

# Inspections

There are three different types of inspections carried out on the road network.

1. Safety Inspections
2. Service Inspections (Formerly Maintenance Inspections)
3. Condition Surveys

## 1. Safety Inspections

These comprise relatively frequent and comprehensive inspections of all road elements. Inspectors within the network section carry out these surveys using Tablet computers to record inspection details and log defects.

The purpose of these inspections is to identify all defects likely to create danger or serious inconvenience to the road users and the wider community. They should detect all defects requiring an emergency or urgent response (**commonly termed as category 1 defects**) as well as less serious hazards where the type, location or size of defects are such that a longer-term response will be acceptable (**commonly termed as category 2 defects**), as defined in the Code of Practice for Highway Maintenance Management 2005.

These surveys are normally undertaken from a slow moving vehicle, at frequencies that match the characteristics and use of a particular section of the network. Footway surveys will generally be undertaken on foot at least once a year. Inspections can also be triggered as a result of an incident, extreme weather, community concerns or in the light of historical monitoring information. The results of these inspections will define the majority of reactive repairs carried out on the Network. The frequency of inspections will be determined by the system outlined in pages 6 to 8. See table on page 13.

The following list indicates the types of deficiencies that would normally be reported during a safety inspection:

- Debris, spillage or contamination on running surface or hard shoulder.
- Displaced road studs lying in the carriageway.
- Overhead wires in a dangerous condition.
- Vandalism, particularly with electrical consequences.
  
- Abrupt level differences in the running surface.
- Potholes, cracks or gaps in the running surface.
- Loss of skidding resistance.
  
- Broken or missing ironwork (gully or manhole lids etc.)
- Standing water, water discharging onto or overflowing across the road.
- Blocked drains, ditches, culverts etc.
- Damaged, defective, displaced, missing or misleading traffic signs, signals or lighting columns.

- Dirty or otherwise obscured traffic signals and signs.
- Missing or badly worn road markings.
- Damaged safety fencing, parapet fencing, handrails or other barriers.
- Sightlines obscured by trees, unauthorized signs and other features.
- Any situations that contravene current roads legislation.

The above list is not exhaustive and anything that is considered to be dangerous should be noted. The inspector will need to give a subjective opinion on whether a defect is classed as category 1 or 2. It is difficult to give absolute rules as factors such as the location; density of use and the prevailing conditions weather forecast will all have a bearing on the decision.

As a general rule it is better to err on the side of safety.

## **2. Service Inspections**

These comprise more detailed inspections carried out on foot examining all highway elements to ensure that they meet requirements for safety and serviceability.

Data collected during these inspections should form the basis of most planned maintenance operations and provides a record of the condition of the road inventory, for which the authority is responsible.

The category also includes inspections for regulatory purposes, including NRSWA, intended to maintain network availability and reliability.

## **3. Condition Surveys**

These are carried out by maintenance engineers to enable the planning and prioritising of works.

External contractors are utilised to collect machine based surveys e.g. SCRIM and SRMCS surveys. SCRIM surveys measure the resistance to skidding provided by the road surface. The SRMCS survey is coordinated through the Society of Chief Officers for Transportation in Scotland (SCOTS) on behalf of all Scottish Local Authorities and measures the surface texture of the road, any rutting and undulations in the surface. These are measured in a single pass by a vehicle travelling at normal road speeds. These surveys have been carried out annually and have been applied to all our "A" class roads and a percentage of other roads. We have results from surveys carried out during the last two years. These surveys are relatively new and are subject to ongoing reviews and modification but do provide reliable data that will become

even more effective over time. The results can be displayed graphically and provide an indication of where further investigation and possible improvements are needed.

As well as displaying the results graphically the programme calculates a performance indicator that we have to submit to Audit Scotland annually giving the percentage of the network that has triggered anyone of a number of preset threshold limits.

