy and the communities they serve. Highway asset infrastructure failure on higher hierarchy routes would have a greater impact and therefore highway maintenance activities would need to be effectively prioritised, in terms of response time and the type of repair completed. Table 3.1 and 3.2 outlines the hierarchies that have been adopted for both roads and footways. They take into account the current and expected use, resilience and social factors.

Hierarchies need to be dynamic to reflect changes in traffic patterns, which can be a consequence of new development and changes to road systems. During the early implementation of the new Code of Practice, they will be regularly reviewed to reflect changes in network characteristics and functionality, to ensure maintenance policies and practices reflect the current situation.

Highway Inspectors will be required to make recommendations, to reassess network hierarchies and inspection routes as a consequence of changes in characteristics and functionality observed during their inspections. These will be documented to build on our evidence base.

Similarly, where a significant increase in defects is noted, the decision to increase the frequency of inspections on that section of road, to better contain the risk may be enabled.

Going forward, the hierarchies will be reviewed as a formal exercise each year and any significant changes will be reported to Council Cabinet as necessary. A full process on its development is included within the Highway Asset Management Framework: Document AMF-006: Highway Infrastructure Maintenance Hierarchy.

### 3.1 Carriageway Asset Maintenance Hierarchy

Maintenance Hierarchy	Type of Road	Description
<b>M1</b>	Strategic Roads	Major national cross-country roads between places of traffic importance across the UK, with the aim of providing easily identifiable routes to access the whole of the country i.e. motorway network. Typically, major dual carriageways and major single A roads.
<b>M2</b>	Primary Roads	Primary roads within the city providing quick access to urban areas, linking to major industrial/ retail areas and main centres of employment. These roads will typically be inner and outer ring roads.
<b>M3</b>	Secondary Roads	Roads connecting urban areas to the inner and outer ring road. Typically, major bus routes and roads serving smaller retail i.e. District Centres, business and leisure facilities. Also including roads serving the city centre from the inner ring roads.
<b>M4</b>	Local Roads	Roads providing alternative but less direct links between urban areas and the inner and outer ring roads. They typically are the main routes through residential and industrial areas and will have less traffic than secondary roads.
<b>M5</b>	Major Residential	Roads providing links within residential areas, often bus routes, small shopping frontages <4 shops. Typically, the spine road through an urban estate, collecting traffic from access and minor residential roads.
<b>M6</b>	Access Roads	Roads serving to distribute users from major residential roads to minor residential roads, often with on street parking serving >30 properties including long cul-de-sacs and minor industrial estate roads
<b>M7</b>	Minor Residential Roads	Urban residential roads including those with a shared road space. Typically, cul-de-sacs with <30 properties, including paved service roads i.e. rear of residential properties/shops
<b>M8</b>	Back/service Roads	Unpaved/gravel roads

### 3.2 Footway Asset Maintenance Hierarchy

Maintenance Hierarchy	Type of Footway / Cycleway	Description
M21	Prestige Walking Zones	Very busy areas of the city with high public space and street scene contribution, i.e. city centre
M22	Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes, i.e. District Centres. This includes housing footpaths outside urban shopping areas
M23	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local neighbourhood shopping centres etc. and including signed and lined cycle routes
M24	Link Footways	Linking local access footways through urban areas and busy estate footways, short estate roads to the main routes and cul-de sacs. This includes local access housing footpaths
M25	Local Access Footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs
M26	Public Rights of Way	Footpaths on the definitive plan, as well as bridleways and byways

## 4. Inspection Types

Highway safety inspections fall in to four categories:

- **Safety Inspections** - these are cyclical inspections covering the whole highway network, which are carried out at a frequency determined by the new maintenance hierarchies.
- **Reactive Inspections** - these are inspections that are generated as a result of reports and enquiries received by members of the public, internal teams, Members and contractors. It also includes calls for service, for example, quotations for construction of a new vehicular access.
- **Service inspections** – these are inspections of the highway infrastructure assets that assess their condition with regard to programming a series of planned maintenance interventions and to maintain the asset in a serviceable condition and based on a lifecycle approach. Highway Inspectors contribute

to this process for roads and footways as outlined in Section 9. Service inspections of other assets are covered in Document AMF-008 of the Highway Infrastructure Asset Management Framework.

- **New Roads and Streetworks (NRSWA) Sample Inspections** – these inspections are generated as sample inspections from the Confirm system, from road opening notices of all major utility companies. They can also be generated as a result of a Highway Inspector observation, a third party report received by members of the public, internal members of staff, Contractors and Members.

Highway Inspectors are allocated to either safety inspections or reactive inspections, covering a geographical area of the highway network. However, all Highway Inspectors are trained to do both types of inspections and swap roles as and when required. All inspectors complete NRSWA inspections and contribute to service inspections.

It should be noted that whilst there are significant differences between safety inspections, service inspections and reactive maintenance, they are none the less closely linked, so as to maximise the use of available data and to ensure a safe and reliable network is available at all times.

## 5. Planning and Recording Safety Inspections

The planning and recording of data from safety inspections makes use of electronic devices and software tools whenever practical. Where necessity means a record has to be made on paper, this is transferred to the appropriate system or database at the earliest opportunity.

Derby City uses Confirm as a central depository of all asset management information, including safety inspections. This is a sustainable and secure means of information management. The due safety inspection, including maps where applicable, is transferred from Confirm to the iPad used by the inspector to record their activities. On completion of the inspection or at the end of each day, the data on the iPad is transferred back into the system through wireless technology.

The data from safety inspections can then be used to produce printed and electronic defect reports. These reports are used as instructions to carry out the repairs, formal notices to the statutory undertakers, in response to public enquiries and evidence in the defence of a third party claim.

