



Road Asset Inspections: A Risk Based Approach

Road Asset Safety Inspections - Strategy

Document Information

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1. Introduction

1.1. Overview

- 1.1.1. This Road Safety Inspection Strategy 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.
- 1.1.2. This strategy is based on the SCOTS Risk Based Approach (RBA) guidance and compiled using their Road Safety Inspection Strategy template.
- 1.1.3. ‘Well-Managed Highway Infrastructure: A Code of Practice’¹ (WMHI) has specific recommendations regarding inspections of all road elements. This Strategy document specifically relates to the procedure for carrying out road safety inspections. Recommendation 7 of the WMHI is that Road Authorities should adopt a Risk Based Approach to all aspects of road maintenance.
- 1.1.4. 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’².
- 1.1.5. 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.”

- 1.1.6. The template for the Road Safety Inspection Strategy, which this document is based on, has been developed in partnership with the roads authorities associated through SCOTS to focus on safety inspections and categorisations, and is available for all Scottish roads authorities to consider adopting for their network.

¹ ‘Well-Managed Highway Infrastructure: A Code of Practice’, UKRLG, October 2016

² ‘Well Managed Highway Liability Risk’, IHE, March 2017

- 1.1.7. 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'.
- 1.1.8. Adoption of this strategy 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.

1.2. **Legislative Requirements**

- 1.2.1. The Roads (Scotland) Act 1984 Section 1, states that "...a local roads authority shall manage and maintain all such roads in their area as are for the time being entered in a list (in this Act referred to as their "List of Public Roads") prepared and kept by them under this section."

1.3. **Assets Considered by this Strategy**

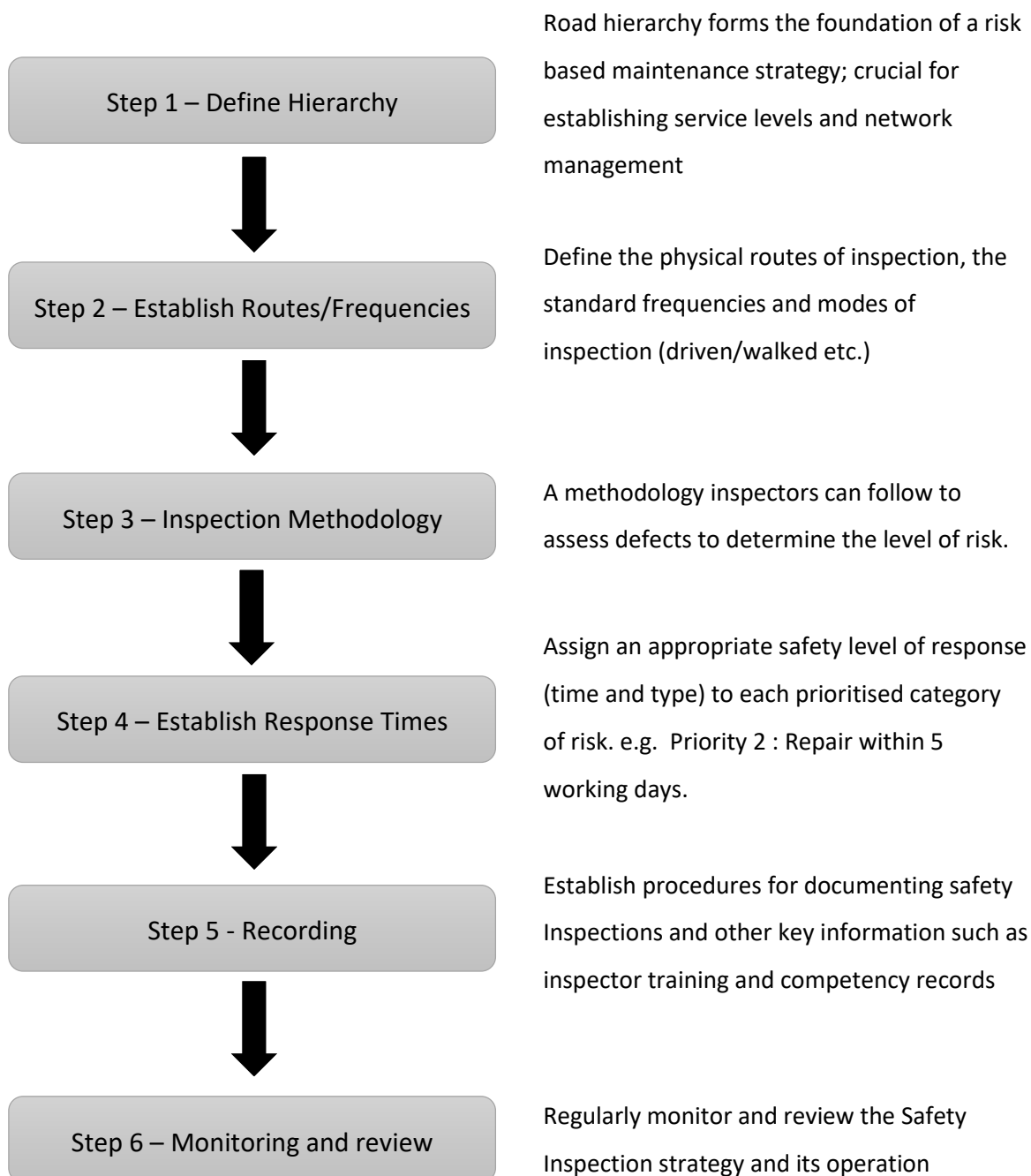
- 1.3.1. This Inspection Strategy covers all assets which are adopted by the Roads Authority, meaning that they are included on the 'List of Public Roads'. These assets include adopted carriageways, footways (adjacent to carriageways), remote footpaths and cycle tracks which are on the List of Public Roads.
- 1.3.2. The Inspection Strategy does not cover assets which are the responsibility of other Council departments such as un-adopted sections of carriageways, footpaths, parking areas in for example, housing estates, industrial estates, parks, etc. These will remain the responsibility of the appropriate Council department.
- 1.3.3. The Inspection Strategy also does not cover roads and footpaths which are listed within the List of Private (Unadopted) Roads, or any other Private Roads.

