CITY OF WOLVERHAMPTON COUNCIL

# Response to Request for Information

**Reference** FOI 002800
**Date** 25 September 2018

## *Maintenance Inspection Policy*

**Request:**

1. Please send an electronic copy or link to a published source of your authority's most recent highways maintenance inspection policy which covers, for all road, footway and cycleway hierarchies:
   - inspection regimes;
     Please see attached copy of the "Highway Safety Inspection Policy April 2015".

   - intervention thresholds and associated response times to rectify defects;
     Please see attached copy of the "Highway Safety Inspection Policy April 2015".

   - winter maintenance policies
     Please see attached copy of the "Winter Service Operational Plan 2016-2017".

2. If that policy was published after 28/10/2016 could you also provide:
   (a) the previous equivalent policy.
   Neither of the relevant policy documents were published after the 28th October 2016, The Highway Safety Inspection Policy was published in April 2015, the "Winter Service Operational Plan 2016/17" was published on the 18th October 2016.

   (b) Any report to councillors proposing and explaining the changes from the previous version to the current version.
   N/A

# WOLVERHAMPTON CITY COUNCIL
## Highway Safety Inspection Policy
## April 2015

Contents

## Highway Safety Inspection Policy: Executive Summary

Wolverhampton City Council, as the local highway authority, is responsible for a network of public highway with a road length of over 735 km it also has a statutory duty under Section 41(1) of the Highways Act 1980 to maintain *"a highway maintainable at the public expense."* Failure in this duty can lead to claims for compensation.

The responsibility to maintain the highway is an open ended task. To assist highway authorities in meeting this duty Section 58 of the Highways Act 1980, allows the use of a "Special Defence" in respect of action against it for damages for non-repair of the highway. The Council must prove that it has taken such care as was reasonable, part of the defence rests upon: *"Whether the highway authority knew, or could reasonably have been expected to know, that the condition of the part of the highway to which the action relates was likely to cause danger to users of the highway".*

By virtue of Section 58 of the Highways Act 1980 the Council are able to repudiate a claim relating to alleged injury, loss or damage if it can prove that:

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

The Highway Safety Inspection Policy details how the Council will provide a programme of inspections to identify, record, report and subsequently repair those defects on the publically maintainable highway that may present a hazard to road users or a risk of rapid deterioration in the fabric of the highway. The inspection frequency reflects the guidance contained in the national code of practice:-

| Feature | Ref | Category | Inspection Frequency |
|---|---|---|---|
| Carriageways | 2 | Strategic Routes | 1 month |
| | 3(a) | Main Distributors | 1 month |
| | 3(b) | Secondary Distributors | 1 month |
| | 4(a) | Link Access | 3 Months |
| | 4(b) | Local Access | 1 Year |
| | | | |
| Footways | 1(a) | Prestige Area | 1 Month |
| | 1 | Primary Walking Route | 1 Month |
| | 2 | Secondary Walking Route | 3 Months |
| | 3 | Link Footway | 6 Months |
| | 4 | Local Access Footway | 1 Year |

Walked inspections will be undertaken on all roads in the City on at least an annual basis except where it is unsafe to do so, driven surveys will take place on these routes which includes the Black Country Route and sections of the Ring Road.

Defects will be categorised based on the risk they present to highway users and the potential for further deterioration.

Category 1 defects will be repaired or made safe within 2 hours when they are assessed as presenting a serious risk to safety, for example exposed electrical wiring, or are dealt with as a matter of priority within 24 hours or next working day when the defect represent an immediate or imminent hazard.

It is intended that Category 2 defects will be repaired as part of a programme of planned works, the repair should be programmed for completion before the next inspection is due.

This document is intended as a procedural guide for all employees or contractors involved in the inspection and repair of defects on Wolverhampton's highway network. Initially it is expected to cover defects identified through the regular programme of highway safety inspections and service inspections.

The Policy has been produced in accordance with the guidance and recommendations made in the UK Roads Liaison Group's *"Well Maintained Highways - Code of Practice for Highway Maintenance Management"* (CoP), local guidance notes and other relevant documents. It will be subject to a regular review to take account of changing circumstances, our experience, case law and as national guidance is amended or updated.

# 1. Introduction

## 1.1 Control of Document

The Risk Team Leader and Service Lead, Highway Assets will hold a signed original copy of each revision of the Wolverhampton City Councils (the Council) highways safety inspection policy document.

## 1.2 Introduction to Policy

The establishment of an effective regime of inspection, assessment and recording is the most critical element of highway management and maintenance. The safety inspection regime provides the basic information for addressing the first core objective of highway maintenance and network safety.

The purpose of this document is to identify the policy and provide the guidance to support its delivery with a consistent approach to the identification, categorisation and repair of highway defects, providing whenever possible or practicable a first time permanent repair solution to maintain and improve Wolverhampton's highway network.

It is intended as a procedural guide for all employees or contractors involved in the inspection and repair of defects on Wolverhampton's highway network. Initially it is expected to cover defects identified through the regular programme of highway safety inspections it will also serve to support the identification of defects as part of a service inspection. The categorisation and repair of these defects does not attempt to address more detailed inspections, condition surveys or inspections of Public Rights of Ways (PROW), street lighting and detailed tree inspections.

This policy document is been based on the principles contained in the *"Well Maintained Highways - Code of Practice for Highway Maintenance Management"* (CoP), local guidance notes and other relevant documents. It will be reviewed at regular intervals and as the current guidance is updated.

## 1.3 Highway Safety Inspection Policy

The Council commits to undertake regular inspections of the highway network to identify record and prioritise for repair those defects that may present an immediate hazard to road users. Other defects may also be recorded for inclusion in a programme of planned works or where the asset is not in Council ownership for referral to a third party.

The policy will ensure that all highway sites are subject as a minimum to an annual walked inspection where they can be carried out without risk to the inspector or the public. Where a site cannot safely be inspected on foot a driven inspection will be undertaken.

Additional inspections can be carried out, subject to the availability of resources these may be walked or driven as determined by the sites hierarchy categorisation, at frequencies in accordance with the recommendations made in the Well Maintained Highways Code of Practice with local amendments as detailed in this document to take account of local requirements.

# 2.0 The Purpose of Highway Safety Inspections

Under Section 41 of the Highways Act 1980 Wolverhampton City Council has a statutory duty "*to maintain a highway maintainable at public expense*" in a safe and serviceable manner for all road users. Failure in this duty can lead to claims against the Council for compensation resulting from a failure to maintain the highway.

There is no definition in the act as to the level of maintenance required although national codes have been produced to offer some guidance. "Well Maintained Highways - A Code of Practice for Maintenance Management" (CoP) produced by the UK Roads Liaison Group, provides comprehensive guidance to assist local authorities. The CoP makes recommendations for surveys and inspections of the adopted highway network, except where local constraints or demands have required local solutions.

Under Section 58 of the Highways Act 1980, the highway authority can use a "Special Defence" in respect of action against it for damages for non-repair of the highway if it can prove that it has taken such care as was reasonable. Part of the defence rests upon:

*"Whether the highway authority knew, or could reasonably have been expected to know, that the condition of the part of the highway to which the action relates was likely to cause danger to users of the highway".*

This is where the Council has to show that it carries out highway safety inspections in accordance with its policies and national guidance. By virtue of Section 58 of the Highways Act 1980 the Council are able to repudiate a claim relating to alleged injury, loss or damage if it can prove that:

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

### 2.1 Highway Safety Inspections

Safety Inspections are designed to identify all defects likely to cause danger 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. The Safety Inspection regime forms a key aspect of the Councils strategy for managing liability and risk.

The following is a list of items that are expected to be included within safety inspection:-

| **Item** | **Defect** |
|---|---|
| Carriageway and Cycleway | pot hole/spalling, ridge, hump, depression/sunken cover or gap/crack |
| Footway | trip/pot hole/sunken cover, rocking slab/block or open joint |
| Kerb | misaligned, loose / rocking or missing |
| Verge | sunken area adjacent to and running parallel with the carriageway / footway edge or obstruction |
| Iron Work | Gaps within framework, level differences within framework, rocking / cracked / broken / worn / polished or missing covers |
| Flooding – where conditions allow | standing water, water discharging onto or flowing across the running surface, significant flooding of property |
| Drainage | substantial standing water adjacent to edge of c/way, blocked gully/kerb outlet or collapsed/ blocked/settled items or systems |
| Road Markings | Faded or worn markings |
| Road Studs / Eyes | Missing, void left in c'way, displaced items on c'way or defective studs / eyes. |
| Signs / Bollards / Lights / Traffic signals | damaged/misaligned items causing a hazard, missing items causing a hazard, lights/signals not operating correctly/malfunctioning, signals pointing the wrong way, signal lamp failure, exposed wiring, missing doors to lamp columns and electrical enclosures, items missing or items obscured/dirty/faded |
| Safety Fencing / Barriers | damaged/misaligned items projecting into c/way or f/way or structurally unstable items likely to cause danger |
| Hedges and trees | overhanging trees and vegetation or unstable trees and branches. Damage associated to tree roots. |
| Highway General | oil/debris/mud/stones/gravel likely to cause a hazard, illegal signs, obstructions on the highway, obstructed sight lines, ramps in c/way to aid vehicular movement, f/way damage caused by vehicular access where no vehicle crossing, scaffolding or skips likely to cause a hazard, unprotected building materials on the |

| | |
|---|---|
| | highway or abandoned vehicles likely to cause a hazard |
| Anything Dangerous | anything considered dangerous on the highway which could affect either highway users or the general public |

### 2.2 Service Inspections

These mainly comprise more detailed inspections tailored to the requirements of particular highway elements to ensure that they meet requirements serviceability. The scale and scope of these inspections is optional, they are normally undertaken in response to an enquiry or complaint received from the public or others regarding the highway.

A third party claim will generate a discrete Service Inspection as part of the claim investigation process which will seek to identify and document the cause of the alleged incident. The Council as part of its normal practice will undertake repairs, if any are deemed necessary, to defects identified as part of such an inspection, in order to reduce the risk that further incidents are caused by the alleged defect. Any repairs from such an inspection should be undertaken as part of the planned works programme unless the defect presents as either a Cat 1a or Cat 1b in which case those timescales for repair will be implemented.

Service inspections also includes those required for regulatory purposes, including the New Roads and Street Works Act 1991 (NRSWA) inspections, intended to maintain network availability and reliability. It also includes less frequent inspections for network integrity.

### 2.3 Highway Condition Surveys

These surveys are intended to identify deficiencies in the highway fabric which, if untreated, are likely to adversely affect its long term performance and serviceability. These surveys are used to assist with the identification of future works programme and to satisfy the requirements of statutory performance indicators.

### 2.4 Resources

In delivering its ‘duty of care’ to users of the highway, the Council provides financial and operational resources. This allows operations to be carried out in both a planned and reactive manner in maintaining the highway in a safe condition.

### 2.4.1 Budgets

Each year the Council determines the allocation of its financial resources with due consideration of its strategic aims and priorities. The Highway Maintenance Budget is one area of allocation which is split into a number of service delivery areas, each with dedicated budgets. A high regard to the safety of the users of the highway means that the Council sets aside an allocation specifically for undertaking repairs identified during safety and service inspections.

### 2.4.2 Safety Inspectors

To undertake its cyclic safety inspections the Council has engaged a team of officers specifically trained in this activity. The inspectors are supported by other members of the Highway Assets Section and by the Responsive Highway Maintenance Streetscene Services Highway Technicians, who monitor progress, provide advice and supervision. Complaints are dealt with by the Highway Technicians as part of a Service Inspection.

### 2.4.3 Emergency repairs

The Safety Inspectors and Area Technicians are supported operationally by supervisory staff who arrange for the works identified during the inspection to be undertaken to strict deadlines. Performance is closely monitored and the monitoring forms one of the service’s local performance indicators. Emergency repairs are undertaken by readily available teams, two maintenance teams are routinely engaged in undertaking defect repairs arising from safety Inspections, other teams can be called in to provide support as and when required. The additional resource would be provided either through scheduling or breaking off from their normal highway maintenance activities.

# 3.0 Wolverhampton's Highway Network

The Council is responsible, as the local highway authority, for all of the adopted public highways, rights of way and cycle tracks in the City, a network of over 735km.

## 3.1 Network Hierarchy

The highway network has been assigned a hierarchy which relates to its importance to transportation and level of usage. This hierarchy is recorded in the Highway Asset Management System. Footway hierarchies are different to carriageway hierarchies and therefore most roads have different hierarchy classification and potentially a different inspection frequency for carriageway and footway. The following tables are extracted from the current version of Well Maintained Highways with route lengths for each category of road. These tables are intended to be used as a reference point from which to develop local hierarchies.

## 3.2 Carriageway Hierarchy

The carriageway hierarchy defined in the Code of Practice is interpreted in Wolverhampton as below to define a local road network, it remains consistent with the theme of the national CoP, the local network is predominantly urban, with a network of bus routes that are likely to use sites in all 5 hierarchy categories.

| Category | Name | Types of Road and General Description Local Description/ Categorisation | Routes Length (KM) |
|---|---|---|---|
| 2 | Strategic route | Principal 'A' Roads | 84 |
| 3a | Main distributor | Classified Non-Principal B Roads | 15 |
| 3b | Secondary distributor | Classified Non-Principal C Roads and other locally significant routes | 57 |
| 4a | Link road | Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions. | 60 |
| 4b | Local access road | Roads serving limited numbers of properties carrying only access traffic. | 519 |
| | | Total Network Length km | 735 |

**Table 1 – Carriageway Hierarchy**

## 3.3 Footway Hierarchy

The footway hierarchy defined in the Code of Practice is interpreted in Wolverhampton as follows:

| Category | Name | Brief Description | Routes Length (KM) |
|---|---|---|---|
| 1a | Prestige walking routes | Very busy areas of towns and cities with high public space and street scene contribution. | 2.4 |
| 1 | Primary walking routes | Busy urban shopping and business areas and main pedestrian routes. | 100.0 |
| 2 | Secondary walking routes | Medium usage routes through local areas feeding into primary routes, local shopping centres, etc. | 120.6 |
| 3 | Link footways | Other footways alongside roads with carriageway categories 2, 3a, 3b and 4a | 18.0 |
| 4 | Local access footways | Footways alongside local access roads (carriageway category 4b) and footpaths within estates. | 602.1 |
| | | Total Network Length | 843.1 |

**Table 2 – Footway Hierarchy – note the route length given is based on current information**

The footway hierarchy provides a consistent and clear approach towards the undertaking of routine inspections which is in line with the overall approach set out in the national Code of Practice. However further consideration of its adequacy is needed in the light of statements in the Code of Practice to the effect that:

- Footway hierarchy should not necessarily be determined by road classification, but also by the functionality of the footway and scale of use.

- Particular local circumstances, such as proximity to school, hospitals, medical centres should be taken into account in determining inspection frequency.

## 3.4 Cycle Route Hierarchy

A separate network has not currently been defined for maintenance purposes, where the route forms part of the adopted highway it will be included in the existing inspection associated with that site.

The CoP has provided the following guidance to assist with the definition of a cycle route network, it makes the following statement:

*They are categorised not by use or functionality but by location, as the level of use is generally low and not related to maintenance need. This approach also reflects the differing risks associated with shared, partially segregated and fully segregated cycle routes. Where the level of use on particular cycle routes is significant and relevant to maintenance need, for example on commuter cycle routes, authorities may establish categories based on use.*

| ***CoP: Cycle Route Hierarchy*** | |
|---|---|
| ***Category*** | ***Description*** |
| *A* | *Cycle lane forming part of the carriageway, commonly 1.5 metre strip adjacent to the nearside kerb. Cycle gaps at road closure point (no entries allowing cycle access).* |
| *B* | *Cycle track, a highway 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.* |
| *C* | *Cycle trails, leisure routes through open spaces. These are not necessarily the responsibility of the highway authority, but may be maintained by an authority under other powers or duties.* |

# 4.0 Inspection Frequencies

## 4.1 National Code of Practice and Highway Safety Inspections

The number of planned inspections the Council carries out per year relates to the road location and classification which meets the suggested frequency outlined in the Code of Practice for Maintenance Management - Well Maintained Highways (CoP), which can either be walked or driven.

The Council has set its own standards for the frequency of its highway safety inspections. These take into account national guidelines for the definition highway type, hierarchy as detailed in Section 3 and inspection frequencies, issued in the CoP. The frequencies are recommendations; they are provided for guidance and are not mandatory standards, they assist us in the establishment of our standard and associated level of service.

| Feature | Ref | Category | Inspection Frequency |
|---|---|---|---|
| Carriageways | 2 | Strategic Routes | 1 month |
| | 3(a) | Main Distributors | 1 month |
| | 3(b) | Secondary Distributors | 1 month |
| | 4(a) | Link Access | 3 Months |
| | 4(b) | Local Access | 1 Year |
| | | | |
| Footways | 1(a) | Prestige Area | 1 Month |
| | 1 | Primary Walking Route | 1 Month |
| | 2 | Secondary Walking Route | 3 Month |
| | 3 | Link Footway | 6 Months |
| | 4 | Local Access Footway | 1 Year |

**Table 4 – Frequency of Highway Safety Inspections- Well Maintained Highways Code of Practice**

## 4.2 Minimum Level of Service

The Highway Safety Inspection Policy has identified a minimum level of service that must be provided for all recorded highway sites, an annual inspection, this shall be undertaken on foot unless the nature of the site presents a hazard to the inspector, in such circumstances a driven inspection is acceptable.

A schedule of sites will be maintained identifying those sites that are not suitable for walked inspections.

## 4.3 Planned Level of Service

The table below illustrates Wolverhampton's network hierarchy in kilometres with both the carriageway and footway hierarchy. The Council has adopted the view that the highway safety inspection frequency should be based on the footway classification.

A walked inspection will include all elements of the highway by their nature they afford inspectors a broader view of the highway and its component parts.

Therefore should the footway hierarchy require a monthly inspection and the carriageway an annual inspection, this route would be subject to twelve detailed walked inspections and one annual driven inspection.

| **Carriageway Hierarchy** | | **2** | **3a** | **3b** | **4a** | **4b** |
|---|---|---|---|---|---|---|
| **Footway Hierarchy** | **1a** | **0** | **0** | **0** | **0** | **0** |
| | **1** | **91.5 km** | **0.2 km** | **0.3 km** | **0.7 km** | **9.8 km** |
| | **2** | **35.1 km** | **5.6km** | **0.3 km** | **0.4 km** | **64.3 km** |
| | **3** | **1.7 km** | **1.2 km** | **5.0 km** | **0.2 km** | **9.9 km** |
| | **4** | **52.2 km** | **9.5 km** | **14.5 km** | **2.9 km** | **523 km** |

**Table 5 – The Council's Network Hierarchy**

Table 6 below illustrates a mixed inspection profile, utilising both walked and driven inspections, which would meet the recommendations regarding frequency of inspection based on both a sites footway and carriageway hierarchy categorisation. The profile assumes that a footway will always needa walked inspection and that a driven inspection can be utilised for those occasions where the carriageway hierarchy promotes a higher frequency of than thatneeded for the footway.

| | Carriageway Hierarchy | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | | 3a | | 3b | | 4a | | 4b | |
| | (Monthly) | | (Monthly) | | (Quarterly) | | (Annual) | | (Annual) | |
| Footway Hierarchy | walked | Driven | walked | Driven | walked | Driven | walked | Driven | walked | Driven |
| 1a (Monthly) | 12 | 0 | 12 | 0 | 12 | 0 | 12 | 0 | 12 | 0 |
| | 12 | | 12 | | 12 | | 12 | | 12 | |
| 1 (Monthly) | 12 | 0 | 12 | 0 | 12 | 0 | 12 | 0 | 12 | 0 |
| | 12 | | 12 | | 12 | | 12 | | 12 | |
| 2 (Quarterly) | 4 | 8 | 4 | 8 | 4 | 0 | 4 | 0 | 4 | 0 |
| | 12 | | 12 | | 4 | | 4 | | 4 | |
| 3 (6 Monthly) | 2 | 10 | 2 | 10 | 2 | 2 | 2 | 0 | 2 | 0 |
| | 12 | | 12 | | 4 | | 2 | | 2 | |
| 4 (Annual) | 1 | 11 | 1 | 11 | 1 | 3 | 1 | 0 | 1 | 0 |
| | 12 | | 12 | | 4 | | 1 | | 1 | |

**Table 6 – Table Illustrating Highway Safety Inspection Profile – Walked and Driven Inspections**

## 4.4 Exceptional Circumstances

The planned programme of inspections may need to be adjusted to take account of exceptional circumstance that may either prevent or delay the planned routine inspection from being carried out. Typically these delays are likely to be as a result of adverse weather conditions; reduced access to the road space as a result of utility or other works; lack of inspection resources due to illness/injury or other absence.

**4.4.1 Adverse Weather Conditions –** This would relate to periods when weather conditions prevent routine inspections from being carried out this would include heavy rain resulting in standing water on the surface, snow or ice all of which hinder

an effective inspection. In such circumstances safety inspections may need to be suspended, a defect record will be entered into the inspection system noting that no inspection was possible with a short note explaining why it has not been possible to undertake the inspection. During periods of prolonged cold weather with snow on the ground a reduced inspection may be undertaken on a limited basis to inspecting the Strategic Routes, Main and Secondary Distributor Network. The focus of these inspections would be to identify carriageway damage that is likely to result from these weather conditions such as potholes.

**4.4.2 Restricted Access to Site –** In exceptional circumstances, it may not be possible to be carry out inspections due to other works occupying the highway, for example a statutory undertaker is renewing their mains services under a road closure. In these circumstances, the Safety Inspection will note that access to the site in part or whole was prevented and a no inspection record created as per 4.4.1.

# 5.0 Defect Categorisation

### 5.1 Inspection Types

The guidance in this ploicy relates to Highway Safety Inspections and Service Inspections, the defects that are assessed will use the same defect description and categorisation scheme. This will still allow defects identified by Highway Safety Inspection to be clearly differentiated from those recorded as part of a Service Inspection. The response times associated with the categories will be the same as will the risk assessment framework that will be available to support the decision making process.

Note, at all times the final decision as to the allocation of the defect category will be with the inspector undertaking the task.

### 5.2 Highway Safety Inspection Defect Categories

The CoP defines defects in two categories:-

- Category 1 - those that require prompt attention because they represent an immediate or imminent hazard or because there is a risk of short-term structural deterioration.

- Category 2 - all other defects which, following a risk assessment, are deemed not to represent an immediate or imminent hazard or risk of short term structural deterioration. Such defects may have safety implications, although of a far lower significance than Category 1 defects, but are more likely to have serviceability or sustainability implications. These defects are not required to be urgently rectified, and those for which repairs are required shall be undertaken within a planned programme of works, with the priority as determined by risk assessment. These priorities together with access requirements, other works on the road network, traffic levels, and the need to minimise traffic management, should be considered as part of the overall asset management strategy. The programmes of work for their rectification should be part of the Highway Asset Management Plan ( HAMP).

For the purposes of our inspections these defect categories have been refined further with the following response times:

### 5.3 Category 1A defects (repair or make safe within 2 hours)

Category 1A defects have a local target response time of 2 hours and should be reported to the reactive maintenance team immediately at the time of inspection using the mobile phone carried by the surveyor.

Examples of Category 1A defects include:

- Missing covers to large chambers, manholes, gully gratings, etc.

- Substantial debris or obstruction of carriageway (e.g. brick, large piece of metal, fallen tree branch)

- Exposed electrical wiring

- Any significant highway structure in imminent danger of collapse including, for example, street lighting columns, traffic signs, traffic signal poles, retaining walls or large chamber/ manhole covers

### 5.4 Category 1B defects (repair or make safe within 24 hours/next working day)

These defects represent an 'immediate or imminent hazard'. A list will be printed out at the end of the day's inspection and faxed to the highways term contractor for action to be taken the following day. Examples of Category 1B defects include:

- Trips greater than 25mm in busy footways and pedestrian areas (e.g. city centre, on the carriageway at controlled pedestrian crossings);
- In carriageways any pothole greater than 50mm deep, or any other defect causing a trip/ sharp difference in levels greater than 50mm;
- Any other defect that, in the surveyor's view, requires urgent attention because it represents an immediate or imminent hazard to highway users.