Table 5.1 shows the frequency of inspections for the carriageway or footway infrastructure assets, which is determined by the maintenance hierarchy. ***For a road section which has both carriageway and footway, the inspection frequency will be based upon the highest maintenance hierarchy for that feature.***

## 5.1 Inspection Frequencies

Feature	Maintenance Hierarchy	Frequency	Tolerance (Working Days)
<b>Carriageway</b>	<b>M1 and M2</b>	1 Month	+ 5 Days or any time before due date
	<b>M3 and M4</b>	3 Months	+ 10 Days or any time before due date
	<b>M5, M6</b>	6 Months	+ 15 Days or any time before due date
	<b>M7 and M8</b>	12 Months	+ 30 Days or any time before due date
<b>Footway and Cycleway</b>	<b>M21</b>	2 Weeks	+ 3 Days or any time before due date
	<b>M22</b>	1 Month	+ 5 Days or any time before due date
	<b>M23</b>	3 Months	+ 10 Days or any time before due date
	<b>M24</b>	6 Months	+ 15 Days or any time before due date
	<b>M25 and M26</b>	12 Months	+ 30 Days or any time before due date

Definition of above terms;

- 1 Month indicates that twelve regular spaced inspections will be carried out per year.
- 3 Months indicates that four regular spaced inspections will be carried out per year.
- 6 Months indicates that two regular spaced inspections will be carried out per year.
- 12 Months indicates that one regular spaced inspection will be carried out per year.

The due date is the final date by which an inspection must be completed, but subject to the following limitations:

- If and for reasons beyond the control of the Highway Inspector an inspection cannot be carried out by the due date e.g. substantial snow fall, then an entry will be made to document the circumstances
- Due to the sporadic nature of the weather in the UK, it is probable that the road surface will be wet with some elements of standing or running water whilst an inspection is in progress. However, if the quantity of water is excessive or across the full width of the carriageway, then the inspection should be abandoned and an entry should be made to document the circumstances
- As soon as possible following these types of events, an ad-hoc safety inspection should be carried out on the affected length of highway.

**Notes:**

- If a monthly inspection due date falls on a Saturday or Sunday, the Highway Inspector schedules the inspection for another day within the tolerance period. Confirm will automatically schedule the next inspection from the original due date
- The monthly inspections can be undertaken up to one week after the due date, as long as no more than five weeks have elapsed since the last inspection. This can only occur for legitimate operational reasons and is limited to no more than two occurrences in any given year. A late inspection will be reported on the system, so separate records will need to be kept of any such occurrences and the reason they occurred i.e. weather, maintenance work or road closures, events etc.
- It may sometimes be necessary to inspect at a higher frequency where there are particular identified hazards, for example a road is deteriorating quickly or a road is being used as a major diversion route for a prolonged period of time or carrying over and above the normal expected traffic.

Derby City will regularly review inspection routes to ensure they are achievable, deliverable and practical and that the routes include all of the existing highway network and any newly adopted highways, where appropriate.

## **6. Undertaking Safety Inspections**

Highway safety inspections shall be undertaken in a manner that minimises risk to the Highway Inspector and/or those persons using the public highway. A risk assessment has been prepared for all safety inspections, whether driven or walked and all Highway Inspectors are required to follow the risk assessment at all times.

Risk assessments could go on to cover alternate inspections involving the use of cameras, videos and drones in line with legislation, in respect of video image capture.

Regular toolbox talks on all aspects of undertaking inspections, lone working, making safe defects and repair work within the public highway will be scheduled. Audit checks will be completed to ensure the risks associated with safety inspections are understood and appropriate care is taken to ensure the safety of staff and the public.

### **6.1 Walked and Driven Inspections**

- Whilst more time consuming, walked safety inspections will be undertaken with one Highway Inspector, provided there is a footway and that the inspector can safely inspect the carriageway, footway and other highway infrastructure assets at the same time.

- Inspection of footways and cycleways in urban areas subject to a 30mph restriction or less will be walked with all data directly entered into the IPad device at the time of the inspection.
- Inspection of all footway hierarchy routes will be walked. When there are footways on both sides of the carriageway, both footways shall be walked. When carrying out walked footway inspections, the adjoining carriageway will also be inspected by observation from the adjacent footway. Category M21 in the city centre will be walked by two inspectors together.
- Inspection of carriageway hierarchy routes M1 and M2 will be driven and walked every third inspection.
- When a driven inspection is carried out and there is a footway present on both sides of the carriageway, the road will be driven in both directions. The inspection is completed by two inspectors at a guidance speed of 25mph in a suitable liveried vehicle with flashing beacons to allow them to slow down or warn of hazards if necessary. One inspector will drive and one will identify and record defects into the Ipad. A record will be kept of the inspection method used.
- Inspection of dual carriageway sections will be completed in both directions at each driven safety inspection. Where inspections are undertaken on high speed roads, other measures may be required as appropriate to the physical alignment, speed, width and use of the network section.
- During driven inspections, the observing Highway Inspector must do all that is reasonably practicable to ensure that any defects are identified and recorded. All data will be entered on-site into the IPad
- It is recognised that parked vehicles can present a visual obstruction to the inspection process. The Highway Inspector will do all that is reasonably practicable to ensure that any defects are identified and recorded.
- All reasonable precautions must be taken to ensure the inspection is carried out safely. If at the time of inspection, the Highway Inspector considers it too dangerous to complete a route safely, then they will advise their line manager and record any actions.
- The driver of the inspection vehicle, although not required to be a Highway Inspector, must have had experience of highway network surveys or inspections prior to commencing a live driven inspection. Should the driver consider that a driven inspection is prejudicial to the safety of the inspectors or others using the highway, or the passenger / inspector consider the speed of

the vehicle, number or type of defects or the effective inspection of highway infrastructure assets cannot be completed successfully from a moving vehicle, then they should advise their line manager and record actions.

- Inspections must be driven in both directions where assets to be inspected appear on both sides of the highway and/or where footways are located to both sides of the highway. Inspection of dual and multilane (3 or more) sections of carriageway will be in both directions at each inspection.
- Traffic-sensitive streets should, where practical, be surveyed at off-peak times or during periods of low use.
- The vehicle used for safety inspections will be provided with equipment to assist with an emergency, where it is safe to do so, including road cones, barriers, keep left/right signs, sand and sweeping brush.

## **7. Risk Assessment**

The new “Well Managed Highway infrastructure Code of Practice” does not specify defined safety inspection frequencies, the investigation or intervention levels that determine a defect to be actionable or the response timescale where action is required to rectify a defect. These will require the authority to take a risk-based approach to the identification, assessment, evaluation and priority of defects.