1.4. **This Document**

- 1.4.1. This Road Safety Inspection Strategy contains guidance to assist Moray Council in managing safety inspections on public roads on the roads authority network including the nature and priority of response to defects encountered.
- 1.4.2. SCOTS formed a focus group to develop this Risk Based Approach documentation. The rationale for producing it and the approach taken to key content is contained in the following document held within the SCOTS Road Asset Management Knowledge Hub (Khub): 'SCOTS Rationale for Risk Based Approach to RAM Guidance.doc'
- 1.4.3. The training, competency and experience of all persons involved in developing the SCOTS risk based approach guidance documentation is also detailed in the rationale document.

2. Inspection Strategy Overview

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



3. Hierarchy

3.1. Introduction

- 3.1.1. “Well-Managed Highways Infrastructure – Code of Practice” (WMHI) indicates that a network hierarchy is the foundation of a risk based maintenance strategy; crucial for establishing service levels and network management.
- 3.1.2. The carriageway hierarchies contained within the WMHI, replicated in Table 3a below, are adopted as described, though only categories 1 to 5 are used at present.
- 3.1.3. The footway hierarchies contained within the WMHI, replicated in Table 3b below, are adopted as the hierarchies for footways, footpaths and cycle Tracks, though only categories 1 to 5 are used at present.
- 3.1.4. The WMHI Cycle Route hierarchies are not used.

3.2. Carriageways

3.2.1. Table 3a below provides descriptions for carriageway categories based on those in 'Well-Managed Highway Infrastructure: A Code of Practice'.

Table 3a - 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. <i>(not used by Moray Council)</i>

3.3. Footways, Footpaths and Cycle Tracks

3.3.1. Table 3b below is based on the recommendations of WMHI and is used when allocating a footway, footpath or cycle track to a particular category.

