

**REPORT TO:** Cabinet

**MEETING DATE:** 12 November 2019

**BY:** Depute Chief Executive (Partnerships and Community Services)

**SUBJECT:** Road Safety Inspection Manual – Policy for Road Inspections

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## **1 PURPOSE**

- 1.1 To inform the Members of the updated Policy for Road Inspections in accordance with Well Managed Highway Infrastructure: Code of Practice, published in October 2016.

## **2 RECOMMENDATIONS**

- 2.1 It is recommended that the Cabinet approves the Road Safety Inspection Manual, with variations for implementation from 1 April 2020.

## **3 BACKGROUND**

- 3.1 On 12 February 2012 the Cabinet agreed to adopt the current Policy for Road Inspections in accordance with the Code of Practice for Highway Maintenance entitled “Well Maintained Highways”, published in July 2005, including some variations.
- 3.2 A new Code of Practice (CoP), “Well Managed Highway Infrastructure”, was published in October 2016. The new CoP moves away from prescriptive guidance requiring authorities to adopt a risk-based approach to asset management. This means that the CoP no longer contains specific advice with regards to inspection frequency or defect response times. The current Policy for Road Inspections already has elements of the risk-based approach embedded within it. However, it does not fully comply with the risk-based approach as it still contains prescriptive intervention levels.

The Society of Chief Officers (SCOTS), through its Road Asset Management Project, has produced additional guidance for local authorities to adapt their inspection processes to the new CoP. The

SCOTS work has produced a model inspection manual with a number of recommendations which has formed the basis for the Road Safety Inspection Manual for East Lothian Council. The manual is provided in Appendix A.

Key aspects of the manual have been risk assessed using the principles of the CoP. The risk assessments are provided in Appendix A of the manual.

The key changes to the inspection manual are listed below:

- The revised risk matrix is significantly different but has been tested in real world use with three authorities and through several peer groups workshops and has been demonstrated to produce consistent results.
- The application of the revised risk matrix is more likely to prioritise a higher proportion of carriageway pothole defects as Priority 2 (5 day response) defects. This being more reflective of the associated risk with the defect other than treating all defects the same. This is a significant change as currently a considerable amount of our potholes over 40mm depth and 150mm across will demand a 24-hour (Priority 1) response. However, officers consider that the new approach better reflects the actual risk to road users posed by the majority of these defects and it will be consistent with most other authorities' practice. It will also allow for more effective planning and increase our ability to permanently repair defects in a single visit.
- The frequency of inspections for carriageways will generally be in line with the current policy, however for Category 5 (Local Access Road) and Category 6 (Minor Road), it will extend from six monthly to annual in line with the SCOTS recommendations.
- Footway inspection frequency will be increased for Category 1 (Prestige), Category 2 (Primary), Category 3 (Secondary) and Category 4 (Link), this recognises that the risk to users is dependent on the footfall, therefore, the busiest footways/footpaths are inspected more frequently. The current level of inspection frequency will be maintained for Category 5 (Local) and Category 6 (Minor) footways and footpaths. Categories 4, 5 & 6 are a departure from the SCOTS recommendations. Further information is provided in Appendix A.
- Cycle routes will be inspected as per carriageway and footway frequencies which differs from the SCOTS recommendations. Further information is provided in Appendix A.

## **4 POLICY IMPLICATIONS**

4.1 None

## **5 INTEGRATED IMPACT ASSESSMENT**

5.1 The subject of this report does not affect the wellbeing of the community or have a significant impact on equality, the environment or economy

## **6 RESOURCE IMPLICATIONS**

6.1 Financial – There are no financial implications

6.2 Personnel - Inspections will be undertaken by existing staff

6.3 Other - None

## **7 BACKGROUND PAPERS**

7.1 Well Managed Highway Infrastructure – A Code of Practice, UK Roads Liaison Group. Available at:

<http://www.ukroadsliasongroup.org/en/utilities/document-summary.cfm/docid/4F93BA10-D3B0-4222-827A8C48401B26AC>

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<b>DATE</b>	30 October 2019



East Lothian Council

Road Safety Inspection Manual

## Document Information

<b>Title</b>	Road Safety Inspection Manual
<b>Author</b>	Callum Redpath, Team Manager - Engineering
<b>Description</b>	This document sets out East Council's policies and procedures for road safety inspection. It is based upon a template produced by the Society of Chief Officers of Transportation in Scotland (SCOTS).

## Document Control

<b>Version</b>	<b>SCOTS Template Version</b>	<b>Date</b>	<b>Author</b>	<b>Changes from Previous Version</b>
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# Introduction

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This Road Safety Inspection Manual has been developed with the primary aim of providing operational guidance to those officers responsible for managing road asset safety inspections. This is in order to encourage a consistent approach by utilising a formalised system that recommends the frequency of inspections as well as the method of assessing, recording and responding to defects in the road asset.

This manual is based on the SCOTS Risk Based Approach (RBA) guidance and compiled using their Road Safety Inspection Strategy template.

'Well-Managed Highway Infrastructure: A Code of Practice'<sup>1</sup> has specific recommendations regarding inspections of all road elements. This document specifically relates to the procedure for carrying out road safety inspections. Recommendation 7 of the code of practice is that Road Authorities should adopt a Risk Based Approach to all aspects of road maintenance.

A Risk Based Approach is also recommended by the Institute of Highway Engineers in their guidance on managing risk and liability, 'Well Managed Highway Liability Risk'<sup>2</sup>.

The establishment of an effective regime of safety inspections is a crucial component of road maintenance in accordance with the Code of Practice, The Society of Chief Officers of Transportation in Scotland (SCOTS) seeks to encourage the benefits that will be gained by harmonising such procedures across Scotland. Recommendation 6 within the Code of Practice refers to Consistency with Other Authorities and is stated below:

"To ensure that users' reasonable expectations for consistency are taken into account, the approach of other local and strategic highway and transport authorities, especially those with integrated or adjoining networks, should be considered when developing highway infrastructure maintenance policies."