## 5.5 Category 2 Defects

Category 2, are those defects that do not represent an imminent or immediate hazard, but where a repair is required, can be undertaken within a planned programme of work. To assist with the development of this programme Category 2 defects will be categorised according to priority as, high, medium or low.

Each priority would have target response time that considers the nature of the defect, its location on the network, its associated risk probability and likely impact. This should take into account the likelihood of further deterioration before the next scheduled inspection.

5.5.1 Cat 2A High Priority - Category 2 (30 Day Repair) defects are those that WILL, in the opinion of the inspector, become Cat 1 within 3 months if not attended to.

5.5.2 Cat 2B Medium Priority - Category 2 (90 Day Repair) defects are those that are LIKELY to become Cat 1 in 3-12 months' time. We will monitor our performance of rectifying these defects within 90 working days depending upon the available budget.

5.5.3 Cat 2C Low Priority - Category 2 (180 Day Repair) defects are those that are LIKELY to become Cat 1 in 3-12 months' time. We will monitor our performance of rectifying these defects within 180 working days depending upon the available budget.

| **Defect category** | **Description** | **Target Response within** |
|---|---|---|
| Cat 1A | Dangerous Defects | 2 Hours |
| Cat 1B | Defects represent an 'immediate or imminent hazard' | 24 Hours/next working day |
| Cat 2A | Category 2 (30 Day Repair) defects are those that WILL become Cat 1 within 3 months if | 30 days |

| | | |
|---|---|---|
| | not attended to.<br>Any Service Inspection undertaken as part of a third party claim investigation should also use this categorisation for any defect identified as the cause of an incident unless the defect presents as a Cat 1 or it is not deemed necessary to repair. | |
| Cat 2B | Category 2 (90 Day Repair) defects are those that are LIKELY to become Cat 1 in 3-12 months' time. We will monitor our performance of rectifying these defects within 90 working days depending upon the available budget. | 90 days |
| Cat 2C | Category 2 (180 Day Repair) defects are those that are LIKELY to become Cat 1 in 3-12 months' time. We will monitor our performance of rectifying these defects within 180 working days depending upon the available budget. | 180 days |
| | | |

Table 7: Defect Categories and Response Times

Types of defects that may be recorded include:

- In footways and pedestrian areas (including controlled pedestrian crossings) any hole, gap or missing/loose/broken unit leading to a trip hazard greater than 20mm
- In carriageways any pothole greater than 25mm deep, or any other defect causing a trip/ sharp difference in levels greater than 25mm
- Missing covers to small chambers (stop tap covers or similar)
- Broken/missing Give Way or Stop signs
- Damaged guard rails
- Any other defect that, in the surveyor's view, whilst not presenting an immediate hazard needs regular monitoring

### 5.6 Highway Service Inspection Defect Categories

The defect categorisations and response times will also be used to support the highway service inspections these will be recorded as Ad-Hoc defects to allow them to be clearly differentiated from Safety Inspections. The Service Inspection undertaken as part of a third party claim investigation should use the Cat 2A categorisation for any defect identified as the cause of an incident, unless the defect presents as a Cat 1 or it is not deemed necessary to repair..

**5.7 Risk Assessment - Degree Of Deficiency And Nature Of Response**

The defect category selection will depend on the inspector's assessment at the point of inspection which should be based on and take account of the following factors:

- Overall probability and impact of damage or accident occurrence;
- Hierarchy and frequency of inspection from Table 4;
- The depth, surface area – scale and extent of defect;
- Location of defect relative to other highway features such as junctions, bends, pedestrian crossings:
- Location of the defect and its potential impact on road users;
- Whether the defect is in a main shopping area or other busy location.
- Position in relation to likely route of pedestrians, e.g. whether in middle or at back edge of footway.
- Usage of adjacent buildings such as old people's homes, sheltered accommodation, etc.
- The likelihood of further rapid deterioration and the requirement for permanent or temporary repair

5.7.1 It is important to recognise that these are guidelines only, not a precise specification. Surveyors will exercise their judgement and discretion in deciding whether to record an individual defect, and in which category to place it.

5.7.2 This policy has been developed around our existing practices, the intention will be to adopt the approach to the assessment of risk detailed in the CoP, see

Appendix A, this will be used as the starting point for the development of a local standard.

### 5.8 Defect Intervention Criteria

To assist inspectors the following schedule summarises the current defect intervention criteria/thresholds:

| Road type | Defect description | Category 1 | Category 2 |
|---|---|---|---|
| **Footways** | Hole,gap, missing/ loose/ broken unit leading to trip | >25mm | >20mm |
| **Footways – busy & pedestrian areas (including controlled pedestrian crossings)** | Trips | >25mm | |
| **Carriageways** | Pothole | >50mm | >25mm |
| **Carriageways** | other defect( trip / sharp difference in levels) | >50mm | >25mm |
| **Footways/ Carriageways** | Any other defect identified by the surveyor likely to be hazardous | ✓ | |
| **Footways/ Carriageways** | Any other defect identified by the surveyor not immediately hazardous needing regular inspection | | ✓ |

Table 8: Defect intervention level

# 6.0 Methodology of Inspections

The number of programmed inspections the Council carries out per year relates to the road location and classification meeting the suggested frequency outlined in the CoP, which can either be walked or driven.

In general highway safety inspections are carried out from a slow moving vehicle or on foot. Surveys will be undertaken in terms of the feature being inspected. Where the objective of the inspection is footways, the inspection will be walked; where carriageways are being inspected this survey would be driven. General control measures are stated below but should not be considered exhaustive.

## 6.1 Driven Inspections

Driven safety inspections must always be undertaken by two people in a suitable vehicle travelling at a speed that will enable adequate recording of defects – (guidance speed is 20mph). The method is that one person will be driving and the other inspecting. The driver must not be actively involved in identifying and recording defects, but will concentrate on ensuring the vehicle is driven safely.

- The vehicle being used must be equipped with the appropriate beacons and reflective signing, and the equipment used where appropriate. High visibility personal protective equipment and clothing must be worn at all times.

- Should the vehicle need to stop, the vehicle shall be parked in safe position and the roof mounted beacons must be switched on.

- Other motorists must not be forced across any continuous white centre lining. If this cannot be achieved, advanced temporary traffic signing must be installed.

- Planned highway safety inspections shall not be carried out under conditions of poor visibility or extreme weather conditions e.g. snow, Ice, fog or heavy rain. When possible inspections shall be carried out during off peak hours 09:30 to 15:30 hrs when pedestrian and vehicle movements are low.

## 6.2 Walked Inspections

- Appropriate high visibility personal protective equipment and appropriate safety clothing must be worn at all times.
- Lone working procedures must be followed.
- Inspections should be conducted from the footway or verges where possible.
- Planned highway safety inspections should not be carried out under conditions of poor visibility or extreme weather conditions e.g. snow, Ice, fog or heavy rain.

## 6.3 Training and Competences

Appropriate training will be provided to personnel responsible for managing and carrying out highway inspections. New inspectors will be provided with in-house training and will in due course complete the appropriate training.

## 6.4 Health and Safety

All inspections should be carried out in a safe manner so as not to endanger themselves, colleagues or members of the public in accordance with the risk assessment identified for highway safety inspections. See Appendix D for the risk assessment for highway safety inspections.

## 6.5 Responsibilities for Persons Undertaking Inspections

The highway safety inspector undertaking the inspection is responsible for the accuracy of the inspection they undertake and the information recorded. Where claims are made against the authority, there may be instances where the inspector may be called into court to substantiate their inspection records. In addition to this the highway safety inspector may also be required to provide information relating to third party claims received and provide statements towards the defence of claims when requested by the Council.

# 7.0 Information Recorded on Inspections

Each inspection undertaken should be recorded against the relevant highway section in Councils asset management system. The information recorded during the inspection may be used to undertake works to defects requiring a response as well as identifying sites for programmed maintenance works. When inspections are undertaken using a data capture device the date of the inspection will be recorded automatically. The inspection records will show the name of inspector who carried out the inspection, its date and if it was a walked or driven inspection.

Category 1 defects (24 Hour Repair) which require immediate attention should be transferred from the handheld device as soon as the inspection on a particular street has been completed. If it is not possible to transfer the Category 1 (24 Hour Repair) defect at the time of inspection, it must be transferred within 2 hours of it being recorded.

All Category 2 defects (30, 90 and 180 Day Repairs) should be transferred on the day of inspection. All inspections shall be properly recorded into CONFIRM and retained by the Council for future reference.

## 7.1 Recording of Defects

In order to ensure that the maintenance teams identify and repair defects quickly and efficiently, it is important that the information provided by the Inspector is accurate and easily understood. To locate a defect efficiently, the maintenance teams require three pieces of information:

- A location on the street
- The position of the defect on the highway in relation to other key features
- Type of defect

The following combination should be used in order:

| Information | Example |
|---|---|
| House number | Outside/Adjacent/Gable End of 21 |
| Street lamp number | Opposite LC 001 |
| Building name | Outside Civic Centre |
| Road junction | Junction with Chapel Ash |

**Table 9 – Table Showing Examples of Defect Locations**

Building names can sometimes be difficult to locate especially on long roads, so if it is necessary to give a building name it would be helpful to the maintenance team to have some other additional information such as 'Heantun House between LC001 and LC005'.

## 7.2 The Position of the Defect

The position of the defect on the highway is essential to help the Area Maintenance teams locate the defect that the Inspector wants them to repair, consistent terminology should be used which can be abbreviated. The following are examples of what can be used:

| | | | |
|---|---|---|---|
| Channel of carriageway | CW CHNL | Back of footway | BOF |
| Adjacent to | ADJ | Gable end of | GE |
| Back of kerb | BOK | Outside | O/S |
| On verge | VG | Opposite | OPP |
| On pedestrian crossing | PDX | Vehicle Crossing | XING |

**Table10 – Table Showing Examples of Defect Positions**

This list is by no means definitive. However, by using combinations of these and other similar terms it is possible to give simple but clear instructions on the data capture device which will help to accurately record the location of the defect.

Examples

• Outside Number 3 potholes in channel of carriageway

• Property name Heantun House, between LC001 and LC002. Sunken flag edge of kerb

## 7.3 Describing Defects

When describing a defect it will be necessary to refer to the particular materials which are affected by the defect. In some cases the defect may affect several materials and these will also need to be covered within the description.

i.e. outside 12 – Depression in bitmac footway 0.6 sq. m, 2 no sunken pcc kerbs, also 4 sq. m, of rocking pcc flags and 1 no 150 x 150 sunken traffic signals box. Such information is particularly helpful to the teams and reduces unproductive time. Where it is necessary to replace an item, if possible the product type and/or size should be given. For example:

| |
|---|
| 5 x 10 (125 x 255) bull nose kerb |
| Road gully cover 255 x 300 |
| Pcc footway dish channel 150 wide |
| Pcc flag 600 x 600 |

**Table 11 – Table Showing Examples of Sizing Defects**

| | |
|---|---|
| Where there are items of defective street furniture it is important that the particular type of furniture is noted, if they have an asset tag/label the details need to be recorded as part of the defect record.Blue circular one way sign | SG1001 |
| City centre bench | |
| Pedestrian Guard Railing | |
| City centre bollard with reflective banding | |

**Table 12 – Table Showing Examples of Street Furniture Defects**

## 7.4 Sizing of Defects

In many instances the team will be unable for practical reasons to repair the precise area of defective highway. It may be necessary for instance, to cut back on a defective area of bituminous surface beyond the defect itself to remove loose surfacing which is not visible to the eye. The complicated equipment necessary to undertake a repair may also require a minimum opening space to carry out its role effectively. As a general rule for the repair to potholes; areas should be recorded at a minimum of 300 x 300 and an allowance for cut back of 100mm on all sides should be made.

For repairs to flagged and bituminous surfacing it is acceptable that the measures given by the inspector on site are estimated and not precise, as these are not used for calculating costs. They are important however as they give the Area Maintenance teams a good indication of the materials they require and effort should be made to give relatively accurate estimates.

When appropriate and when safe to do so, the safety inspector will mark the total area of repair with either red spray paint or yellow chalk. Not only will this aid the Area Maintenance Teams in identifying the area, it will also highlight the immediate danger to the members of the public between the periods of identification and repair. All safety precautions should be assessed beforehand by the Inspector during the marking up process.

## 7.5 Taking Photos of Defects

Where possible and safe to do so, the inspector will photograph all defects recorded as part of the inspection using the data capture device. Together with the defect details the photos will help Area Maintenance Teams to identify the defect, the materials required to undertake a repair and will also assist the Council in defending claims.

Photos should be taken once the defective area has been marked and should include the surrounding environment. This could include taking the photo at an angle to include a house number or shop name. All safety precautions should be assessed beforehand by the inspector during this process.

## Appendix A: DEFECT RISK ASSESSMENT

The current policy has been developed around our existing practices, the intention will be to adopt the approach to the assessment of risk detailed in the CoP, and the following will be used as the starting point for the development of a local standard.

*The principles of a system of defect risk assessment for application to safety inspections based on the guidance included in the current version of the CoP are set out below.*

*Any item with a defect level which corresponds to, or is in excess of, the stated defect investigatory level, is to be assessed for likely risk. The recommended procedure for risk assessment is as follows.*

***Risk Identification***
*An inspection item for which the defect investigatory level is reached or exceeded is to be identified as a risk. The suggested inventory to be observed and examples of investigatory levels are detailed in Appendix B.*

***Risk Evaluation***
*All risks identified through this process have to be evaluated in terms of their significance, which means assessing the likely impact should the risk occur and the probability of it actually happening.*

*A defect risk register will considerably assist the risk evaluation process.*

*Although it may not be possible to include every conceivable risk, the register identifies a wide range of risks likely to be encountered. This enables the vast majority of all risks actually encountered through comparison, interpolation or extrapolation, to be assessed with the identified risks. The risks contained in the register are based upon the highest assumed risk attributable to the type of defect, position and assessed type of usage. Local knowledge could assess the risk differently.*

***Risk Impact***
*The impact of a risk occurring should be quantified on a scale of 1 to 4 assessed as follows:*

- *little or negligible impact;*
- *minor or low impact;*
- *noticeable impact;*
- *major, high or serious impact.*

*The impact is quantified by assessing the extent of damage likely to be caused should the risk become an incident. As the impact is likely to increase with increasing speed, the amount of traffic and type of road are clearly important considerations in the assessment.*

***Risk Probability***

*The probability of a risk occurring should also be quantified on a scale of 1 to 4 assessed as follows:*

- *very low probability;*
- *low probability;*
- *medium probability;*
- *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, consequently, important considerations in the assessment.*

***Risk Factor***

*The risk factor for a particular risk is the product of the risk impact and risk probability and is therefore in the range of 1 to 16. 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. 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 in Table 5 below.*

***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 should be either defined as Category 1 response or allocated to one of the locally determined timescales for rectifying Category 2 defects as described in Section 9.4. The response category is represented by the coloured cells in Table 5 below*.

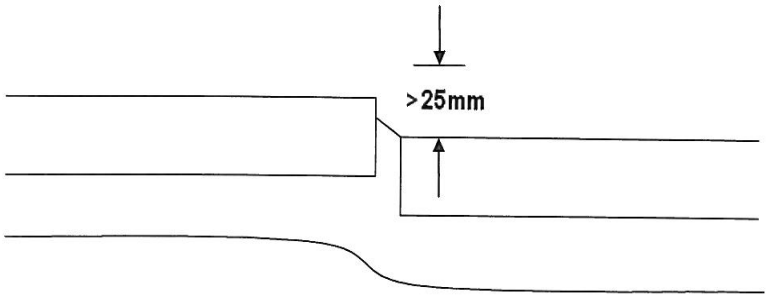
**Table 5 – Risk Matrix**

| Probability → | Very low (1) | Low (2) | Medium (3) | High (4) |
|---|---|---|---|---|
| Impact↓ | | | | |
| Negligible (1) | 1 | 2 | 3 | 4 |
| Low (2) | 2 | 4 | 6 | 8 |
| Noticeable (3) | 3 | 6 | 9 | 12 |
| High (4) | 4 | 8 | 12 | 16 |
| | | | | |
| Response Category | Category 2(L) response | Category 2(M) response | Category 2(H) response | Category 1 Response |

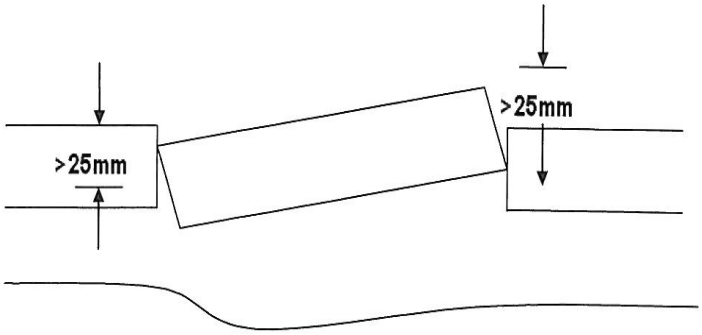
Appendix B: Intervention Levels

Category 1 Intervention Levels

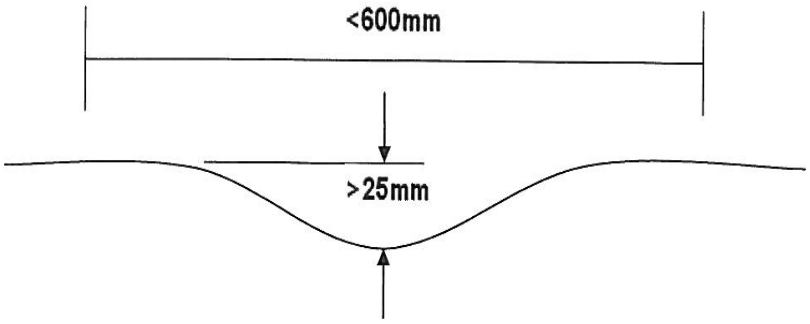
Our intervention level for Footway repairs is greater than 25mm.




a) Footway – Modular - Trips greater than 25mm

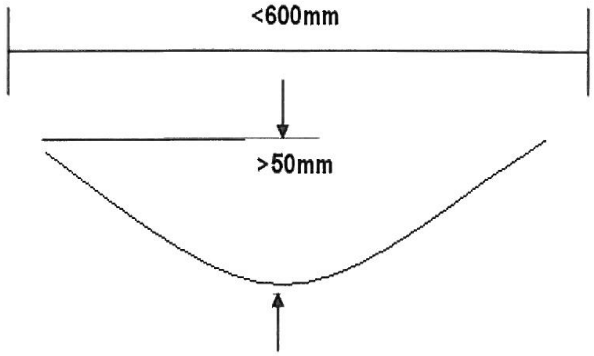



b) Footway – Modular - Rocking flags greater than 25mm

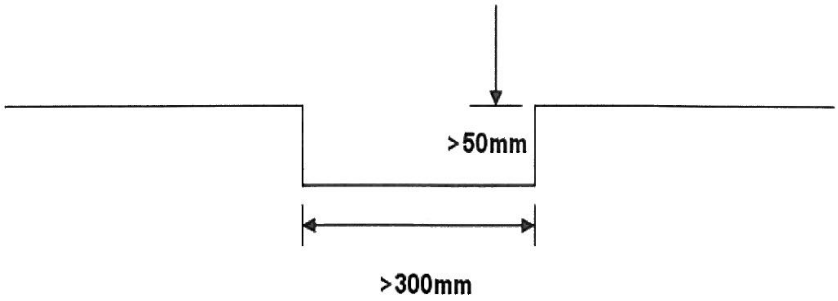



c) Footway – Bituminous - Change of footway profile greater than 25mm and extending in plan direct less than 600mm

Our intervention level for Carriageway repairs is greater than 50mm.




d) Carriageway – Bituminous - Change of carriageway profile greater than 50mm and extending in plan direct less than 600mm




e) Carriageway - A depression (pot hole) of 50mm or greater in depth and extending in any one direction greater than 300mm may constitute a safety hazard

Standard intervention levels for the identification of common highway defects

The list of possible defects that could be identified as part of a Safety Inspection, together with the suggested defect investigatory levels, are shown in the following table below. These intervention levels are indicative values only, the actual point at which intervention occurs will be determined by the onsite assessment risk process set out below with reference to the risk register:

| **Item** | **Defect** | **Suggested Cat 2 Investigatory Level** |
|---|---|---|
| *Carriageway and Cycle Track* | *pothole / spalling* | *>=20 mm depth (75mm across in any horizontal direction)* |
| | ridge | >=20mm |
| | hump | >=20mm |
| | depression / sunken cover | >=20mm |
| | gap / crack | >=20mm depth ( 20mm width) |
| Footway (Prestige area) | trip / pothole / sunken cover | >=15 mm depth (75mm across in any horizontal direction) |
| | rocking slab / block | >=15mm vertical movement |
| | open joint | >=15mm depth (100mm  50mm horizontally) |
| Footway (others) | trip / pothole / sunken cover | >=20mm depth (75mm across in any horizontal direction) |
| | rocking slab / block | >=20mm vertical movement |
| | open joint | >=20mm depth (100mm  50mm horizontally) |

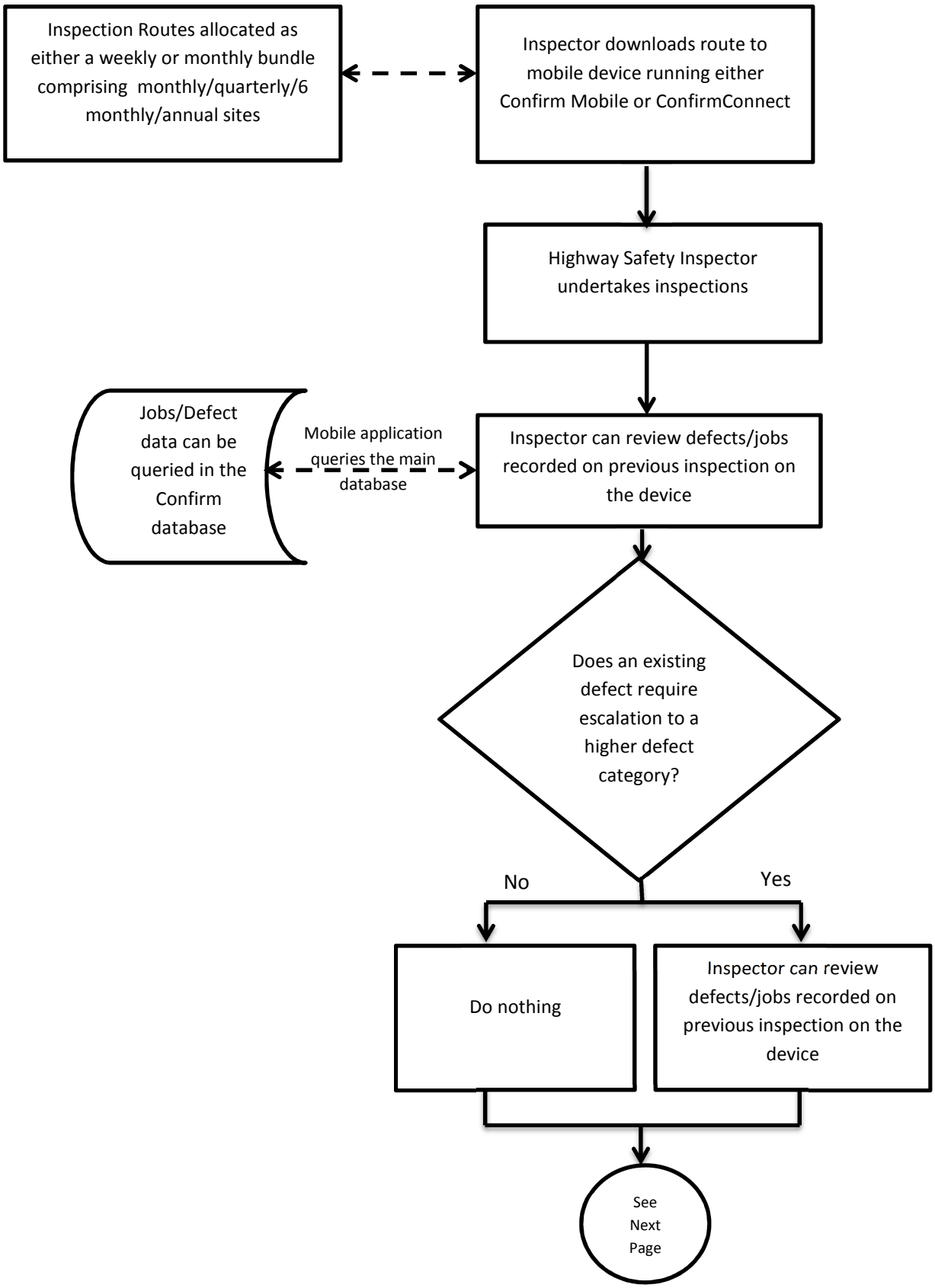
| Item | Defect | Suggested Investigatory Level |
|---|---|---|
| Kerb | misaligned | >=50mm horizontally |
| | loose / rocking | >=20mm vertically |
| | missing | yes / no |
| Verge | sunken area adjacent to and running parallel with c/way or f/way edge | depth >=50 mm |
| | obstruction | yes / no |
| iron works | gaps within framework (other than designed by manufacturer) | >=20mm |
| | level differences within framework or with the adjacent surface. | >= +/-10 mm |
| | rocking covers | >=15mm vertical movement |
| | cracked / broken covers | yes / no |
| | worn / polished covers | yes / no |
| | missing covers | yes / no |
| flooding | standing water 2 hours after cessation of rainfall (non Event Storm) | yes / no |
| | substantial running water across carriageway | yes / no |
| | substantial running water across footway | yes / no |
| | property inundation due to failure of highway drainage | yes / no |