3.3.2. The following should also be taken into consideration:

- Pedestrian / cyclist volume,
- designation as a traffic sensitive 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 3b - Footway, Footpath and Cycle Track Hierarchy

Category	Category Name	Description
1	Prestige Walking / Cycling Zones	Very busy areas of town centres with high public space and Streetscene contribution.
2	Primary Walking / Cycling Routes	Busy urban shopping and business areas and main pedestrian routes, including links to significant public transport locations.
3	Secondary Walking / Cycling Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
4	Link Footways / Footpaths / Cycle Tracks	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. <i>(not used by Moray Council)</i>

3.4. Road Network Assessment

- 3.4.1. It is important that the road network categorisation reflects the needs, priorities and actual use of the network and infrastructure assets.
- 3.4.2. Moray Council has had a hierarchy for carriageway and footways for a number years, with the implementation of the this document, a review these hierarchies was undertaken at a series of workshops held during June and July 2018 which were attended by those in Table 3c below
- 3.4.3. The adopted network was assessed by a team including Engineers from the Works Planning, Operations and Asset teams, with additional input from other Officers.
- 3.4.4. The following considerations were used to determine hierarchy:-
- Primary destinations
 - Community links – road, foot and cycle paths
 - Traffic volumes and speeds
 - Urban links
 - Shopping areas
 - Community Facilities – medical centres, hospitals, schools etc
 - Industrial estates and other HGV traffic generators
 - Transportation hubs – train / bus stations etc
- 3.4.5. Cross-boundary hierarchies were shared with our neighbouring authorities (Aberdeenshire and Highland Councils) with the aim of achieving consistency. Any differences between our and our neighbouring authority’s hierarchies were reviewed before finalising our hierarchy.
- 3.4.6. The following personnel were involved in establishing/reviewing the road network categories:

Table 3c - List of Personal Involved in Hierarchy Review Process

Job Title	Experience
Works Planning Engineer	36 years experience in road maintenance
Operations Engineer	35 years experience in road design and maintenance
Network Asset Engineer	28 years experience in road maintenance
Asset Co-ordinator	14 years experience in road maintenance

- 3.4.7. The above personnel have all participated in the SCOTS Road Asset Management Project, and attended various Asset Management Workshops.

3.5. Review of Road Network Categories

- 3.5.1. 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.

3.6. Review Frequency

- 3.6.1. Hierarchies will be reviewed following any major developments affecting the network, such as a new housing development, decommissioning of a site or change to functionality of a location.
- 3.6.2. New additions to the List of Public Roads will be allocated hierarchies at the time of adoption. Any impact on the hierarchies of the existing network should also be considered at that time.
- 3.6.3. A detailed review of hierarchies will be carried out every three years, to ensure consistency and keep up with any amendments in WMHI or council policies

3.7. Continuity of safety and serviceability with neighbouring Highway Authorities

- 3.7.1. The adoption of the WMHI 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.

4. Inspection Frequencies

4.1. Moray Council is adopting the WMHI frequencies for safety inspections as follows:

Table 4a - 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

Table 4b - Frequency of Inspection – Footways, Footpaths and Cycle Tracks

Category	Category Name	Frequency
1	Prestige Walking / Cycling Zones	Monthly
2	Primary Walking / Cycling Routes	Monthly
3	Secondary Walking / Cycling Routes	Quarterly
4	Link Footways / Footpaths / Cycle Tracks	Six Monthly
5	Local Access Footways / Footpaths / Cycle Tracks	Annually

5. Safety Inspection Routes

5.1. Introduction

- 5.1.1. Moray Council has 28no established Inspection Areas, the majority of these areas contain a mixture of rural and urban roads with 9 areas based specifically in the larger settlements.
- 5.1.2. Our inspection software utilises the National Street Gazetteer as its base network, with each ESU (Elementary Street Unit) allocated a carriageway and footway/cycle track hierarchy.
- 5.1.3. The required frequency of inspection for each ESU is calculated for both carriageway and footway/cycle track, and the most frequent time period is used as the overall frequency required for that ESU.