This Road Safety Inspection manual has been developed in partnership with the roads authorities associated through SCOTS to focus on safety inspections and categorisations, and is now being made available for all Scottish roads authorities to consider adopting for their network.

Officers across all Scottish Local Authorities recognise that Councils are currently faced with delivering services within an environment of increasing fiscal austerity and are aware of the benefits that can be achieved by adopting a common approach which follows the principles of 'Well-Managed Highway Infrastructure'.

Adoption of this manual will provide a consistent methodology for the management of the road network, while focusing on delivering a proactive programme of permanent repairs. It is intended that its implementation will also allow performance to be monitored and reviewed, implementing any necessary improvements identified through its use.

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<sup>1</sup> 'Well-Managed Highway Infrastructure: A Code of Practice', UKRLG, October 2016

<sup>2</sup> 'Well Managed Highway Liability Risk', IHE, March 2017

## STATEMENT OF POLICY

East Lothian Council has a statutory duty to manage and maintain adopted public roads within the district. The Council as Roads Authority is responsible for 920km of carriageways and over 481 km of footpaths but has finite resources for managing and maintaining these. An effective road safety inspection procedure is needed to maximise the safety of road users within the constraints of resources available to the council.

The council aims to ensure that the safety inspection activity identifies and rectifies hazardous defects on public roads in a timely manner, in line with best practice where reasonable and within available resources.

## ROLES AND RESPONSIBILITIES

The Safety Inspection activity is undertaken by the Engineering & Operations team within Road Services. The strategic management of this function, including performance review and policy development, is the responsibility of the Service Manager. Day-to-day operational management of the safety inspection activity is the responsibility of the Team Manager - Engineering.

Safety Inspections are undertaken by Roads Officers within the Engineering team.

Throughout this manual they are referred to as 'Inspectors'.

Repairs of defects are undertaken by the council's Road Services - Operations team and appointed external contractors under the responsibility of the Engineering Team Manager. Specialist permanent repairs (for example repairs to vehicle restraint systems) are undertaken by third-party contractors. Rectification of defects in relation to trees is undertaken by the council's Amenity Services – Tree Officer.

## SCOPE OF ROADS SAFETY INSPECTION ACTIVITY

The council is responsible for managing and maintaining roads within East Lothian which are adopted public roads, maintained on the council's List of Public Roads as required by Section 1 of the Roads (Scotland) Act 1984. The definition of a road includes footpaths, footways, cycleways, verge and any bridge over which, or tunnel through which, the road passes.

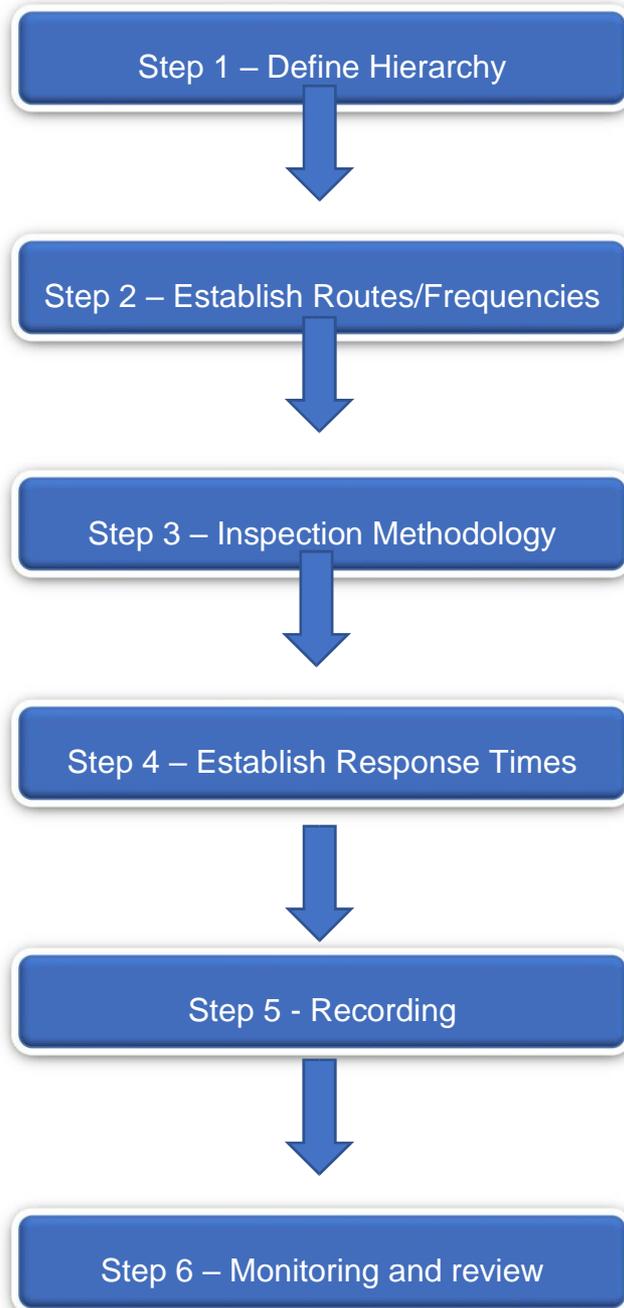
Roads Safety Inspection activity is limited to roads (including remote footpaths) and car parks which are on the list of public roads.

Roads Safety Inspection activity is **not** carried out on private roads or any roads, footways, footpaths, garage areas under the control of the council which are not on the list of public roads.

## Overview

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The safety inspection strategy involves several key steps, explained in detail within this document. They are:



Road hierarchy forms the foundation of a risk based maintenance strategy; crucial for establishing service levels and network management

Define the physical routes of inspection, the standard frequencies and modes of inspection

A methodology inspectors can follow to assess defects to determine the level of risk and priority of response

Assign an appropriate safety level of response (time and type) to each prioritised category of risk. e.g. Priority 2 (High Risk): Repair within 5 working days.