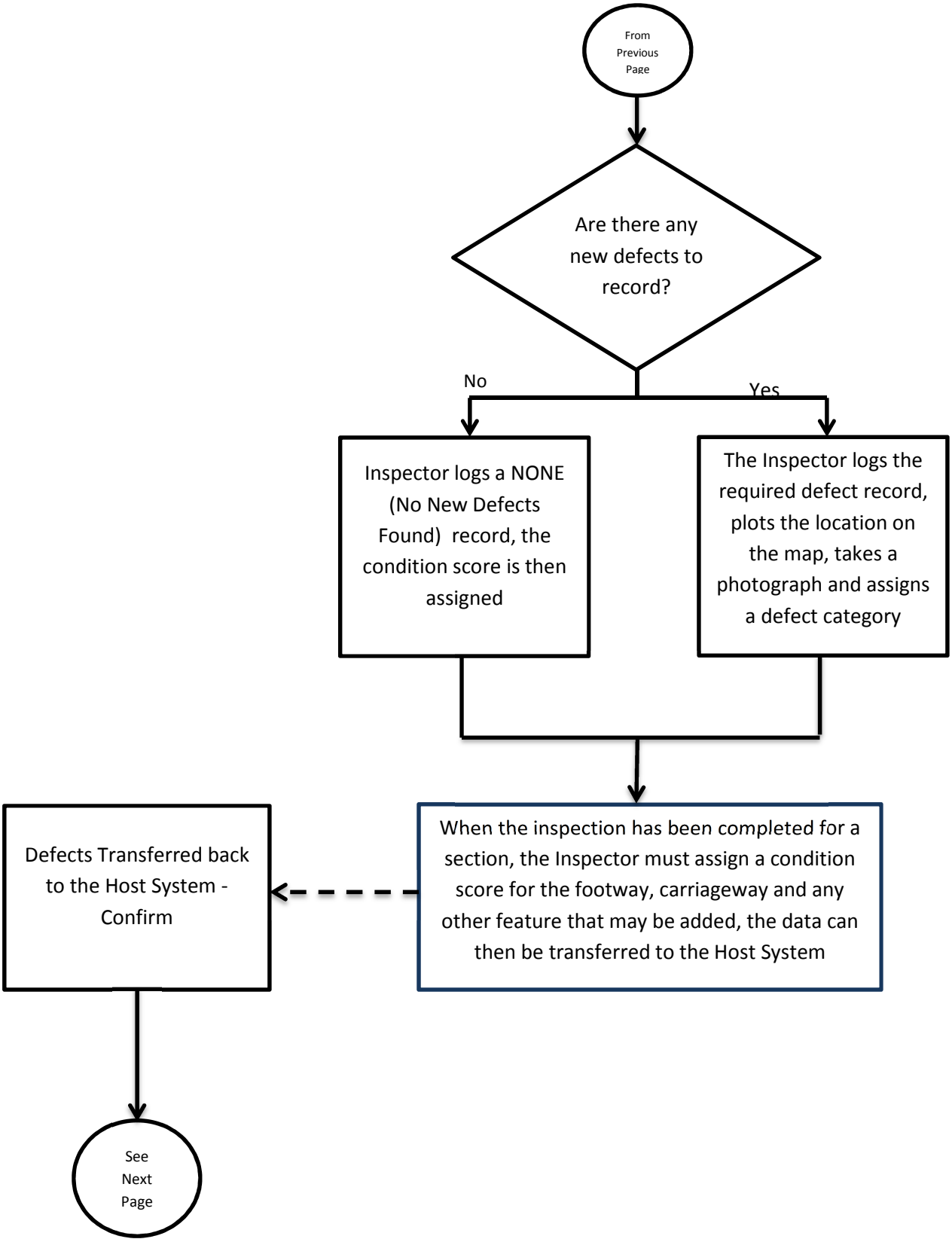
| Item | Defect | Suggested Investigatory Level |
|---|---|---|
| drainage | blocked gully (silted above outlet) | yes / no |
| | collapsed / blocked / settled items or systems | yes / no |
| road markings | faded or worn markings | >=30% loss of effective markings (Stop lines >=25%) |
| road studs | missing | yes / no |
| | hole left in c/way | >=20mm depth (75mm across in any horizontal direction) |
| | displaced loose item on c/way | yes / no |
| | defective item | yes / no |
| Signs/Bollards/ Street Lights/ Traffic Signals | damaged/misaligned/loose item causing a hazard | yes / no |
| | missing item causing a hazard | yes / no |
| | lights/signals not operating correctly/malfunctioning | yes / no |
| | signals pointing the wrong way | yes / no |
| | signal lamp failure | yes / no |
| | exposed wiring | yes / no |
| | missing door to lamp column | yes / no |
| | item missing | yes / no |
| | item obscured/dirty/faded | yes / no |
| | Severe corrosion to post or column so as to jeopardize structural integrity | yes / no |

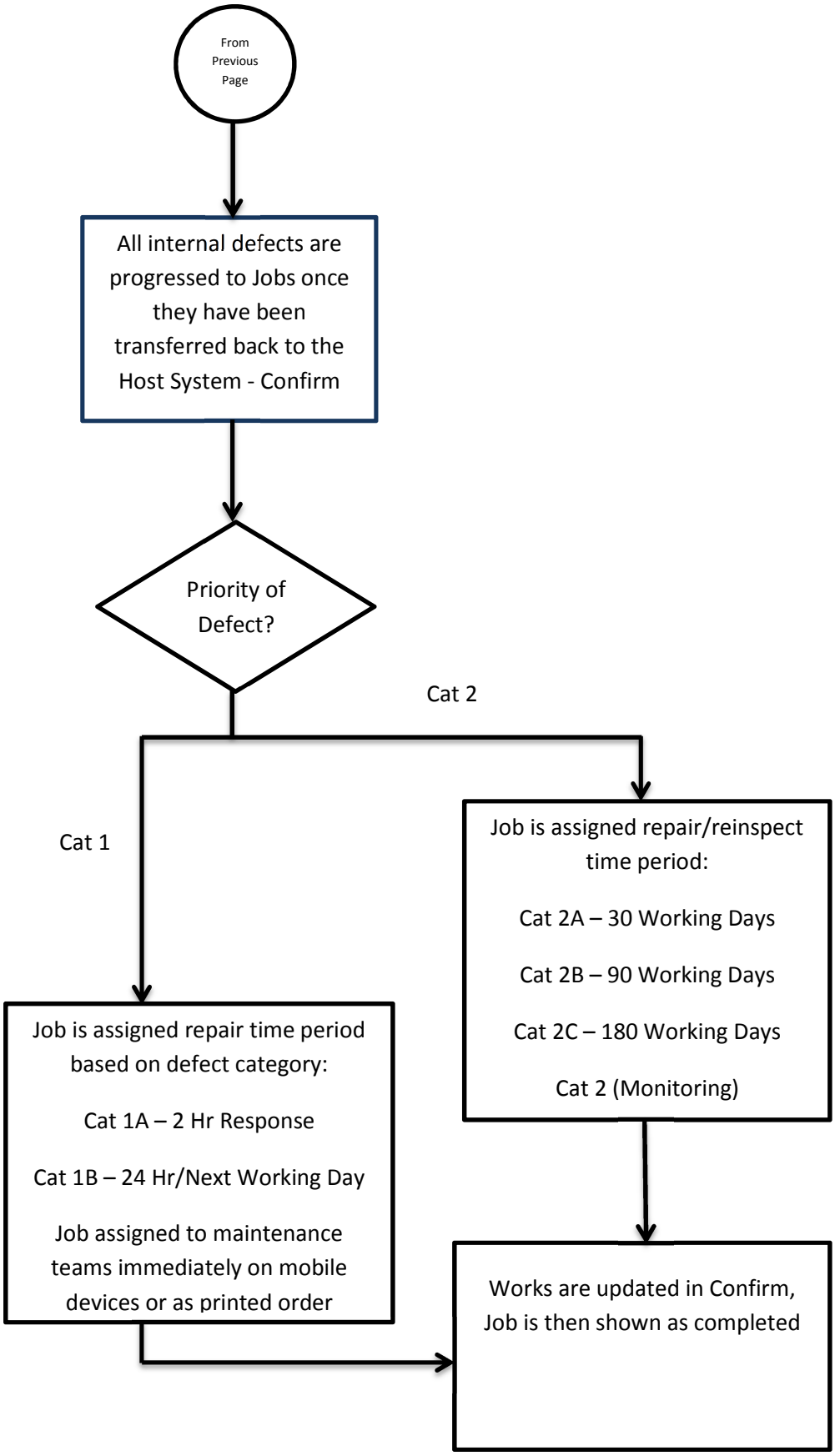
| Item | Defect | Suggested Investigatory Level |
|---|---|---|
| safety fencing and barriers | item damaged or misaligned causing a hazard | yes / no |
| | unstable item or section | yes / no |
| Structures, Bridges Tunnels | Damaged parapets | yes / no |
| | Damage likely to cause a hazard | yes / no |
| hedges trees grass | unstable tree causing danger of collapse onto highway | yes / no |
| | visibility impeded or obscuring signs and signals | yes / no |
| | Overhanging tree or hedges causing reduction in width | yes / no |
| | overhanging tree leading to loss of height clearance over carriageway, footway or Cycle Track | yes / no<br>< 2.1m over Footways<br>< 2.4m over Cycle Track<br>< 5.1m over Carriageways |

| Item | Defect | Suggested Investigatory Level |
|---|---|---|
| highway general | oil / debris / mud / stones and gravel likely to cause a hazard | yes / no |
| | street furniture missing / damaged likely to cause a hazard | yes / no |
| | illegal signs | yes / no |
| | obstructions in the highway | yes / no |
| | obstructed sight lines | yes / no |
| | ramps in carriageway to aid vehicular movement | yes / no |
| | f/way damage caused by vehicular access where no vehicle crossing | yes / no |
| | scaffolding likely to cause a hazard | yes / no |
| | skips likely to cause a hazard | yes / no |
| | unprotected building materials on the highway | yes / no |
| | abandoned vehicles likely to cause a hazard | yes / no |
| | offensive graffiti | yes / no |
| | slippage in embankments and cuttings | yes / no |
| other dangers to the public | anything else considered dangerous | yes / no |

Appendix C: Inspection Process in Confirm




From Previous Page
Are there any new defects to record?
No
Yes
Inspector logs a NONE (No New Defects Found) record, the condition score is then assigned
The Inspector logs the required defect record, plots the location on the map, takes a photograph and assigns a defect category
When the inspection has been completed for a section, the Inspector must assign a condition score for the footway, carriageway and any other feature that may be added, the data can then be transferred to the Host System
Defects Transferred back to the Host System - Confirm
See Next Page


From Previous Page
All internal defects are progressed to Jobs once they have been transferred back to the Host System - Confirm
Priority of Defect?
Cat 2
Cat 1
Job is assigned repair/reinspect time period:
Cat 2A – 30 Working Days
Cat 2B – 90 Working Days
Cat 2C – 180 Working Days
Cat 2 (Monitoring)
Job is assigned repair time period based on defect category:
Cat 1A – 2 Hr Response
Cat 1B – 24 Hr/Next Working Day
Job assigned to maintenance teams immediately on mobile devices or as printed order
Works are updated in Confirm, Job is then shown as completed

Appendix D: Risk Assessment

**Risk Assessment & Safe Systems of work**

**Highway Inspections**

It is important to know that any activity on the highway be it a motorway or a 20mph home zone street can be potentially hazardous & has an inherent risk attached to it.

The Council undertakes cyclic highway safety inspections on all its adopted highways in order to comply with its duty to maintain its highways as outlined within Section 41 of the Highways Act 1980 and to support the special defence as defined in Section 58 of the Act.

This safe system of work has therefore been developed with the primary aim of providing assistance to those officers involved in undertaking highway safety inspections so that they may carry out their duties with safety and to clear recognised and understood criteria.

An assessment of health and safety hazards associated with any particular task process of work or other operation. (Health and Safety at Work Regulations 1992). The purpose behind the Risk Assessment is to evaluate the level of hazard and to introduce appropriate control measures to reduce the risks from such hazards to acceptable levels.

Everyone required to work on the highway should be aware that they have a responsibility for the safety of themselves and others. The term **'Site'** means all locations on the Public Highway, Council Land, Private Land and all types of Construction Sites.

| | |
|---|---|
| *Hours of Work* | When carrying out highway inspections it is important that consideration must be given to day light hours & the hours of work will need to be adjusted during winter months when light is an issue. Any work that needs to be undertaken during the hours of darkness will need to be approved with your line manager prior to commencing. |
| **Leaving the Office** | Before leaving the office you must do one of the following:<br>• Leave details in writing by signing out using the signing out book and sign the whereabouts board situated to the rear of the office.<br>• Leave details verbally with your line manager<br>Please indicate in the book, on the board or with your line manager the following:<br>• Your expected movements<br>• Where you are going initially,<br>• Where you intend to go<br>• The time & date you left and are expected back in to the office.<br>• If you intend to finish or start work on site please state this & verbally agree this with your line manager. |

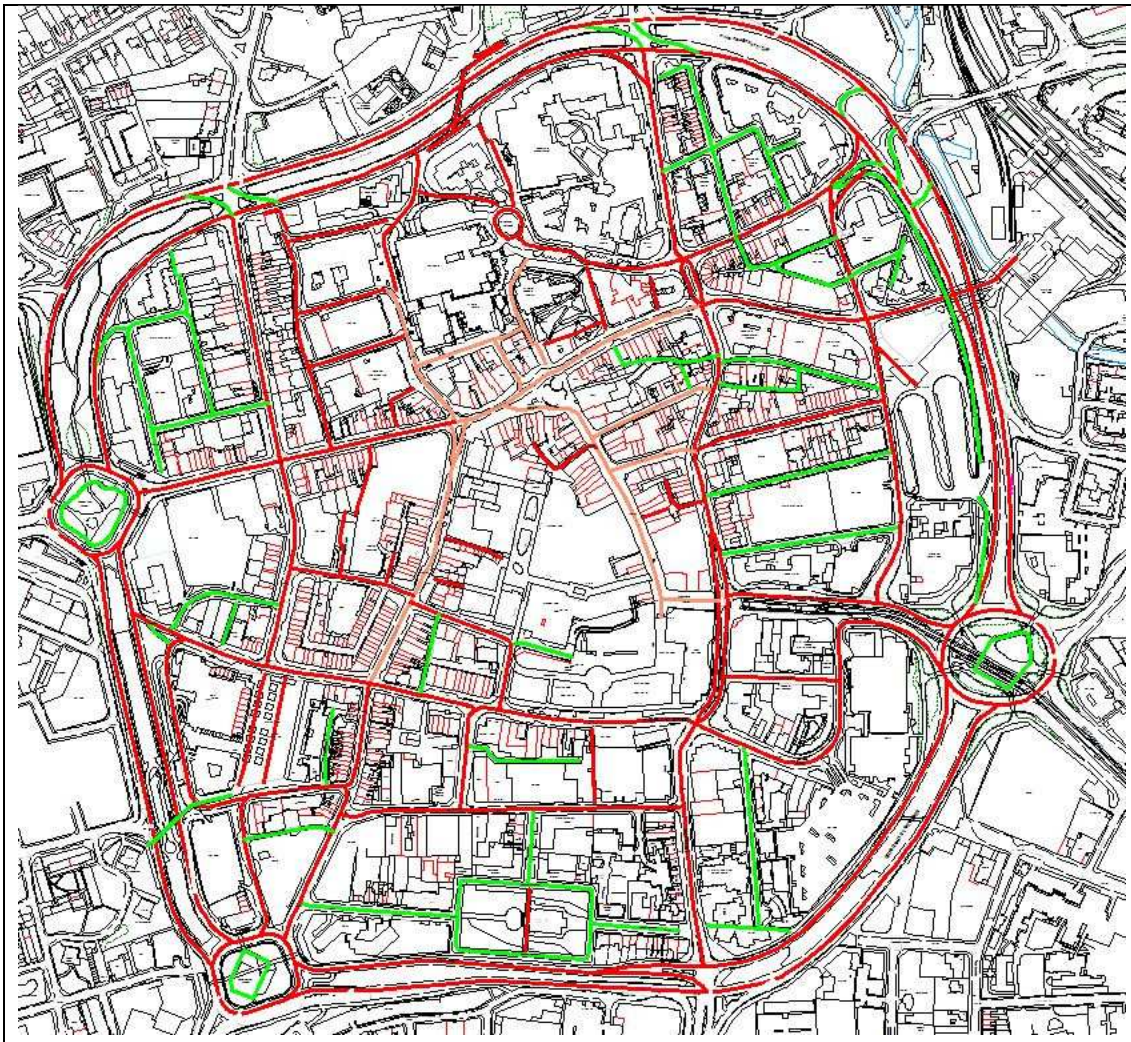
| | |
|---|---|
| | • If you have been issued with a mobile telephone then you must ensure that this is taken with you and is switched on and used in accordance with the law. |
| **On Site** | Once on site park your vehicle in a safe place or park in an allocated car park on site if available. It is your responsibility to park legally and safely, parking fines will not be paid by the council. Keep all valuables out of display. |
| **Personal Protective Equipment** | **When working on site you must wear at all times:**<br>• High visibility reflective jacket conforming to BS EN 471 Class 3<br>• Safety boots conforming to BS EN246 with ankle supports.<br>• You must also wear or use any other equipment in the correct manner that has been provided by the council such as safety helmets, gloves etc. and you must not intentionally damage or deface any equipment that has been provided by the council to protect you.<br>• If you require any personal protective equipment then please consult your line manager or health safety officer. These will be provided by the city council free of charge. |
| **Highway Inspections In vehicles** | • Driven surveys will be undertaken in a city council slow-moving, high visibility with orange strobes vehicle.<br>• The driven survey must not under no circumstances be carried out in personal vehicles.<br>• The driven inspection must be carried out with both a driver & inspecting officer under no circumstances must a driven inspection be carried out by one officer.<br>• Both the driver & inspecting officer must wear a high visibility reflective jacket conforming to BS EN 471 & safety boots conforming to BS EN246 with ankle supports both inside & outside of the vehicle.<br>• The vehicle must be checked for any faults using a defect book provided.<br>• If a fault is found and the vehicle is not road worthy then it must be reported immediately to your line manager and must not be used until it is repaired. A sign will also need to be displayed on the windscreen stating that the vehicle is off road (V.O.R).<br>• When the vehicle is undertaking a driven survey the orange flashing strobe lights will needed to be switched on and the vehicle will need to display all the necessary livery and warning signs to inform other road users that a highway inspection is in process.<br>• The driven survey must be carried out during off peak hours between 09:30 -1530 hrs to minimize any disruption to other road users.<br>• Vehicle-based inspections will involve a driver accompanied by the inspecting officer, but in cases |

| | |
|---|---|
| | where it is difficult to obtain the necessary level of accuracy through this method, inspectors will walk the route instead, provided a footpath is used to carry out this inspection.<br>• The vehicle must comply with all road traffic laws and be used in a courteous manner; the council will not pay any fines or parking tickets this will be the responsibility of the driver.<br>• If a defect is noted it on the highway it may be necessary for you to park the vehicle so as to provide protection from oncoming traffic this must only be done in a council vehicle and you must operate the orange flashing light and display all warnings signs, this must also be done safely by being visible to traffic and not to cause a hazard.<br>• Driving must be shared between therefore officers must adhere to the European drivers' hours rules which require that after 4½ hours driving, a driver must take a break of at least 45 minutes. |
| **WEATHER CONDITIONS** | **Inclement weather**<br><br>• Before commencement of inspections, weather forecasts should be consulted to confirm the likelihood of satisfactory visibility.<br>• All surveys driven or walked must not be carried out in inclement weather conditions that reduce visibility.<br>• During inclement weather conditions it may be necessary for you to cease the survey and return to the office or you may wish to park the vehicle safely & allow the weather to clear.<br><br>**Hot Weather**<br><br>Ensure that you take regular breaks and carry a bottled cold drink with you on order to avoid dehydration. |
| **ROAD TRAFFIC COLLISION** | If you are the driver and one or more of the following has happened:<br><br>• A person, other than yourself, is injured<br>• Damage is caused to another vehicle or to someone else's property<br>• An animal has been killed or injured<br><br>**You must:**<br><br>• First of all stop.<br>• If there are any injuries dial 999 for emergency services.<br>• Exchange insurance details, obtain registration numbers of vehicles, names & addresses of person(s) involved & any witnesses to the collision.<br>• You must do these things not only when you are directly involved in an injury accident, but also if your vehicle's 'presence' was a factor.<br>• You must under no circumstances leave the scene of an accident without doing any of these, this will not |

| | |
|---|---|
| | only be a disciplinary offence but is also a criminal offence.<br>• You must not enter into any discussion on fault or blame, this would be a matter for the council to deal with at a later stage.<br>• Once you are clear to leave the scene you must inform your line manager at your earliest opportunity and fill out a accident report form within 24hours. |
| **Walked Inspections** | • When carrying out a detailed walked inspection, pavements (including any path along the side of a road) should be used if provided, if there is no pavement then the route should be undertaken as a driven survey.<br>• Always ensure you look where you are walking where possible, avoid being next to the kerb with your back to the traffic, always face on-coming traffic as far as practicable.<br>• If you need to step into the road, try to use a appropriate crossing point and look both ways first, always show due care and consideration for others.<br>• Avoid crossing between parked cars; try not to cross in places where traffic cannot see you, as you cross keep looking both ways.<br>• Ensure that you wear safety footwear that conforms to BS EN246 with suitable ankle supports to protect feet and ankles in the event of any slips or trips & a high visibility reflective jacket conforming to BS EN 47 Class three is worn. |
| | |
| | |
| | |