Table 5a – Frequency Example

Road Type	Hierarchy	Required Frequency of Inspection
Carriageway	4	Quarterly
Footway	2	Monthly
Overall Frequency		Monthly

- 5.1.4. Inspection routes were then built for each inspection area, and for each calendar month. Each individual inspection route will contain ESU's with varying frequencies. For example, the 'W01 – April' route will contain all ESU's that require an inspection in April, regardless of whether that ESU requires a monthly, quarterly, 6 monthly or annual inspection frequency.
- 5.1.5. Checks are in place via daily system reports which identify any ESU's which appear in either too many or too few inspection routes for their allocated hierarchy.
- 5.1.6. Inspections in urban areas (speed limit of 40mph or less) will be walked.
- 5.1.7. Inspection in rural areas (speed limit over 40mph) will be driven in a slow moving conspicuous vehicle, at an appropriate speed to allow any defects to be identified. These inspections will be single manned, with the Inspector pulling over to a safe location when recording defects.
- 5.1.8. Inspections of remote cycle tracks will either be walked or cycled.

Table 5b – Mode of Inspection

Road Type	Mode of Inspection
Urban Areas (speed limit of 40mph or less)	Walked
Rural Areas (speed limit over 40mph)	Driven
Remote Cycle Tracks	Walked or Cycled

5.2. **Inspection Tolerances**

- 5.2.1. For efficiency, to prevent multiple trips around the inspection areas to carry out inspections on defined road hierarchies, the inspection routes are designed to incorporate all inspections required in an area in any given month.
- 5.2.2. Moray Council have adopted this inspection strategy for several years and are satisfied that this system works successfully in operation.
- 5.2.3. This strategy provides no tolerance for inspections with all inspections expected to be completed during the target month. This approach allows the Inspector flexibility to manage their inspections to accommodate holidays etc.

5.3. **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 of the affected section should be abandoned and an entry should be made to document the circumstances (e.g. a defect stating “Road Flooded”).
- If an inspection Due Date falls during an extended period of absence e.g. inspector holiday or illness, and the Inspector will be unable to complete it within its target month, then the inspection should be allocated to another suitably experienced member of staff who has the capacity to undertake the inspection.
- If and for reasons beyond the control of the roads authority (e.g. substantial/prolonged snow fall), any inspection cannot be carried out within the specified month the roads authority will as soon as reasonably practicable carry out a deferred safety inspection.
- Where substantial unavoidable delays are incurred to other inspection frequencies the manager may assess the impact and adjust the programme, and a record must be kept of change decisions and reasons for them.

6. Inspection Methodology

6.1. Safety Inspections

6.1.1. Road Safety Inspections are designed to identify defects likely to cause a hazard or serious inconvenience to users of the network or the wider community. Such defects include those that require urgent attention as well as those where the locations and sizes are such that longer periods of response are appropriate.

6.2. Planned Cyclic Safety Inspections

6.2.1. 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.

6.2.2. 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.

6.2.3. 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.

6.2.4. 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.

6.3. Items for Inspection

6.3.1. 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 Traffic Regulation Orders
- Missing or significantly damaged covers

Footways, Footpaths and Cycle Tracks

- 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

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

7. Inspection Risk Management Process

7.1. Introduction

- 7.1.1. 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 the WMHI recommendation that roads authorities adopt a system of defect risk assessment for determining the response categories. However, it represents a step change in the way that defects are assessed. Taking a risk based approach, as per WMHI, 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 in road condition.
- 7.1.2. 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.

7.2. Step 1: Establishing Context

- 7.2.1. 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.).

7.3. Step 2: Risk Assessment

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

Step 2a: Hazard Identification

- 7.3.2. 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 Operations Manual.

Step 2b: Risk Analysis

- 7.3.3. 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.
- 7.3.4. 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.