Safety inspections employ an investigation level to identify the defect and a risk assessment process to determine the degree of risk the user is likely to be exposed to, the user being a broader assessment than those using motor vehicles. Defects representing a risk to the user will be identified and assessed in terms of their significance, i.e. the likely consequence should the risk occur and the likelihood of it actually happening.

The consequence can be determined as ranging from none at its lowest level to serious at its highest, should an incident occur as a result of the defect. Statistically, the consequence is likely to increase with speed and the number of users or level of the hierarchy and these are important considerations in assessing the risk.

The likelihood can be determined by considering the probability of users of the highway encountering the defect. As the likelihood will increase with the volume of users, then the level of the network hierarchy and location of the defect within the limits of the highway are important considerations in assessing the risk.

The interaction between the consequence and the likelihood will determine the action to be taken with regard to the defect and will identify the risk-based action to be taken varying from immediate action to no further action.

Risk is managed at various levels and at different points in the process and has been considered in the development of the list of defects to be considered and the levels at which a risk category level is triggered by a defect. The subsequent action to remedy or mitigate the defect is also considered on a “by defect” basis but an indication of the default response has been made for the inspectors.

Risk is further accounted for in the frequency of carrying out surveys, any tolerances in the timings and any factors that may be considered to increase or decrease the need for surveys. In all cases the “risk-based approach” is adopted and the assessment process recorded.

The Risk Matrices to be used are contained within Appendix A.

## 8. Intervention Levels

The term Intervention Level has been retained within this Manual to ensure Derby City have a structured and repeatable service level which Highway Inspectors and members of the public will understand. For the purpose of this manual, by “intervention level” we mean:

- the defect will be repaired within the appropriate defect response time
- the defect will be considered for inclusion in a future maintenance scheme
- the defect will be monitored through the structured safety inspection regime.

Dependant on how the inspector risk assesses the defect will affect which element of intervention is applied.

Table 8.1 shows a summary of the intervention levels for the majority of safety defects collected. The full list of defects will be available on the Ipad for the Highway Inspector to select as required. It should be noted also that these definitions are provided as guidance for the inspector to understand the initial defect. Their risk assessment at the point of inspection will determine the appropriate response and their synchronised Ipad will enable them to change the default response time if necessary, but require notes to be provided on their reasoning.

### 8.1 Intervention Levels

Defect	General Description
<b>Carriageway</b>	
Pot hole	Depth 40mm or greater
Difference in level or depression	Depth 40mm or greater
Modular paving uneven/rocking	Depth 40mm or greater
Flooding	Affecting >25% of the lane width
Rutting	Depth of 40mm or greater for a length >5m
Abrupt difference in level from an asset	Depth 40mm or greater

<b>Footway</b>	
Pot hole	Depth 25mm or greater Depth 15mm or greater in M21 only
Difference in level or depression	Depth 25mm or greater Depth 15mm or greater in M21 only
Modular paving uneven or rocking	Depth 25mm or greater Depth 15mm or greater in M21 only
Flooding	Affecting >25% of the footway width
Abrupt difference in level from an asset	Depth 25mm or greater Depth 15mm or greater in M21 only

## 9. Inspection Process

The flowchart in Figure 9.1 illustrates the procedure a safety inspection and a subsequent defect will take. It acknowledges that not all defects will require a repair as a result of a safety inspection. Classed as a 'serviceability defect', this can be recorded as part of the safety inspection regime, but as a low risk, non-immediate defect. The Inspector is effectively completing a part service inspection. It helps to inform the overall service level (or condition) of the asset, in accordance with asset management practices. It provides additional intelligence to the Asset Management Team, to assist in prioritising forward work programmes.

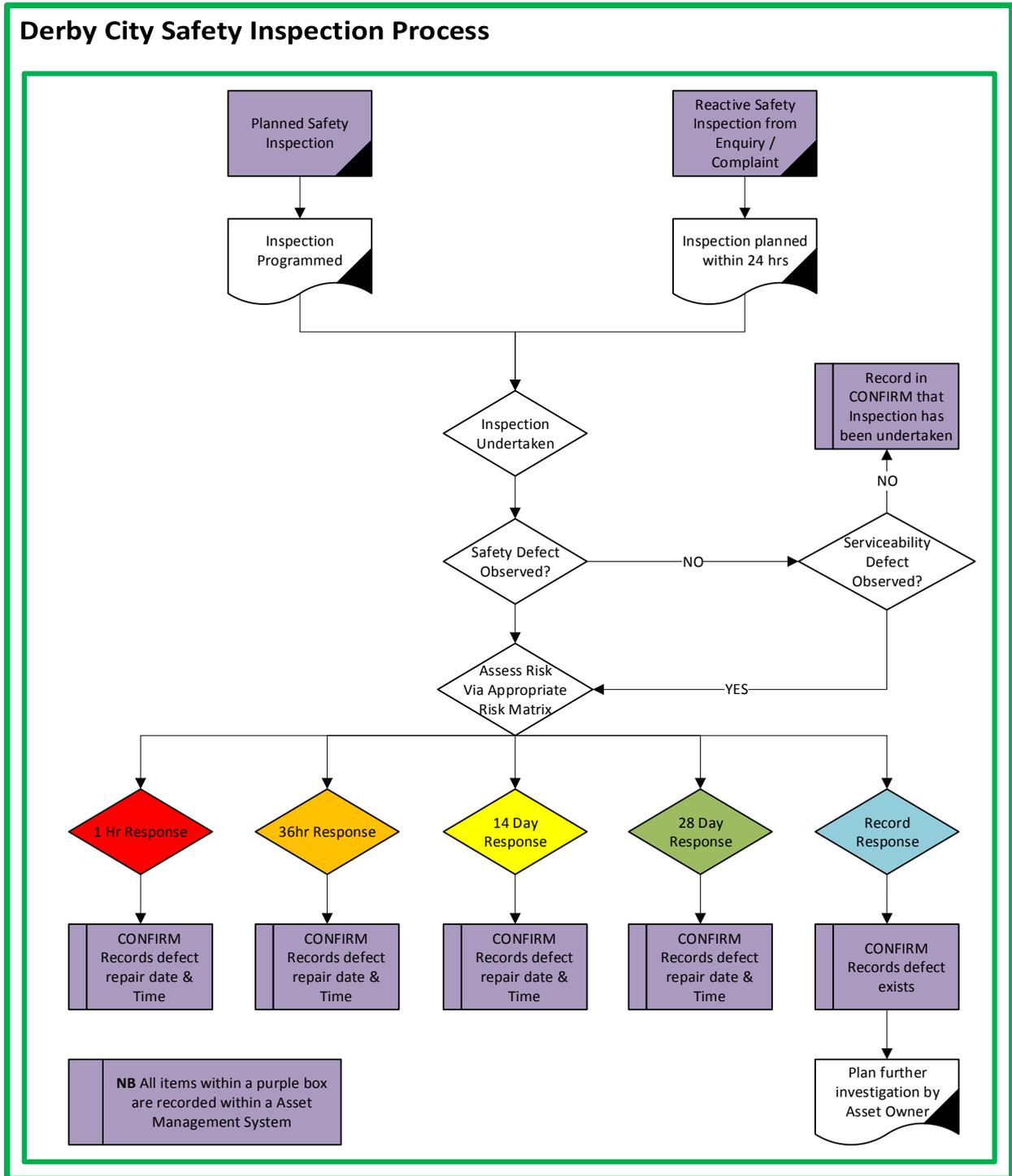
The asset owner for carriageways and footways will look at the defect picked up and decide whether it warrants inclusion in a mid-long term maintenance programme for planned repair or can continue to be monitored through the cyclical inspections. The action will be recorded in Confirm.