Appendix E; Inspection Routes

**City Centre Inspection Routes**



Wolverhampton City Centre Highway Safety Inspection Routes

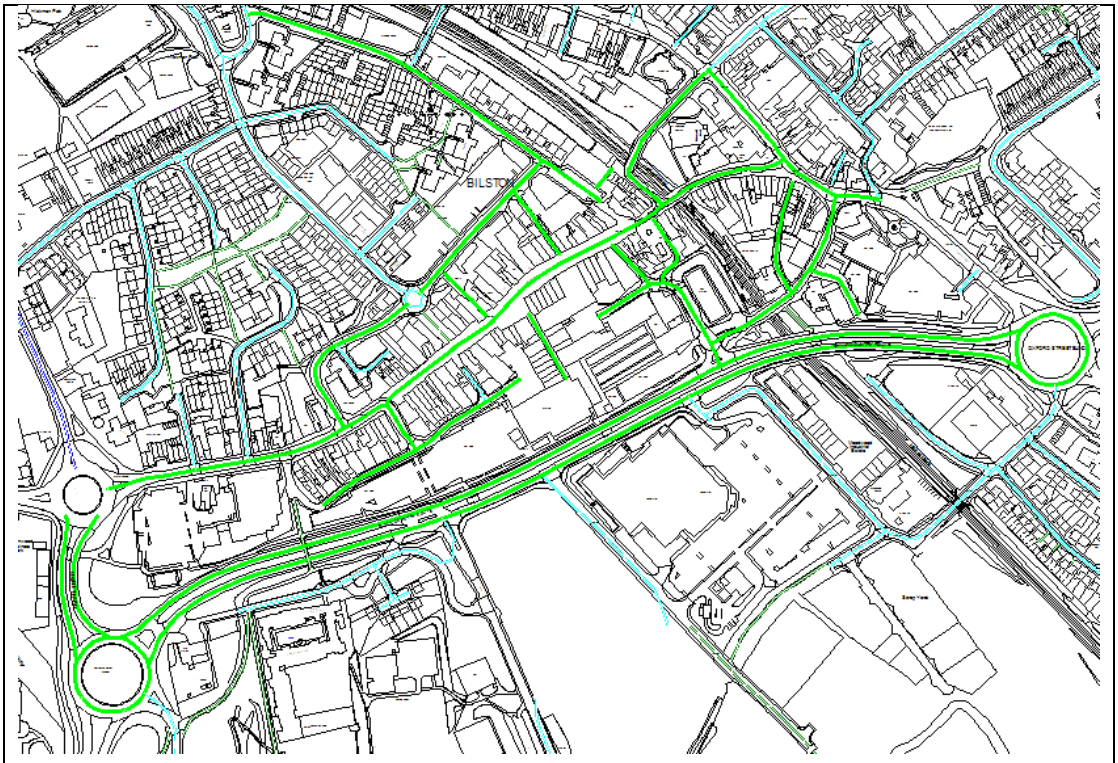
The coloured centre-line indicates those sites included in the current inspection programme

Red & Orange – Monthly Inspection

Green – Quarterly Inspection

WCC_Network by FwayH
1 (90)
1a (15)
2 (49)

**Bilston Town Centre**



Bilston Town Centre – Highway Safety Inspection Route

The green centre-line indicates those sites included in the monthly inspection

**Wednesfield Town Centre**

Wednesfield Town Centre – Highway Safety Inspection Route

The green centre-line indicates those sites included in the monthly inspection

## Monthly Driven Inspection Routes

| site_code | plot_no | site_name | feature_location | Length | unit |
|---|---|---|---|---|---|
| 44805020 | 10001 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - EB BIRMINGHAM NEW ROAD - RBT OVERFIELD DRIVE | 242.42 | Metres |
| 44805020 | 10002 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - WB RBT OVERFIELD DRIVE - BIRMINGHAM NEW ROAD | 242.57 | Metres |
| 44805020 | 10003 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - RBT OVERFIELD DRIVE - FROM WEST ENTRANCE | 122.24 | Metres |
| 44805020 | 10004 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - EB RBT OVERFIELD DRIVE - RBT SPRINGVALE WAY | 792.59 | Metres |
| 44805020 | 10005 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - WB RBT SPRINGVALE WAY - RBT OVERFIELD DRIVE | 797.98 | Metres |
| 44805020 | 10006 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - RBT SPRINGVALE WAY - FROM SOUTHWEST ENTRANCE | 143.18 | Metres |
| 44805020 | 10007 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - NB RBT plkkNGVALE WAY - RBT COSELEY ROAD | 419.86 | Metres |
| 44805020 | 10008 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - SB RBT COSELEY ROAD - RBT SPRINGVALE WAY | 420.22 | Metres |
| 44805020 | 10009 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - RBT COSELEY ROAD - FROM SOUTH ENTRANCE | 213.26 | Metres |
| 44805020 | 10010 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - EB RBT COSELEY ROAD - RBT OXFORD STREET | 877.69 | Metres |
| 44805020 | 10011 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - WB RBT OXFORD STREET - RBT COSELEY ROAD | 870.79 | Metres |
| 44805020 | 10012 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - RBT OXFORD STREET - FROM WEST ENTRANCE | 201.04 | Metres |
| 44805020 | 10013 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - EB RBT OXFORD STREET - RBT HARE STREET | 321.53 | Metres |
| 44805020 | 10014 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - WB RBT HARE STREET - RBT OXFORD STREET | 322.06 | Metres |

| | | | | | |
|---|---|---|---|---|---|
| 44805020 | 10015 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - RBT HARE STREET - FROM NORTHWEST ENTRANCE | 201.17 | Metres |
| 44805020 | 10016 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - EB RBT HARE STREET - RBT BLACK COUNTRY NEW ROAD | 768.3 | Metres |
| 44805020 | 10017 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - WB RBT BLACK COUNTRY NEW ROAD - RBT HARE STREET | 764.05 | Metres |
| 44805020 | 10018 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - RBT BLACK COUNTRY NEW ROAD - FROM WEST ENTRANCE | 334.35 | Metres |
| 44805020 | 10019 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - EB RBT BLACK COUNTRY NEW ROAD - DARLASTON LANE | 403.45 | Metres |
| 44805020 | 10020 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - WB DARLASTON LANE - RBT BLACK COUNTRY NEW ROAD | 428.63 | Metres |
| 44805020 | 10021 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - SB SLIP ON - BIRMINGHAM NEW ROAD | 53.63 | Metres |
| 44805020 | 10022 | BLACK COUNTRY ROUTE | BLACK COUNTRY ROUTE - FOOTWAY AND CYCLE TRACK FROM LUNT ROAD TO DARLASTON LANE | 852 | Metres |
| | | | | | |
| | | | | | |
| | | | | | |
| 44805040 | 10001 | BLACK COUNTRY NEW ROAD | BLACK COUNTRY NEW ROAD - SB RBT BLACK COUNTRY ROUTE - CITY BOUNDARY | 354.05 | Metres |
| 44805040 | 10002 | BLACK COUNTRY NEW ROAD | BLACK COUNTRY NEW ROAD - NB CITY BOUNDARY - RBT BLACK COUNTRY ROUTE | 355.31 | Metres |
| | | | | | |
| | | | | | |
| 44842480 | 10003 | RING ROAD | RING ROAD - RBT PENN ROAD ISLAND - FROM EAST ENTRANCE | 264.79 | Metres |
| 44842480 | 10006 | RING ROAD | RING ROAD - RBT CHAPEL ASH - FROM SOUTH ENTRANCE | 276.29 | Metres |
| 44842480 | 10014 | RING ROAD | RING ROAD ST DAVIDS - SB BROAD STREET - RBT BILSTON ROAD | 513.36 | Metres |
| 44842480 | 10015 | RING ROAD | RING ROAD ST DAVIDS - NB RBT BILSTON ROAD - BROAD STREET | 462.94 | Metres |
| 44842480 | 10016 | RING ROAD | RING ROAD - RBT BILSTON ROAD - FROM NORTH ENTRANCE | 333.45 | Metres |

## Appendix F: Network Categorisation Record

This sheet is to be used to record changes to a sites hierarchy categorisation and safety inspection frequency:

**Network Categorisation Record**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site Name | | | | | | | | | | District | | | | | |
| | | | | | | | | | | Ward | | | | | |
| Section Label | | | | | | | | | | Section No | | | | | |
| From | | | | | | | | | | To | | | | | |
| Current Inspection Frequency | | | | | | | | | | Proposed Inspection Frequency | | | | | |
| Site Features | | | | | | | | | | | | | | | |
| Dft Road Class | 3 / 4 / 5 / 6 / NC | | | | | | | | | | | | | | |
| LHS | | | | Carriageway | | | | | | RHS | | | | | |
| Verge | | Footway | | | | | | | | Footway | | Verge | | | |
| Outer | Inner | Outer | Inner | | | | | | | Outer | Inner | Outer | Inner | | |
| | | Amendment/Changes Required | | | | | | | | Yes / No | | | | | |
| | | **Current** | | | | | | Revised/ Amended | | | | | | | |
| | | **Code** | **Description** | **CoP Frequency** | | | | **Code** | **Description** | | | | | | |
| Carriageway Hierarchy | | | | | | | | | | | | | | | |
| Footway Hierarchy | | | | | | | | | | | | | | | |
| Cycle Route Hierarchy | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Nature Of Site | Residential | | | Mixed | | | | Commercial | | Industrial | | Retail | | | |
| Current Usage | | | | | | | | | | | | | | | |
| Proposed Usage | | | | | | | | | | | | | | | |
| Bus Route | Yes/No | | | | | | | Frequency | | High/Medium/Low | | | | | |
| Traffic Flow* | | High/Med/Low | | | | | | | | | | | | | |
| Pedestrian Volume* | | High/Med/Low | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Sites Claim /Accident History | | | | | | | | | | | | | | | |
| Character and Traffic Use Of Adjoining Highway* | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Reviewed By | | | | | | | | | | Date | | | | | |
| Approved By | | | | | | | | | | Date | | | | | |
| | | | | | | | | | | | | | | | |
| *This is based on what the section connects to/from, use the text description associated with the hierarchy definition;<br>Particular local circumstances, such as proximity to school, hospitals, medical centres should be taken into account in determining inspection frequency | | | | | | | | | | | | | | | |
| Page 1 of 2 | | | | | | | | | | | | | | | |

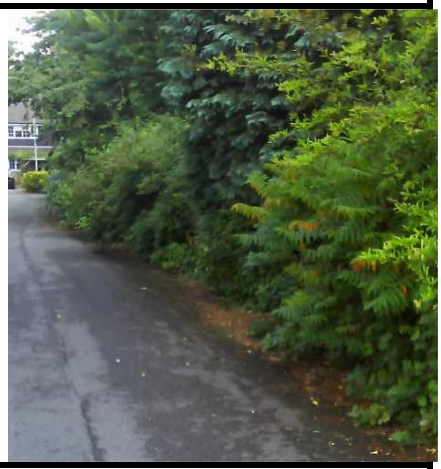
Notes: Footway and carriageway hierarchy, will not necessarily be determined by the road classification, but the functionality of the footway or carriageway and scale of use. In urban areas the contribution of the footway to the quality of public space and streetscene will be particularly important.

Local factors such as the age, distribution of the population, the proximity of schools, shops, health centres or other establishments attracting higher than normal numbers of pedestrians/traffic to the site.

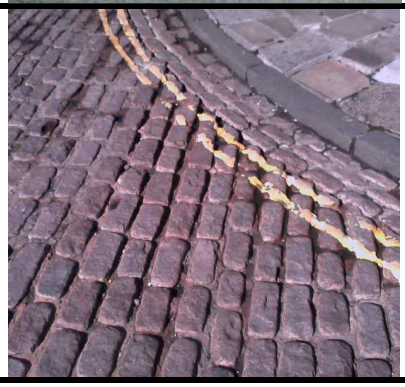
| Feature | | Category | Inspection Frequency |
|---|---|---|---|
| **Carriageways** | | | |
| 2 | Strategic Routes | Principal 'A' Roads | 1 month |
| 3(a) | Main Distributors | Classified Non-Principal B Roads | 1 month |
| 3(b) | Secondary Distributors | Classified Non-Principal C Roads and other locally significant routes | 1 month |
| 4(a) | Link Access | Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions. | 3 Months |
| 4(b) | Local Access | Roads serving limited numbers of properties carrying only access traffic. | 1 Year |
| | | | |
| **Footways** | | | |
| 1(a) | Prestige Area | Very busy areas of towns and cities with high public space and street scene contribution. | 1 Month |
| 1 | Primary Walking Route | Busy urban shopping and business areas and main pedestrian routes. | 1 Month |
| 2 | Secondary Walking Route | Medium usage routes through local areas feeding into primary routes, local shopping centres, etc. | 3 Month s |
| 3 | Link Footway | Other footways alongside roads with carriageway categories 2, 3a, 3b and 4a | 6 Months |
| 4 | Local Access Footway | Footways alongside local access roads (carriageway category 4b) and footpaths within estates. | 1 Year |

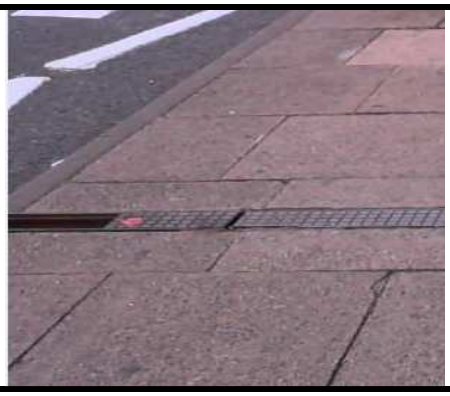
## Appendix G: Confirm – Highway Defect Codes

| Defect Type Code | Defect – Short Description | | |
|---|---|---|---|
| CAT1 | NO NEW CAT 1 DEFECTS NOTED | | |
| | | | |
| CWDA | Cway Damaged |  |  |
| | |  |  |
| | | | |
| CWDE | Cway Depression |  |  |

| | | | |
|---|---|---|---|
| **CWDS** | **Cway Det Surrounding** |  |  |
| | |  |  |
| | | | |
| **CWHF** | **Cway High Friction Surf Damage** | | |
| | | | |
| **CWLW** | **Cway Excess Litter/Weeds** | | |
| | | | |
| **CWOV** | **Cway Overhanging Vegetation** |  |  |
| | | | |

| | | | |
|---|---|---|---|
| **CWPH** | **Cway Pothole** |  |  |
| | |  |  |
| | | | |
| **CWPO** | **Cway Ponding** |  | |
| | | | |
| **CWRE** | **Cway Reinstatement Failure** |  |  |
| | | | |

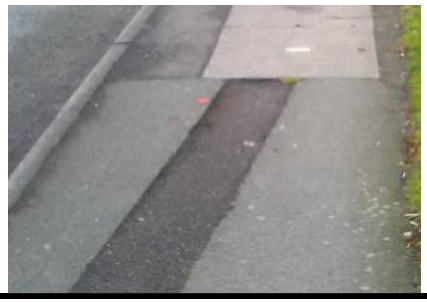
| | | | |
|---|---|---|---|
| **CWUN** | **Cway Uneven** |  |  |
| | |  |  |
| | | | |
| **FTBL** | **Fway Trough Blockage** |  | |
| | | | |

| | | | |
|---|---|---|---|
| **FTDA** | **Fway Trough Damaged** |  |  |
| | | | |
| **FTDI** | **Fway Trough Displaced** |  |  |
| | | | |
| **FTLO** | **Fway Trough Loose** |  |  |
| | | | |
| **FTMI** | **Fway Trough Missing** |  |  |

| | | | |
|---|---|---|---|
| | |  |  |
| | | | |
| **FWDA** | **Footway Damaged** |  |  |
| | |  |  |
| | | | |
| **FWDE** | **Footway Depression** |  |  |

| | | | |
|---|---|---|---|
| | |  |  |
| | | | |
| **FWDS** | **Footway Det Surrounding** |  |  |
| | | | |
| **FWLO** | **Footway Loose** |  |  |
| | |  |  |
| | | | |
| **FWLW** | **Footway Excess Litter/Weeds** | | |
| | | | |

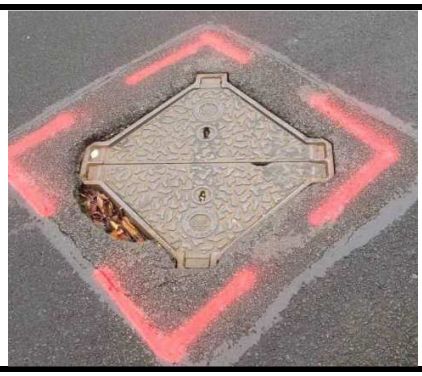
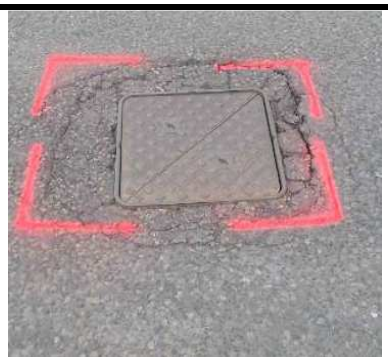
| | | | |
|---|---|---|---|
| **FWMI** | **Footway Missing** |  |  |
| | |  |  |
| | | | |
| **FWOV** | **Fway Overhanging Vegetation** |  | |
| | | | |
| **FWPH** | **Footway Pothole** |  |  |

| | | | |
|---|---|---|---|
| | |  |  |
| | | | |
| **FWPO** | **Footway Ponding** |  | |
| | | | |
| **FWRE** | **Fway Reinstatement Failure** |  |  |
| | | | |
| **FWUN** | **Footway Uneven** |  |  |
| | | | |
| **GBDE** | **Grit Bin Defect** | | |
| | | | |
| **GYBL** | **Gully Blockage** | | |
| | | | |

| | | | |
|---|---|---|---|
| **GYDA** | **Gully Damaged** |  |  |
| | |  |  |
| | | | |
| **GYDI** | **Gully Displaced** |  |  |
| | |  |  |
| | | | |
| **GYLO** | **Gully Loose** |  |  |

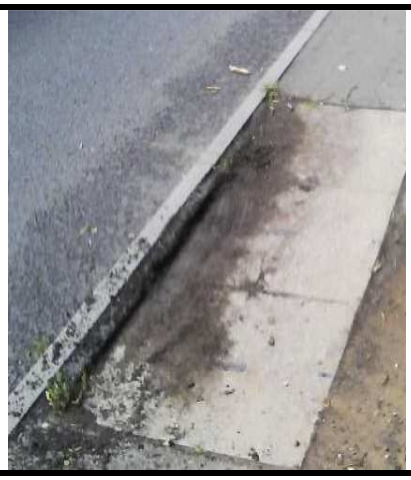
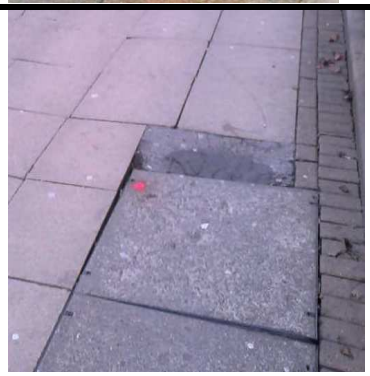
| | | | |
|---|---|---|---|
| **GYMI** | **Gully Missing** |  |  |
| **KBDA** | **Kerb Damaged** |  |  |
| | |  |  |
| **KBDI** | **Kerb Displaced** |  |  |

| | | | |
|---|---|---|---|
| **KBLO** | **Kerb Loose** |  |  |
| **KBMI** | **Kerb Missing** |  |  |
| **KBUN** | **Kerb Uneven** |  | |
| **LTDE** | **Litter Bin Defect** |  |  |

| | | | |
|---|---|---|---|
| **MHDA** | **Manhole Damaged** |  | |
| | | | |
| **MHDI** | **Manhole Displaced** |  |  |
| | | | |
| **MHLE** | **Manhole Water Leakage** | | |
| | | | |
| **MHLO** | **Manhole Loose** |  |  |
| | | | |
| **MHMI** | **Manhole Missing** |  |  |
| | | | |
| **NONE** | **No New Defect Found** | | |
| | | | |
| **OTHE** | **Other** | | |

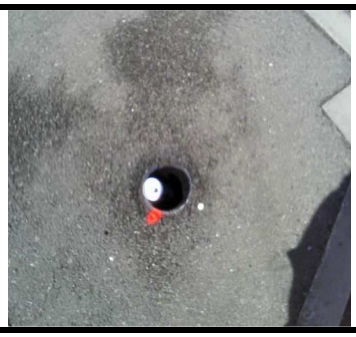
| | | | |
|---|---|---|---|
| **PRDA** | **Ped Guardrail Damaged** |  |  |
| | |  |  |
| | |  | |
| | | | |
| **PRDI** | **Ped Guardrail Displaced** | | |
| | | | |
| **PRLO** | **Ped Guardrail Loose** |  | |
| | | | |

| | | | |
|---|---|---|---|
| **PRMI** | **Ped Guardrail Missing** | | |
| | | | |
| **PUDA** | **Public Utility Damaged** |  |  |
| | |  |  |
| | |  | |
| | | | |

| | | | |
|---|---|---|---|
| **PUDI** | **Public Utility Displaced** |  |  |
| | | | |
| **PULE** | **Public Utility Water Leakage** | | |
| | | | |
| **PULO** | **Public Utility Loose** |  |  |
| | |  |  |
| | | | |

| | | | |
|---|---|---|---|
| **PUMI** | **Public Utility Missing** |  |  |
| | |  |  |
| | | | |
| **RMDA** | **ROAD MARKING DAMAGE** |  |  |
| | |  |  |
| | | | |

| | | | |
|---|---|---|---|
| **SBDA** | **Bollard Damaged** |  |  |
| | |  |  |
| | | | |
| **SBDI** | **Bollard Displaced** |  |  |
| | | | |
| **SBLO** | **Bollard Loose** |  |  |
| | | | |

| | | | |
|---|---|---|---|
| **SBMI** | **Bollard Missing** |  |  |
| | | | |
| **SFDE** | **Street Furniture Defect** |  |  |
| | |  |  |
| **SGDA** | **Unlit Sign Damaged** |  |  |
| | |  | |
| | | | |

| | | | |
|---|---|---|---|
| **SGDI** | **Unlit Sign Displaced** |  | |
| | | | |
| **SGLO** | **Unlit Sign Loose** |  |  |
| | | | |
| **SGMI** | **Unlit Sign Missing** |  | |
| | | | |
| **SGNP** | **Unlit Sign Naked Pole** |  |  |
| | | | |

| | | | |
|---|---|---|---|
| **SLDA** | **Street Lighting Damaged** |  |  |
| | | | |
| **SLDI** | **Street Lighting Displaced** |  |  |
| | | | |
| **SLLO** | **Street Lighting Loose** |  | |
| | | | |
| **SLLW** | **SL All Lights Out** | | |
| | | | |

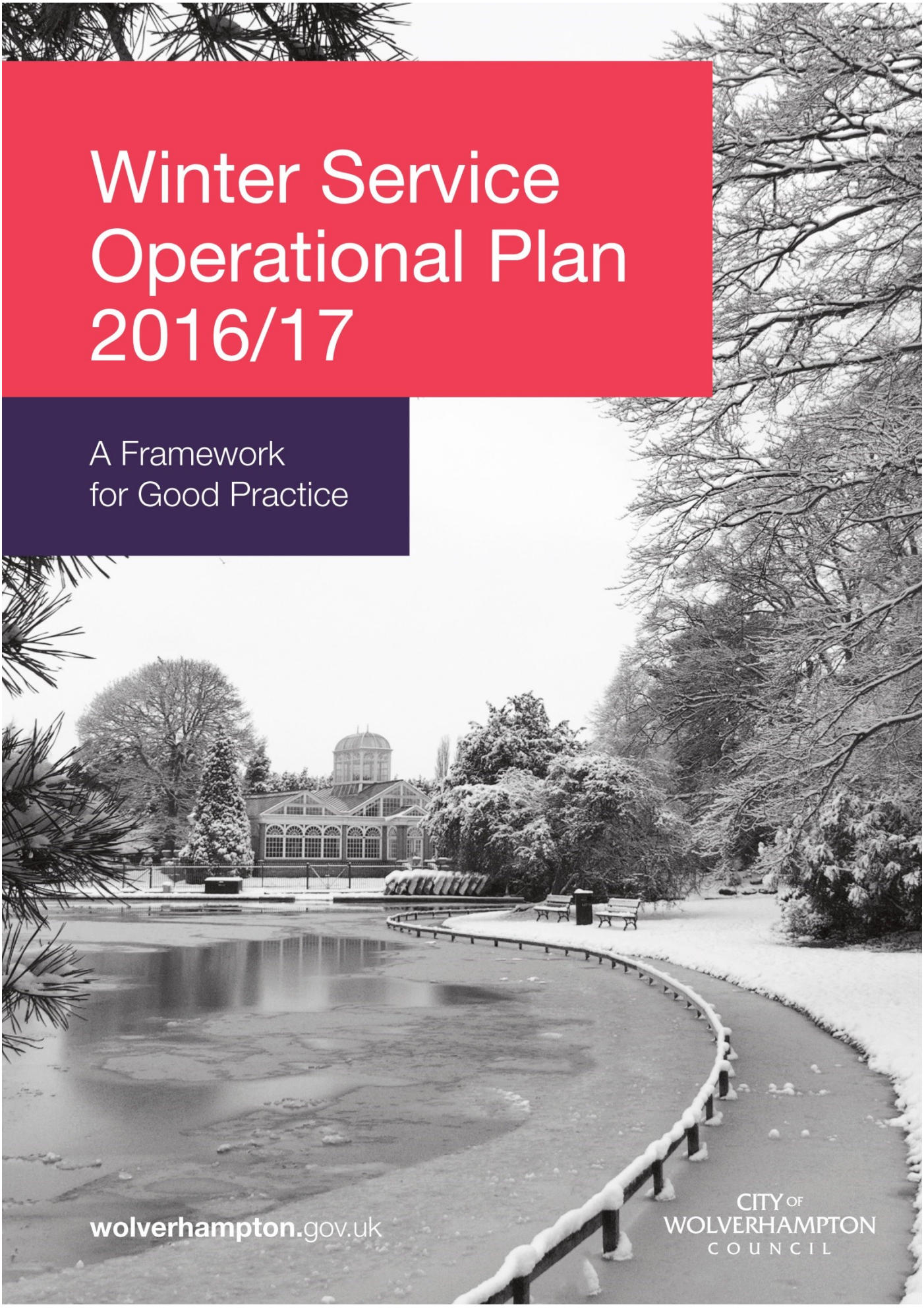
| | | | |
|---|---|---|---|
| **SLMI** | **Street Lighting Missing** |  |  |
| | | | |
| **SLYW** | **SL All Lights Dayburning** | | |
| | | | |
| **SNDA** | **Street Nameplate Damaged** |  |  |
| | | | |
| **SNDI** | **Street Nameplate Displaced** |  | |
| | | | |
| **SNMI** | **Street Nameplate Missing** |  | |

| | | | |
|---|---|---|---|
| **TSDA** | **Traffic Signal Damaged** |  |  |
| **TSDI** | **Traffic Signal Displaced** | | |
| **TSLO** | **Traffic Signal Loose** | | |
| **TSMI** | **Traffic Signal Missing** | | |
| **VGDA** | **Verge Damaged** |  |  |
| **VGDE** | **Verge Depression** |  |  |
| **VGLW** | **Verge Excess Litter/Weeds** | | |

| | | | |
|---|---|---|---|
| **VGPH** | **Verge Pothole** |  | |
| | | | |
| **VGPO** | **Verge Ponding** | | |
| | | | |
| **VGRE** | **Verge Reinstatement Failure** | | |

# Winter Service Operational Plan 2016/17

## A Framework for Good Practice



wolverhampton.gov.uk

CITY OF WOLVERHAMPTON COUNCIL

# INDEX

# INTRODUCTION

In England, weather is unpredictable and the occurrence of wintry conditions varies considerably through the season and from year to year. Generally, severe conditions might reasonably be expected in December, January and February; less likely in November and March and are possible but unlikely in October and April.