These condition surveys are one of the tools we use to determine our priorities for surface dressing and surfacing overlay programmes. Schemes are determined following physical assessments and the proposed programmes are notified to the Member / Officer working group and community councils.

The end of this document contains tables showing the intervention limits currently used as trigger levels in Shetland. The list is not exhaustive but covers the main areas of concern and the list will be updated periodically. Inspectors and Engineers will also need to be mindful of the defect's location when assessing the degree of urgency required in affecting treatment.

#### **4. Category 1 – defects**

These refer to defects that are considered to present a serious risk of injury to a road user or likely to result in significant damage to a vehicle or the structure of the road. On observing such a defect the inspector will rectify the problem where practicable, or erect warning signs and cones to protect the public from any immediate danger. If necessary the inspector will remain at the location until assistance arrives. Repairs will be carried out within 24 hours of such a defect being identified. Where possible a permanent repair will be constructed however a temporary repair will be used if necessary to ensure that the area is made safe and reopened to use within the 24-hour limit. These are emergency type situations and this level of prioritisation is only used in a limited number of occasions.

A category 1 defect can also be raised by any member of the roads section in response to a report from a member of the community if it is felt that the situation could be dangerous e.g. report of an electrical problem such as exposed wires on a street light or illuminated sign following an accident or act of vandalism.

#### **5. Category 2 – defects**

A category 2 defect status will be applied to situations where a risk assessment deems that road condition does not present an immediate or imminent hazard or risk of short term structural deterioration. Such defects may have safety implications, although to a lesser significance than a category 1 defect. The repair of these defects can be undertaken within a

planned programme of works. Category 2 defects can be categorised with one of three priorities as determined by the degree of risk posed by the defect.

Where the inspector feels that there is a risk of the situation deteriorating within a relatively short period of time then he will give a high priority to the category 2 defect (cat 2(H)). This will require the contractor to respond within three days and complete the repair within seven days. This level of response is more expensive than work carried out as part of a planned programme.

If the inspector assesses that the defect presents a low risk but determines that due to its location on the road network, traffic volumes, other works either underway or planned for the area requires the work to be completed reasonably quickly then he can classify the defect with a medium priority (Cat.2(M)). This will require the contractor to complete the repair within 30 days. .

All other defects will be categorised with a low priority (Cat 2(L)). This classification is applied to the majority of defects. In the opinion of the inspector these defects do not present an immediate danger to the public and will not suffer rapid deterioration.

In addition to the above classifications in Shetland we also use the following categories for operational reasons:

### **Category 0 – defect**

This is applied to any report received from members of the community where the defect is deemed not to represent a danger to life (category 1 being applied in these circumstances). An inspector will check defects of this type within 3 days to determine the appropriate requirements and level of response.

## INFRASTRUCTURE SERVICES – ROADS

### Road Maintenance Hierarchy and Inspection Frequency

<b>SIC Code</b>	<b>Maintenance Hierarchy</b>	<b>Inspection frequency</b>	<b>Method</b>
<b>M1</b>	Strategic, major roads and footways inspected on a regular basis and maintained to the highest standards. This category includes most of the A class roads and some lesser class roads of strategic importance.	<b>Every 3 months</b>	<b>Driven</b>
<b>M2</b>	Largely B and C class roads and footways but also included are unclassified urban bus routes.	<b>Every 6 months</b>	<b>Driven</b>
<b>M3</b>	Link roads and footways serving residential and industrial developments	<b>Every 6 months</b>	<b>Driven</b>
<b>M4</b>	Local access roads, footways and isolated footpaths including residential loops and cul-de-sacs.	<b>Annually</b>	<b>Driven</b>
<b>M5</b>	Distant Islands of Papa Stour, Fair Isle and Foula	<b>Annually</b>	<b>Driven</b>
<b>M2</b>	High risk footways	<b>Every 6 months</b>	<b>Walked</b>
<b>M4</b>	Other footways	<b>Annually</b>	<b>Walked</b>