Derby City Council

Highway Inspections

Highway Inspection Manual

Guidance for Highway Inspections

April 2014

Version 1.0

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Contents

1. Introduction

This document is a procedural guide for employees carrying out inspections of Derby City Council's highway network. It only covers highway safety and enquiry inspections.

2. The Need for Highway Inspections

Under Section 41 of the Highways Act 1980 Derby City Council has a statutory duty to maintain a public highway in a safe manner for all users. Neglecting this duty can lead to claims against the Council for damages resulting from a failure to maintain the highway.

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 the highway if it can prove that it has taken such care as was reasonable. Part of the defence rests upon:

"*Whether the highway authority knew, or could have reasonably 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"*

This is where highway authorities have to show that they carry out highway inspections in accordance with their policies and national guidance. Highway inspection reports are part of the evidence used to show that the highway authority has acted reasonably.

Section 58 of the Highways Act 1980 also says:

"*The court shall in particular have regard to*

a. *The character of the highway and the traffic which was reasonably 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."*

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. Records from the Atlas Highway Management System are used in evidence to show that the authority has acted reasonably.

Atlas provides a single database for recording and tracking customer enquiries, inspection records, defect records, works ordering and asset inventory.

3. Customer Care Policy

All enquiries are logged into the Public Enquiry Module (PEM) of Atlas and are actioned in accordance with the Council's customer care policy. The enquiries are forwarded to the relevant highway inspector for action and reply. The reply will be sent to the customer within 10 working days.

4. Purpose of Inspection

Inspecting the highway allows the Council to identify and take action to remove those hazards causing danger to highway users. The inspections also help to develop longer term planned maintenance programmes to help deliver the highway asset management plan.

Inspections are undertaken to identify defects that are causing or likely to cause danger or serious inconvenience. This includes defects that require urgent attention (within 2 hours) as well as those where the reduced level of severity is such that a longer response time is acceptable, or confirm that no repair is needed.

5. Responsibility of Staff Undertaking Inspections

The inspector undertaking the 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 person may have to attend court to substantiate their inspection records.

6. Training of Highway Inspectors

All Highway Inspectors employed by Derby City Council will hold the City & Guilds Highway Safety Inspection certificate along with any other relevant training identified in the training matrix.

7. Highway Inspections

Highway inspections fall in to two categories:

- Reactive Inspections
- Safety Inspections

Reactive inspections are those that are generated by a report from a highway user and are responded to by a dedicated Reactive Inspector for a particular area.

Safety inspections are carried out at frequencies in the table below. The frequencies take into account national guidelines for the definition of highway type, hierarchy and inspection frequencies as issued in the Code of Practice for Highway Maintenance Management – Well Maintained Highways.

Feature	Category	Frequency
Carriageway	Strategic Route	1 Month
	Main Distributor	1 Month
	Secondary Distributor	1 Month
	Link Road	3 Months
	Local Access Road	6 Months
Footway	Prestige Shopping Area	2 Weeks
	Urban Shopping Area	1 Month
	Primary Walking Route	1 Month
	Secondary Walking Route	3 Months
	Link Footway	6 Months
	Local Access Footway	6 Months
	Public Right of Way (Definitive Footpath)	12 Months

It may sometimes be necessary to inspect at a higher frequency where there are particular hazards, e.g. a highway deteriorating quickly or roads being used for a major diversion route.

8. Network Hierarchy

Each part of the network is assigned a hierarchy relating to its importance to transportation and usage. The hierarchy is stored in Atlas. Footway hierarchies are different to carriageway hierarchies. Therefore, in order to programme safety inspections efficiently the higher category between carriageway and footway is the one that is used. Carriageway and footway hierarchies are shown in the following tables taken from the National Code of Practice (Wee Maintained Highways).

Table 2 – Carriageway Hierarchy

Category	Hierarchy Description	Type of Road General Description	Description
1	Motorway	Limited access motorway regulations apply	Routes for fast moving long distance traffic. Fully grade separated and restrictions on use.
2	Strategic Route	Trunk and some Principal 'A' roads between Primary Destinations	Routes for fast moving long distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.
3a	Main Distributor	Major Urban Network and Inter-Primary Links. Short - medium distance traffic	Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40 mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.
3b	Secondary Distributor	Classified Road (B and C class) and unclassified urban bus routes carrying local traffic with frontage access and frequent junctions	In rural areas these roads link the larger villages and HGV generators to the Strategic and Main Distributor Network. In built up areas these roads have 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On-street parking is generally unrestricted except for safety reasons
4a	Link Road	Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions	In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two way traffic. In urban areas they are residential or industrial interconnecting roads with 30 mph speed limits random pedestrian movements and uncontrolled parking
4b	Local Access Road	Roads serving limited numbers of properties carrying only access traffic	In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.