Establish procedures for documenting safety Inspections and other key information such as inspector training and competency records

Regularly monitor and review the Safety Inspection strategy and its operation

## Hierarchy

“Well-Managed Highways Infrastructure – Code of Practice” (WMHI CoP) indicates that a network hierarchy is the foundation of a risk based maintenance strategy; crucial for establishing service levels and network management.

The hierarchy definitions adopted are those provided in the SCOTS guidance which, in turn, were based upon the definitions in the Code of Practice. These are listed in Tables 1 to 3 below.

### Carriageways

Table 1 below provides descriptions for carriageway categories based on those in ‘Well-Managed Highway Infrastructure: A Code of Practice’.

**Table 1 Carriageway Hierarchy**

Category	Hierarchy	Description
1	Strategic Route	Routes for fast moving long distance traffic with little frontage access or pedestrian traffic. Speed limits generally in excess of 40mph with few junctions.  Parked vehicles are generally not encountered out with urban areas.
2	Main Distributor	Routes between strategic routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40mph or less.
3	Secondary Distributor	In residential and other built up areas these roads have 20 or 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On- street parking is generally unrestricted except for safety reasons.  In rural areas these roads link the larger villages, bus routes and HGV generators to the Strategic and Main Distributor Network.
4	Link Road	In urban areas these are residential or industrial interconnecting roads with 20 or 30 mph speed limits, random pedestrian movements and uncontrolled parking.  In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two-way traffic.
5	Local Access Road	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.
6	Minor Road	Locally defined roads

## Footways

Table 2 below is based on the recommendations of 'Well-Managed Highway Infrastructure: A Code of Practice' and should be used as a starting point when allocating a footway / footpath to a particular category.

The following should also be taken into consideration:

- pedestrian volume,
- designation as a traffic sensitive pedestrian route,
- current usage and proposed usage,
- contribution to the quality of public space and streetscene,
- age and distribution of the population, proximity of schools or other establishments attracting higher than normal numbers or specific groups of pedestrians,
- accidents and other risk assessments and
- character and traffic use of adjoining carriageway.

**Table 2 Footway Hierarchy**

Category	Category Name	Description
1	Prestige Walking Zones	Very busy areas of town centres with high public space and Streetscene contribution.
2	Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes, including links to significant public transport locations.
3	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
4	Link Footways / Footpaths	Linking local access footways through urban areas and busy rural footways.
5	Local Access Footways / Footpaths	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.
6	Minor Footways	Little used footways serving very limited numbers of properties

## Cycle Routes

Cycle routes are categorised by location and a proposed hierarchy is shown in Table 3 below. **Table**

### 3 Cycle Route Hierarchy

Category	Description
1	Cycle lane forming part of the carriageway, commonly a strip adjacent to the nearside kerb. Cycle gaps at road closure point (no entry to traffic, but allowing cycle access).
2	Cycle track - a designated route for cyclists not contiguous with the public footway or carriageway. Shared cycle/pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated.
3	Cycle trails, leisure routes through open spaces, remote from carriageway or footway / path where on the list of public roads.

## Road Network Assessment

It is important that the road network categorisation reflects the needs, priorities and actual use of the network and infrastructure assets.

A focus group consisting of Team Manager – Engineer, Roads Officers (Inspectors) and Senior Road Officer (Road Safety) will review the road network against the hierarchy categories. The local road network currently has a defined road hierarchy in line with the previous policy for Road Inspections and this will be referred to as a starting point as there is likely to be common considerations at play.

## Review of Road Network Categories

Road networks are dynamic, therefore network categories should be regularly reviewed, considering any changes in the network as it evolves, to ensure that assigned categories remain relevant.

### Review Frequency

The hierarchy will be reviewed annually.

### Continuity of safety and serviceability with neighbouring Highway Authorities

The adoption of the WMHI code of practice hierarchy and common SCOTS safety inspection methodology should, while allowing for management of hierarchies with regard to local circumstances, enable a high degree of continuity of safety and serviceability across neighbouring authorities.

## Inspection Frequencies

The frequency of inspections adopted by East Lothian Council is as follows:

**Table 5 Frequency of Inspection – Carriageways**

Category	Hierarchy Description	Frequency
1	Strategic Route	Monthly
2	Main Distributor	Monthly
3	Secondary Distributor	Monthly
4	Link Road	Quarterly
5	Local Access Road	Annually
6	Minor Road	Annually

**Table 6 Frequency of Inspection – Footways & Footpaths**

Category	Category Name	Frequency
1	Prestige Walking Zones	Monthly
2	Primary Walking Routes	Monthly
3	Secondary Walking Routes	Quarterly
4	Link Footways / Footpaths	Yearly
5	Local Access Footways / Footpaths	Biennial
6	Minor Footways	Biennial

**Table 7**            **Frequency of Inspections – Cycle routes**

<b>Category</b>	<b>Frequency</b>
1	As carriageway
2	As footway
3	As footway

The frequencies above differ from the SCOTS guidance in relation to Category 4,5&6 footways and Category 2 and 3 Cycle Routes. The justification for this variance is set out in Appendix A.

## **Safety Inspection Routes**

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Inspection routes are determined and managed within the council's roads asset management software (WDM).

Safety Inspections on carriageways, car parks and cycleways forming part of a carriageway are undertaken in a slow moving vehicle with two personnel, one driving and the other inspecting. Consideration must be given to the safety of the inspection personnel and other road users during the driven inspections. The inspection covers all areas within the council's boundary along that road.

Inspections on footways will be undertaken on foot. Cycleways remote from carriageways will be inspected on foot or bicycle.

