Buckinghamshire Council – Highway Safety Inspection Policy 2022 – Final– 4/8/22 ~~29/03/22~~
[date amended post-decision to reflect implementation date]

Introduction

This Policy describes Buckinghamshire Council's (BC) process for the carrying out of Highway Safety Inspections and for the prioritisation and repair of defects identified in such inspections. This Policy will come into force from 4 August 2022 ~~1 May 2022~~ [date amended post-decision to reflect implementation date] and applies to its Section 36 list of streets within its area that are maintainable at the public expense excluding Public Rights of Way. Certain metalled Rights of Way in urban areas are included as footways.

The establishment of an effective regime of inspection, assessment, recording and prioritisation of defect repairs is a crucial component of highway maintenance, providing a robust framework to address key objectives to maintain the highway in a safe and serviceable manner, as required by Section 41 of the Highways Act 1980, consistent with the overall Asset Management Strategy.

Highway Safety Inspections are designed to identify, record and prioritise the repair of defects which may present an immediate danger, or significant inconvenience to users of the highway (emergencies), or to the structural condition of the highway and assets contained within the highway boundary (category 1 defects).

In addition, they may be used to identify defects of a lesser magnitude which may be included within future programmes of planned maintenance work (category 2 defects) or to indicate that a more in-depth service inspection may be required.

Highway Safety Inspections are supplemented by other inspections and assessments undertaken in line with national standards and/or good practice, including but not limited to:

- Ad-hoc inspections undertaken in response to specific matters identified through correspondence
- Specialist inspections of certain assets within the highway boundary (for example street lighting and highway structures)
- Technical assessments of carriageway condition generally undertake using machine-based equipment (for example SCANNER or SCRIM surveys)
- Structural Maintenance Visual Assessments (CVI or DVI)
- Streetworks inspections

Inspection Regime

In line with national codes of good practice, the characteristics of the inspection regime, including frequency of inspection, items to be recorded and nature of response, are defined following an assessment of the relative risks associated with the potential formation of defects within the highway boundary.

The inspection regime must be applied and recorded systematically and consistently. As well as information relating to defects, all inspections must also therefore record:

- time of inspection and defect identification
- weather conditions
- any unusual circumstances of the inspection
- person(s) conducting and involved with the inspection.

From time to time BC is made aware of defects through customer contact. If a customer considers the defect to be dangerous or an emergency, they are prompted to phone in the defect directly to BC so that it can be assessed, and an appropriate response initiated. Otherwise, by submitting the report online or in writing, BC will deal with it in line with our policy timescales. BC endeavours to physically investigate all customer contacts, whether online or otherwise, within 10 working days (for non-emergency defects) as reasonably practicable given other pressures, except where the defect is already known about

An annual review will be carried out of the inspection, assessment, frequency and recording regime, to consider:

- completeness and effectiveness of data collected
- trends within defect formation
- success of repair programmes.

As a result of such reviews, proposals may be submitted, considered and implemented as appropriate to amend the inspection frequency or methodology should such alterations be deemed to be beneficial.

In extreme circumstances (such as extreme weather or circumstances outside the control of the Council) response times and inspection frequencies may be varied at short notice. Any variations will be approved by the Cabinet Member for Transportation.

Minimum Safety Inspection Frequencies

Minimum frequencies for safety inspections of individual network sections are based upon the Carriageway Maintenance Hierarchy adopted by the Council, which considers:

- road category
- traffic use, characteristics and trends
- characteristics of adjoining network elements
- wider policy or operational considerations.

Although the road category within the hierarchy, in combination with traffic use, will be the main determinant of inspection frequency, site specific factors may merit a decision to temporarily or permanently increase the frequency in a specific location (for example to mitigate the risk of unusually high defect levels or accident rates). Any such change to the inspection frequency of any route where it deviates from the determination within the Carriageway Maintenance Hierarchy will be recorded within the management system.

Inspection frequencies are based on recommendations contained within Well-managed Highway Infrastructure and BC's general and historic experience that they are at least sufficient for their respective hierarchy category. These frequencies take into account the asset, its position in the hierarchy and a comparison with similar authorities.