Table 3 – Footway Hierarchy

Category	Category Name	Description
1(a)	Prestige Walking Zones	Very busy areas of towns and cities with high public space and streetscene contribution.
1	Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes.
2	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
3	Link Footways	Linking local access footways through urban areas and busy rural footways.
4	Local Access Footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.

The defined inspection frequencies should be maintained in accordance with Table 1. All newly adopted highways will be added to the inspection routes.

9. Method of Inspection

All inspections are carried out as follows:

- Fortnightly (City Centre Shopping Area) - walked
- Monthly – driven, except for every third month the route will be walked (with the exception of urban shopping areas which are always walked)
- 3 Monthly – walked
- 6 Monthly – walked
- 12 Monthly (Public Rights of Way) – walked

Driven inspections are always be carried out by two inspectors in a suitable vehicle and at a speed that enables defects to be spotted. The guidance speed is 25mph, although this is not always possible, particularly on unrestricted dual carriageway. One inspector will drive and the other will be looking for defects. The driver is not expected to be actively looking for and recording defects.

Walked inspections are carried out by one inspector as long as both the carriageway and footway can be inspected at the same time. All roads are to be walked in both directions, so that both footways can be inspected.

10. Health and Safety

Inspections must be carried out in a safe manner and in accordance with all appropriate risk assessments and job safety analysis sheets.

Information Recorded

All inspections should be recorded against the relevant network section in Atlas. The information can then be used to contribute to the identification of potential future schemes of planned maintenance. The information recorded for all inspections is:

- Inspector
- Date and time
- Weather conditions
- In the event of no defects being found this fact should be recorded

When defects are spotted the following additional information is required:

- Exact location
- Type of defect
- Size of repair
- Photo (Category 1 defects only)
- Repair priority

Cat 1 defects should be called through to the office immediately, Cat 2 defects should be logged into the Atlas system within 2 days. For enquiry inspectors this is within two days of seeing the defect and for safety inspectors within two days of completing the relevant inspection area.

11. Coverage

Highway inspections should identify and record defects such as:

- Potholes, cracks and gaps in footways, carriageways and cycleways, the results of which are likely to cause danger to the public.
- Abrupt level differences in in footways, carriageways and cycleways, the results of which are likely to cause danger to the public.
- Debris, spillages or contamination of the highway.
- Damaged, broken or displaced kerbs that may cause a danger.
- Missing or defective ironwork such as gully covers and manhole covers on highway drainage.
- Missing or defective ironwork and other apparatus belonging to public utility companies. These should be directed to the utility company as soon as possible under Section 81 of the New Roads and Streetworks Act.
- Blocked drains, standing water, water discharging on to or overflowing across the highway if present at the time of inspection.
- Damaged, defective, displaced or missing traffic signs, traffic signals or lighting columns.
- Badly worn road markings.
- Defective street furniture
- Damaged safety fencing, pedestrian guard rail, parapet fencing and handrails.
- Overhanging vegetation causing obstruction to pedestrians or vehicles.
- Defective utility company reinstatements under the New Roads and Streetworks Act.
- Damaged overhead wires.
- Dangerous trees e.g. dead trees, dead branches and obvious signs of disease. These should be reported to the Arboriculture Team.

This list is not exhaustive; the main issue is to ensure the safety of the general public and to prevent serious inconvenience to users of the highway.

12. Defect Categorisation

Category 1 Defects

These are defects that require prompt attention because they represent an immediate or imminent hazard or because there is a risk of short term structural deterioration.

These defects should be made safe at the time of the inspection, if reasonably practicable. In this context, making safe may include displaying warning notices, coning off 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 the inspection, which will generally be the case, repairs of a temporary or permanent nature should be carried out as soon as possible, and in any case within a period of 24 hours. There are cases where defects will need to be made safe quicker than within 24 hours and arrangements are in place to respond within one hour during normal working hours and within two hours outside normal working hours.

Category 2 Defects

Category 2a Defects

These are defects that **will** become Category 1 defects within three months if not attended to. These will be issued with a 28 working day completion time.