Figure 9.2 recognises that Highway Inspectors are picking up defects for all main asset groups and will forward them to the relevant asset owner, who in turn will follow the serviceability defect process in line with their scheme prioritisation methodology and forward work programme for that asset.

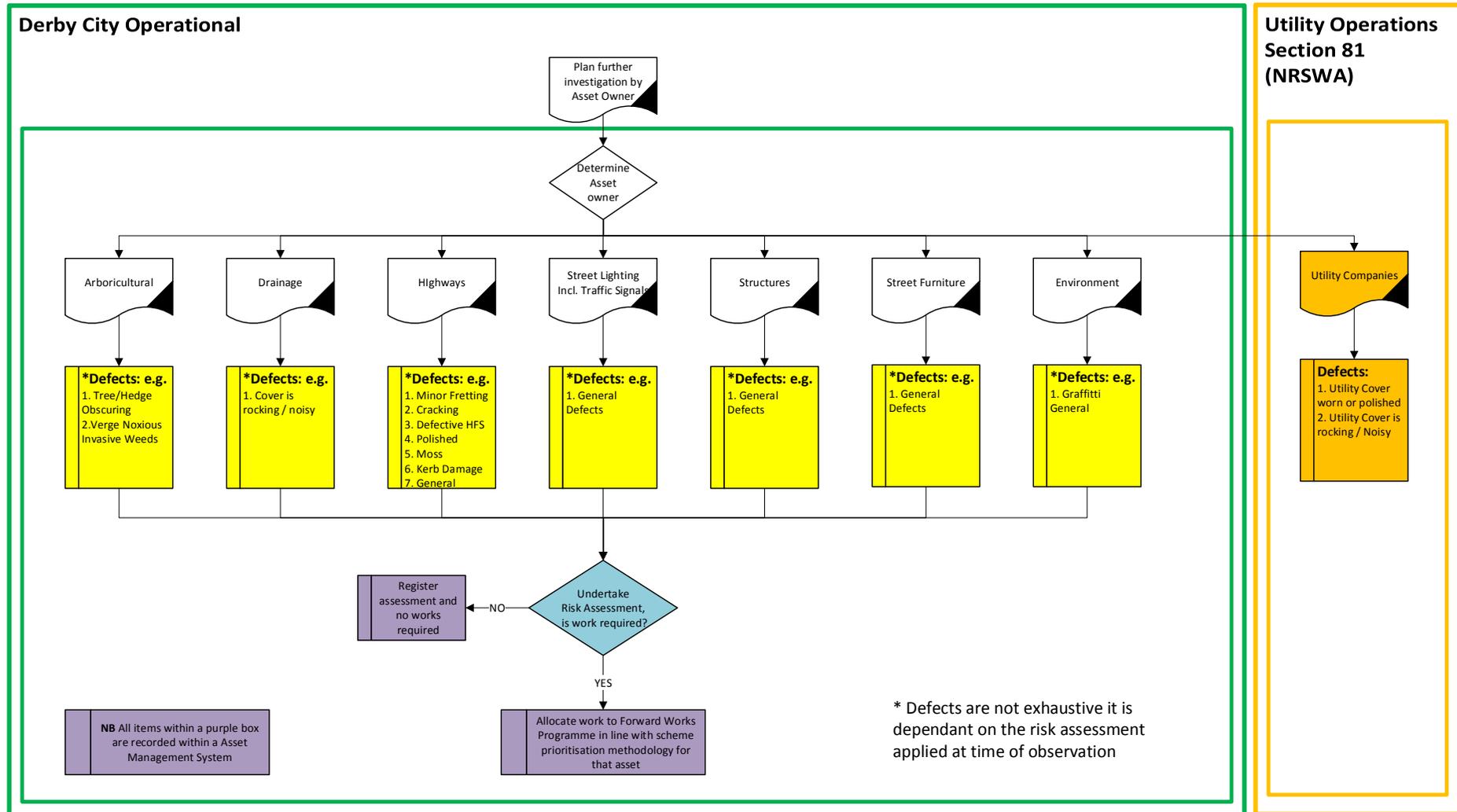
Figure 9.3 sets out the defect response options available to the Highway Inspector as part of the safety inspection regime. A safety defect constitutes an immediate or imminent danger/hazard to the road user (requiring a 1 or 36-hour response) or a defect which the inspector believes may become a hazard to the road or footway soon (14 or 28-day response). A serviceability defect will be recorded within the safety inspection regime, but is categorised as a low risk defect which helps inform the overall service level (condition).