Operational winter maintenance periods need to be defined, to strike a balance between economy and an effective service. To plan resources regularly on the assumption of a long hard winter would be wasteful, but to do so on the assumption of a short, mild winter could lead to a deficient service at times.

Planning should be undertaken between these extremes, but with enough back-up at reasonable notice to react to unforeseen circumstances.

Put simply, resources should be directed:

- in the right way
- in the right place
- at the right time

Winter maintenance comprises the treatment of the highway to:

- Prevent ice from forming (Precautionary salting)
- Melt ice that has already formed (Post salting)
- Remove Snow

Winter maintenance forms an integral part of the highway maintenance function with highway authorities spending over £100 million per year on salting and snow clearing operations. Most of this money is spent on salting, either pre-salting to prevent the build-up of ice, or post salting to disperse ice that has already formed.

Although there are times during a winter when a true emergency exists, occasioned by heavy or drifting snow, most winter maintenance operations can be planned in a systematic manner. The extent of this planning will be dependent upon the nature of each authority and the severity of an average winter.

This plan sets out standards for the treatment of City of Wolverhampton Council's highway network under the varying conditions of ice and snow, and sets out a framework of good practice within which the winter maintenance operation is managed.

The standards set out in this plan for snow and ice clearance reflect the recommendations contained in 'Well-maintained Highways: The Code of Practice for Highway Maintenance Management'.

# POLICIES AND RESPONSIBILITIES

The objective is to provide a winter maintenance service which, as far as is reasonably practicable, will permit the safe movement of traffic along the priority network, whilst minimising delays and accidents attributable to the adverse weather conditions.

Good practice is also important to minimise both the environmental impact of salt used and budget implications.

Highway authorities are under a statutory duty - by virtue of the Highways Act 1980, to maintain the highways.

Section 41: "The authority who are for the time being the highway authority for a highway maintained at the public expense are under a duty, … to maintain the highway."

Section 41 (1A): "In particular, a highway authority are under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice."

Section 130: "It is the duty of the highway authority to assert and protect the rights of the public to the use and enjoyment of any highway for which they are the highway authority …"

Section 150: "If an obstruction arises in a highway from accumulations of snow … the highway authority shall remove the obstruction …"

Recent legal judgement has concluded that there is no duty upon authorities to remove ice from highways under the general responsibility to "maintain the highway" in Section 41. It is important to note that this judgement **does not remove liability in all circumstances**.

However, it is important to recognise that in the context of a highway authority's statutory maintenance duty that:

- The highway authority is not obliged to take preventative measures in anticipation of snow and ice.
- The duty to clear ice and snow from maintainable highways is not absolute and the authority will be under no liability unless the breach of duty to maintain is blameworthy. In other words so long as the decision as to whether or not to act has been taken on reasonable grounds, with due care and with regard to relevant considerations, the authority will not be liable.
- It has been said judicially that when there is a transient danger due to the elements, be it snow or ice or heavy rain, the existence of danger for a short time is no evidence of a failure to maintain the highway.

Overall co-ordination and control required by this plan is carried out by a group of officers, with operational delivery of the service undertaken by Public Realm staff at the Qualcast Road depot.

## Off Highway Operations

This plan sets out the operational detail in fulfilling the council's obligations as highway authority.

However, as a local authority with wider responsibilities and functions, dealing with the problems associated with winter weather necessarily involves other functional areas within the council. Public Realm Services Grounds Maintenance operatives provide support across other areas of the council in assisting with snow clearing and gritting operations. The deployment of resources from this service depends largely on the scale and period of inclement weather.

Resources available include two and four wheel drive tractors with front buckets, gritting facilities, lorries and pick-up trucks.

# QUALITY PLAN

## Forecast Data

## General Arrangements

The information used in decision making will, in most cases, be a combination of a road weather forecast and road weather information system (**Icelert**) sensor data.

The main weather prediction service used by the council is a forecasting package provided by **MetDesk**. This service is designed specifically for Highway Authorities and their agents to give road condition specific weather forecasts and a 24-hour Consultancy contact.

The road weather information system in use by the council is Findlay Irvine's '**Icelert'** system. This system involves four remote weather stations within Wolverhampton with access to the data from these sites and those of neighbouring authorities via a password protected website. Data for reference purposes is collected and archived daily. This is particularly useful when forward planning, insurance claims etc.

## Report Sheets

During the winter maintenance season, a daily operational report is produced by staff. This report details:

- Actions undertaken
- Vehicle departure/return time from depot
- any problems encountered
    - vehicular (i.e. breakdown or accident)
    - operational (i.e. access problems due to parked cars). *Shown in Appendix 1*

## Summary Action Sheets and Monitoring

During the winter maintenance season, the duty officer completes a daily report sheet detailing that night's activities. Time and content of telephone conversations with either the duty weather forecaster at **MetDesk** or operational staff, along with the time of any decision made regarding the night's winter maintenance actions are recorded.

All council gritting vehicles are fitted with the **Exactrak System (GPRS**) to enable tracking of vehicles and logging of the actions performed. Data gathered provides a regular snapshot of the vehicle's position, speed and direction of travel as well as its operational/activity status. This information is collected and presented on a specialist password-protected website, enabling routes to be fully audited from a remote position, whilst also providing accurate and comprehensive treatment records. *Shown in Appendix* 1.

## Performance Monitoring

At the end of each month **MetDesk** provides each customer with performance statistics for the accuracy of their forecasts. At the end of the winter season, a meeting is convened between the company and the West Midlands Authorities to discuss their performance and also to identify where any improvements can be made.

# ROUTE PLANNING

The council is the Highway Authority for all roads within the city boundary other than the Midlands Links Motorways, which are maintained by the Highways Agency.

**Carriageway**

The classifications and lengths of public highway are as follows:

| | Carriageway Length (km) |
|---|---|
| Classified | 135.0 |
| Unclassified Road | 633.0 |
| *Total network* | *768.0* |

Resources do not permit all carriageways to be treated and hence a priority network has been established which covers approximately 386.3 km of carriageway.

The carriageways on the priority network are divided into two categories:-

***Priority 1 – treated length of 209.4 km***

These roads include the principal roads, main and local distributor roads, some bus routes, steep roads and locations where safety becomes critical at an early stage within the city and as such the policy is to prevent predicted ice from forming or snow from accumulating.

***Priority 2 – treated length of 176.9 km***

Although not as important as **Priority 1** roads these are generally heavily used and therefore it is essential to maintain free movement of all traffic. The winter service policy is that for these roads predicted ice will not generally form but, if it does, it will not remain for more than two hours without treatment.

Additionally, where circumstances allow these roads will have been treated and generally cleared for traffic (at least) during the morning and evening peak traffic periods 0700-0900 hours and 1600-1830 hours.

During periods of winter weather and when resources permit snow will not be allowed to build up on the road surface.

***Priority 3 – treated length of 381.7 km***

These roads form the remainder of the network and will not normally be treated as part of the routine operations. The treatment of these roads must only take place following a sustained period of **severe** snow conditions and providing that all the preceding priority routes have been cleared and are kept clear, and the client officer will monitor the situation and issue the appropriate instructions following consultations with other departments.

## Priority Route Descriptions

**Priority 1** roads are divided into eight separate routes with **Priority 2** roads divided into an additional seven routes. These are utilised for routine pre-salting in marginal conditions and as a first preference for snow clearing. *Shown in Appendix 3 and are also shown on Council website*.

Routes have been drawn up in consultation with adjacent boroughs and motorway maintenance agents for the Highways Agency to achieve consistency of treatment.

It is inevitable that minor alterations to the network will be required from time to time throughout the winter season as traffic patterns are altered by reason of diversions or road closures.

## Call out criteria

**Priority 1** routes ***only*** are to be treated, when heavy snow conditions exist necessitating snow ploughing.

**Priority 1** and **2** routes are to be treated, when forecasts indicate that formation of ice or snow is likely.

## Response and treatment times

- **Priority 1** routes, rate of spread 20-40 gm/sqm
  Response time - 1 hour, treatment time - 1½ hours, total - 2½ hours

- **Priority 1** and **2** routes, rate of spread 10-20 gm/sqm
  Response time - 1 hour, treatment time - 2½ hours, total - 3 ½hours

- **Priority 1** and **2** routes, rate of spread 30-40 gm/sqm.
  Response time - 1 hour, treatment time - 5 hours, total - 6 hours.

## Footways and Council operated surface car parks

The section of Railway Drive from the bus station to the railway station will be pre-salted; however under normal winter service operations (pre-salting etc) other footways and surface car parks will not be treated. The duty officer may determine that treatment of the following footways and surface car parks be considered but only in the circumstances outlined below:

## Conditions under which footways and surface car parks can be considered for treatment

- Following prolonged periods of winter weather of the most severe nature, consideration will be given to carry out treatments to footways and surface car parks.

- Following snowfalls which affect the use of footways in principal/district centres and other designated areas ie surface car parks – and with the approval of the Head of Public Realm (Steve Woodward) - action will be taken to redeploy highway cleansing operatives as part of normal operations.

Major shopping streets in the city centre and district centres as listed below:

Wolverhampton City Centre

Bilston Town Centre

District centres in Wednesfield, Tettenhall, Penn and Pendeford.

Footways on public highways, which serve, bus stations, railway stations and hospitals.

*All footway salting routes are shown in Appendix 4*.

# WEATHER PREDICTION AND INFORMATION

To be most effective, salt should be spread before either ice or snow settles on the carriageway. Anticipating these conditions and reacting correctly, depends upon a mixture of local knowledge and experience, along with good local weather forecasting and an awareness of the current condition of the road.

**Weather Forecasting Service**

The weather forecasting service is received under contract through Dudley Metropolitan Borough Council from **MetDesk**.

In accordance with common practice and the requirements of Amey and the seven West Midlands Authorities, **MetDesk** will provide the following forecasts and summaries:

- 36 hour text forecast issued at 06:00, 12:00 and 18:00 hours daily detailing the expected conditions for the following 36 hours including:
  - Min air and road surface temperatures with time crossing zero
  - Hazard identification including hoar frost, ice, snow, freezing rain and rain.
  - Likelihood and timing of precipitation
  - For a forecast of snow, its timing, amount, type, direction and whether drifting is likely to occur; and the height above sea level at which accumulation is likely
  - Wind speed and direction
  - Confidence levels in the forecast
  - Hourly updates to forecast tables available online
- Two-10 day text outlook issued with the 36 hour forecast that including:
  - A general synopsis and anticipated trends
  - Specific condition reports
  - Confidence levels in the forecasts
- Site Specific Forecasts issued at 06:00, 12:00 and 18:00 hours daily that include:
  - Graphical representation, against time, of predicated road surface temperatures, air temperatures and surface conditions for a 36 hour period.
  - Relative humidity and dew point
  - Textual site specific forecasts.
- 24 hour Telephone Consultancy Service
  - **MetDesk** provide a 24/7 telephone consultancy service throughout the winter service season, to give advice on weather conditions and to discuss issued forecasts.
- Proactive Communication Regime
  - Pager based contact system for severe weather and significant change in forecasts.
  - Sensor monitoring service.
- Dedicated website access through http://www.metdesk.com
- Monthly and end of season analysis of forecasts including:
  - Synopsis of weather conditions during the period
  - Forecast site accuracy analysis
  - Pie charts detailing the frost prediction accuracy
  - The bias and root mean square error in the forecast of minimum RST

This full service operates from 1 November through to 30 April. During October and May a

reduced service is available whereby road weather warnings are only issued as necessary. The telephone consultancy service remains available at all times.

*Examples of **MetDesk** text forecasts are shown in Appendix 2.*

Forecast information is received by email direct to relevant staff and through both http://www.metdesk.com and http://www.icelert.net Upon receipt of the forecasts, printed copies will be posted on notice boards at operational depots for information to operatives on duty.

Should the forecast change significantly, **MetDesk** will contact the duty officer with a revised forecast using a pager system. These messages give a brief description and direct staff toward further information.

A further aid to decision-making provided by the weather forecasting service is access to http://www.metdesk.com This site provides access to all data plus a host of current radar images including precipitation intensity and type. This gives a visual indication of the progress of precipitation in various forms as it moves across the region and is of particular interest when snowfall is forecast.

**Road Weather Information System (RWIS)**

The council operates a road weather information system manufactured by **Findlay Irvine Limited**, Edinburgh. This system, known as '**Icelert**' allows for remote and instant access to outstations indicating current road surface and atmospheric conditions. A bureau system, based at their headquarters, allows access to the information via a secure, password-protected website at http://www.icelert.net The bureau also archives all data for future use as required.

The data available from the **Icelert** outstations is presented in both graphic and tabular format and includes:

- Road surface temperature
- Road surface condition (salt levels and presence of precipitation)
- Deep road temperature
- Air temperature
- Relative humidity
- Wind speed and direction

There are four **Icelert** outstations within Wolverhampton and are located as follows:

- Ring Road/Bilston Road
- Wood Cross
- Stafford Way
- Steel Park

Throughout the West Midlands Metropolitan Authorities area there are 29 **Icelert** sites and access to these sites is shared between the seven local authorities and agents within this area.

Calibration of the **Icelert** outstations is carried out by the equipment manufacturer during September/October and January annually to ensure accuracy is maintained.

Any faults with the **Icelert** bureau service should be reported to **Findlay Irvine** at the earliest opportunity. The appropriate 24 hour emergency contact details are listed on their website. Faults

with the outstations within Wolverhampton should be reported to Trevor Fletcher who will arrange for the necessary repairs or maintenance to be carried out.

*Whilst good local weather forecasts are essential, due to the varied local conditions and topography of the City, other factors may have to be considered in reaching a decision e.g. recent pre-salting practice and therefore no specific action can be determined for a particular forecast.* ***This will be the responsibility of the duty officer.***

**Forecast sites:**

| | | |
|---|---|---|
| Birmingham | YARWOOD | Yardley Wood Road (New) |
| Coventry | COVRR | Coventry Ring Road / London Road |
| Dudley | AUDNAM | Camp Hill Audnam |
| | SEDGELEY | A463 Gospel End Road / Cotwall End Road |
| Solihull | SOLGA | A4177 Kenilworth Road at Gambles Garage |
| | CRANMORE | Cranmore Boulevard |
| Walsall | BARR BEACON | A5 / A452 at the Rising Sun PH |
| Wolverhampton | WOLRRBR | Wolverhampton Ring Road / Bilston Road |

**Other Sensor Sites:**

| | | |
|---|---|---|
| Birmingham | BHAM CITY | Paradise Circus Queensway |
| | BISHWAY | A5127 Lichfield Road, Sutton |
| | COVFORRD | A45 Coventry Road, Yardley |
| | COVRD | A45 Coventry Road, Yardley |
| | HAGRD | A456 Hagley Road / Quinton Expressway |
| | HAGWOL | A456 Hagley Road / A4123 Wolverhampton Road |
| | KINGRD | A38 Kingsbury Road / Tyburn Road |
| | MERGN | A5127 Lichfield Road, Sutton |
| | REDRD | A441 Redditch Road, West Heath |
| | WALSRD | A34 Walsall Road, Perry Barr (Vaisala site) |
| Coventry | CORLEY | Tamworth Road at the City boundary |
| | COV01A45 | A45 opposite the Windmill Hotel and Golf Course |
| Dudley | DUDHG | A456 Hayley Green Island |
| Sandwell | ROWLEY | Oakham Road / Darby's Hill Road |
| | WEDOAK | Wednesbury Oak Road, Tipton |
| Solihull | SOLCRAN | A3400 Stratford Road / Cranmore Boulevard |

| | | |
|---|---|---|
| Walsall | KEYWAY | A454 Keyway, Willenhall |
| | BROWNHILLS | A5/A452 at the Rising Sun PH |
| Wolverhampton | WOLRR | Wolverhampton Ring Road / Chapel Ash |
| | WOLSTFRD | Stafford Road / Greenfield Lane |
| | WOLWOODX | Dovedale Road, Woodcross |

# DECISION MAKING

The duty officer is responsible for obtaining and assessing weather forecast information and initiating winter service operations by:

- Pre-salting prior to forecast ice or frost
- Responding to non-forecast ice forming
- Endeavouring to keep carriageways open in the most severe weather conditions through a system of snow ploughing and salting

Operational decisions will be made by the relevant duty officer using information from **MetDesk** weather forecasting service and the '**Icelert**' road weather information system. All decisions are evidence-based and made in accordance with the decision and treatment matrices contained in the UK Roads Liaison Group 'Well-maintained Highways: The Code of Practice for Highway Maintenance Management' (Appendix H – Winter Service Practical Guidance). They are for general guidance only and any decisions actually taken will be dependent on local circumstances and the timing of expected weather conditions. As such, consideration will be given to response and treatment times as well as prevailing conditions. All decisions will be objective and any external input, whether in this plan or elsewhere, merely acts as an aid to decision making by the duty officer. As such it is vital that the duty officer records the prevalent conditions when he / she make any decision. Such external input and information may include information from staff and operatives out on the network, from adjacent highway authorities or from CCTV through the council's control room. The latter is particularly useful in snow conditions. All decisions are subject to continuous monitoring, recording & review.

## Decision Matrix Guide

<table>
<tr><th colspan="2"></th><th colspan="3">Predicted Road Conditions</th></tr>
<tr><th>Road Surface Temperature</th><th>Precipitation</th><th>Wet</th><th>Wet Patches</th><th>Dry</th></tr>
<tr><td>May fall below 1°C</td><td>No rain<br>No hoar frost<br>No fog</td><td rowspan="3">Salt before frost</td><td rowspan="2">Salt before frost<br>(see note A)</td><td rowspan="2">No action likely, monitor weather<br>(see note A)</td></tr>
<tr><td rowspan="4">Expected to fall below 1°C</td><td>No rain<br>No hoar frost<br>No fog</td></tr>
<tr><td>Expected hoar frost<br>Expected fog</td><td colspan="2">Salt before frost<br>(see note B)</td></tr>
<tr><td>Expected rain BEFORE freezing</td><td colspan="3">Salt after rain stops<br>(see note C)</td></tr>
<tr><td>Expected rain DURING freezing</td><td colspan="3">Salt before frost, as required during rain and after rain stops<br>(see note D)</td></tr>
<tr><td>Possible rain<br>Possible hoar frost<br>Possible fog</td><td colspan="2">Salt before frost</td><td>Monitor weather conditions</td></tr>
<tr><td colspan="2">Expected snow</td><td colspan="3">Salt before snow fall</td></tr>
<tr><td colspan="5">The decision to undertake precautionary treatments should be, if appropriate, adjusted to take account of residual salt or surface moisture. All decisions should be evidence based, recorded and require continuous monitoring and review. Decision on treatment timing should account for traffic and road surface wetness at time of treatment and after, as well as forecast conditions.</td></tr>
</table>

*Table 1: Decision Matrix Guide*

**NOTES:**

**A** Particular attention should be given to the possibility of water running across (or ponding on) carriageways and other running surfaces, e.g. off adjacent fields after heavy rains, washing off or diluting salt previously deposited. Such locations should be closely monitored and may require treating in the evening and morning and possible other occasions.

**B** When a weather warning contains reference to expected hoar frost, considerable deposits of frost may occur. Hoar frost usually occurs in the early morning and is difficult to cater for because of the probability that any salt deposited on a dry road too soon before its onset, may be dispersed before it can become effective. Close monitoring is required under this forecast condition which should ideally be treated just as the hoar frost is forming. Such action is usually not practicable and salt may have to be deposited on a dry road prior to (and as close as possible to) the expected time of the condition. Hoar frost may be forecast at other times in which case the timing of salting operations should be adjusted accordingly.

**C** If, under these conditions, rain has not ceased by early morning, crews should be called out and action initiated as rain ceases.

**D** Under these circumstances rain will freeze on contact with running surfaces and full precautionary treatment should be provided even on dry roads. This is a most serious condition and should be monitored closely and continuously throughout the danger period.

# ORGANISATIONAL ARRANGEMENTS AND PERSONNEL

## Standby Period

Typically through the main parts of the winter for a maximum period of 21 weeks, with a start in mid-November, although where the long range weather forecast indicates or the prevailing conditions dictate, this period may be extended by at either end of this period as necessary. Out of Hours Standby is from home, operatives being contacted by bleeper.

## Duty Officer

During office hours, management of the winter maintenance service is undertaken by Public Realm officers (generally cover is provided from 08.00 to 18.00, Monday to Friday). Outside of these hours a duty officer will operate from home, having access to **MetDesk** forecasting information via the internet and telephone.

The duty officer shall monitor weather forecasts and road weather information systems and make the appropriate decision for required treatments. They are also responsible for the overall co-ordination and management of operations during their duty week. Duty officers will operate on a rota basis and will be in telephone contact at all times during their period of duty using their office number, a mobile phone, their home number and other numbers as necessary.

During the handover periods each week, when different periods of duty start and finish, the duty officer will ensure a smooth handover, which will includes copies of the duty log.

The duty officer will maintain a log recording all decisions and actions taken. This is of particular importance during marginal or adverse weather conditions, where particular note will be taken of any contact with **MetDesk** (who/when/advice given), reports of problems on the network, changes in forecast affecting decision and all other such relevant detail.