1. Assess Risk Likelihood

- 7.3.5. 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.
- 7.3.6. The likelihood of encountering a hazard, within the established context, will be quantified on a scale of Remote to Almost Certain as follows:

Table 7a - Risk Likelihood

Likelihood / Probability	Likelihood Description		
Almost Certain	Will undoubtedly happen	Over 90%	Daily
Likely	Will probably happen, but not a persistent issue	Up to 90%	Weekly
Possible	May happen occasionally	Up to 65%	Monthly
Unlikely	Not expected to happen, but it is possible	Up to 20%	Annually
Remote	Improbable	Less than 5%	100 years

2. Risk Consequence

7.3.7. 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 7b - Consequence (Impact/Severity) Score

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

Step 2c: Risk Evaluation

7.3.8. The risk factor for a particular risk is the product of the risk likelihood and risk consequence (impact/severity). It is this factor that identifies the overall seriousness of the risk and 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 7c:

Table 7c - Risk Matrix

Consequence	Negligible	Minor	Moderate	Major	Catastrophic
Likelihood					
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

7.4. Risk Management Response

7.4.1. Having identified a particular risk, assessed the likelihood of it occurring and the 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 7d.

Table 7d - 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

7.5. Intersections and Multiple Road Users Types

7.5.1. 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 7c).

7.6. Utility Company Defects

7.6.1. Defects identified may be due to the activities of the utility companies, which are governed and managed by the requirements of NRSWA³. However, the road authority still retains the duty of care responsibility for road users.

7.6.2. Such defects will be recorded by the Road Safety Inspectors and then reported to the relevant utility company.

7.6.3. In the case of urgent attention being required, the inspector will remain on site until the defect is made safe (e.g. coning, guarding and signing).

7.6.4. If the utility company are unable to attend and make the defect safe within a reasonable timescale, the inspector should arrange the councils own resources to make safe, with the cost of this being recovered from the utility company where appropriate.

7.7. Inspection Records

7.7.1. All routine Road Safety Inspection shall be carried using the VICII module of the WDM Asset Management System.

7.7.2. The inspection software runs on a Tablet PC which records all defects found during the inspection as well as recording the inspectors name and weather/road conditions and GPS location during the inspection. The software also allows the inspector to take photos of the defect, enter estimated repair costs and instruct the repair if required.

³ New Roads and Street Works Act 1991

8. Priority Response Times

8.1. Introduction

- 8.1.1. The SCOTS Recommended Safety Response Times (SRSRT) have been set at a realistic level and authorities have been strongly encouraged to adopt them for consistency reasons across Scotland. This is the minimum required response time.
- 8.1.2. The Moray Council Service Level response time (MCSLRT), is a targeted response time set by the Council and will be used by the service when carrying out repairs.
- 8.1.3. The difference between the MCSLRT and the SRSRT are the response times for P1 and P3. The Council felt that the SRSRT allowed for too much time to respond to these type of defects and they were significant different to historical response time of 2hrs and 28 calendar days. Therefore a the MCSLRT are a compromise between the historical response times and the SRSRT

8.2. Priority Response Times

- 8.2.1. The Priority Response Times for each Defect Category are shown in Table 8a below.

Table 8a - Defect Priority and Response Times

Defect Priority	P1	P2	P3	P4	NR
SCOTS Recommended Safety Response Time	24 Hours	5 Working Days	60 Working Days	Programmed work	No Action required
Moray Council Service Level Response Time	4 Hours	5 Working Days	30 Working Days	Programmed work	No Action required

8.3. Defect Priorities Description

Table 8b – Defect Priority Descriptions

Priority	Description
Priority 1	<p>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.</p> <p>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 individually.</p>
Priority 2	<p>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.</p>
Priority 3	<p>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.</p>
Priority 4	<p>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.</p>
NR: No Action Required	<p>The defect is considered to be of negligible risk, no intervention is required and monitoring will continue as per the inspection regime</p>

8.4. Meeting Target Response Times

8.4.1. 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. In the event of delays in responding to defects due to adverse conditions, any backlog will be prioritized based on the Defect Priority.

8.4.2. The appropriate response time commences from the time that the defect was identified and categorised. For a programmed inspection this will be from the time that the defect was inspected.