Inspections may be rescheduled within two weeks of their due date to account for exceptional circumstances such as staff sickness or extreme weather events, subject to approval by the Head of Highways. In addition, the Head of Highways may also authorise an extension of the annual inspection interval by up to three months to better synchronise inspections to create a more efficient and effective inspection regime. Any departure must be recorded in the system.

Inspections are driven except in circumstances where defects on footways or cycleways cannot be observed from a slow-moving vehicle, in which case inspections shall be carried out on foot from the safety of the footway. Inspections of certain minor roads, remote footways and cycle trails shall be walked or cycled.

Tables 1 to 3 detail the safety inspection frequencies which are to be adopted.

Carriageway Hierarchy Classification	Minimum Frequency of Safety Inspection	Hierarchy Category
1	Not currently used	Motorways & equivalent roads
2	Monthly	Strategic Road – most heavily trafficked A roads providing routes for long distance traffic
3A	Monthly	Main Distributor Road – other heavily trafficked A roads providing routes between Strategic Roads and linking urban centres
3B	Monthly	Secondary Distributor Road – lightly trafficked A roads, B roads, heavily trafficked C roads and traffic-sensitive bus routes linking the larger villages and HGV generators to Strategic and Main Distributor roads.
4A	Quarterly	Local Link Road – other C roads and non-traffic-sensitive bus routes linking smaller villages and industrial areas to distributor roads
4B	Annually	Local Access Road – providing local access to small settlements and urban estates.

Table 1 – Safety Inspection frequencies for carriageways

If a road falling within one hierarchy category has some particular feature, such as an unusually high volume of traffic, or the character of the road has changed (for example a new supermarket has opened) it can be upgraded (or downgraded) as reasonable.

A key principle employed in assigning the top 3 hierarchy categories was to develop continuous and contiguous routes of carriageways that had the same hierarchy category. Therefore, a route-based approach was taken in assigning hierarchy categories to ensure the functionality of the route and its component carriageways were properly reflected. Relevant local intelligence was reflected in finalising which road fell into each hierarchy category. Categorisation of roads remains subject to review at appropriate intervals.

Footway Hierarchy Classification	Minimum Frequency of Safety Inspection	Hierarchy Category
1	Monthly	Primary Walking Route
2	Quarterly	Secondary Walking Routes and Safer Routes to School
3	Annually	Linked Footway
4	Annually	Local Access Footway
5	Annually	Rural Footways
6	Annually	Low Use Remote Footways

Table 2 – Safety Inspection frequencies for footways

Cycleway Hierarchy Classification	Minimum Frequency of Safety Inspection	Hierarchy Category
1	As per carriageway frequency	Cycle lane – contiguous with the carriageway
2	Bi-annually	Cycle Track which are the responsibility of the highway authority to maintain - Dedicated Cycleway, a route for cyclists and pedestrian not adjacent to an existing carriageway or footway.
3	As per footway	Shared Cycleway/Footway - Either segregated by a white line/other feature or unsegregated
4	Annually	Cycle trails – leisure routes through open spaces which are the responsibility of the highway authority to maintain

Table 3 – Safety Inspection frequencies for cycleways

Safety Inspections

Safety inspections are carried out either from a slow-moving vehicle or in some cases, on foot. Clear guidance is provided to Inspectors setting out the circumstances in which an inspection can be safely carried out on foot. The inspector must record those instances when the inspection was carried out on foot.

Tables 1 to 3 define the minimum frequency at which inspections will be undertaken. Additional inspections may be planned in response to user or community concern, requirements for monitoring of structural concerns, as a result of incidents or in response to extreme weather conditions. Inspections from vehicles will generally be carried out using a 2-person team (Driver and Inspector) using a vehicle with high visibility markings. However, flexibility in the execution of a safety inspection is allowed in accordance with the approved Method Statement. The inspection vehicle will be equipped with tools and materials for attending and making safe any defect where it is practicable and safe to do so at the time of defect identification. Examples of materials and equipment which the inspectors may carry are as follows:

- Traffic management signs and cones
- Temporary pedestrian barrier
- Loppers for cutting back vegetation
- Small tools for repairs to sign brackets etc.
- Tape for securing lighting columns or posts
- Brush and shovel for removal of debris

It should be recognised that inspectors will only undertake immediate works where it is safe and practicable to do so and following the completion of a site-specific risk assessment. Clear guidance is provided to Inspectors setting out the circumstances in which a defect can be made safe without risk to the inspector.