In addition the duty officer will post a notification message onto the message centre of http://www.icelert.net This webpage is accessible to all West Midlands Authorities. The **Icelert** message centre will also accept information/action taken from neighbouring authorities in the form of an email and display this within the message board. Finally, the message centre will also automatically send text messages to key personnel within the council as identified:

- Duty officers
- Operational supervisors
- Communications team

All duty officers shall have successfully completed the **MetDesk** Advanced Forecast Interpretation Training Course and be familiar with Findlay Irvine's **Icelert** system. All Duty Officers will complete a two year refresher course.

**Operational**

For our operational division, out of hours standby operates via mobile 'phone from home. From mid-November, although where the long range weather forecast indicates (or the prevailing conditions dictate), this period may be extended at either end of this period as necessary.

Operational supervisors are experienced, trained personnel with responsibility for operational control based at the Qualcast Road Depot. They accurately record and report all relevant winter service information, co-ordinating operations in a safe manner, relaying local weather, carriageway and footway conditions to the duty officer.

During a normal gritting operation, once a decision is made by the duty officer, this is communicated to the operational supervisor detailing exact requirements. The supervisor will then initiate the call-out of all personnel required to perform the tasks instructed and co-ordinate operations from the Qualcast Road depot.

The supervisor will maintain a log which will contain details of instructions received, route exceptions, duty officer requests for assistance and any other operational issue deemed relevant.

Once the gritting operation is underway, the supervisor will monitor the operation and deal with any issues that may arise such as vehicle breakdowns or network incidents, acting as first point of contact for the duty officer on the network for incident management. This would include arranging the treatment of any areas not covered within the priority treated network as may be requested by emergency services or other stakeholders and approved by the duty officer.

Following operations, the supervisor is responsible for ensuring that vehicles are accurately weighed back into the depot, offloaded of any excess material and that the salt storage area is left in a tidy and safe condition. Ensuring the quality of vehicle wash downs in accordance with operational procedures, gritting vehicles are returned to the storage area correctly and that any mechanical failures are communicated to vehicle maintenance staff; accurately recording any issues with regard to route coverage or treatment exceptions in the daily log or record of salting operation.

Our staff are trained to a high standard and capable of operating vehicles, plant and equipment to required standards and in accordance with instructions. They are available on a weekly rota "home standby" basis to be contacted by cascade telephone calls. All gritting vehicle drivers hold a Heavy Goods Vehicle licence and have attained the City and Guilds Institute Scheme 6159 Winter Maintenance Operators Qualification.

Once a call-out is ordered, gritting vehicle drivers report to the depot to collect a gritting vehicle and are assigned a route. Specific routes are designated to staff, promoting route ownership/knowledge whilst retaining a working knowledge of other routes should this be necessary. During the route, should staff encounter any route exceptions (such as road closure, illegal manoeuvres or extreme conditions on a certain section of network); these are reported to the supervisor for recording/amended instructions.

Loading shovel operatives undertake the gritting vehicle loading on instruction of the operational supervisor. At the end of the operation they will also ensure salt stocks are maintained and left in a tidy condition. In normal circumstances one operative will be assigned per gritting vehicle together with one loading shovel operative. However, where deemed necessary by the duty officer and operational supervisor, such as in heavy snow, freezing or dense fog with restricted visibility or during significant snowfalls when snow ploughs are in use or extreme conditions, gritting

vehicles will be operated by two personnel, one driver and a mate.

On completion of the route and on return to the depot, excess salt is discharged and the vehicle washed.

Operational Division's labour resources are:-

| Personnel | Drivers | Operatives |
|---|---|---|
| Highways and Street lighting | 22 | 6 |
| Grounds Maintenance | 3 | 0 |

The above resources both in vehicles, labour and plant are sufficient to deal with the situation presented by an average winter (routine pre-salting and average snowfalls). However, if winter conditions become so severe then further resources in labour and plant may be utilised from contractors undertaking other routine highway maintenance operations.

Communications are maintained by a combination of bleepers, conventional and mobile phones.

Day time numbers
**MetDesk** contact number
Out of hours numbers

A rota of duty officers, operational staff and operatives is prepared at the start of the winter season. This is issued to all interested parties. Home numbers are published, but only used as a last resort.

# PLANT VEHICLES AND EQUIPMENT

| | |
|---|---|
| Custom Built Salting Vehicles | 9 No (8 active and 1 spare) |
| Snowploughs | 9 No (8 active and 1 spare) |
| Other Plant (Wheeled Bucket Loaders etc.) | Hired as required. |

Regular calibration testing of the spreaders is undertaken each year, remote controls are available to control spread width and rate of spread.

All spreaders conform to BS1622:1989 and are speed-related.

All vehicles and plant used during the routine operations are owned and maintained by our in-house Fleet Services based at Culwell Street Depot, providing a 24-hour response for emergency repairs.

All council gritting vehicles are fitted with the **Exactrak System (GPRS)** to enable tracking of vehicles and logging of the actions performed. Information gathered provides a regular snapshot of the vehicle's position, speed and direction of travel as well as its operational/activity status. This information is collected and presented on a specialist password protected website and enables routes to be fully audited from a remote position whilst also providing accurate and comprehensive treatment records.

# SALT AND OTHER DE-ICING MATERIALS

Rock salt is the prime material for combating snow and the formation of ice on the highway, but it does have environmental consequences, killing vegetation and polluting watercourses, causing damage to the road structure, bridges, utility apparatus and vehicles.

Crushed rock salt treated with an agricultural by product (Molasses), to enhance its adherence to the road surface has been introduced in recent years. It allows for a reduced spread rate, resulting in a reduction in salt usage and environmental impact. Therefore, in the interest of both economy and environmental protection, only the minimum amount of salt should be used for the prevailing conditions.

Realistically there is only one supply of rock salt from Winsford in Cheshire although trials have taken place with imported salt, the price of which is susceptible to currency fluctuations.

In order to maintain adequate supplies in the Qualcast Road Depot, Public Realm staff will maintain a detailed stock management system, where salt usage data is recorded after every operation/incident of use. This ensures that Public Realm are aware of the exact stocks available in real time and restocking will then be triggered, based on pre-determined minimum stock levels

**Specification:**

All coarse grade rock salt used on the highway by the council for winter maintenance purposes is supplied to comply with B.S 3247 Part 1 (Salt for spreading on highways for Winter Maintenance).

English mineral rock salt, complying with the current BS3247, is treated with *Sodium Ferrocyanide* as an anti-caking agent. Other rock salt may not be treated and may solidify, leading to storage, loading and spreading difficulties. Non BS3247 rock salt may also have inferior melting properties, which might lead to choking of the spreading equipment and to slippery deposits on the carriageway.

In recent years there has been a tendency to use the finer grading of rock salt for precautionary salting, resulting in reduced potential for vehicle damage and a more uniform spread on the carriageway together with minimizing overspread and contamination of adjacent vegetation.

**Storage:**

The untreated salt held in readiness for use is stored, uncovered at Wolverhampton Wholesale Market, Hickman Avenue. A thin polypropylene sheet, to maintain the benefits of the additive and reduce environmental impact due to ant run-off during inclement weather, protects salt treated with an agricultural by product stored at Qualcast Road Depot. In general at the start of each winter, 3,500 tonnes of salt are stored and replenished as necessary through the winter period. Layout of the salt store ensures adequate rotational use of the salt on a year by year basis. Discussions have been held with the supplier on moving to a “just in time” service for salt supply, but there are obviously inherent dangers in this and the benefits are questionable.

Treated salt stockpile located at Qualcast Road Depot that complies with recommendations contained in Appendix H for storage of outside protected stockpile.

Salt is stored primarily at Qualcast Road Depot with a secondary resilience stockpile at Hickman Avenue

Care should be taken that no valleys are formed on the top surface of the pile; there should be a continuous slope from the highest point of the pile to ground level with no steep faces liable to sudden collapse. Run-off from the stockpile is contained in catch pits to reduce salt contamination and a loss of salt from leaching. On the outer surface of the pile a crust forms of a slightly different colour which cuts down losses. It should be removed or broken up before the salt is loaded so as not to block the mechanism of the spreading vehicle.

The corrosive nature of the salt makes careful cleaning and maintenance of the vehicles and plant used essential.

**Alternative de-icing materials**

Other de-icing materials are available but their costs are generally between 15 and 20 times more expensive than rock salt (eg Calcium Chloride, Urea, Glycol, Calcium Magnesium Acetate or Potassium/Sodium Acetate). In addition they can also require specialised plant for their usage. Despite their increased costs, they have their uses in particular locations, eg Urea is used on the Midlands Links Motorway to reduce the damage caused to concrete structures. Such situations do not present themselves in Wolverhampton and rock salt is used almost universally. Experiments continue in using other alternatives on block paved pedestrian areas which have particular problems.

**Resilience**

The winters of 2009 and 2010 respectively exposed the fragility of local authorities salt stock resilience and the dependence upon salt stock replenishment during a winter season. The Code of Practice has introduced a recommendation for minimum resilience of continuous treatment capability of 12 days with four treatments each day at a spread rate 20 grammes per square metre of dry salt (therefore, a minimum resilience of 48 actions).

Each 20 grammes per square metre treatment of **Priority 1 & 2** carriageway routes within Wolverhampton requires approximately 55 tonnes of dry salt and therefore the minimum stockholding of salt at the start of the winter season is 3,000 tonnes shown in the table below.

Should low levels of National Salt Resilience require the instigation of the Department for Transport's 'Salt Cell' then the authority will fulfil and comply with the requirements of the system. In the event of stock levels becoming insufficient within any of the seven West Midlands Councils there exists an agreement whereby salt can be drawn from adjacent Authorities as a short term measure.

| Minimum Salt Stocks Calculation | | | | | |
|---|---|---|---|---|---|
| **Usage Type** | **Normal Salting Network** | **Minimum Winter Network** | **Minimum Stock** | | |
| | | | **Full Pre Season 48 runs / 12 days** | **Core Period 30 runs / 6 days** | **Overall Period 15 runs / 3 days** |
| Carriageways (run) | 55 | 25 | 2640 | 1650 | 825 |
| Footways (day) | 5 | 5 | 60 | 30 | 15 |
| Grit Bins (day) | 25 | 0 | 300 | 150 | 75 |
| **TOTAL** | | | **3000** | **1830** | **915** |

*Table 2: Minimum Salt Stocks Calculation*

**Testing of Salt**

Testing of all salt stock piles at Qualcast Road and Hickman Avenue will be undertaken monthly during the winter service period to monitor moisture content.

**Salting Practice**

To be most effective, the treatment should be applied before either ice forms or snow settles. The success or otherwise of the operation depends greatly on the good judgement of those who decide whether or not to treat.

It is recommended that the following rates of spread be used when treating carriageways but the principles contained in Appendix H – Winter Service Practical Guidance will be observed:

***PRECAUTIONARY SALTING*** 10-20 gm/ m².

***TREATMENT OF ICE***
*(Dependent on the amount of ice to be removed and the temperature)* 20-40 gm/ m².

***TREATMENT OF SNOW***

*(i) (Light)* 20-40 gm/ m².

*(ii) (Snow exceeding 30-40mm in depth)*

Plough where applicable and then salt. 20 gm/ m².

*(iii) (Snow exceeding 30/40mm in depth with freezing temperatures)*

Plough where applicable then salt. 20-40 gm/ m².

NB It is never recommended that salt be spread at a rate greater than 40 gm/ m².. It should be recognised that salt alone will not melt snow, vehicle movements are essential to assist dispersal.

**NOTE**

Sustained low temperatures are rare in England. For each degree drop below - 5° C, the amount of salt needed to maintain the equivalent melting effect increases by about 14 g/m².

Salt will melt ice and snow at temperatures as low as - 21° C, but below - 10° C the amount needed increases to become environmentally and economically undesirable.

Melt water from thawing accumulations of snow on central reservations or verges, can spread over the carriageway and re-freeze, particularly at night. Extra treatment may be needed and potential hazards such as these should be closely monitored.

**Snow Clearance and Severe Conditions**

It is difficult to lay down hard and fast rules for the clearance of falling or fallen snow. Conditions can vary considerably on a day to day basis. Response will inevitably depend on the severity of the conditions and the resources available at the time. However, the following notes are given as guidance.

***SEVERE CONDITION 1***

If a snowfall of at least 75mm (3") occurs and the weather forecast is for freezing conditions to continue then the following course of action is to be taken:

**Stage 1**
Operational resources (including any specialised hired plant) will be concentrated on clearing **Priority 1** roads initially and then **Priority 2** roads.

**Stage 2**
Client officers will determine at what stage approval is given to treat "other" roads outside the approved priority network. Such approval will only be given providing that **Priority 1** roads have been treated and/or are completely open to traffic and **Priority 2** roads are substantially so.

At this stage the following resources may be utilised and funded from the winter maintenance account:-

- Normal winter maintenance crews
- Redeployment of other operatives normally engaged on highway maintenance operations.
    - excluding other operatives carrying out Ground Maintenance or Street Cleansing operations
- Hired plant/equipment as necessary

**Stage 3**

If the weather conditions under **Stages 1 and 2** continue to deteriorate, then the Head of Public Realm Services will notify the Service Director of City Environment and the Portfolio Holder, who may give authority to employ other operatives and contractors on winter maintenance operations.

The resources which may be used at this stage are:

- Normal winter maintenance crews
- Highways maintenance operatives
- Other Public Realm operatives
- Contractors
- Hired plant as necessary

***SEVERE CONDITION 2***

The other condition which can be classified as severe and where treatment to "other" roads (outside the approved network) will be carried out, is where severe frosts, ice or light snow (less than 75mm deep) occur for long periods of time.

The decision to treat "other" roads in this condition is to be made by the Head of Public Realm Services and/or Service Director of City Environment in consultation with the Portfolio Holder, who will also decide what level of resources are to be used in this situation.

***FOOTWAYS***

**Conditions under which additional footways may be treated**

- Up to 75mm deep snow
  Redeploy highways cleansing operatives - but not to be charged to winter maintenance. This will require the approval of Service Director of City Environment.

- Severe Condition 1 (stage 2) or 2 (as defined earlier for carriageways)
  Under either of these conditions the footways identified above may be treated / cleared and the same arrangements, regarding resources and decisions, will apply as for carriageways.

## Salt Bin Policy

The placement policy considers the characteristics of a road together with influencing factors and apportions a score against each. If the criteria assessment total score exceeds 100 then a grit bin qualifies for placement and is maintained at this site subject to suitable resources.

## Grit Bin Placement Policy Criteria

.

| | Road Characteristic | Criteria | Score |
|---|---|---|---|
| 1 | Gradient of Road | > 1 in 15 | 75 |
| | | 1 in 15 to 1 in 29 | 40 |
| | | < 1 in 30 | 0 |
| 2 | Carriageway Horizontal Alignment | Bend < 100 m Radius | 60 |
| | | Bend < 250 m Radius | 20 |
| | | Bend > 250 m Radius | 0 |
| 3 | Close Proximity (25m) and Falling Towards | NRSWA Type 1 | 90 |
| | | NRSWA Type 2 | 75 |
| | | NRSWA Type 3 | 50 |
| | | NRSWA Type 4 | 30 |
| 4 | Road Category | NRSWA Type 1 | 60 |
| | | NRSWA Type 2 | 45 |
| | | NRSWA Type 3 | 20 |
| | | NRSWA Type 4 | 0 |
| 5 | Number of Premises for Which Only Access (cul-de-sac)* | Over 50 | 30 |
| | | 20 to 50 | 20 |
| | | 0 to 20 | 0 |
| 6 | Substantial Population of Elderly or Disabled Persons. Are there any of the following in the vicinity?<br>Elderly persons' home or similar day care centre or health centre or similar? | Yes | 20 |
| | | No | 0 |
| ***Road Categories are taken from the NRSWA specification. Each officer has access to a listing of all roads within Wolverhampton and their corresponding NRSWA category***. | | | |

*NB Any industrial premises for which this is the only access are to be automatically promoted to the higher category.

**Note:**
Evaluation on the above basis should ensure that salt bins are installed only at identified locations where there are any combinations of significant factors.

Salt bins should not be sited on the priority salting network.

Care should be taken to avoid locating salt bins in areas where they may be used for the disposal of litter (ie near bus stops) or act as litter traps.

*All salt bin locations are shown in Appendix 5 and are also shown on Council website*.

# OPERATIONAL COMMUNICATIONS

## Daily Forecasts

### 1 October – 30 October & 16 April – 15 May

By 1100 36 hour & 2-5 day text forecasts

### 1 November – 15 April

By 1230 36 hour, 2-5 day text forecasts & Site specific forecast graphs

By 1630 Routine afternoon update to 36 hour forecasts

2100 Routine update to site specific forecast graphs

By 0730 Morning summary, summarizing the actual weather conditions for the previous night

## Action plan

By 1300 Consult the 36 hour, 2-5 day text forecasts & the site specific forecast graphs, which apply to the Wolverhampton area and consider possibilities. Inform the operational supervisor at Qualcast Road depot as to possible plans (eg action / no action, early turn-out / late turn-out.

By 1700 Review the situation following the routine afternoon update to 36 hour forecasts.

1800 Inform duty officer if an early turn-out is required.
If no early action is required the situation will be monitored throughout the evening.

2101 Check the routine update to site specific forecast graphs
If no early action is required the situation will be monitored throughout the evening.

Note: At all times a **MetDesk** forecaster is available by telephone for further consultation as to the weather conditions.

# INFORMATION AND PUBLICITY

Contact through the media is increasingly important as a means of keeping the road user informed of adverse conditions and promoting safety on the highway. Media coverage of winter maintenance and emergency operations plays a very important part in making the public aware of the service provided and how essential the service is to the community.

Throughout the winter period, dialogue with the media is maintained through the council's press office. Officers are proactive in providing up to date information on a daily basis in the form of a text message sent to the press office when an action is planned, in order that meaningful responses can be made to enquiries from the media. Appropriate officers are also available to appear on local radio stations as and when the needs arise.

When periods of extreme weather conditions, ie heavy snow, have been forecast, the press office is notified of the council's winter service plans so that they can inform the media accordingly.

It is of great importance that situation updates are received by the press office, therefore enabling them to update council website, present credible press releases, interviews to the media and updates for social media.

Driver information leaflets and information on service standards are published from time to time.

# Appendix 1:
# Model Report Sheets

## CITY OF WOLVERHAMPTON COUNCIL - WINTER SERVICE

### *DUTY OFFICER LOG SHEET*

***Reporting Period 12 Noon / / 2016 to / / 2016***

| Forecasts (24 hour clock) | | Updates |
|---|---|---|
| Text Forecast Received: | | |
| Graphs Received: | | |
| Evening Graph Update Received: | | |
| Morning Summary Received: | | |

| Instructions to Contractor | |
|---|---|
| Time: | To: |
| | |

| Log of Principal Events | |
|---|---|
| Time: | Action: |
| | |
| *Duty Officer:* | *Signed:* |

Wolverhampton City Council

**Public Realm Services, Winter Service Action Report - 2014/2015 Season** **Action Number -**

| Date of Action | Day | Time | Duty Officer | Qualcast Depot Manger |
|---|---|---|---|---|
| / / | | : | | |

***Winter Service Operations (as instructed by IJL/PM/TF) (Tick Box As Appropriate)***

| Action | P1 | P1 & P2 | Spread Rate | | Snow | | Salt | | Operation | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pre Salt Priority | | | 10g/m2 | | Snow Ploughing | | Thawrox 6 | | Called @ | : |
| Snow Ploughs | | | 15g/m2 | | Snow Routes | | Thawrox + | | Start Op | : |
| **Footway Clearing** | | | 20g/m2 | | Emergency Routes | | Other - | | Finish Op | : |
| Location | | | 30g/m2 | | Other - | | | | Duration (hrs:mins) | |
| Men Used | | Duration : | g/m2 | | | | | | : | |

**Fleet Report**

| Vehicle | | Plough (Y/N) | Milometer Reading | | Available Next Shift (Y/N) | Route | Salt Used Per Route | Driver | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| Reg | Type | | Before | After | | | | Name | Signature | |
| BU62 ZFA | F | | | | | | | | | |
| BU62 ZFB | F | | | | | | | | | |
| BU62 ZFC | F | | | | | | | | | |
| BU62 ZFD | F | | | | | | | | | |
| BU62 ZFE | F | | | | | | | | | |
| BU62 ZFF | F | | | | | | | | | |
| BG08 EWA | F | | | | | | | | | |
| BJ58 OWZ | F | | | | | | | | | |
| BG08 EVT | F | | | | | | | | | |
| Loading Shovel | | | | | | | | | | |

**Operation Report**

| Salt Stocks | Thawrox 6 | Thawrox + | Total Operatives Used in Above Action | | Signed - |
|---|---|---|---|---|---|
| Current Stock (Tonnes) | | | Comments - | | |
| Used In Above Action (Tonnes) | | | | | Date - |
| Used Running Total (Tonnes) | | | | | |
| New Stock (Tonnes) | | | ***To be faxed to Culwell Street before 07:30am. Fax To 01902 553878*** | | |

# Appendix 2:
# Model Text Forecasts

## 24 Hour Forecast

An example is included which shows the standard layout of a 24 hour forecast. In the case of 7th November 2016, the Readiness Colour shown above each authority's details is RED with the Hazards Summary box displaying the potential hazards within that particular authorities' area. In these Hazard Summary boxes there are also statements about the confidence the forecaster has in the occurrence of each hazard. In this case there is a HIGH CONFIDENCE of hoarfrost, ice and fog and HIGH CONFIDENCE of no snow, drifting, heavy rain or freezing rain. A summary of Wind Speeds is given at the bottom of the forecast.

At the top of the forecast there is also a headline with confidence and a general synopsis of the 24 hour period.

## 2 to 5 Day Forecast

The hazard boxes cover the forecast for period from midday the next day to midday on day 5 together with a Readiness Colour code corresponding to overall conditions on that day. In this example the forecast issued on Tuesday 8th November 2016 covers from midday Wednesday to midday the following Saturday 12th November 2016. The Readiness Colour rules are the same as those on the 24 Hour Forecast. Forecaster's comments are shown above the forecast hazard boxes.

## RoadCast Glossary

Definitions of terms likely to be used in MetDesk forecasts.