## Inspection Tolerances

All road safety inspections will be carried out to the frequencies detailed in the following tables and should be completed within the tolerances shown in Table 4, as follows:

**Table 4 Inspection Tolerances**

Frequency of Inspection	Inspection Tolerances
Monthly	± 5 working days of the Due Date
Quarterly	± 10 working days of the Due Date
Six Monthly	± 15 working days of the Due Date
Annual	± 20 working days of the Due Date
Biennial	± 25 working days of the Due Date

### Definition of above terms

- **Frequency of Inspection - Monthly** indicates that twelve regular spaced inspections will be carried out per year.
- **Frequency of Inspection - Quarterly** indicates that four regular spaced inspections will be carried out per year.
- **Frequency of Inspection - Six Monthly** indicates that two regular spaced inspections will be carried out per year.
- **Frequency of Inspection - Annual** indicates that one regular spaced inspection will be carried out per year.
- **Frequency of Inspection - Biennial** indicates that one regular spaced inspection will be carried out per two year.
- **Due Date** is the programmed date of an inspection.

### Staff Contingency and Alterations to the Inspection Programme

- Due to the nature of the weather in Scotland 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.
- If an inspection due date falls during an extended period of absence e.g. inspector holiday or illness, then the inspection should be allocated to another suitably experienced member of staff who has the capacity to undertake the inspection.
- If for reasons beyond the control of the roads authority (e.g. substantial snow fall), any inspection cannot be carried out in compliance with Table 4 the roads authority will decide on the viability of a safety survey being undertaken, taking into account the availability of staff and the prevailing weather conditions.
- As soon as reasonably practicable following the above events a deferred programmed safety inspection should be carried out on the affected length of road.
  - Where a monthly inspection is more than 2 weeks late then programmed inspection will be missed and the cycle resumed at the next due inspection date.
  - Where substantial unavoidable delays are incurred to other inspection frequencies the manager may assess the impact and adjust the programme. ○ A record must be kept of change decisions and reasons for them.

# Inspection Methodology

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## Safety Inspections

### Planned Cyclic Safety Inspections

The Safety Inspection regime forms a key aspect of the road authority's strategy for managing liability and risk. Planned, cyclic safety inspections are carried out to identify defects which are hazardous (to any user of the road including drivers, pedestrians, equestrians and cyclists) so that an effective repair can be carried out within a predetermined response time.

The specified frequency of these inspections is dependent upon the **hierarchy category** of each section of road but may be varied after a documented risk assessment.

During safety inspections, observed defects that provide any foreseeable degree of risk to users will be recorded and processed for repair as appropriate following the methodology detailed in the 'Defect Risk Assessment' section of this document. The degree of deficiency in the road elements will be crucial in determining the nature and speed of response. Judgement will always need to take account of particular circumstances. For example, the degree of risk from a pothole depends upon not only its depth but also its surface area, location within the road network and usage of the road or footway.

The objectives of safety inspection activity are to:

- Minimise the risk of injury and disruption to road users as far as is reasonably practicable,
- Provide a regular, structured inspection of the public road network, within available resources,
- Deliver a consistent, reliable response to identified defects, within available resources,
- Maintain accurate and comprehensive records of inspections and response and
- Provide a clear, accurate and comprehensive response to claims.

### Items for Inspection

The following are examples of the types of defect which, when identified, should be assessed and an instruction for repair issued with an appropriate response time specified. The list identified below is not exhaustive.

#### Carriageways

- Surface defects
- Abrupt level differences in running surface
- Edge deterioration of the running surface
- Excessive standing water, water discharging onto and / or flowing across the road
- Blocked gullies and obstructed drainage channels or grips which could lead to ponding or flooding
- Debris and/or spillages likely to be a hazard
- Missing road studs
- Badly worn Stop, Give Way, double continuous white line or markings associated with TRO's
- Missing or significantly damaged covers

### **Footways, Footpaths and Cycleways**

- Surface defects
- Excessive standing water and water discharging onto and or flowing across the foot/cycleway
- Dangerous rocking paving slabs
- Large cracks or gaps between paving slabs
- Missing or significantly damaged covers
- Debris and / or spillages likely to be a hazard
- Damaged kerbs

### **Street Furniture**

- Damaged vehicle restraint systems, parapets, handrails or guardrails
- Damaged boundary fence where animals or children could gain access
- Damaged or missing signs, such as Give Way, Stop, Speed Limit

### **Road Lighting**

- Damaged column, cabinet, control pillar, wall mounting
- Exposed, live electrical equipment

### **Traffic Management Systems**

- Traffic signals, Variable Message Signs
- Damaged poles, heads, cabinet, control pillar, sign face
- Exposed, live electrical equipment

### **Others**

- Overhead wires in dangerous condition
- Sight-lines obstructed by trees and other vegetation,
- Trees in a dangerous condition
- Earthslips where debris has encroached or is likely to encroach the road or causing the road to fall away
- Rocks or rock faces constituting a hazard to road users
- Damaged road structures

## Risk Management Process

Inspectors undertaking safety inspections or responding to reported incidents require to use judgement in determining likelihood and consequences of the observed or reported defects. This approach is consistent with 'Well-Managed Highway Infrastructure: A Code of Practice' recommendation that roads authorities adopt a system of defect risk assessment for determining the response categories to road defects. However, it represents a step change in the way that defects are assessed. Taking a risk based approach, as per the above code of practice, means that there are NO prescriptive investigation or intervention levels to apply. The rationale for removing these is that the same defect will represent a different level of risk in a different context. In the past this has led to inappropriate and often unnecessary, costly, temporary repairs. Instead, by using a risk based approach, councils can reduce such reactive interventions and target more of their scarce resources towards programmed work that in the longer term will lead to an overall improvement of road condition.

So while not providing any minimum or default standards, the code of practice does support the development of local levels of service in accordance with local needs, priorities and affordability.

A series of public engagement events on the Local transport Strategy and supporting strategies on– active travel, local transport, parking, road maintenance and road safety were undertaken.

