Highway Safety Inspection Manual

Highway Safety Inspections

Contents

Control of the Document

The Highways Asset Management Plan appendices shall document and retain a copy of the current revision of Walsall Metropolitan Borough Council's Highways Safety Inspection Manual.

Introduction to the Manual

Under Section 41 of the Highways Act 1980 Walsall MBC as the 'Highway Authority' has a duty to maintain all adopted highways within the borough of Walsall. Section 58 of the Highways Act 1980 may be used to repudiate claims made against the Council relating to alleged injury, loss or damage where it can prove that:

- It had in place adequate policies & procedures to maintain the highway.
- The policies & procedures were being implemented effectively.

The primary purpose of this Manual is to establish an effective regime of risk based inspection, assessment, recording and repair of defects to ensure that the highway network is maintained in a safe and serviceable condition.

The Manual is based on the principles outlined in the Roads Liaison Group document 'Well Managed Highway Infrastructure: A Code of Practice' (October 2016), herein after referred to as the Code.

Purpose of Safety Inspections.

Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or wider community. The risk of danger is assessed on site and the defect identified with an appropriate priority response.

Walsall's Highway Network

Walsall MBC is responsible for approximately 870km of adopted highway excluding Motorways and Trunk Roads which are maintained by Highways England.

Network Hierarchy

Walsall's highway network hierarchies relate to their importance for both transportation and usage, and are consistent with the recommendations set out in the Code. Categorisations were carried out by independent pavement engineering consultants and they are subject to automated review/update by safety inspectors through on-site reality checks so that they remain dynamic and reflect current risk.

Carriageway/Footway Hierarchies & Frequency of Inspection

Table 1. Walsall MBC Network Hierarchies - Inspection Frequencies		
Where carriageway & footway hierarchies intersect, the higher frequency shall take precedence in determining safety inspection frequency. Where appropriate, permanent or temporary changes to hierarchy may be considered using a risk based approach.		
CW Hierarchy	**Description**	**Inspection Frequency**
2	Strategic Route	1 month
3a	Main Distributor	1 month
3b	Secondary Distributor	1 month
4a	Link Road	3 month
4b	Local Access Road	12 month
FW Hierarchy	**Description**	**Inspection Frequency**
1a	Prestige Area	1 month
1	Primary Walking Route	1 month
2	Secondary Walking Route	3 month
3	Link Footway	6 month
4	Local Access Footway	12 month

If for example a section of highway has a carriageway hierarchy of 4b (requiring one inspection per year) and a footway hierarchy of 1a (requiring twelve inspections per year), the frequency of safety inspection will be set to 12 per year.

Levels of Service for Safety Inspections

Minimum Level of Service

Safety inspection regimes will aim to comply with the frequencies identified in the table above. Where unforeseen, or circumstances beyond the control of the Council occur, safety inspection practices may be suspended and Walsall MBC will provide a single annual walked inspection for all sites as a minimum.

Potential reasons for minimum level of service may include:

- Adverse/extreme weather conditions
- Significant staff sickness/absence
- Significant staff &/or public safety considerations
- Significant anti-social behaviour or public disorder considerations
- Site accessibility
- Public events
- Major incidents
- Health Pandemics
- Any other unforeseen

Optimum Level of Service

Optimum levels of service are identified in Table 1. However, it may still be necessary to apply tolerances to the target frequencies identified by the Code for various managerial, operational and planning purposes.

Potential reasons for tolerances of frequency may include:

- Short term weather conditions
- Short term staff sickness/absence
- Limited staff &/or public safety considerations
- Limited anti-social behaviour or public disorder considerations
- Temporary site accessibility issues
- Local events
- Minor incidents
- Any other unforeseen

Where practical, planned safety inspections will be carried out to the frequencies shown in Table 1, and within the tolerances shown in Table 2.

Table 2. Safety Inspection Frequency Tolerances				
Frequency of Inspection	1 month	3 months	6 months	1 year
Tolerance	+/- 1 week	+/- 2 weeks	+/- 4 weeks	+/- 4weeks
Max period between Inspections	5 weeks	14 weeks	30 weeks	56 weeks

Methodology of Safety Inspections

Safety inspections are carried out on foot or from a slow moving vehicle, inspection type will be selected as appropriate to meet the highway risks present. Methodologies shall remain flexible and adaptive to meet prevailing Health & Safety requirements and National Guidance.