**Contact a Forecaster: 01296 628 373** **highways@metdesk.com**

## 24 Hour Summary for West Midlands Consortium

| | | | |
|---|---|---|---|
| Forecast Issued: | **7th November 2016 16:15:25 GMT** | Forecaster: | **Hannah Masterson** |
| Forecast Period: | **Monday 07/11/16 12:00 to Tuesday 08/11/16 12:00** | Forecaster DDT: | **01296 628373** |

| | |
|---|---|
| **Headline** | EVENING UPDATE: NO CHANGES, RSTs BELOW ZERO TONIGHT |
| **Confidence** | HIGH |
| **General Synopsis** | Remaining chilly into this evening with any remaining isolated showers clearing. It will be a chilly night under the clear skies. RSTs are expected to drop below zero with the risk of hoar frost developing in the early hours and perhaps the odd icy patch. A dry start to the morning with a band of thick cloud and rain moving in towards noon. |

### Forecast Hazards and Temperatures

| Domains | Readiness Colour | Min RST | RST < 0 | Min Air | Ice | | Hoar Frost | | Snow / Level (m) | | | Drifting | | Heavy Rain | | Fog | | Freezing Rain | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Wolverhampton** | RED | MS 2.6 | 22-09 | MS 2.4 | 22-09 | L | 22-09 | H | N | H | N/A | N | H | N | H | N | H | N | H |
| **Walsall** | RED | MS 2.6 | 22-09 | MS 2.5 | 22-09 | L | 22-09 | H | N | H | N/A | N | H | N | H | N | H | N | H |
| **Dudley** | RED | MS 2.7 | 22-09 | MS 2.6 | 22-09 | L | 22-09 | H | N | H | N/A | N | H | N | H | N | H | N | H |
| **Sandwell** | RED | MS 2.5 | 22-09 | MS 2.4 | 22-09 | L | 22-09 | H | N | H | N/A | N | H | N | H | N | H | N | H |
| **Birmingham** | RED | MS 2.4 | 23-09 | MS 2.3 | 22-09 | L | 22-09 | H | N | H | N/A | N | H | N | H | N | H | N | H |
| **Solihull** | RED | MS 2.3 | 02-09 | MS 2.7 | 02-09 | L | 02-09 | H | N | H | N/A | N | H | N | H | N | H | N | H |
| **Coventry** | RED | MS 2.3 | 02-08 | MS 3.3 | 02-08 | L | 02-08 | H | N | H | N/A | N | H | N | H | N | H | N | H |

| | |
|---|---|
| **Snow Summary** | N/A |

### Wind Summary

| **Wolverhampton** | **07/11/16 1200-1800** | **07/11/16 1800-0000** | **08/11/16 0000-0600** | **08/11/16 0600-1200** |
|---|---|---|---|---|
| **Direction** | N | NW | NW | SW |
| **Speed (mph)** | 6-11 | 4-8 | 4-7 | 2-6 |
| **Gust (mph)** | 18-22 | 12-16 | 9-12 | 13-14 |
| **Walsall** | **07/11/16 1200-1800** | **07/11/16 1800-0000** | **08/11/16 0000-0600** | **08/11/16 0600-1200** |
| **Direction** | NW | NW | NW | SW |
| **Speed (mph)** | 7-9 | 5-7 | 4-5 | 4-6 |
| **Gust (mph)** | 21 | 13 | 10 | 13 |
| **Dudley** | **07/11/16 1200-1800** | **07/11/16 1800-0000** | **08/11/16 0000-0600** | **08/11/16 0600-1200** |
| **Direction** | N | NW | NW | SW |
| **Speed (mph)** | 6-11 | 5-8 | 4-7 | 2-7 |
| **Gust (mph)** | 19-22 | 12-16 | 9-12 | 13-14 |
| **Sandwell** | **07/11/16 1200-1800** | **07/11/16 1800-0000** | **08/11/16 0000-0600** | **08/11/16 0600-1200** |
| **Direction** | NW | NW | NW | SW |
| **Speed (mph)** | 6-10 | 5-7 | 4-5 | 2-6 |
| **Gust (mph)** | 19-21 | 12-13 | 9-10 | 13-14 |
| **Birmingham** | **07/11/16 1200-1800** | **07/11/16 1800-0000** | **08/11/16 0000-0600** | **08/11/16 0600-1200** |
| **Direction** | NW | NW | NW | W |
| **Speed (mph)** | 6-11 | 5-8 | 4-7 | 2-6 |
| **Gust (mph)** | 19-22 | 12-16 | 9-12 | 13-14 |
| **Solihull** | **07/11/16 1200-1800** | **07/11/16 1800-0000** | **08/11/16 0000-0600** | **08/11/16 0600-1200** |
| **Direction** | NW | NW | NW | W |
| **Speed (mph)** | 7-12 | 6-8 | 4-7 | 4-6 |
| **Gust (mph)** | 22-24 | 13-16 | 11-12 | 11-13 |
| **Coventry** | **07/11/16 1200-1800** | **07/11/16 1800-0000** | **08/11/16 0000-0600** | **08/11/16 0600-1200** |
| **Direction** | NW | NW | NW | W |
| **Speed (mph)** | 7-13 | 6-8 | 4-7 | 4-6 |
| **Gust (mph)** | 22-25 | 13-16 | 12 | 11-13 |

### Readiness Colour Coding

| | |
|---|---|
| **GREEN** | Road surface temperatures are expected to remain above plus 1C (or above 2C on a low confidence scenario) |
| **AMBER** | 1. Road surface temperatures are expected to drop to between (and including) zero and 1C<br>2. Road surface temperatures are expected to drop below zero but roads are predicted to remain dry<br>3. On a low confidence marginal forecast, amber may be used if road surface temperatures are expected to drop between 1 and 2C |
| **RED** | Road surface temperatures are expected to fall below freezing with ice and/or hoar frost and/or snow accumulations and/or freezing rain likely. |

### Hazard Classification

| | |
|---|---|
| **Heavy Rain** | >=2mm/hr for any hours over the 24 hours. |
| **Fog** | Visibility less than 200 metres. |

**Contact a Forecaster: 01296 628 373** **highways@metdesk.com**

## 2 to 5 Day Summary for West Midlands Consortium

| | | | |
|---|---|---|---|
| Forecast Issued: | **7th November 2016 12:46:52 GMT** | Forecaster: | **Theo Gkousarov** |
| Forecast Period: | **Tuesday 08/11/16 12:00 to Saturday 12/11/16 12:00** | Forecaster DDT: | **01296 628373** |

| | |
|---|---|
| **Headline** | RSTS ABOVE ZERO |
| **General Synopsis** | It will be a dry, fine and chilly start early on Tuesday morning, but cloud will have thickened from the west by around mid-lunchtime. This will bring rain from Tuesday afternoon onwards, heavy at times, and continuing until the following morning. The low cloud could also cause poor visibility for higher roads. There will some brightness during the daytime on Wednesday, before it clouds over once again on Wednesday evening to bring showers and some longer spells of rain. Thursday is looking drier at this stage, with sunny spells but still some scattered, mainly light showers. Turning overcast and wet once again on Friday. The breezy and often cloudy conditions should help to keep RSTs above zero throughout. |

### Forecast Hazards and Temperatures

| | Readiness Colour | Min RST | Min Air | Ice | Hoar Frost | Snow | Heavy Rain | Fog | Confidence |
|---|---|---|---|---|---|---|---|---|---|
| **Tuesday** | GREEN | PS 2.9 | PS 2.1 | N | N | N | Y | Y | HIGH |
| **Wednesday** | GREEN | PS 3.3 | PS 5.3 | N | N | N | N | N | HIGH |
| **Thursday** | GREEN | PS 4.1 | PS 4.3 | N | N | N | N | N | HIGH |
| **Friday** | GREEN | PS 7.9 | PS 7.7 | N | N | N | N | N | HIGH |

### 6-10 Day Outlook

The extended outlook is looking changeable, with a wetter and more unsettled weekend followed by a drier and chillier start to next week. However there will still be the threat of further wet weather pushing in from the west. RSTs are likely to stay above zero during the weekend, but a cold night or two cannot be ruled out during the next working week.

### Readiness Colour Coding

| | |
|---|---|
| **GREEN** | Road surface temperatures are expected to remain above plus 1C (or above 2C on a low confidence scenario) |
| **AMBER** | 1. Road surface temperatures are expected to drop to between (and including) zero and 1C<br>2. Road surface temperatures are expected to drop below zero but roads are predicted to remain dry<br>3. On a low confidence marginal forecast, amber may be used if road surface temperatures are expected to drop between 1 and 2C |
| **RED** | Road surface temperatures are expected to fall below freezing with ice and/or hoar frost and/or snow accumulations and/or freezing rain likely. |

### Hazard Classification

| | |
|---|---|
| **Heavy Rain** | >=2mm/hr for any hours over the 24 hours. |
| **Fog** | Visibility less than 200 metres. |

# METDESK FORECAST GLOSSARY

Definitions of terms used in **MetDesk** forecasts are:

**DRY FROST –** Road surface temperature 0°Celsius or below, with most roads expected to be dry. However, ice may form due to seepage, burst or leaking water pipes or in known hollows where moisture persists.

**HOAR FROST –** Deposition of water vapour directly as ice onto ground surfaces. The ice forms as white crystals and is usually highly visible. Hoar frost on roads may quickly change to clear ice under pressure from car tyres.

**ICY PATCHES –** Used in road weather forecasts to indicate ice formation in prone areas only (gutters, dips in the road surface, etc.).

**ICY STRETCHES –** Used in road weather forecasts to indicate more-widespread ice.

**FLASH FROST –** The rapid build-up of hoar frost on roads around sunrise. Roads can change from dry to significant cover of hoar frost within 15 minutes.

**RIME –** Deposition of ice from freezing fog. It is a white form of ice, similar to hoar frost, but has a finer (at times feathery) structure. On roads, tends to be more of a problem at higher levels.

**AIR FROST –** This occurs when the air temperature (measured between 1 and 2 metres above the ground) falls below 0°Celsius.

**FREEZING FOG –** Fog which forms when air temperatures are below freezing. The fog droplets remain in the liquid state, but will freeze on contact with trees and other objects, and under some circumstances the road surface.

**FREEZING RAIN / DRIZZLE –** A very dangerous condition where drizzle or raindrops (from warmer air aloft) fall on to surfaces below freeing, thus freezing instantly and causing widespread ice. Fortunately rare in the U.K. Most likely to occur at the end of a prolonged spell of cold weather.

**POWDER SNOW –** The form of snow that occurs when the air temperatures are well below freezing (minus 2°Celsius or less). This form of snow is very fine (like sugar crystals), drifts very easily, but does not tend to stick to objects. It can be handled by snow blowers. Salt is usually less effective.

**WET SNOW –** Snow which falls with air temperatures close to freezing point. It melts easily and can be very sticky. It is more common in the U.K. than the other variant of powder snow.

**ISOLATED –** Used in conjunction with showers. Isolated showers implies that most places will stay dry, but somewhere in the area of coverage a showers may occur. The probability of a location having a shower will be in the range 0 to 20%. May be abbreviated to ISOL.

**SCATTERED / OCCASIONAL -** Used in conjunction with showers. Scattered or occasional showers imply that a wide covering of showers across the area is expected. Many places will see a shower but one or two locations will stay dry. The probability of a location having a shower will be in the range 30 to 60%. May be abbreviated to SCT / OCC.

**WIDESPREAD / FREQUENT -** Used in conjunction with showers. The term frequent or widespread showers implies nearly all areas will catch a shower, and most places will see more than one shower. Many places will see a shower but one or two locations will stay dry. The probability of a location having a shower will be in the range 30 to 60%. May be abbreviated to SCT / OCC.

**TREND –** The likely direction the weather is going over the next 2 to 5 days, e.g. ‘turning much colder with night frosts’ or ‘remaining mild and windy’.

**HIGH CONFIDENCE –** Implies that on 9 out of 10 occasions, the forecast event will occur. Amendments unlikely.

**LOW CONFIDENCE –** Implies that on 5 out of 10 occasions, the forecast event will occur. Amendments likely.

**MARGINAL –** This describes nights where the road temperature is expected to be very close to freezing (normally within 1°Celsius either side of zero).

**RST –** Common abbreviation for road surface temperature.

**SHOWER –** A short spell of precipitation, greatly less than an hour, and covering a relatively small area. It can be assumed that a shower will be of rain unless qualified by the words snow, hail or wintry.

**RAIN OR SNOW –** When used by themselves, i.e. without the word shower, it means a long spell of precipitation, generally more than an hour and covering a relatively large area.

**DRIZZLE –** Small droplets, which fall from low cloud. Drizzle can last for several hours and cover a large area, or be intermittent and localised.

**WINTRY –** This term covers precipitation, which contains ice in one of its many variants (sleet, wet snow, hail). The term is used extensively in media forecasts (e.g. wintry showers are expected, showers will turn wintry over hills). However, the term is ambiguous in road weather terms and hence any precipitation containing ice will be described more fully, with likely effects on the road.

**BLUSTERY –** Used to describe showers which are accompanied by strong gusts of wind.

**GALE –** Mean wind speed of 39 m.p.h. or more, or gusts to 49 m.p.h. or more. A severe gale has a mean wind of 45 m.p.h. or more, or has gusts to 10 m.p.h. or more.

**PROLONGED –** Used to describe showers, which merge together producing a spell of continuous precipitation, generally lasting more than one hour and covering a large area.

**INTERVAL –** Used to describe cloud breaks or amounts of sunshine, generally of less than one hours duration.

**SPELL -** Used to describe the length of cloud breaks or amounts of sunshine, generally between one and two hours duration.

**PERIOD -** Used to describe the length of cloud breaks or amounts of sunshine, generally of two hours or more duration.

**IF YOU ARE UNSURE OF ANY TERMINOLOGY USED IN A FORECAST, PLEASE CONTACT THE FORECASTER FOR CLARIFICATION.**

# Appendix 3:
# Carriageway Salting Routes 2016/2017

| Gritting Route No. | 1 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 1 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| Leave Depot, Travel to junction of A449 Stafford Road and A4150 Ring Road St Patricks | | Roundabout | RBT |
| | | Boundary | BDRY |
| Red = Salted Roads | | U-Turn | UT |
| Blue = non-salted Roads | | Dual Carriageway | DC |
| A449 to M54 (Do not salt M54 RBT) | UT | | |
| A449 | TL | | |
| Bushbury La, Legs La, Primrose Av, Wood La, Fordhouse Rd | TR | | |
| Bushbury La | TL | | |
| A449 to Ring Rd | SO | | |
| Stafford St, Broad St, Ring Rd, A449 | TR | | |
| A460 | TL | | |
| Raynor Rd, Thrid Av, Showell Circ, Kempthorne Av, Elston Hall La, Three Tuns Lane | UT | | |
| Three Tuns La to end DC | SO | | |
| Three Tuns La | TL | | |
| Wood La,start DC | SO | | |
| Wood La, end of DC | UT | | |
| Wood La | TL | | |
| Elston Hall La to Short Road Island | TR | | |
| Elston Hall La, Kempthorne Av to end DC | SO | | |
| Kempthorne Av | TL | | |
| Showell Circ | TL | | |
| Third Av, Raynor Rd | TL | | |
| A460 | BDRY | | |
| A460 | TR | | |
| Underhill La | TR | | |
| Legs La | TR | | |
| Northycote La | BDRY | | |
| End of Priority 1 | | | |

| Gritting Route No. | 2 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 1 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| Leave Depot, Travel to junction of Waterloo Road and A4150 Ring Road St Peters | | Roundabout | RBT |
| | | Boundary | BDRY |
| Red = Salted Roads | | U-Turn | UT |
| Blue = non-salted Roads | | Dual Carriageway | DC |
| Waterloo Rd | SO | The Droveway | TL |
| A449 | TL | Blaydon Rd | TR |
| Gorsebrook Rd | TR | Oxley Moor Rd, Aldersley Rd to Lowlands Ave | SO |
| Craddock St, Hunter St | TR | Aldersley Rd and Lower St | TR |
| New Hampton Rd W | TR | A41 The Rock, Wergs Rd | UT at BDRY & return salting D/C - UT at Wergs Garage |
| A41 Tettenhall Rd | TR | | |
| Lower St | TR | | |
| Lowlands Ave | TR | | |
| Aldersley Rd | TL | | |
| Lower St | TL | A41 Wergs Road | TL |
| A41 Tettenhall Rd to New Hampton Rd W | SO | Yew Tree Ln, Mill Ln, Wightwick Bank to A454 | |
| A41 Tettenhall Rd | TL | End of Priority 1 | |
| Bath Rd | TL | | |
| A4150 Ring Rd St Andrews | TL | | |
| A449 splitter to A449 Stafford Rd | TL | | |
| A449 | TL | | |
| Waterloo Rd | SO | | |
| Waterloo Rd splitter | TR | | |
| A4150 Ring Rd St Andrews to A41 | UT | | |
| A4150 Ring Rd St Andrews | TL | | |
| Waterloo Rd | TL | | |
| New Hampton Rd E | TR | | |
| Hunter St | TL | | |
| Horden Rd | SO | | |
| Lowlands Ave | TR | | |
| Codsal Rd | BDRY | | |
| Codsal Rd | TL | | |
| Pendeford Av, Barhurst La | TR | | |
| The Droveway | TR | | |
| Blaydon Rd | TL | | |
| Oxley Moor Rd | TL | | |
| A449 | TL | | |
| Wobaston Rd, loop DC to A449 | UT | | |
| Wobaston Rd to Headway Rd | SO | | |
| Wobaston Rd to Coven La | UT | | |
| Wobaston Rd | TR | | |
| Overstrand | UT | | |
| Overstrand | TR | | |
| Wobaston Rd | TR | | |

| Gritting Route No. | 3 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 1 | Turn Right | TR |
| Leave Depot, Travel to Penn Road RBT, TURN LEFT | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| Red = Salted Roads<br>Blue = non-salted Roads | | U-Turn | UT |
| | | Dual Carriageway | DC |
| A449 Penn Rd | TL | A41 Chapel Ash to end of splitter | SO |
| Church Hill Pennwood Rd, Sedgeley Rd | BDRY | A41 Chapel Ash to start of splitter | SO |
| Sedgeley Rd, Pennwood Rd, Church Hill | TL | A41 Chapel Ash to Chapel Ash Island | UT |
| A449 Penn Rd, Stourbridge Road to Warstones Road | UT | A41 Chapel Ash | TL |
| A449 Stourbridge Rd, Penn Road to end of DC | SO | A454 Compton Rd, Compton Rd W | TR |
| A449 to start of DC | SO | Circulate University grounds | TR |
| A449 Penn Road | TL | A454 to B4161 Finchfield Hill | |
| A4150 Ring Rd St Marks | TL | **End of Priority 1** | |
| A41 Chapel Ash | TL | | |
| A454 Compton Road | TL | | |
| Merridale Rd to Finchfield Rd | SO | | |
| Bradmore Rd, Trysull Rd at Oxbarn Av | TR | | |
| Trysull Rd | TR | | |
| Coalway Rd, Langley Rd to BDRY | SO | | |
| Langley Rd to Drive Fields | UT | | |
| Langley Dr to Finchfield La | TL | | |
| Finchfield La | TL | | |
| Castleroft Rd, Windmill La | TL | | |
| Castlecroft La to Castlecroft Rd | UT | | |
| Castlecroft La | TL | | |
| Windmill La | TL | | |
| A454 Bridgenorth Rd to BDRY | SO | | |
| A454 | TR | | |
| Jenny Walkers La | TR | | |
| Pattingham Rd to BDRY | SO | | |
| Pattingham Rd, Tinacre Hill | TL | | |
| A454 to Windmill Lane | SO | | |
| A454, B4161 Henwood Rd | TL | | |
| A41 The Rock | TL | | |
| Old Hill, Upper St | TL | | |
| High St, Wood Rd, Mount Rd | TR | | |
| Mill Ln | TR | | |
| School Rd, Church Road, The Holloway | TL | | |
| A454 | TR | | |
| B4161 Finchfield Hill, Finchfield Rd W to Castlecroft Rd | SO | | |
| Finchfield Rd W | SO | | |
| Finchfield Rd | TL | | |
| Merridale Rd | SO | | |
| Merridale Rd splitters and wide sections | SO | | |
| Merridale Rd to Chapel Ash splitter | SO | | |
| Merridale Road splitter | TR | | |

| Gritting Route No. | 4 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 1 | Turn Right | TR |
| Leave Depot, Travel to junction A4150 Ring Rd St Georges and A4123 | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| Red = Salted Roads<br>Blue = non-salted Roads | | U-Turn | UT |
| | | Dual Carriageway | DC |
| A4123 | TR | Mason St | TL |
| A4039, over A449, Coalway Rd | TR | Lower Villiers St | TR |
| Oxbarn Ave, Trysull Rd | TL | Marston Road to Waitrose RBT | SO |
| B4161 Broad Ln | TR | Marston Road | TR |
| Finchfield Rd | TR | A449 | TL |
| Bradmore Rd | TR | Lea Rd | TL |
| B4161 Broad Ln | TL | B4161 Stubs Rd over A449, Rockery Ln | TL |
| B4161 Finchfield Rd W, Castlecroft Rd to Oak Hill | SO | A4039 to start of d/c section (before A459 junction) | SO |
| B4161 Castlecroft Rd | TL | A4039 to end of d/c section | SO |
| Bhylis Ln | TL | A4039 | TL |
| Langley Rd | SO | A4123 to end of d/c section | SO |
| Coalway Rd | TR | A4123 | TR |
| Warstones Rd to A449 | UT | Dixon St | TR |
| Warstones Rd | TL | A4126 Ettingshall Rd | TL |
| Springhill Ln to Wynne Cres | UT | A4039 to Coseley Rd RBT | UT |
| Springhill Ln | TL | A4039 to start of d/c/ section | SO |
| Warstones Road to splitter at Warstones Primary School | SO | A4039 to end of d/c section | SO |
| Warstones Rd splitter | SO | A4039 | TL |
| Warstones Rd, Oxbarn Ave, Trysull Rd | TR | A4123 Birmingham New Rd | TR |
| B4161 Birches Barn Rd, Stubbs Rd, over A449, Rookery Ln | TL | A463 Shaw Rd to A4126 | SO |
| A4039 Goldthorn Hill | TL | A463 to BDRY | UT |
| A459 | TL | A463 | TL |
| A4150 Ring Rd St Johns to A449 Penn Rd Slip | TL | Hall Ln, Evans St, Dovedale Rd | TL |
| | | A459 to BDRY | SO |
| A449 Penn Rd slip | SO | A459 to Northway | UT |
| A449 Penn Rd | TL | A459 to Dovedale Rd | SO |
| Marston Road to Waitrose RBT | UT | A459 Wolverhampton Road | TL |
| Marston Road | TR | A4039 Goldthorn Hill | TR |
| A449 Penn Rd to Penn Rd Island | TR | Upper Villiers St to Bromley St | |
| A4150 Ring Rd St Johns to A4123 | TR | **End of Priority 1** | |
| A4123 to end of splitter | SO | | |
| A4123 | TR | | |
| Grove St | TR | | |
| A459 to start of splitter for A4150 | SO | | |
| A459 to A4150 | TR | | |
| A4150 Ring Rd St Georges to Bilston St Island | UT | | |
| A4150 Ring Rd St Georges | TL | | |
| A4123 | TR | | |
| Grove St | TL | | |
| A459 Dudley Rd | TR | | |

| Gritting Route No. | 5 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 1 | Turn Right | TR |
| Leave Depot, travel to Bilston St Island | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| Red = Salted Roads<br>Blue = non-salted Roads | | U-Turn | UT |
| | | Dual Carriageway | DC |
| A4150 to Penn Rd Island | UT | A4123 to A463 Black Country Route splitter | TR |
| A4150 to A41 Bilston St Island | TR | A4123 splitter to A463 | TR |
| A41 to Stow Heath Ln | SO | A463 | TL |
| A41 to d/c section at Hadley Rd | SO | A4039 Coseley Rd | SO |
| A41 to end of d/c section | SO | B4162 Wolverhampton St | TL |
| A41 | TL | A41 to D/C section past Culwick St | SO |
| A463 Black Country Route to A454 | UT | A41 to end of D/C section | SO |
| A463 Black Country Route to A41 | TL | A41 to D/C section past Eagle St | SO |
| A41 | TL | A41 to Bilston St Island | |
| Vulcan Rd | TL | **End of Priority 1** | |
| St Chads Rd | TR | | |
| Willenhall Rd | TR | | |
| Darlaston Ln | TR | | |
| Lunt Rd, Vulcan Rd to St Chads Rd | SO | | |
| Vulcan Rd | TL | | |
| A41 to BDRY | SO | | |
| A41 to Castle View Rd | UT | | |
| A41 | TL | | |
| B4163 | TR | | |
| Highfields Rd to BDRY | SO | | |
| Highfields Rd | TL | | |
| Rounds Rd | TL | | |
| B4163 Ash St | TL | | |
| Highfields Rd to Rounds Rd | SO | | |
| Highfields Rd | TR | | |
| Broad Lanes, Coseley Rd | SO | | |
| A4039 Coseley Rd to Millfields Rd | UT | | |
| A4039 Coseley Rd | TL | | |
| A463 Black Country Route to A41 | UT | | |
| A463 Black Country Route | TL | | |
| Coseley Rd, Broad Lanes to Highfields Rd | SO | | |
| Ladymoor Rd, Anchor Rd, Biddings Ln, Shaw Rd | TR | | |
| A4123 | TR | | |
| A4039 Parkfield Rd | TR | | |
| A4126 Manor Road, Spring Road | TL | | |
| A4123 | TL | | |
| A463 to A4039 Coseley Rd | UT | | |
| A463 | TR | | |
| A4123 | TL | | |
| A4126 Rookery Road, Ettingshall Rd | TL | | |
| A463 Shaw Rd | TL | | |