Appendix A includes the risk matrixes adopted for each carriageway and footway maintenance hierarchy. As you go through each hierarchy, the response times may change, which reflects the risk of that defect on the hierarchy and enables, where possible, first time permanent repairs.

## 9.1 Derby City Safety Inspection Process



## 9.2 Derby City Safety Inspection Process



### 9.3 Derby City: Defect response options

Defect Type	Defect Response	Description
Safety Defect	1 Hour Response	This response time is to be used where the defect/incident has the potential to be very serious or create major disruption of the highway network. The Highway Inspector will request this response to make safe and may not be able to leave the defect, until it has been made safe.
	36 Hour Response	This is a high priority defect and will be made safe as soon as is reasonably practicable within 36 hours. The repair in the first instance may be temporary.
	14 Day Response	This response time is for a medium/high defect. This is required to enable a permanent first-time repair, but allows for any required materials or goods to be ordered and road permits to be secured.
	28 Day Response	This response time is the maximum time Derby City will allow for all remaining defect(s) which require a reactive repair. It allows for co-ordinating work with other maintenance requirements, ordering any required materials or goods and road permits to be secured.
Service Level Defect	Record within CONFIRM	This response records within CONFIRM that a defect exists but does not meet the criteria of intervention through the safety inspection regime. However, it may be affecting the service level required for the road section. Therefore, it is recorded within CONFIRM to be considered alongside other defects in the surrounding area, other condition surveys and scheme prioritisation processes to potentially become a medium term forward works programme for maintenance.
Not Defective	Record inspection completed in CONFIRM	This response registers within CONFIRM that a safety inspection had been carried out on the asset as scheduled and no actionable defects have been identified. These roads will be monitored through the structured cyclical inspection regime.

#### SAFETY DEFECT

This is a defect which constitutes an immediate or imminent danger/hazard to road user (1 or 36-hour response) or a defect which the inspector believes may become a hazard to the road user within the next 28 days (14 or 28-day response)

#### SERVICE LEVEL DEFECT (Condition)

This is a defect which can be recorded within the safety inspection regime but is a low risk or insignificant defect which helps inform the service level (condition), in accordance with asset management practices.

Defects that pose an immediate threat to life or serious injury are considered an emergency and must be responded to, normally within one hour (or two hours outside of normal working hours) and made safe or repaired urgently. Highway Inspectors identifying defects requiring urgent repair should take steps to ensure the danger or risk is mitigated once observed.

Defects assessed as Immediate Risk (One Hour Response) should:

- be called into the Depot as soon as it is safe to do so, to pass on the relevant information to Highway Operations and ensure that the defect is dealt with urgently. The defect and response time requested will be recorded onto the IPad
- if reasonable to do so, be repaired or made safe at the time of inspection. This may include such actions as displaying warning notices or signs, placing cones and/or barriers / fencing off to isolate the defect from users of the highway or remaining parked at the scene of the defect with appropriate flashing beacons to warn of the hazard, until such time as appropriate mitigation can be put in place or a repair actioned
- where possible, be repaired permanently, however it may, due to the location, speed / volume of traffic, or prevailing weather only be possible to achieve a temporary repair. In this instance, the original defect can be considered to have been addressed and the defect should be recorded as requiring a lesser response time, i.e. 14-day, 28 day or planned maintenance scheduled for a permanent repair within these timescales. A temporary repair might also be considered if planned maintenance work is likely to be undertaken or scheduled within a reasonable timescale.

Other Defects not within Derby City Council's Stewardship:

- Not all defects are within the remit or responsibility of the highway authority to affect a repair. Apparatus belonging to service providers of electricity, gas, water, telecommunications and other services are the responsibility of other agencies. These defects will be passed to those statutory undertakers for action as appropriate, under a Section 81 notice.
- These defects may range from those requiring immediate attention to those not presenting an immediate danger or risk to users of the highway. However, where defects associated with statutory undertakers apparatus are identified as Immediate Action (One Hour), then the Council will take measures to make safe at the time of inspection. This may again include such actions as displaying warning notices or signs, placing warning cones and/or barriers / fencing off to isolate the defect from users of the highway or remaining parked at the scene of the defect with appropriate flashing beacons to warn of the hazard until such time as appropriate mitigation can be put in place or a repair actioned.

- All Section 81 defects will be recorded and stored in Confirm.
- All relevant information will be communicated to the third party responsible for continued maintenance of the temporary repair and for the subsequent full repair of the defect.
- In the event the Utility Company / Third Party fails to provide an acceptable response, Derby City may, undertake appropriate action itself to instigate the necessary repairs and recovering the costs.

## 10. Lessons Learnt

There will be a formal annual review and continuous monitoring of this process which will include the whole team involved in safety inspections. Lessons learnt will be agreed with everyone contributing. These will be formally minuted and actions incorporated into the Confirm system and Highway Safety Inspection Manual where appropriate. Highway Inspectors are personally involved in the work and whose insight needs to be understood, including:

- what problems have been encountered?
- how were they solved?
- what cause-effect relationships were noticed?
- what insights were observed?
- are the work processes correct? can they be improved?
- what were our successes?
  - what should we start doing?
  - what should we stop doing?
  - what should we keep doing?
  - what is causing us issues?

Lessons learnt will also be discovered through:

- local, regional and national benchmarking of other authorities progress and experiences of adopting a risk based approach
- the processing of third party claims under the new code of practice
- the results of third party claims that have litigated.

## Performance Management

Defects recorded by Highway Inspectors will be subject to performance management analysis and monthly reports generated to identify the performance and quality of the safety inspections process. Additional support and training will be provided as considered necessary to maintain an efficient, effective and consistent safety inspection regime.

## **Audit**

To maintain the integrity of the safety inspections process, regular audits will be undertaken of the process of recording, accuracy and completeness of safety inspections based on the content and principles of this manual. Additional support and training will be provided, if considered necessary, to maintain an efficient, effective and consistent safety inspection regime.