Walked Safety Inspections

These are generally carried out by lone safety inspectors, wearing appropriate high visibility and other essential PPE clothing, working from the footway or verge where practical, following lone working procedures.

Planned walked safety inspections shall not normally be carried out under conditions of poor visibility or extreme weather conditions. When possible, inspections shall be carried out during off peak hours 09:30 to 15:30hrs, whilst pedestrian and vehicular movements are at their lowest. Restrictions for walked inspections on high speed roads will apply.

Driven Safety Inspections

These are exclusively carried out by two persons in a suitable vehicle travelling at a speed that will enable adequate recording of defects. The driver will not be actively involved in identifying and recording defects as they will be required to ensure that the vehicle is being driven safely.

The vehicle may be equipped with appropriate temporary reflective warning signage and beacon, high visibility and other essential PPE clothing will be worn by safety inspectors at all times.

Should the vehicle need to stop, it will be parked in a safe position and the use of the roof mounted beacon shall be considered.

Planned driven safety inspections shall not normally be carried out under conditions of poor visibility or extreme weather conditions. When possible, inspections shall be carried out during off peak hours 09:30 to 15:30hrs, whilst pedestrian and vehicular movements are at their lowest. Restrictions for driven inspections on high speed roads may apply.

Training and Competences

Appropriate training will be provided for staff carrying out highway safety inspections. The aim will be for safety inspectors to be trained in accordance with City and Guilds Scheme 6033 (units 301 & 311), LANTRA awards or similar.

Health and Safety

All inspections should be carried out in a safe manner, so as not to endanger colleagues, other highway users and members of the public, in accordance with the risk levels present.

Responsibility for Safety Inspections

The highway safety inspector undertaking the inspection is responsible for the accuracy of the inspection they undertake and the information recorded. Where claims are made against the Council, the inspector may be called into court to substantiate their inspection records.

Safety inspectors may also be required to provide information relating to third party claims received and give statements toward the defence of claims when requested to do so by the Council.

Information Recorded during Safety Inspections

Each inspection is recorded against the street reference held in the Council's Mayrise system. Where inspections are undertaken using a data capture device the inspection will be recorded automatically and the information is stored electronically within the data management system being used.

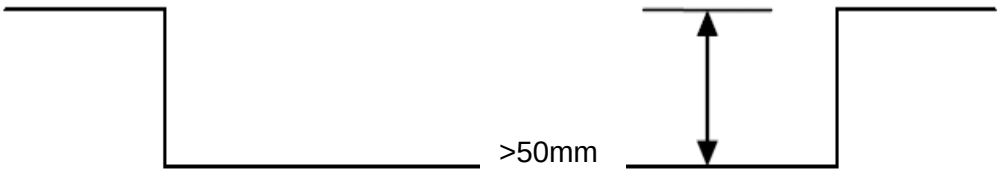
The inspection documents the name of the safety inspector who carried out the inspection, along with its date, walked/driven inspection marker and a record of all Category 1 and 2 defects and any other non-highway related issues that were identified in the course of the inspection.

In accordance with the Code, the highway features typically covered by safety inspections are identified in Table 3, some defects may only be recorded in extreme or obvious cases. Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. Such defects should include those that are considered to require urgent attention as well as those where the locations and sizes are such that longer periods of response would be acceptable.