Consultation with the public and stakeholders highlighted general agreement with road maintenance policies to apply preventative maintenance treatments, to target the worst condition and apply whole of life practices to footways, and to upgrade street lighting to LED standards with galvanized columns. Specific narrative on inspection regimes sought to improve frequencies and employ better decision making practices. Accordingly, the new inspection criteria will address some of the points raised through this consultation process. The local Transport Strategy and associated plans were adopted by Council on 30th October 2018.

## Establishing Context

Establishing context requires the inspector to utilise experience and knowledge during the inspections to assess the road characteristics, such as giving consideration to environment (speed limit, width, rural/urban, road hierarchy, visibility, bend, hill - incline/decline, road camber/crossfall, etc.), relevant road user types (pedestrians, cyclists, horse riders, cars, LGV's, HGV's, PSV's, etc.), traffic volumes, maintenance history, historical incidents/claims/complaints (e.g. experience/knowledge of similar hazards being a contributory factor to incidents/claims within the authority or a neighbouring authority), demographics and key local amenities (proximity to doctors surgery, hospitals, shopping areas, schools, etc.).

## Risk Assessment

Taking the context into consideration, Risk Assessment is a three step process:

### 1. Hazard Identification

An inspection item for which the inspector identifies road asset defects which may pose a risk to road users i.e. lead to a negative consequence. The types of asset to be inspected and the potential associated hazards from defects are detailed in the Inspectors Operations Manual.

### 2. Risk Analysis

All risks identified through this process must be evaluated in terms of their significance which means assessing the **likelihood** of encountering the hazard and the **most probable** (not worst possible) **consequence** should this occur.

The procedure is designed to mitigate 'worst scenario' thinking and ensure an objective assessment is carried out. It is important therefore that the analysis is carried out in this defined step sequence to determine the appropriate level of risk and corresponding priority response.

#### Risk Likelihood

The risk likelihood is assessed with regard to how many users are likely to pass by or over the defect, consequently the network hierarchy and defect location are important considerations in the assessment.

The likelihood of encountering a hazard, within the established context, will be quantified on a scale of Remote to Almost Certain as follows:

**Table 8 Risk Likelihood**

Likelihood / Probability	Likelihood Description	
Almost Certain	Will undoubtedly happen	Daily
Likely	Will probably happen, but not a persistent issue	Monthly
Possible	May happen occasionally	Annually
Unlikely	Not expected to happen, but it is possible	10 years
Remote	Improbable	20 years

## Risk Consequence

The risk consequence is assessed by considering the most probable (NOT worst possible) outcome (impact) should the risk occur and will be quantified on a scale of Negligible to Catastrophic as follows:

**Table 9 Consequence (Impact/Severity) Score**

Consequence (Impact/Severity)	Description			
	Impact on Service Objectives	Financial Impact	Impact on people	Impact on Reputation
<b>Catastrophic</b>	Unable to function, inability to fulfil obligations	Severe financial loss	Death	Highly damaging, sever loss of public confidence
<b>Major</b>	Significant impact on services provision	Major financial loss	Extensive injury, major permanent harm	Major adverse publicity, major loss of confidence
<b>Moderate</b>	Service objectives partially achievable	Significant financial loss	Medical treatment required, semi-permanent harm up to 1 year	Some adverse publicity, legal implications
<b>Minor</b>	Minor impact on service objectives	Moderate financial loss	First aid treatment, non-permanent harm up to 1 month	Some public embarrassment, no damage to reputation
<b>Negligible</b>	Minimal impact, no service disruption	Minimal financial loss	No obvious harm/injury	No interest to the press, internal only

### 3. Risk Evaluation

The risk factor for a particular risk is the product of the risk impact and risk. It is this factor that identifies the overall seriousness of the risk and consequently therefore the appropriateness of the speed of response to remedy the defect. Accordingly, the priority response time for dealing with a defect can be determined by correlation with the risk factor as shown in the risk matrix, table 10:

**Table 10 Risk Matrix**

Consequence	Negligible	Minor	Moderate	Major	Catastrophic
<b>Likelihood</b>					
Remote	NR	NR	NR	NR	P3
Unlikely	NR	NR	P4	P4	P3
Possible	NR	P4	P4	P3	P2
Likely	NR	P4	P3	P2	P1
Almost Certain	NR	P3	P2	P1	P1

### Risk Management Response

Having identified a particular risk, assessed the likelihood of it occurring and most probable consequence (impact/severity) and thus calculated the risk factor, the appropriate response is identified in the form of a risk management (response) matrix, Table 11.

**Table 11 Risk Management Matrix**

Risk Category	Priority Response
Critical Risk	Priority 1 response
High Risk	Priority 2 response
Medium Risk	Priority 3 response
Low Risk	Priority 4 response
Negligible Risk	No response

## **Intersections and Multiple Road Users Types**

The hazard context considers the location and the types of road users which could be impacted by the defect. Inspectors should consider the different impacts and consequences for each road user type (e.g. pedestrians, cyclists, vehicle drivers, etc.) and at intersections, consider the hierarchy of each route. Inspectors **must therefore assess the likelihood and consequence for each road user type and/or route hierarchy**. The priority of the response is based on the highest priority determined from the risk matrix (Table 10).

## **Utility Company Defects**

Section 140 of the New Roads & Street Works Act 1991 places a duty on undertakers (utilities) to maintain their apparatus to the reasonable satisfaction of the Roads Authority. However recent case law has shown that Roads Authorities have a joint liability with the undertakers.

If a defective utility apparatus or works cause a hazard, the inspector will record this and contact the council's Public Utilities (PU) team. The PU team will contact the appropriate utility company who will be given the opportunity to commence repairs or make safe the defect within the timescales and in accordance with the process set out in the "Code of Practice for Inspections", Scottish Roadworks Commissioner, November 2012.

In the case of Category 1 (dangerous) defects (as defined in the SRWC CoP as a 2 hour response), the council's Inspector will make safe if practicable. If the utility company cannot be identified or cannot attend within the required timescales, the Inspector will arrange for work to be undertaken by the council. In the appropriate circumstances, the council will seek to recover reasonable costs of remedial work from public utilities.