## **Review Process**

This Highway Safety Inspection Manual: October 2018 will be subject to an annual review process, however any amendments as a consequence of change in legislation, emerging good practice, feedback from Highway Inspectors or Managers will be made as necessary, with document controlled versions formally approved and disseminated to all key stakeholders.

**APPENDIX A – RISK MATRICES**

## Matrix 1 Carriageway Maintenance Hierarchy 1 and 2 – Monthly Inspection

Major national cross-country roads between places of traffic importance across the UK, with the aim of providing easily identifiable routes to access the whole of the country i.e. motorway network. Typically, major dual carriageways and major single A roads and Primary roads within the city providing quick access to urban areas, linking to major industrial/ retail areas and main centres of employment. These roads will typically be inner and outer ring roads.

	DESCRIPTION		PROBABILITY / LIKELIHOOD				
			NEGLIGIBLE	LOW	MEDIUM	HIGH	VERY HIGH
CONSEQUENCE / IMPACT	NEGLIGIBLE	<ul style="list-style-type: none"> <li>Little or no inconvenience to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM
	LOW	<ul style="list-style-type: none"> <li>Potential to create minor vehicle damage</li> <li>Potential to create minor inconvenience<sup>1</sup> to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM	28 Days	14 Days
	MEDIUM	<ul style="list-style-type: none"> <li>Potential to create vehicle damage</li> <li>Potential for a slight injury<sup>2</sup> to one or more persons</li> <li>Potential to create moderate disruption<sup>3</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	14 Days	36 Hrs
	HIGH	<ul style="list-style-type: none"> <li>Potential to be a serious injury<sup>4</sup> to one or more persons</li> <li>Potential to create major disruption<sup>5</sup> of highway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	36 Hrs
	SEVERE	<ul style="list-style-type: none"> <li>Potential to be serious injury to one or more persons</li> <li>Potential to create serious disruption<sup>6</sup> of highway network</li> </ul>	Record within CONFIRM	14 Days	36 Hrs	36 Hrs	1 Hr

<sup>1</sup> Minor inconvenience – Requires the road user to manoeuvre around defect and doesn't create Moderate or Major disruption

<sup>2</sup> Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

<sup>3</sup> Moderate disruption – Requires lane closure <= 50m i.e. for a single vehicle/event

<sup>4</sup> Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident.

<sup>5</sup> Major disruption – Requires lane closure >50m i.e. for multiple vehicle/event

<sup>6</sup> Serious disruption – Potential to close whole road

## Matrix 2 Carriageway Maintenance Hierarchy 3 and 4 – Three Monthly Inspection

Roads connecting urban areas to the inner and outer ring road. Typically, major bus routes and roads serving smaller retail i.e. District Centres, business and leisure facilities. Also including roads serving the city centre from the inner ring roads and Roads providing alternative but less direct links between urban areas and the inner and outer ring roads. They typically are the main routes through residential and industrial areas and will have less traffic than secondary roads.

CONSEQUENCE / IMPACT	DESCRIPTION		PROBABILITY / LIKELIHOOD				
			NEGLIGIBLE	LOW	MEDIUM	HIGH	VERY HIGH
	NEGLIGIBLE	<ul style="list-style-type: none"> <li>Little or no inconvenience to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM
	LOW	<ul style="list-style-type: none"> <li>Potential to create minor vehicle damage</li> <li>Potential to create minor inconvenience<sup>7</sup> to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM	28 Days	28 Days
	MEDIUM	<ul style="list-style-type: none"> <li>Potential to create vehicle damage</li> <li>Potential for a slight injury<sup>8</sup> to one or more persons</li> <li>Potential to create moderate disruption<sup>9</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	14 Days	14 Days
	HIGH	<ul style="list-style-type: none"> <li>Potential to be a serious injury<sup>10</sup> to one or more persons</li> <li>Potential to create major disruption<sup>11</sup> of highway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	36 Hrs
SEVERE	<ul style="list-style-type: none"> <li>Potential to be serious injury to one or more persons</li> <li>Potential to create serious disruption<sup>12</sup> of highway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	1 Hr	

<sup>7</sup> Minor inconvenience – Requires the road user to manoeuvre around defect and doesn't create Moderate or Major disruption

<sup>8</sup> Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

<sup>9</sup> Moderate disruption – Requires lane closure <= 50m i.e. for a single vehicle/event

<sup>10</sup> Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident.

<sup>11</sup> Major disruption – Requires lane closure >50m i.e. for multiple vehicle/event

<sup>12</sup> Serious disruption – Potential to close whole road

### Matrix 3 Carriageway Maintenance Hierarchy 5 and 6 – Six Month Inspection

Roads providing links within residential areas, often bus routes, small shopping frontages <4 shops. Typically, the spine road through an urban estate, collecting traffic from access and minor residential roads and Roads serving to distribute users from major residential roads to minor residential roads, often with on street parking serving >30 properties including long cul-de-sacs and minor industrial estate roads.

	DESCRIPTION		PROBABILITY / LIKELIHOOD				
			NEGLIGIBLE	LOW	MEDIUM	HIGH	VERY HIGH
CONSEQUENCE / IMPACT	NEGLIGIBLE	<ul style="list-style-type: none"> <li>Little or no inconvenience to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM			
	LOW	<ul style="list-style-type: none"> <li>Potential to create minor vehicle damage</li> <li>Potential to create minor inconvenience<sup>13</sup> to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM	28 Days
	MEDIUM	<ul style="list-style-type: none"> <li>Potential to create vehicle damage</li> <li>Potential for a slight injury<sup>14</sup> to one or more persons</li> <li>Potential to create moderate disruption<sup>15</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	28 Days	14 Days
	HIGH	<ul style="list-style-type: none"> <li>Potential to be a serious injury<sup>16</sup> to one or more persons</li> <li>Potential to create major disruption<sup>17</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	14 Days	36 Hrs
	SEVERE	<ul style="list-style-type: none"> <li>Potential to be serious injury to one or more persons</li> <li>Potential to create serious disruption<sup>18</sup> of highway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	1 Hr

<sup>13</sup> Minor inconvenience – Requires the road user to manoeuvre around defect and doesn't create Moderate or Major disruption

<sup>14</sup> Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

<sup>15</sup> Moderate disruption – Requires lane closure <= 50m i.e. for a single vehicle/event

<sup>16</sup> Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident

<sup>17</sup> Major disruption – Requires lane closure >50m i.e. for multiple vehicle/event

<sup>18</sup> Serious disruption – Potential to close whole road

## Matrix 4 Carriageway Maintenance Hierarchy 7 and 8 – 12 Month Inspection

Urban residential roads including those with a shared road space. Typically, cul-de-sacs with <30 properties, including paved service roads i.e. rear of residential properties/shops and Unpaved/gravel roads.