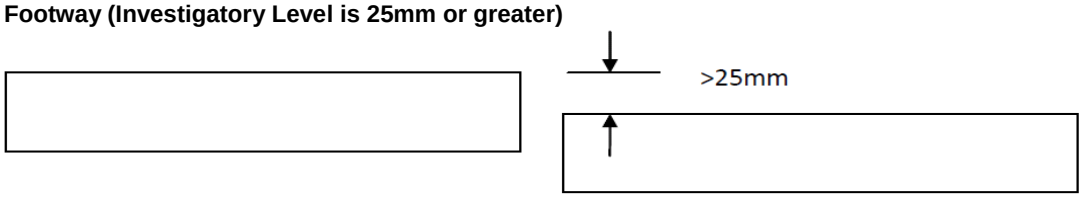
Table 3. Highway Defects Generally Covered by Safety Inspections
Crowning, depression and rutting in the running/walking surface
Potholes, cracks, gaps, trips in the running/walking surface
Edge deterioration of the running/walking surface
Abrupt level differences in the running/walking surface
Debris, spillage or contamination on running/walking surface
Apparently slippery running surface
Rocking, misaligned or unstable paving modules
Safety fencing, parapet fencing, handrail & other barriers missing/defective
Damaged and exposed electrical wiring
Bollards, Benches, signs, signals or lighting damaged, defective, missing or unstable
Kerbing, edging or channel damage
Ironwork (gully covers, manholes etc) broken or missing
Gullies, drains or grips blocked or defective
Standing water, water discharging onto or overflowing across the running surface
Road markings, faded/obscured

Carriageway and Footway Investigatory Levels:-

Carriageway (Investigatory Level is 50mm or greater)

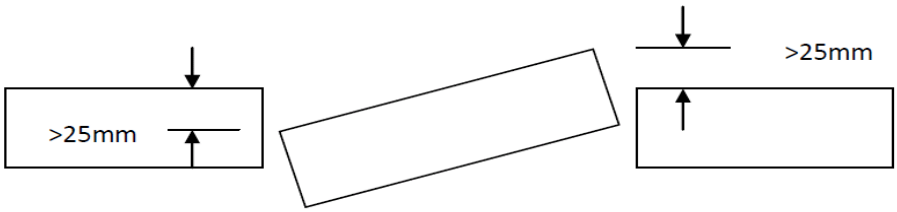


Footway (Investigatory Level is 25mm or greater)



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

Footway (Bituminous) - Trips/Potholes greater than 25mm



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

All highway defects identified in the course of planned safety inspections are evaluated by the safety inspector in terms of potential risk and if actionable are recorded accordingly against four categories, shown in Table 4.

Risk Categories

Table 4. Defect Risk Categories		
Defect Risk Category	**Description**	**Response Time**
Category 1 [Immediate high risk]	Immediate risk to highway safety - urgent repair is required	1 hour
Category 1 [Imminent high risk]	Imminent risk to highway safety – temporary[1] / permanent repair required	24 hours
Category 2 [Medium risk]	The defect meets with Safety Inspection Manual investigatory level and is likely to become safety critical in less than 28 days	5 working days
Category 2 [Moderate risk]	The defect meets with Safety Inspection Manual investigatory level and is likely to become safety critical before the next inspection or in less than 6 months[2]	28 calendar days
Category 2 [Low risk]	The defect meets with Safety Inspection Manual investigatory level but is unlikely to deteriorate rapidly	6 calendar months

Defects will be made safe within the timescales identified in Table 4. Making safe may constitute displaying warning notices or coning/fencing off measures to protect highway users from the defect.

The Defect Risk Category will depend upon:

- The immediate risk/consequences posed by the defect
- The depth, surface area, or other extent of the defect
- The location of the defect relative to other highway features
- The location of the defect relative to the positioning of users
- The proximity, nature and extent of other defects
- The defects degree of deficiency and site/traffic characteristics
- The anticipated rate of the defects deterioration
- The risk associated with undertaking repairs via programmed time scales

Degree of Deficiency and Nature of Response

Defects are risk assessed using the factors listed. Safety inspectors will exercise their judgement, discretion and training when deciding whether to record individual defects, and in which category to place them. Such judgements are based around the risk matrix and responses identified in Table 5, linking the probability of an incident taking place with the likely impact brought about should the incident occur.

The risk matrix is built into the Councils data collection software to ensure that risk factors are applied robustly and consistently within an automated framework. Any responses required will be carried out within the appropriate timeframes identified within Table 4.