8.5. Performance Monitoring

8.5.1. The Council currently has the following performance indicators that relate to inspections

- ENVDR135 - ‘% inspections completed as scheduled’ – the current target 95%
- ENVDR136 - ‘% of works completed within timescale’ – the target varies for each response time

9. Inspector Competency

9.1. Introduction

9.1.1. For the purpose of this document, the term 'Inspector' is defined as 'a person who the road authority has assessed and certified as being 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.

9.2. Training

- 9.2.1. Road Authorities must ensure that all Inspectors are competent in carrying out safety defect inspections.
- 9.2.2. Inspectors within the 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 an approved SCOTS trainer utilising the SCOTS training toolkit. The person delivering the training will be required to have been trained and assessed as competent by successfully completing the 'SCOTS Train the Trainer' course.
- 9.2.3. The Inspectors will be required to successfully complete an IHE Accredited Road Inspector Training Course, and will be added to the IHE Register for Highway Inspectors.
- 9.2.4. Annual Standardisation meetings will be held with the Inspectors to review, discuss and agree defect responses

9.3. Training Plans

- 9.3.1. 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 Roads Maintenance Manager shall work with the inspector to develop, document and implement a Training Plan to assist them to meet the necessary level of competency.
- 9.3.2. 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.

- 9.3.3. Review of inspector training plans will be conducted at regular intervals to ensure the plan is progressing as anticipated, to sign off key areas completed and to amend the plan, if required.
- 9.3.4. Records of the reviews and any actions shall be maintained and held against the inspector's "Training and Competency" record.

9.4. **Training and Competency Records**

- 9.4.1. Inspector training and competency records will be maintained and reviewed during the Inspectors ERDP 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.
- 9.4.2. The training and competency records are held in the Inspectors Personal Training File

10. Other Inspections

10.1. Service Request Inspections – Externally Reported Defects

10.1.1. 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:

- Enquiries are received by the Councils Call Centre (via web form, email or telephone), details of these are recorded into the Council corporate electronic customer management centre (Lagan). Any enquires not coming via this route (white mail, social media, etc) will be picked up and entered directly to the WDM Asset Management System.
- Enquires are automatically assigned to the correct officer based on either Geographic Areas, or a specific named person based on the nature of the call
- If the enquiry is deemed an emergency by the Contact Centre, they will call the Roads Admin team immediately in order to bring the enquiry to the attention of a Supervisor / Technician / Inspector as soon as possible

10.2. Road Condition Inspections (or Structural Condition Surveys)

10.2.1. Undertaken to consider the general condition of the individual roads and footways and the need for planned structural maintenance which can be programmed accordingly. Inspections for the carriageway asset are presently undertaken through the national Scottish Road Maintenance Condition Survey (SRMCS). Visual condition surveys of assets may also be undertaken.

10.3. Utility Company Apparatus

10.3.1. Any defective apparatus encountered during an Inspection (either during a Planned Safety or as a result of a Service Request) will be recorded in the WDM Asset Management System and passed to the relevant utility via the Scottish Road Works Register (SRWR) system.

10.3.2. The process for dealing with defective apparatus is specified in the New Roads and Street Works Act 1991: Code of Practice for Inspections (Chapter 3) produced by RAUC(S) and The Office of The Scottish Road Works Commissioner.

10.3.3. As per this Code of Practice, if the Inspector deems the defect apparatus to be a Category 1, the inspector will remain on site until the defect is made safe (e.g. coning, guarding and signing).

10.3.4. If the utility company are unable to attend and make the defect safe within a reasonable timescale the inspector should arrange the Councils own resources to make safe, with the cost of this being recovered from the owning utility where appropriate.

10.4. **Service Inspections**

10.4.1. These are detailed inspections to ensure that particular road assets meet serviceability requirements. An example would be a General Inspection of a road bridge. Such inspections are not covered in this document.

10.5. **Traffic Signal Inspections**

10.5.1. During a planned cyclic safety inspection of a road, any Council owned permanent traffic signals will be inspected at the same time.

10.5.2. This inspection will entail checking the operation of the signal heads, as well as checking the pedestrian buttons and associated visual, audible and tactile functionality