Defects will be recorded at the time of identification and transferred to the Asset Management System on the same day as the inspection takes place.

Defect Categorisation

During safety inspections, all observed defects that provide a risk to users are recorded and the level of response determined on the basis of risk assessment.

This Policy defines defects in three categories:

- Emergency - those that represent an immediate or imminent hazard or risk short term structural deterioration and require prompt attention
- Category 1 - those that do not represent an immediate or imminent hazard but may have safety implications and are likely to require priority attention, or those that adversely impact the integrity of the highway asset
- Category 2 - all other defects above the minimum recording level that are sub-divided through an assessment of risk to determine an appropriate response.

Emergency defects will be corrected or made safe at the time of the inspection, if reasonably practicable. In this context, making safe may constitute displaying warning notices, coning-off or fencing-off to protect the public from the defect or other suitable action. If the inspection team cannot make safe the defect at the time of inspection, then they will instigate the relevant emergency call procedures to ensure appropriate resources are mobilised to make the defect safe. These procedures aim to ensure initial attendance to the defect within 2 hours of the defect being identified.

Category 1 defects may also be corrected or made safe at the time of the inspection, if reasonably practicable. If it is not possible to correct or make safe the defect at the time of inspection, then an appropriate repair will be carried out within 2 working days of the identification of the defect.

Category 2 defects are categorised according to priority: High (Cat 2H), Medium (Cat 2M) and Low (Cat 2L), with response times defined within Table 4.

Inspectors are trained in the appropriate classification of defects and training includes examples of defects which may be encountered on the network and potential categorisation. However, on-site assessment will always need to take account of particular circumstances.

The inspector will also take into account the likelihood of further deterioration before the next scheduled inspection, and where this is a considered a high probability, a higher defect classification may be determined. Response times are based on recommendations contained within Well-managed Highway Infrastructure and BC's general and historic experience that they are at least sufficient for their respective defect category.

Cat 2L	N/A	No temporary repair necessary. Record defects to contribute to developing future programmes of maintenance works
Cat 2M	28 Working Days	No temporary repair necessary. Attend and target permanent repair within 28 working days or schedule for future programme of maintenance works
Cat 2H	5 Working Days	Attend within 5 working days and permanently repair or make safe. If repair is temporary then the inspector may raise additional defect repair to be completed within 28 working days or longer as determined by risk assessment. If attendance within the timescale is not possible, then a temporary action will be undertaken such as coning off
Cat 1	2 Working Days	Attend within 2 working days and permanently repair or make safe. If repair is temporary then the inspector may raise additional defect repair to be completed within 28 working days or longer as determined by risk assessment. If attendance within the timescale is not possible, then a temporary action will be undertaken such as coning off
Emergency	2 Hours	Attend within 2 hours and permanently repair or make safe. If repair is temporary then the inspector may raise additional defect repair to be completed within 28 working days or longer as determined by risk assessment

Table 4 – Response requirements for defects.

Note: It is expected that defects are repaired permanently wherever possible. However, where defects are made safe through temporary repairs, then a system of monitoring is in place to ensure the make safe repair is maintained until such time as a full repair is completed. In most cases temporary repairs will be repaired permanently. On occasion the risk assessment may determine that the temporary repair is likely to remain until the next inspection takes place or there may be other reasons not to make a permanent repair (an imminent resurfacing scheme for example). The inspector should make this assessment and record this.

Defect Risk Assessment

The principles of a system of defect risk assessment for application to safety inspections are set out below. Any item with a defect level which corresponds to, or is in excess of, the Minimum Recording Level is to be assessed using the risk assessment matrix.

Risk Impact

The impact of a risk occurring is assessed as follows:

- minor or **low** impact
- noticeable or **medium** impact
- **high** or serious impact
- **very high** or severe impact.

The impact is quantified by assessing the extent of damage likely to be caused should the risk be realised. The main consideration of impact is the severity of the defect. However, other variables such as road speed and nature of traffic, may also affect the likely impact.

Risk Probability

The probability of a risk occurring is assessed as follows:

- **low** probability
- **medium** probability
- **high** probability
- **very high** probability.