Table 5. Walked Safety Inspection Risk Matrix

Risk Score / Response Time		Impact			
		Negligible [1]	Low [2]	Medium [3]	High [4]
Likelihood	Negligible [1]	1 6 months	2 6 months	3 28 days	4 28 days
	Low [2]	2 6 months	4 28 days	6 5 days	8 24 hrs
	Medium [3]	3 28 days	6 5 days	9 24 hrs	12 24 hrs
	High [4]	4 28 days	8 24 hrs	12 24 hrs	16 1 hr

[1]Temporary repairs may be considered in traffic sensitive areas
[2]For roads on 6 or 12 month inspection frequencies

Responses				
Category 2 [Low risk]	Category 2 [Moderate risk]	Category 2 [Medium risk]	Category 1 [Imminent high risk]	**Category 1** **[Immediate high** risk]
1 – 3 6 months	3 – 4 28 days	4 - 7 5 days	8 - 12 24 hrs	13 -16 1 hr

Defect Investigatory Levels

The Code is not prescriptive in providing local authorities with individual thresholds for defect investigatory levels.

Walsall's safety inspections therefore employ the use of investigatory levels for some of the more common defects which relate to industry good practice.

However, these can only be regarded as a guide for inspectors, as each defect will be considered against its individual circumstances in the course of safety inspections.

Defect Types & Classification.

Investigatory levels for some common highway defects are identified in Table 6.

Table 6. Typical Defect Types and Classification		
Defect	**Response Category**	**Notes**
Carriageway: potholes; rutting; gaps/cracks; sunk ironwork	50mm or greater	
Footway: potholes; rutting; trips; gaps/cracks; sunk ironwork	25mm or greater	
Carriageway & footway: debris; spillages or contamination	Diesel/oil or any other spillages likely to cause an immediate hazard	In the case of mud on the highway, every effort will be made to get those who deposited it to clear it up
Carriageway defective Ironworks	Missing, broken or collapsed covers and gratings if defect is greater than 50mm	Ironworks that are the responsibility of a utility company should be passed to them under the New Roads & Street Works Act
Footway defective Ironworks	Missing, broken or collapsed covers and gratings if defect is greater than 25mm	Ironworks that are the responsibility of a utility company should be passed to them under the New Roads & Street Works Act
Surface water discharging across the highway	Where excessive will require signing and guarding	Where applicable serve notice to landowner or advise statutory undertaker responsible
Statutory undertakers trenches	Failed/sunken reinstatement	Refer to NRSWA regulations
Damaged: street lights; illuminated signs/bollards; exposed cables	Unstable, knocked down, exposed electrical components	Pass to Amey Lighting
Damaged: rocking, missing or dislodged kerbs	Creating a trip hazard greater than 25mm posing substantial or imminent risk	
Damaged: pedestrian guard rails, crash barriers; fencing; bollards	Where risk assessment suggests substantial risk to vehicular or pedestrian movements exist	
Traffic signals	Non-operational/damaged	All defects reported to Urban Traffic Control (UTC) team

During safety inspections the carriageway and footway hierarchy are routinely reviewed by the safety inspector to confirm that they still reflect current usage requirements within a risk based approach.

Where temporary or permanent changes of carriageway or footway hierarchies are required, the safety inspector will also complete a risk assessment pro forma documenting the reasons that apply and the safety inspection frequency may be revised accordingly.

Inspection Hierarchy Changes - Risk Assessment.

Change of Carriageway / Footway Hierarchy – Risk Assessment.					
Road Name					
District				Inspection Area	
Street Ref.				Inspector	
Current CW Hierarchy		Current FW Hierarchy		Current Safety Inspection Frequency	Monthly 3 Monthly 6 Monthly Yearly
Proposed CW Hierarchy		Proposed FW Hierarchy		Proposed Safety Inspection Frequency	Monthly 3 Monthly 6 Monthly Yearly
Change Permanently?	Yes/ No	If Temporary - Period Proposed			
Proposed date from which changes to hierarchy shall apply					
Documented Reason(s) for Carriageway / Footway Hierarchy Change(s)					
Highway Inspectors Signature			Date		
Highway Asset Managers Signature			Date		

Highway safety inspections focus on the adopted public highway network and those assets for which the Economy & Environment's highways group has a vested maintenance responsibility. Safety inspectors may also advise external organisations, other Council departments, or private parties of defects on assets outside their responsibility where risks to highway users are observed.