## **Inspection Records**

All information obtained from safety inspections, together with the nature of response, including nil returns, shall be recorded consistently. The data obtained shall be able to be reviewed independently and in conjunction with other survey information. It shall be collected on electronic mobile devices (tablets or phones) and automatically transferred to the WDM asset management system or similar. Service requests, complaints, reports or information from users and other third parties shall also be recorded in the WDM system, along with the nature of response, including nil returns. All inspection records shall include the date, time and the name of the person conducting the inspection. Any defects identified will be recorded on the WDM system with photographs (if practicable) and again will include the date, time and name of person raising the defect.

# Priority Response Times

## Safety Levels

The Priority Response Times for each Defect Category are shown in Table 12 below.

**Table 12 SAFETY LEVELS - Defect Priority and Response Times**

Defect Priority	1	2	3	4	NR
Standard Response Time	24 Hours				
Islands or Remote Locations Response Times	n/a	5 Working Days	60 Working Days	Programmed work	No Action required

### Priority 1: Make safe within 24 Hours

Priority 1 represents a critical risk to road users and should be corrected or made safe at the time of inspection, if reasonably practicable. In this context, making safe may constitute displaying warning signs and / or coning off to protect the public from the defect. Where reasonably practicable, safety defects of this Priority should not be left unattended until made safe or, a temporary or permanent repair has been carried out.

When a Priority 1 defect is identified within a larger group / area of defects, only that particular element shall be treated as a Priority 1 defect. The remaining defects shall be categorised accordingly.

### Priority 2: Repair within 5 Working Days.

This allows a more proactive approach to be adopted for those defects that represent a high risk to road users or because there is a risk of short-term structural deterioration. Such defects may have safety implications, although of a lesser significance than Priority 1 defects, but are more likely to have serviceability or sustainability implications.

### Priority 3: Action within 60 Working Days.

Defects that require attention although they represent a medium risk to road users. This allows defects of this nature to be included in medium term programmes of work.

### Priority 4: Consider for Planned Works Programme

The defect is considered to be of low risk; no immediate response is required. Defects in Priority 4 are not classed as safety defects and are collected to assist the development and prioritisation of Planned Maintenance Works Programmes.

### NR: NO Action Required

The defect is considered to be of negligible risk, no intervention is required and monitoring will continue as per the inspection regime.

## Meeting Target Response Times

It may not be possible, particularly at certain times of year, to meet target response times, due to pressure on resources. This could, but not exclusively, be due to the high number of defects that can arise in a short period of time after periods of adverse weather, such as prolonged spells of heavy rain or snow, or freeze / thaw conditions. Prolonged periods of adverse weather may also prevent remedial measures being carried out.

The appropriate response time commences from the time that the defect was identified and categorised by an Inspector.

## Performance Monitoring

Monitoring of safety inspection performance is undertaken at two levels:

Weekly reports on the number of inspections are reviewed by the Team Manager - Engineering and compared with the expected number of inspections to be undertaken in line with the programme.

Monthly reports on inspections undertaken, number undertaken on time, defects raised, jobs completed and times for job completion are produced and reviewed by the Roads Engineering Team on a monthly basis. A specific performance indicator for the percentage of priority 1 jobs completed within 24 hours is reported monthly. The performance information is used to identify issues and drive continual improvement within the service.

Each Inspector shall have a sample of inspections re-inspected to ensure consistency and quality of the Safety Inspection regime is maintained. These re-inspections shall be carried out within 24 hours of the original inspection and will cover various sections of the hierarchy over the year. The results will be reviewed by the Team Manager - Engineering and additional training if required will be identified.

## Inspector Competency

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For the purpose of this document, the term 'Inspector' is defined as 'a person who the road authority has assessed and certified as competent to identify and undertake a risk assessment of a road asset defect and if required, determine the risk treatment'. Therefore, within this document, 'inspector' is not utilised exclusively for a person who mainly completes the routine road asset safety inspections, but can include technicians, engineers or other staff within the authority who have been assessed by the authority to achieve the authority's required level of competency.

## Training

Road Authorities must ensure that all Road Asset Safety Inspectors are competent in carrying out safety defect inspections.

As a minimum, Inspectors within East Lothian Council will undergo the SCOTS Risk-based Approach to Safety Defect Inspections training and be required to achieve a pass grade on the course assessment to demonstrate competency in assessing risk. Training will be delivered by senior staff (Team Manager) trained utilising the SCOTS training toolkit. The person delivering the training will be required to have been trained and assessed as competent, through SCOTS.

In addition, inspection staff whose day-to-day activities involve identifying defects and assessing risk will undergo additional training to the equivalent to the Scottish Credit and Qualifications Framework Level 6 National Highway Safety Inspectors Training and Certification Scheme, operated by the Institute of Highway Engineers where reasonably practicable. New inspectors joining the organisation without this level of training will be given in-house training provided by the safety inspection team (and

assessed by the Engineer/Senior Engineer) to achieve consistency in the identification of safety defects and the prioritisation of defect repairs in accordance with the guidance set out in this policy.

## **Training Plans**

Courts accept that there may be circumstances where an inspector is new to the role and will have to build up their experience, training and competency. In such cases, or where an existing inspector does not meet the required standard, the Team Manager - Engineering shall work with the inspector to develop, document and implement a Training Plan to assist them to meet the necessary level of competency.

The Training Plan is evidence that the road authority is supporting the inspector, assisting them to achieve the level of competency required and ensuring consistency across the authority's inspectors.

Review of inspector training plans will be conducted at regular intervals as part of the Performance Review and Development (PRD) to ensure the plan is progressing as anticipated, to sign off key areas completed and to amend the plan, if required.

Records of the reviews and any actions shall be maintained and held against the inspector's "Training and Competency" record.