The probability is quantified by assessing the likelihood of users, passing by or over the defect, encountering the risk. As the probability is likely to increase with increasing vehicular or pedestrian flow, the network hierarchy and defect location are important considerations in the assessment.

Risk Factor

The Risk Factor for a particular risk is Risk Factor = risk impact x risk probability.
It is this factor that identifies the overall seriousness of the risk and consequently the appropriateness of the speed of response to remedy the defect.

Risk Management

Having identified a particular risk, assessed its likely impact and probability and calculated the Risk Factor, the category and the timescale to rectify the defect is either defined as an Emergency response, Category 1 response or allocated to one of the Category 2 defect types (Low, Medium or High).

The risk matrix below, whilst not prescriptive, helps the Inspector to assign the appropriate classification of defects when considering impact/severity against probability. This matrix is again based upon similar matrices employed by other highway authorities and general good practice for risk assessment, see Table 5.

		Probability			
		Low (1)	Medium (2)	High (3)	Very High (4)
Impact/Severity	Minor	Cat 2L	Cat 2L	Cat 2L	Cat 2L
	Low (1)	Cat 2L (1)	Cat 2L (2)	Cat 2M (3)	Cat 2M (4)
	Medium (2)	Cat 2L (2)	Cat 2M (4)	Cat 2H (6)	Cat 2H (8)
	High (3)	Cat 2M (3	Cat 2H (6)	Cat 1 (9)	Cat 1 (12)
	Very High (4)	Cat 2M (4)	Cat 2H (8)	Cat 1 (12)	Emergency(16)
	Emergency	Emergency	Emergency	Emergency	Emergency

Table 5 – Risk Matrix for defect identification

Score of 1 to 2	Cat 2L
Score of 3 to 4	Cat 2M
Score of 6 to 8	Cat 2H
Score of 9 to 12	Cat 1
Score of over 12	Emergency

Table 6 – Scoring mechanism within risk matrix

Note: The inspector may determine that a defect is very minor or extremely dangerous at the time of assessment and place the defect in either the Minor or Emergency Impact/Severity category as appropriate. Scoring does not apply to defects within Minor or Emergency Impact/Severity.

Probability is the inspector's assessment of likelihood of the defect affecting the safe passage of vehicles, cyclists and pedestrians along the highway or affecting the structural integrity of the highway. It follows an assessment of the road Hierarchy and the location of the defect within the road.

Impact/Severity – The impact/severity is quantified by assessing the extent of damage likely to be caused should the risk be realised. The main consideration of impact/severity is the magnitude or dimension of the defect. However, other variables such as road speed may also affect the likely impact.

Failed Roads

In certain circumstances, some roads may contain so many defects that it is impractical to undertake permanent localised repairs. Defects will be made safe in accordance with this policy, but, and at the discretion of the Highways Community Liaison Manager, action may be taken such as the erection of "Failed Road" warning signs to warn drivers to proceed with caution. The use of Failed Road warning signs must be recorded (location and duration) and periodic inspection of the warning signs instigated by the Highways Community Liaison Manager until the road has undergone planned maintenance. These roads should be considered for more permanent repairs in line with the Asset Management policy and strategy.

Minimum Recording Levels

It is recognised that in WMHI these are referred to as minimum investigatory levels, but BC consider the use of the phrase "minimum recording levels" to be more appropriate for the management of defects on its network. Minimum Recording Levels are based on recommendations contained within WMHI and BC's general and historic experience that they are at least sufficient for their respective defect types.

It is also recognised that on any highway network, a multitude of minor defects will exist which do not pose any risk to either the safety or the integrity of the highway. Any defects which do not meet the Minimum Recording Levels (as defined within Appendix A) will only be recorded should the Inspector deem this appropriate (for example, where a cluster of such defects may form a potential preventative maintenance scheme in the future). Where such defects are recorded, they will be recorded as Cat 2L defects.

All defects which reach minimum recording levels will be assessed and recorded in line with this policy, but intervention and repair will only take place if required in accordance with the risk assessment process set out above.

Monitoring and Auditing

Five percent of Inspections will be audited on site for consistency and training purposes, and records will be kept of the audit. The outputs from these audits will be reported to senior management.

Inspections records will be monitored to identify any incorrect use of codes and to identify any anomalies in scoring. Dashboards are used to audit compliance with this Policy.