Category 2b Defects

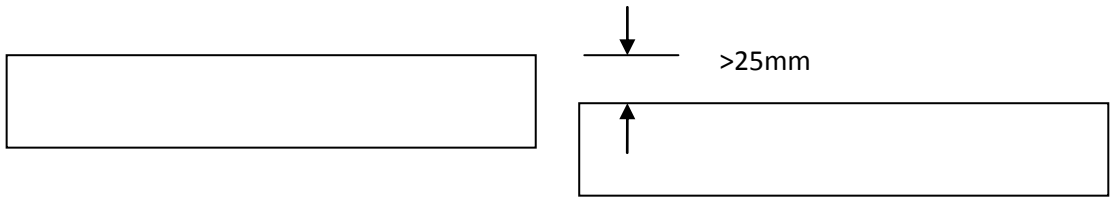
These are defects that are **likely** to become Category 1 defects in 3-12 months' time. These will be issued on a 90 working day completion time.

If a defect is found below intervention level then the inspector may identify the area for repair. However, this will depend on whether the defect is perceived to be hazardous due to its location, or whether the defect will deteriorate by the time of the next inspection. Therefore, it may not be necessary to identify such a defect for repair on roads that are inspected on a higher frequency, as it will be possible to monitor the progress of the defect as it approaches or exceeds intervention level.

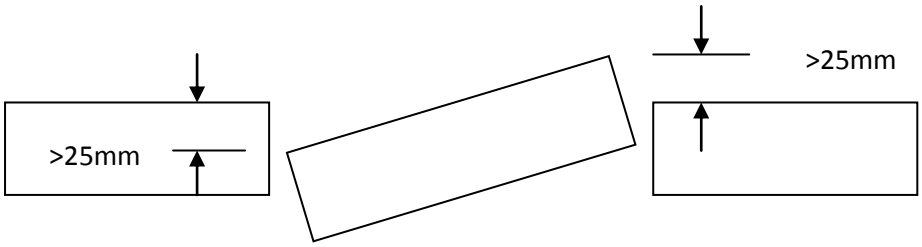
In general, response to defects may depend on available funding to undertake such repairs. Therefore, operations are planned and programmed in order of priority, linking repairs to the network hierarchy.

13. Intervention Levels

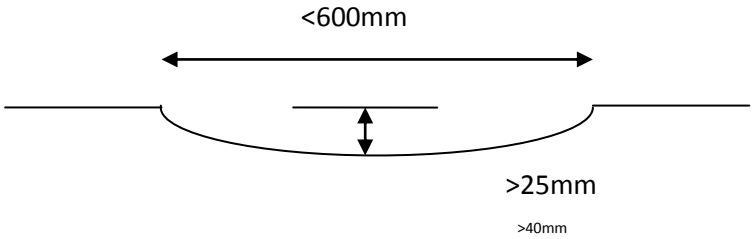
Footways (Intervention Level is 25mm or greater)



a) Footway (Modular) – Trips greater than 25mm

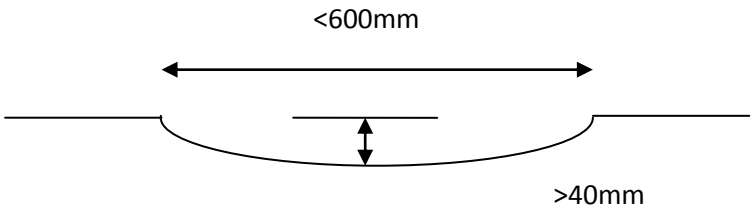


b) Footway (Modular) – Rocking greater than 25mm

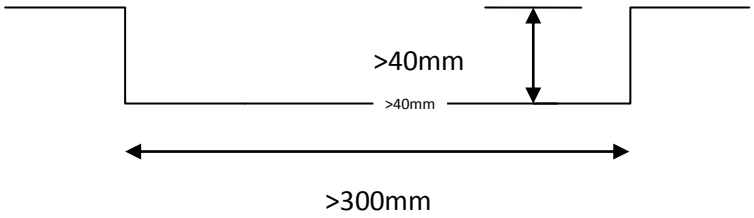


c) Footway (Bituminous) – Change in profile greater than 25mm and extending in plan direction less than 600mm or a sudden change of greater than 25mm

Carriageway (Intervention Level is 40mm or greater)



a) Carriageway (Bituminous or Concrete) – Change in profile greater then 40mm and extending in plan direction less than 600mm



b) Carriageway (Bituminous or Concrete) – A depression (pothole) of 40mm or greater in depth and extending in any one direction greater than 300mm

14. Target Response Time

Target response times are as follows:

Cat 1	24 Hour Repair	These are defects that require immediate action to be made safe at the time of inspection, if reasonably practicable. In this context making safe may include displaying warning notices, coning off 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 the inspection, which will generally be the case, repairs of a temporary or permanent nature should be carried out as soon as possible, and in any case within a period of 24 hours. There are cases where defects will need to be made safe quicker than within 24 hours and arrangements are in place to respond within one hour during normal working hours and within two hours outside normal working hours.
Cat 2a	28 Day Repair	Repair to be carried out within 28 days of Works Manager receiving notification.
Cat 2b	3 Month Repair	Repair to be carried out within 90 days of marking; this should enable work to be grouped together based on highway inspections. The repair of these defects could also be undertaken as part of a planned maintenance programme.