## **Training and Competency Records**

Inspector training and competency records will be maintained and reviewed annually for completeness and to identify when inspector re-assessment is due to ensure that they continue to meet the road authority's minimum competency requirements.

## **Other Inspections**

### **Reactive Safety Inspections – Externally Reported Defects**

Road authorities receive reports of defects from a number of different sources, such as the Police, Emergency Services, general public, public utilities and other agencies; these Service Request reports are managed as follows:

Service requests or reports of defects will be inspected at the earliest opportunity, within a maximum period 5 working days of receipt and any identified defects. The risk assessment methodology outlined in the "Defect Identification and Risk Assessment Process" section of this document will also be adopted for reactive safety inspections. Any individual safety-related defect identified and inspected outside a planned or ad-hoc cyclic safety inspection must be recorded

## Road Condition Inspections

Undertaken to assess the general condition of the individual carriageway and footways and the need for planned structural maintenance which can be programmed accordingly.

Visual condition surveys (Needs Assessment) for identified carriageways and footways are undertaken on a yearly basis, the Officer will rate a series of predetermined question (Appendix B) and the results recorded in the council's WDM asset management system. Others factors including the number of recorded potholes, recorded complaints and the Road Condition Index are added to a predetermined formula which then provides the overall needs assessment rating.

The Road Condition Index figure is applicable to the carriageway only and is obtained through the national Scottish Road Maintenance Condition Survey (SRMCS). These surveys are undertaken are carried out by a specialist contractor using vehicles accredited annually by TRL (Transport Research Laboratory). TRL also undertakes quality assurance checks throughout the year, the vehicles are equipped with lasers and high resolution cameras, to collect data for processing by computer and currently record:-

- a) The road geometry (gradient and shape)
- b) Variations in the longitudinal profile (evenness of ride along the road)
- c) Transverse profile variance (deformation across the road)
- d) Wheel track rutting / deformation in the wheel path
- e) The presence of cracking within the carriageway
- f) Texture (roughness of the surface of the road)
- g) The extent of edge deterioration (due to over-riding or lack of lateral support)

The UK standard Road Condition Index (RCI) categorises each ten metre section of road to Green, Amber or Red depending on the overall defect score.

Visual condition surveys for footways will be programmed and undertaken with the aim of achieving full network coverage approximately every five years. However, this will be dependent on resources.

## Safety Inspection of Roads Trees

Any defective trees, hedges or shrubs or feature likely to cause an obvious danger by encroachment, visibility obstruction, damage, ill health or trip hazard is recorded and the appropriate action taken. Under Section 83, or 91, of the Roads (Scotland) Act 1984, East Lothian Council deals, by consultation with the owners and if required a Notice, with hedges, trees and shrubs growing on adjacent land which overhang the road.

East Lothian Council carries out additional tree inspections with qualified arboriculturalists.

All Safety Inspectors receive some basic arboricultural guidance but a qualified arboricultural advisor carries out an inspection when specialist knowledge is required. Their advice is also sought before any work is carried out on tree roots causing a problem to a footway surface. Qualified tree surgeons will be used when conducting tree maintenance work for East Lothian Council.

## APPENDIX A – ASSESSMENT OF RISK

This document provides an assessment of risk to East Lothian Council associated with key aspects of where it deviates from SCOTS guidance or previous council practice.

### FOOTWAY INSPECTIONS

#### Description of risk

The inspection frequency is not aligned with the SCOTS recommendations for Link, Local Access and Minor footways.

#### Assessment

SCOTS recommends scheduled inspections of footpaths defined as link or local access as shown in Table 1.

Footpath hierarchy	SCOTS recommendation	ELC Inspection Frequency
Town Centre	1 month	1 month
Primary	1 month	1 month
Secondary	3 months	3 months
Link	6 months	Yearly
Local access	1 Year	Biennial
Minor	1 Year	Biennial

**Table 1 – Footpath inspection frequency**

The recommendations recognise that the risk to road users is dependent on the footfall on different categories of footway. Therefore, the busiest footpaths are inspected most often.

The designation of Prestige, Primary and Secondary routes considers the location of facilities such as schools, community centres, health centres and care homes. The currently policy for Road Inspections states that all footways / footpaths maintained by East Lothian Council as Roads Authority are walked on a biennial basis. Taking in to consideration the recommended increase in frequency for inspection of Prestige, Primary and Secondary footways a considerable resource will be required to meet this requirement, which can be met within the existing establishment set-up. However, in doing so, the

current resource will not be able to meet the footway inspection frequency as recommended by SCOTS for Link, Local Access and Minor footways. Minor footways inspection frequency will deviate from the recommended, with Link footway's inspected on a yearly basis and Local and Minor inspected on a biennial basis. However, this will be the footpaths with the least footfall and therefore, the least exposure to risk for pedestrians if a defect is present.

Current resources for safety inspection amount to 3.0FTEs and one vehicle. It is estimated that to provide the coverage of the entire footway network in line with the code of practice guidance would require an additional 1.0FTEs. This is estimated to cost an additional £40,000 per annum.

The undertaking of inspections on link, local and minor footways in line with the SCOTS recommendations would be expected to reduce the claims experience to some degree. However, the cost of providing a full proactive inspection regime would be considerably greater than the estimated reduction in claims cost associated with providing the service.

The footway condition survey programme will recommence in 2020 with a target of re-inspecting every footway within a rolling 5 year period. The introduction programme of condition surveys will strengthen the Council's case in successfully defending claims.

### **Mitigating Factors**

The council undertook a comprehensive footway condition survey in 2013/14, in line with the Society of Chief Officers of Transportation in Scotland (SCOTS) guidance. The overall condition is considered good with only 3.0% of the footway network with major deterioration. The surveys also identified that only 23% of the footpath network had minor deterioration meaning that 74% of the network was in satisfactory condition. The current annual capital investment (18/19) level is expected to see the overall level of major deterioration gradually reduced to 0%.