	DESCRIPTION		PROBABILITY / LIKELIHOOD				
			NEGLIGIBLE	LOW	MEDIUM	HIGH	VERY HIGH
<b>CONSEQUENCE / IMPACT</b>	<b>NEGLIGIBLE</b>	<ul style="list-style-type: none"> <li>Little or no inconvenience to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM			
	<b>LOW</b>	<ul style="list-style-type: none"> <li>Potential to create minor vehicle damage</li> <li>Potential to create minor inconvenience<sup>19</sup> to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM	28 Days
	<b>MEDIUM</b>	<ul style="list-style-type: none"> <li>Potential to create vehicle damage</li> <li>Potential for a slight injury<sup>20</sup> to one or more persons</li> <li>Potential to create moderate disruption<sup>21</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	28 Days	14 Days
	<b>HIGH</b>	<ul style="list-style-type: none"> <li>Potential to be a serious injury<sup>22</sup> to one or more persons</li> <li>Potential to create major disruption<sup>23</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	14 Days	36 Hrs
	<b>SEVERE</b>	<ul style="list-style-type: none"> <li>Potential to be serious injury to one or more persons</li> <li>Potential to create serious disruption<sup>24</sup> of highway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	1 Hr

<sup>19</sup> Minor inconvenience – Requires the road user to manoeuvre around defect and doesn't create Moderate or Major disruption

<sup>20</sup> Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

<sup>21</sup> Moderate disruption – Requires lane closure <= 50m i.e. for a single vehicle/event

<sup>22</sup> Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident

<sup>23</sup> Major disruption – Requires lane closure >50m i.e. for multiple vehicle/event

<sup>24</sup> Serious disruption – Potential to close whole road

## Matrix 5 Footway Maintenance Hierarchy 21 – Two Week Inspection

Very busy areas of towns and cities with high public space and street scene contribution.

	DESCRIPTION		PROBABILITY / LIKELIHOOD				
			NEGLIGIBLE	LOW	MEDIUM	HIGH	VERY HIGH
<b>CONSEQUENCE / IMPACT</b>	<b>NEGLIGIBLE</b>	<ul style="list-style-type: none"> <li>Little or no inconvenience to footway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM
	<b>LOW</b>	<ul style="list-style-type: none"> <li>Potential to create minor inconvenience<sup>25</sup> to footway user</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM	28 Days	14 Days
	<b>MEDIUM</b>	<ul style="list-style-type: none"> <li>Potential for a slight injury<sup>26</sup> to one or more persons</li> <li>Potential to create moderate disruption<sup>27</sup> of footway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	14 Days	36 Hrs
	<b>HIGH</b>	<ul style="list-style-type: none"> <li>Potential to be a serious injury<sup>28</sup> to one or more persons</li> <li>Potential to create major disruption<sup>29</sup> of footway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	36 Hrs
	<b>SEVERE</b>	<ul style="list-style-type: none"> <li>Potential to be serious injury to one or more persons</li> <li>Potential to create serious disruption<sup>30</sup> of footway network</li> </ul>	Record within CONFIRM	14 Days	36 Hrs	36 Hrs	1 Hr

<sup>25</sup> Minor inconvenience – Requires the pedestrian to manoeuvre around defect and doesn't create Moderate or Major disruption

<sup>26</sup> Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

<sup>27</sup> Moderate disruption – Requires footpath closure and pedestrian to walk on carriageway for <5m

<sup>28</sup> Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident

<sup>29</sup> Major disruption – Requires footpath closure and pedestrian is required to cross over to a different footpath

<sup>30</sup> Serious disruption – Requires footpath closure and pedestrian has no alternative footpath option

## Matrix 6 Footway Maintenance Hierarchy 22 – One Month Inspection

Busy urban shopping and business areas and main pedestrian routes. This includes housing footpaths outside urban shopping areas.

	DESCRIPTION		PROBABILITY / LIKELIHOOD				
			NEGLECTIBLE	LOW	MEDIUM	HIGH	VERY HIGH
<b>CONSEQUENCE / IMPACT</b>	<b>NEGLECTIBLE</b>	<ul style="list-style-type: none"> <li>Little or no inconvenience to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM
	<b>LOW</b>	<ul style="list-style-type: none"> <li>Potential to create minor vehicle damage</li> <li>Potential to create minor inconvenience<sup>31</sup> to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	28 Days
	<b>MEDIUM</b>	<ul style="list-style-type: none"> <li>Potential to create vehicle damage</li> <li>Potential for a slight injury<sup>32</sup> to one or more persons</li> <li>Potential to create moderate disruption<sup>33</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	14 Days	14 Days
	<b>HIGH</b>	<ul style="list-style-type: none"> <li>Potential to be a serious injury<sup>34</sup> to one or more persons</li> <li>Potential to create major disruption<sup>35</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	28 Days	14 Days	36 Hrs	36 Hrs
	<b>SEVERE</b>	<ul style="list-style-type: none"> <li>Potential to be serious injury to one or more persons</li> <li>Potential to create serious disruption<sup>36</sup> of highway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	1 Hr

<sup>31</sup> Minor inconvenience – Requires the road user to manoeuvre around defect and doesn't create Moderate or Major disruption

<sup>32</sup> Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

<sup>33</sup> Moderate disruption – Requires lane closure <= 50m i.e. for a single vehicle/event

<sup>34</sup> Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident

<sup>35</sup> Major disruption – Requires lane closure >50m i.e. for multiple vehicle/event

<sup>36</sup> Serious disruption – Potential to close whole road

## Matrix 7 Footway Maintenance Hierarchy 23 – Three Monthly Inspection

Medium usage routes through local areas feeding into primary routes, local shopping centres etc., including signed and lined cycle routes.