Defect category selection will be based on the inspector's assessment at the time of inspection which should be based on the following:

- Overall probability and impact of damage or accident occurrence
- Hierarchy and frequency of inspection
- The extent of the defect
- The location of the defect relative to other highway features (bend, junction, crossing point etc.)
- The location of the defect relative to other features outside the highway (old peoples home, doctor's surgery, school etc.)
- The volume of traffic (vehicular and pedestrian)
- Interaction with other defects
- Forecast weather condition and the time of year, especially considering the potential for freezing water

15. Defect Types and Classification

Carriageways

Defect	Cat 1 (24 Hour)	Cat 2a (28 Days)	Cat 2b (3 Months)	Notes
Pothole Depression Rutting Gap/Crack Sunken Ironwork	25mm or deeper within a controlled crossing. (15mm in City Centre inspection areas) Greater than 40mm deep elsewhere	As Cat 2b unless the defect is likely to deteriorate within 28 days	Less than 25mm deep within a pedestrian crossing. Up to but not exceeding 40mm deep elsewhere	
Debris, spillage or contamination	Diesel/oil spillage any other spillage likely to cause an immediate hazard			In the case of mud on the road, every effort should be made to get the person who deposited it to clear it up
Defective ironworks	Missing or collapsed covers. Broken covers if defect is greater than 40mm in carriageway or 25mm in the footway or at a pedestrian crossing	Raised or low covers		Ironworks that are the responsibility of a utility company should be passed to them under the New Roads and Streetworks Act
Surface water discharging across the highway	Where excessive, it will require signing and guarding	As Cat 2b unless the defect is likely to deteriorate within 28 days	Minor discharge across the carriageway	Where applicable serve notice to the landowner. During winter the Works Managers need to be informed
Longitudinal and transverse trenches	Refer to NRSWA trenches			

Footways

Defect	Cat 1 (24 Hour)	Cat 2a (28 Days)	Cat 2b (3 Months)	Notes
Pothole	25mm deep or greater. (15mm in City Centre inspection areas) 25mm deep or greater on dedicated cycleway	As Cat 2b unless the defect is likely to deteriorate within 28 days	Less than 25mm deep	Tree roots – seek advice from Arb Section
Trip hazard Rocking slab/block Tree root damage Sunken ironwork	25mm deep or greater vertical movement. Open joint/cracks 25mm or greater width	As Cat 2b unless the defect is likely to deteriorate within 28 days	Less than 25mm vertical movement and open joint/cracks less than 25mm wide	Tree roots – seek advice from Arb Section
Debris or spillage constituting a hazard	Diesel/oil spillage any other spillage likely to cause an immediate hazard			In the case of mud on the road every effort should be made to get the person who deposited it to clear it up
Defective ironworks	Missing or collapsed covers. Broken covers if defect is greater than 25mm	Raised or low covers		Ironworks that are the responsibility of a utility company should be passed to them under the New Roads and Streetworks Act

Kerbing

Defect	Cat 1 (24 Hour)	Cat 2a (28 Days)	Cat 2b (3 Months)	Notes
Damaged, rocking, missing or dislodged kerbs	Creating a trip hazard greater than 25mm where a risk assessment indicates substantial risk within pedestrian desire lines. If there is not a substantial risk within the desire line, the defect should be categorised as 2a or 2b depending on the level of risk	As Cat 2b unless the defect is likely to deteriorate within 28 days	Less than 25mm	

Signs, Markings, Lights, Signals and Street Furniture

Defect	Cat 1 (24 Hour)	Cat 2a (28 Days)	Cat 2b (3 Months)	Notes
Signs/Lining	Damaged or missing Stop or Give Way sign. Loose sign face in danger of falling on to a pedestrian or into the carriageway	As Cat 2b unless the defect is likely to deteriorate within 28 days	Faded or missing Stop or other mandatory lines at major junctions. Obscured or dirty sign face	
Fences/Barriers	Potential hazard if causing obstruction. Damaged or missing barriers	As Cat 2b unless the defect is likely to deteriorate within 28 days	Minor damage to safety fencing and PGR	Damaged or missing barriers at roadworks – refer to NRSWA
Street Lighting Illuminated signs and bollards	All defects to be reported to Balfour Beatty			
Traffic Signals	All defects to be reported to Traffic Signals team			