Finally, the council aims to respond to reports of defects within 5 working days. This goes some way to reduce the risk of danger to pedestrians and thereby the claims experience.

### **Conclusions**

The cost of introducing scheduled inspections in line with the SCOTS guidance is estimated to be an additional £40,000 per annum and whilst it is estimated that this would reduce the number of annual claims in the Link, Local and Minor footways, however, the cost of providing a full proactive inspection regime would be considerably greater than the estimated reduction in claims cost associated with providing the service.

Inspection frequency will be increased for Prestige, Primary, Secondary and Link which is expected to result in a reduction in the claims experience. The current level of inspection frequency will be maintained for Local and Minor footways and footpaths.

Existing footpath condition is considered to be satisfactory and the ongoing programme of capital improvements is expected to maintain this condition.

The evidence suggests that the cost of introducing inspections in line with the SCOTS guidance would not be justified by the expected reduction in claims experience at the present time but this position should be reviewed in line with future reviews of the inspection manual.

# CYCLE ROUTE INSPECTIONS

## Description of Risk

The council procedures will not include scheduled inspections of cycle routes separately from inspections of carriageways or footways. This differs from the CoP and the SCOTS guidance which recommends inspections either 6 monthly or annually.

## Assessment

Currently, we do not have a defined cycle route network within our asset inventory. However, there are signed cycle routes i.e. Sustrans National Cycle Network and John Muir Way cycle route. There are significant challenges in identifying routes that have been properly designated as for cyclists as opposed to routes which are footpaths but used by cyclists. We currently undertake inspection as if cycle routes are either a carriageway (where the cycle lane is on a carriageway) or a footpath (where the cycle track is not on a carriageway). This means that if the footpath is designated as a primary or secondary walking route it will be inspected monthly or quarterly respectively.

However, active travel is being promoted both nationally and locally and it is expected that cycling rates will increase in the coming years. Work will therefore be required to identify a designated cycle network within our asset management system and give further consideration to the inspection regime in due course.

## Conclusion

The council's current roads asset management system (WDM) does not contain an identified cycle route network. Cycle routes will therefore be inspected as per carriageways and footways. However, in the longer term a cycle route network will be added to our asset management inventory.

# APPENDIX B – NEEDS ASSESSMENT

## CARRIAGEWAY NEEDS ASSESSMENT

Route number ..... Road hierarchy .....

Road name ..... Assessor .....

Town ..... Date of assessment .....

Attach a scale plan highlighting area assessed or detail extent below:-

.....

To complete the following table please refer to the Needs Assessment for Carriageways Guidance

ITEM	CATEGORY	RATING	REMARKS
1	Drainage Condition		
2	Depressions in Carriageway		
3	Surface Deterioration		
4	Overall Carriageway Condition		
	<b>STAGE 1 TOTAL</b>		

Is carriageway scheme linked with adjacent footway works? YES/NO

Are there drainage issues to be resolved at this location? YES/NO

Recommendation for maintenance treatment of the carriageway assessed?

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Overbanding         | <input type="checkbox"/> Patching               | <input type="checkbox"/> Carriageway resurfacing    |
| <input type="checkbox"/> Carriageway overlay | <input type="checkbox"/> Carriageway recycling  | <input type="checkbox"/> Carriageway reconstruction |
| <input type="checkbox"/> Surface dressing    | <input type="checkbox"/> Slurry/micro surfacing | <input type="checkbox"/> None                       |

Approx area of works:- .....

Are there any defects needing immediate attention:- .....

Any other relevant comments/information:- .....

.....

.....

**FOOTWAY NEEDS ASSESSMENT**

Location ..... Assessor .....

..... Assessment date .....

Town ..... Footway category .....

Detailed Description of Extent Assessed (attach GIS Scale Plan):-

.....

Description of existing footway:-

.....

Footway Length:- ..... Average Width:- .....

Recommended treatment :-

- Patching
- Footway resurfacing
- Footway reconstruction
- Slab repairs
- Footway retread
- Replace grano with bituminous
- Grano repairs
- Slurry surfacing
- Replace slabs with bituminous
- Other .....

Is footway scheme linked with carriageway work? Yes/No

Are there any defects that require attention:- .....

**Footway Hierarchy**

Category	Description	Factor
Prestige Walking Zones	Very busy areas of town centres with high public space and Streetscene contribution	2.0
Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes	2.0
Secondary Walking Routes	Medium usage routes through local areas feeding primary routes, local shopping areas	1.8
Link Footways	Linking local access footways through urban areas and busy rural footways	1.6
Local Access Footways	Footways associated with low usage, short estate roads to main routes and cul-de-sacs	1.4
Minor Footways	Little used rural footways serving very limited numbers of properties	1.2

## Footway Condition

Defect	Definition	Recorded as	Score	Notes
As New	Brand new footway, Recently reconstructed	Percentage defective: 0%		
Aesthetically Impaired	Sound footways with patching Modular footways with sound bituminous patches  Modular footways with elements of different colour/age/material, Faded bituminous material	Percentage defective: 0-25%=1 25-50%=2 50-75%=3 75-100%=4		
Functionally Impaired	Cracked but level flags/blocks, Missing filler, Minor surface deterioration/fretting/fatting, Including the appearance of moss. Minor cracking, minor scaling and moderate local settlement/subsidence from 10mm to 30mm	Percentage defective: 0-25%=5 25-50%=6 50-75%=7 75-100%=8		
Structurally Unsound	Cracked and or depressed flags or blocks exceeding 13mm. Depressed or missing blocks. Major fretting and potholing. Major cracking, Major scaling, Poor shape, severe local settlement / subsidence creating a difference in level greater than 30mm. Trips exceeding 13mm	Percentage defective: 0-25%=10 25-50%=12 50-75%=14 75-100%=16		

**Total Score** (Footway Condition Score x Footway Hierarchy Factor)