DESCRIPTION		PROBABILITY / LIKELIHOOD					
		NEGLIGIBLE	LOW	MEDIUM	HIGH	VERY HIGH	
<b>CONSEQUENCE / IMPACT</b>	<b>NEGLIGIBLE</b>	<ul style="list-style-type: none"> <li>Little or no inconvenience to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM			
	<b>LOW</b>	<ul style="list-style-type: none"> <li>Potential to create minor vehicle damage</li> <li>Potential to create minor inconvenience<sup>37</sup> to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM	28 Days
	<b>MEDIUM</b>	<ul style="list-style-type: none"> <li>Potential to create vehicle damage</li> <li>Potential for a slight injury<sup>38</sup> to one or more persons</li> <li>Potential to create moderate disruption<sup>39</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	28 Days	14 Days
	<b>HIGH</b>	<ul style="list-style-type: none"> <li>Potential to be a serious injury<sup>40</sup> to one or more persons</li> <li>Potential to create major disruption<sup>41</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	14 Days	36 Hrs
	<b>SEVERE</b>	<ul style="list-style-type: none"> <li>Potential to be serious injury to one or more persons</li> <li>Potential to create serious disruption<sup>42</sup> of highway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	1 Hr

<sup>37</sup> Minor inconvenience – Requires the road user to manoeuvre around defect and doesn't create Moderate or Major disruption

<sup>38</sup> Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

<sup>39</sup> Moderate disruption – Requires lane closure <= 50m i.e. for a single vehicle/event

<sup>40</sup> Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushing's, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident

<sup>41</sup> Major disruption – Requires lane closure >50m i.e. for multiple vehicle/event

<sup>42</sup> Serious disruption – Potential to close whole road

## Matrix 8 Footway Maintenance Hierarchy 24 – Six Monthly Inspection

Linking local access footways through urban areas and busy estate footways, short estate roads to the main routes and cul-de sacs. This includes local access housing footpaths.

DESCRIPTION		PROBABILITY / LIKELIHOOD					
		NEGLIGIBLE	LOW	MEDIUM	HIGH	VERY HIGH	
<b>CONSEQUENCE / IMPACT</b>	<b>NEGLIGIBLE</b>	<ul style="list-style-type: none"> <li>Little or no inconvenience to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM			
	<b>LOW</b>	<ul style="list-style-type: none"> <li>Potential to create minor vehicle damage</li> <li>Potential to create minor inconvenience<sup>43</sup> to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM	28 Days
	<b>MEDIUM</b>	<ul style="list-style-type: none"> <li>Potential to create vehicle damage</li> <li>Potential for a slight injury<sup>44</sup> to one or more persons</li> <li>Potential to create moderate disruption<sup>45</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	28 Days	14 Days
	<b>HIGH</b>	<ul style="list-style-type: none"> <li>Potential to be a serious injury<sup>46</sup> to one or more persons</li> <li>Potential to create major disruption<sup>47</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	14 Days	36 Hrs
	<b>SEVERE</b>	<ul style="list-style-type: none"> <li>Potential to be serious injury to one or more persons</li> <li>Potential to create serious disruption<sup>48</sup> of highway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	1 Hr

<sup>43</sup> Minor inconvenience – Requires the road user to manoeuvre around defect and doesn't create Moderate or Major disruption

<sup>44</sup> Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

<sup>45</sup> Moderate disruption – Requires lane closure <= 50m i.e. for a single vehicle/event

<sup>46</sup> Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident

<sup>47</sup> Major disruption – Requires lane closure >50m i.e. for multiple vehicle/event

<sup>48</sup> Serious disruption – Potential to close whole road

## Matrix 9 Footway Maintenance Hierarchy 25 and 26 – Annual Inspection

Footways associated with low usage, short estate roads to the main routes and cul-de-sacs and footpaths on the definitive plan, as well as bridleways and byways.

	DESCRIPTION		PROBABILITY / LIKELIHOOD				
			NEGLIGIBLE	LOW	MEDIUM	HIGH	VERY HIGH
<b>CONSEQUENCE / IMPACT</b>	<b>NEGLIGIBLE</b>	<ul style="list-style-type: none"> <li>Little or no inconvenience to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM			
	<b>LOW</b>	<ul style="list-style-type: none"> <li>Potential to create minor vehicle damage</li> <li>Potential to create minor inconvenience<sup>49</sup> to highway user</li> </ul>	Record Inspection completed in CONFIRM	Record Inspection completed in CONFIRM	Record within CONFIRM	Record within CONFIRM	28 Days
	<b>MEDIUM</b>	<ul style="list-style-type: none"> <li>Potential to create vehicle damage</li> <li>Potential for a slight injury<sup>50</sup> to one or more persons</li> <li>Potential to create moderate disruption<sup>51</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	28 Days	14 Days
	<b>HIGH</b>	<ul style="list-style-type: none"> <li>Potential to be a serious injury<sup>52</sup> to one or more persons</li> <li>Potential to create major disruption<sup>53</sup> of highway network</li> </ul>	Record Inspection completed in CONFIRM	Record within CONFIRM	28 Days	14 Days	36 Hrs
	<b>SEVERE</b>	<ul style="list-style-type: none"> <li>Potential to be serious injury to one or more persons</li> <li>Potential to create serious disruption<sup>54</sup> of highway network</li> </ul>	Record within CONFIRM	28 Days	14 Days	36 Hrs	1 Hr

<sup>49</sup> Minor inconvenience – Requires the road user to manoeuvre around defect and doesn't create Moderate or Major disruption

<sup>50</sup> Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

<sup>51</sup> Moderate disruption – Requires lane closure <= 50m i.e. for a single vehicle/event

<sup>52</sup> Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushing's, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident

<sup>53</sup> Major disruption – Requires lane closure >50m i.e. for multiple vehicle/event

<sup>54</sup> Serious disruption – Potential to close whole road