| Gritting Route No. | 6 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 1 | Turn Right | TR |
| Leave Depot & begin treatment | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| Red = Salted Roads<br>Blue = non-salted Roads | | U-Turn | UT |
| | | Dual Carriageway | DC |
| Qualcast Rd | TR | Deans Rd to A4124 | SO |
| A454 Middle Cross, Bilston Street Island | TR | Tudor Rd | TR |
| A4150 Ring Road, over Chapel Ash RBT (circulate), A4150 Ring Rd St Marks to Penn Rd r/b | UT | Church St | TR |
| A4150 Ring Rd to Broad St slip | TR | A4124 | TL |
| Broad St slip | TR | Deans Rd to end of junction splitter | SO |
| A4150 to 2nd Broad St slip | TR | Deans Rd | TR |
| Broad St slip to A4150 Ring Road | TR | Old Heath Road to A454 Willenhall Road | |
| A4150 Ring Road to Broad St slip | SO | **End of Priority 1** | |
| A4150 Ring Road St Davids to Bilston St Island | TL | | |
| A454 Middle Cross, Horseley Fields to end of d/c section | SO | | |
| A454 to Qualcast Rd | SO | | |
| A454 | TL | | |
| Noose Ln to BDRY | SO | | |
| Noose Ln to Noose Cres | UT | | |
| Noose Ln to A454 | TL | | |
| A454 to Keyway r/b (treat r/b) | UT | | |
| A454 | TR | | |
| Nechells Ln to A4124 | UT | | |
| Nechells Ln to start of d/c section | SO | | |
| Nechells Ln, Moseley Rd | TL | | |
| B4484 Bilston Rd to Keyway r/b | UT | | |
| B4484 to Moseley Rd | SO | | |
| B4484 | TL | | |
| A41 | TR | | |
| Church St, Walsall St | TL | | |
| A41 | TR | | |
| Proud's Ln | TL | | |
| Moseley Rd | TL | | |
| A454 to end of d/c section | SO | | |
| A454 | TL | | |
| Hickman Ave | TL | | |
| Culwick St | TR | | |
| Stow Heath Ln to A41 | SO | | |
| Ward St | TL | | |
| A4039 Millfields Rd, Coseley Road | TL | | |
| A463 Black Country Route | TL | | |
| A41 to Stow Heath Ln | SO | | |
| A41 | TR | | |
| Culwick St | TL | | |
| Stow Heath Ln to A454 | SO | | |

| Gritting Route No. | 7 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 1 | Turn Right | TR |
| Leave Depot, Travel to junction of A4124 Wednesfield Road and A4150 | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| Red = Salted Roads<br>Blue = non-salted Roads | | U-Turn | UT |
| | | Dual Carriageway | DC |
| A4124 | TL | A460 | TR |
| Wolverhampton Rd | TR | Bushbury Rd, Church St | TR |
| New Cross Ave | TL | Wolverhampton Rd | TR |
| A4124 Wednesfield Way | TL | A4124 | TR |
| B4484 Lichfield Rd | TL | Tudor Rd | TR |
| Neachells La | TR | Church St | TL |
| Alfred Squire Rd | TR | Wolverhampton Rd to New Cross Avenue | SO |
| High St | TL | Wolverhampton Rd, Rookery St | TR |
| Lichfield Road to B4484 Wood End Rd | SO | Alfred Squire Rd | TR |
| B4484 Wood End Rd | TL | Nechells Ln | TR |
| Amos Ln, Long Knowle Ln, Pear Tree Ln | TL | A4124 to end of RBT splitter | SO |
| A460 Cannock Rd | TL | A4124 to New Cross Avenue | SO |
| B4156 Blackhalve Ln | TR | A4124 to A4150 | TL |
| Wood End Rd to Amos Ln | SO | A4150 Ring Rd St Davids | TL |
| Wood End Rd | TL | A454 Horseley Fields to Middle Cross | |
| Lichfield Rd | TL | **End of Priority 1** | |
| A4124 Lichfield Rd | TR | | |
| Stubby La | TL | | |
| Broad La S, Broad La N | TR | | |
| A4124 Lichfield Rd to BDRY | UT | | |
| A4124 to Broad La S | SO | | |
| A4124 to Linthouse Ln | SO | | |
| A4124 to Start of DC section before March End Rd | SO | | |
| A4124 to end of DC section | SO | | |
| A4124 to Steelpark Way RBT splitter | SO | | |
| A4124 Steelpark Way RBT splitters | TR | | |
| A4124 Wednesfield Rd | TR | | |
| Neachells La | TR | | |
| March End Rd | TR | | |
| A4124 | TL | | |
| B4484 Waddens Brook La | TL | | |
| Broad La S | TR | | |
| Pool Hayes La to BDRY | UT | | |
| Pool Hayes La | TR | | |
| Broad La S | TL | | |
| Stubby La | TL | | |
| A4124 | TR | | |
| Linthouse Ln | TR | | |
| Loop Griffiths Drive | TL | | |
| Griffiths Drive | TR | | |
| Linthouse La, Lower Prestwood Rd, Prestwood Rd W, Thornycroft La, Victoria Road to A460 | TR | | |

| Gritting Route No. | 8 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 1 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| Travel to junction of Hickman Avenue & Sutherland Avenue & TURN RIGHT | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 1 | | Dual Carriageway | DC |
| Sutherland Avenue | TR | A449 Stafford St | TL |
| A41 Bilston Road to Bilston St Island | TR | A4150 Ring Road St Patricks | TR |
| A454 Middle Cross | TL | Broad St | TL |
| Horseley Fields Slip onto Gough St, Little Park St, Union St | TR | Princes Square<br>Lichfield St | TL<br>TR |
| A454 Horseley Fields | TR | Piper's Row | TR |
| A454 Middle Cross to Bilston St Island | TR | Berry St | TR |
| St Davids Bus Only Lane through Bus Depot to Piper's Row | TR | Princess St, Princes Square<br>Wulfruna St | TL<br>UT |
| Piper's Row | TR | Wulfruna St | TL |
| Railway Drive | UT | Stafford St | TR |
| Railway Drive | TR | Whitmore St, Westbury St | TL |
| Fryer St | TR | Broad St | TL |
| Broad St Bus Only Lane through Bus Depot to Piper's Row | TR | A4150 Ring Road<br>Stafford St to Whitmore St | TL<br>SO |
| Piper's Row, Fryer Street | TR | Stafford St | TL |
| Broad Street | TR | Broad St | TL |
| A4150 Ring Road | TL | Thornley St | TL |
| A454 Horseley Fields | TL | Whitmore St | TR |
| Corn Hill, Sun Street | TL | Stafford St to A4150 splitter | TL |
| A4124 Wednesfield Road | TR | Stafford St splitter to join A4150 | TL |
| Culwell St | TL | A4150 Ring Road St Peters | TL |
| Grimstone St | TL | Waterloo Road | TL |
| Cambridge St | TR | Darlington St | TL |
| A460 Cannock Road | TL | Red Lion St, Paternoster Row | UT |
| Park Lane | TL | Paternoster Row, Red Lion St | TL |
| Loop National Express Depot | TL | Mitre Fold, North St | TL |
| Park Lane, Guy Avenue | TL | Queen Square | TL |
| Showell Road | TL | Exchange St, Cheapside | TL |
| Bushbury Ln to A449 RBT | UT | Mitre Fold, North St | TR |
| Bushbury Ln | TR | Darlington St to Chapel Ash Island | TL |
| Showell Road | TR | Ring Road St Marks | TL |
| Showell Road | TL | Salop St | TL |
| Glaisher Drive | TR | School St to Darlington St | SO |
| Coxwell Avenue | TL | Waterloo Road | TL |
| A449 Stafford Road to start of Bus Lane | SO | Clarence St | TR |
| A449 Bus Lane to Five Ways RBT | SO | Birch St | TL |
| A449 Stafford St | TL | Birch St to join Ring Road | TL |
| A4150 Ring Road | TL | A4150 Ring Road St Andrews | TL |
| Little's Ln | TL | Darlington St | TL |
| Great Western St | TL | Waterloo Road | TL |
| Faulkland Cres & Coach Station | TR | Clarence St | TR |
| Herbert St | TR | Birch St | TR |
| Great Western St | TR | Birch St, Clarence Road | TL |
| Faulkland Cres & Coach Station | TR | Clarence St | TR |
| Herbert St | TL | Waterloo Road, School St | TR |
| Great Western St, The Maltings | TL | Salop St | TL |

| Gritting Route No. | 8 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 1 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 2 | | Dual Carriageway | DC |
| Peel St, Pitt St | TR | Temple St | TL |
| Worcester St to Penn Road Island | UT | Summer Row | TR |
| School Lane | TR | Cleveland St | TL |
| Pitt St | TL | Garrick St to Bilston St | SO |
| Worcester St, Victoria St | TR | Market St to end of Bus Lane | SO |
| Queen Square, Lichfield St | TR | Market St | TL |
| Princess St, Market St | TL | King St | TL |
| Bilston St | TL | Dudley St | TL |
| Pipers Row to Bus Depot | SO | Queen St | TR |
| Pipers Row | TL | Market St to Bilston St | SO |
| Queen St | TL | Garrick St, Snow Hill | TR |
| Market St | TL | Temple St | TL |
| Tower St | TL | Bond St to St John's Square | UT |
| Pipers Row | TL | Bond St | TL |
| Castle St | TL | Temple St to Summer Row | SO |
| Market St | TL | Temple St | TL |
| Tower St | TR | Worcester St to Penn Road Island | UT |
| Pipers Row | TL | School Lane, Pitt St, Worcester St | TR |
| Bilston St to Bilston St Island | UT | Cleveland St to Summer Row | SO |
| Bilston St, St George's Parade | TL | Cleveland St | TR |
| Tempest St | UT | Snow Hill | TL |
| Tempest St | TL | A4150 Ring Road St George's | TL |
| St George's Parade | TR | Bilston St, St George's Parade | TR |
| Garrick St | TL | Old Hall | TL |
| Dudley St | TL | Garrick St, Snow Hill | TL |
| Queen Square | TL | A4150 Ring Road St George's | TR |
| Victoria St | TR | A41 Bilston Road | TL |
| Skinner St | TR | Sharrocks St to end of splitter | |
| School St | TL | **End of Route. Return to Depot** | |
| Darlington St | TL | | |
| A4150 Ring Road St Marks | TL | | |
| Salop St | TL | | |
| Fold St | TR | | |
| School St | TL | | |
| Salop St | TL | | |
| Victoria St | TR | | |
| Bell St, Summer Row | TR | | |
| Temple St | TL | | |
| Worcester St | TL | | |
| Church St, St John's Sqaure | TL | | |
| George St | UT | | |
| George St | TL | | |
| St John's Square | TL | | |
| Church St | TL | | |
| Worcester St to Penn Road Island | UT | | |
| School Lane, Pitt St | TR | | |
| Worcester St | TL | | |

| Gritting Route No. | A | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| From Boundary, U-turn to Greefield La | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 1 | | Dual Carriageway | DC |
| Greenfield La | TL | Leason La, Emmerson Road | TL |
| Springfield La | TR | Ruskin Road | TL |
| A449 | TR | Primrose Ln | TL |
| Broadlands, Greenfield La | TR | Chesterton Rd, Dickins Rd | TL |
| Springfield La | TL | Masefield Rd | TR |
| A449 | TL | Ruskin Rd, Tennyson Rd | TL |
| Bee La, over Wood La onto School La | TL | Wildtree Av, Edge Hill Av | TL |
| Rushall Rd, circulate Broadway green | TR | Underhill La | TL |
| Rushall Rd | TL | Highfield Av | TR |
| School La, Short Rd | TL | Wildtree Av | TR |
| Elston Hall La | UT | Underhill La | TR |
| Elston Hall La | TL | Highfield Av | TL |
| Elston Hall La | TL | Wildtree Av | TL |
| Bushbury Lane | TR | Edge Hill Av | TR |
| Sandy La, Old Fallings La | SO | Underhill La | TL |
| A460 | TR | A460 | TR |
| Park La | TR | Old Hampton Lane | TR |
| First Av, over Showell Circus, Leacroft Av | TL | Wood Hayes Rd | SO |
| | | Wood End Rd | TR |
| Hamond Av | TL | Lower Prestwood Road | TR |
| Bushbury La | TL | Blackwood Ave | TL |
| Showell Rd | TL | Blackhalve La | TR |
| Fifth Av | TR | Belton Av | TL |
| Old Falling La | TR | A460 | TR |
| Park La | TR | Underhill La | TL |
| Guy Av, Showell Rd | TR | Westcroft Av | TR |
| Fifth Av | TL | Wildtree Av | TL |
| Hawksford Cresent | TL | Tennyson Rd | TL |
| Fifth Av | SO | Dickens Rd | TL |
| Croft La | SO | Masefield Rd, at Westcroft Av | UT |
| D'Eyncourt Rd | TL | Masefield Rd | TL |
| Carlton Av, Mullet Rd | TL | Ruskin Rd, Over RBT, Whitgreave Av | TR |
| Mill La | TL | Leacroft Av, at Hammond Av | SO |
| A460 | TL | Leacroft Av | TL |
| D'Eyncourt Rd, at Carlton Av | SO | Sandy La | TR |
| D'Eyncourt Rd | TR | Bushbury La | TL |
| Kingsway | TL | Collingwood Rd | TR |
| A460 | TL | Hellier Rd | TL |
| Bushbury Rd | TL | Bushbury La | TL |
| Wimborne Rd | TR | Giffard Rd | TR |
| D'Eyncourt Rd | TL | Circulate Northwood Park Rd to Giffard Rd | SO |
| Prestwood Rd West | TL | Northwood Park Rd | TR |
| Mill La at Mullet Rd | SO | Cromwell Rd, over RBT, Cavalier Circus | TL |
| Mill La | TL | Cromwell Rd | TR |
| A460 | TR | Primrose Av | TR |

| Gritting Route No. | A | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 2 | | Dual Carriageway | DC |
| Primrose Av (towards Cottage La) | TL | | |
| Bee Lane | TL | | |
| A449 | TL | | |
| Foxs Ln | TR | | |
| Crown Ln | TL | | |
| Cross St N | TR | | |
| End of Route, Return to Depot. | | | |
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| Gritting Route No. | B | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 1 | | Dual Carriageway | DC |
| A454 Bridgnorth Rd | TR | Burland Avenue | TR |
| Tinacre Hill | TR | Blackburn Avenue to Lynton Avenue | SO |
| Perton Road | TR | Blackburn Avenue to Derby Avenue | SO |
| Wightwick Bank | TR | Blackburn Avenue to Crossland Crescent | SO |
| Perton Brook Vale | TR | Blackburn Av | TL |
| Perton Road | TR | Aldersley Road | TL |
| Wightwick Bank | TL | Green La | TL |
| A454 Bridgnorth Rd | TL | Aldersley Avenue | TR |
| Bramstead Av | TL | Pendeford Av | TR |
| The Holloway | TR | Green La | TR |
| Ormes La | TR | Aldersley Avenue | TL |
| Wood Road, High St, Upper Green | TR | Pendeford Av | TR |
| Regis Road | TR | Codsall Rd | TR |
| A41 Wergs Road | TL | Windermere Rd | TL |
| Stockwell Rd | TL | Barnhurst La | TR |
| Stockwell Rd | TL | Ryefield | TR |
| Danscourt Road | TL | The Droveway | TR |
| A41 Wergs Road | TR | Leybourne Crescent | TR |
| Wrottesley Rd | TL | The Droveway | TR |
| Redhouse Road | TR | Blaydon Rd | TL |
| Woodthorne Road South | TL | Emsworth Cres | TR |
| Wrekin Ln | TR | Blaydon Rd | TL |
| Yew Tree La | TR | Halesworth Road | TL |
| Wrottesley Rd W | TL | Blaydon Rd | TR |
| Woodthorne Rd | TR | The Droveway | TR |
| A41 Wergs Road | TR | Clewley Drive | TL |
| Regis Road | TR | The Droveway | TR |
| Redhouse Rd | TL | Earlswood Crescent | TL |
| Wrottesley Rd | TL | The Droveway | TR |
| Woodthorne Road South | TL | Wobaston Rd | TR |
| Yew Tree La | TL | A449 | TR |
| School Rd | TL | Marsh La | TR |
| The Crescent, Woodhouse Road | TR | Winchester Drive | TL |
| Regis Rd | TR | Sandon Rd | TR |
| A41 Wergs Road | TL | Patshull Av | TR |
| Stockwell Road | TL | Harrowby Rd | TL |
| Stockwell Road to Danescourt Road | SO | Winchester Rd | TL |
| Stockwell Rd, Malthouse Ln | TL | Patshull Av | TL |
| Lower St, Codsall Rd | TR | Harrowby Rd | TR |
| Blackburn Av | TR | Winchester Rd | TR |
| Lynton Av | TL | Sandon Rd | TL |
| Crossland Crescent | TL | Patshull Avenue, Marsh Lane | TR |
| Blackburn Av | TL | St Annes Rd (2nd Turn) | TR |
| Derby Av | TR | Marsh La to St Annes Rd | SO |
| Crossland Crescent | TL | Marsh La to Winchester Rd | SO |
| Lynton Av | TR | Winchester Rd | TR |
| Aldersley Road | TR | A449 | TR |

| Gritting Route No. | B | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 2 | | Dual Carriageway | DC |
| Oxley Moor Road | TR | | |
| Probert Rd | TR | | |
| Renton Rd | TR | | |
| Elmdon Rd | TR | | |
| Sheldon Rd | TL | | |
| Renton Rd | TL | | |
| Probert Rd | TL | | |
| Elmdon Rd to Sheldon Rd | SO | | |
| Elmdon Rd | TR | | |
| Renton Rd | TR | | |
| Probert Rd | TL | | |
| Renton Road to Oxley Moor Road | TL | | |
| End of Route. Return to Depot | | | |

| Gritting Route No. | C | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 1 | | Dual Carriageway | DC |
| Finchfield Hill, Oak Hill, Finchfield Ln | TR | Finchfield Rd | SO |
| Farm Rd | TL | Finchfield Rd W | TL |
| Adams Rd | SO | Coppice Rd, Woodland Rd | TL |
| Wootton Rd | TL | Trysull Rd | TR |
| Coppice Rd | TR | Oxbarn Av | TL |
| Uplands Av | TR | Church Rd | TL |
| Broad La | TL | Coalway | TR |
| Bradmore Rd | TR | Wynn Rd, Muchall Rd, Sandringham Rd | TR |
| Bantock Av | TR | Birchwood Rd | TL |
| Hughes Av | TR | Westborne Rd | TR |
| Hughes Av | TR | Mount Rd | TL |
| Birches Barn Rd | TR | A449 | TR |
| Little Birches | TR | Woodfield Av | TL |
| Hughes Av | TL | Coalway Rd | TL |
| Barn Green, Skidmore Av | TR | Warstones Rd | TL |
| Brantock Av | TR | Pinfold La | TL |
| Bradmore Rd | TR | Linton Rd, Wells Rd | TR |
| Jeffcock Rd | TL | Penhouse Av | TR |
| Rayleigh Rd | TL | A449 | TR |
| Owen Rd | TR | Pinfold La | TL |
| Gt Brickkiln St | TR | Lytton Av | TR |
| Graiseley St | TR | Wynchcombe Av | TR |
| Merridale St | TL | Rutland Av | TR |
| Upper Zoar St | TL | Fancourt Av | TR |
| Lea Rd | TL | Lytton Av to Wynchcombe Av | SO |
| A449 | TL | Lytton Av | TR |
| Ring Rd St Marks | TL | Hollybush La | TR |
| Gt Brickkiln St to Graisley St | SO | Warstones Rd | TR |
| Gt Brickkiln St | TL | Wynchcombe Av to Rutland Av | SO |
| Zoar St to Merridale St | SO | Wynchcombe Av | TR |
| Upper Zoar St | TL | Lytton Av | TL |
| Lea Rd | TL | Hollybush La | TR |
| A449 | TR | A449 | TL |
| Ring Rd St Johns, Ring Road St Georges to Bilston Street Island | UT | Buttons Fm Rd to end | UT |
| | | Buttons Fm Road | TL |
| Ring Rd St Georges | TL | Hartill Road to Foxlands Avenue | UT |
| Church Ln, Pool St | TR | Hartill Rd | TL |
| Ablow St | TL | Buttons Fm Rd | TL |
| A449 | TR | A449 | TR |
| Lea Rd | TR | Warstones Rd | TL |
| Retreat St | TL | Springfield La | TR |
| Merridale St to Zoar St | SO | Springhill Av | TR |
| Merridale St W | TR | Hilston Av | TL |
| Owen Rd | TL | Fairview Rd, Hilston Av | TR |
| Aspen Way | TL | Warstones Rd | TL |
| Merridale Rd | TR | Springhill La | TL |

| Gritting Route No. | C | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| **Page 2** | | Dual Carriageway | DC |
| Braden Rd | TR | Claremont Rd | TR |
| Hollybush Ln | TL | Lea Rd | TR |
| A449 | TL | Lonsdale Road to A449 Penn Road | |
| Pinfold La to Lytton Av | SO | **End of Route. Return to Depot** | |
| Pinfold La | TR | | |
| Linton Rd, Wells Rd | TL | | |
| Pennhouse Av, Windsor Av | TL | | |
| Coalway Rd | TL | | |
| Warstones Rd | TR | | |
| Warstones Dr | TR | | |
| Leasowes Dr | TR | | |
| Coalway Rd | TR | | |
| Warstones Road | TR | | |
| Warstones Dr to Leasowes Dr | SO | | |
| Warstones Dr | TR | | |
| Hamble Rd | TL | | |
| Fareham Cres | TR | | |
| Langley Rd | TR | | |
| Fareham Cres | TL | | |
| Hamble Rd, | TR | | |
| Warstones Dr | TR | | |
| Stourton Dr, Boundary Wy, Swancote Dr | TR | | |
| Warstones Dr to Stourton Dr | SO | | |
| Warstone Dr | TR | | |
| East Croft Rd | TR | | |
| Enville Road | TL | | |
| East Croft Rd | TR | | |
| Warstones Dr | TL | | |
| Warstones Rd | TR | | |
| Coalway Rd | TL | | |
| Church Rd | TR | | |
| St Philips Av | TR | | |
| Birches Barn Road | TL | | |
| Lea Rd | TL | | |
| Jeffcock Rd | TR | | |
| Rayleigh Rd | TR | | |
| Owen Rd, Oaklands Rd | TR | | |
| A449 Penn Road | TL | | |
| Goldthorn Road | TR | | |
| A4039 Goldthorn Road | TR | | |
| B4161 Rookery Ln | TR | | |
| A449 Penn Road | TL | | |
| Copthorne Rd | TR | | |
| Lea Rd | TR | | |
| Lyndhurst Rd | TL | | |
| A449 Penn Road | TL | | |

| Gritting Route No. | D | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 1 | | Dual Carriageway | DC |
| Bromley St | TL | Nally Dr | TR |
| A459 Dudley Rd | TL | A4126 Ettingshall Rd | TR |
| Ring Rd St Johns, Church La | TL | A463 Hurst Rd | TR |
| Stewart St | TL | Childs Av | TL |
| Pountney St | TL | Woodcross La | TR |
| Thomas St | TL | Beach Av | TR |
| Church Ln | TL | Mount Rd | TR |
| Stewart St | TR | Brynmawr Rd | TR |
| Pountney St, Ablow St | TL | Beach Av | TL |
| A449 | TL | Mount Rd | TL |
| Marston Rd | TL | Pugh Rd | TR |
| Stanford Rd, Pool St | TR | Woodcross St | TL |
| Pountney St | TR | Bellevue St | TL |
| Bell Place to Drayton St | SO | Robert Wynd | TR |
| Lower Villiers St, Upper Villiers St | TL | Miller Cres | TR |
| Moor St S, Park St S | TL | Childs Av | TR |
| Haggar St, Ranelagh Rd | TR | A463 | TR |
| A459 | TL | Hall La, Evans St, Dovedale Road | TR |
| Lawnswood Av | TR | Mount Rd | TL |
| Hateley Dr | TR | Wendover Rd | TR |
| Bevan Av | TL | Ward Grove | TR |
| Kenilworth Cres | TL | Lapper Av | TL |
| Moreton Av | TL | Wendover Rd | TL |
| Hateley Av | SO | Mount Rd | TL |
| Hateley Av | TR | A4123 | TL |
| Lawnswood Av | SO | Ward Grove | TL |
| Inverclyde Dr | TR | Gordon Av | TL |
| Walton Rd, Hilton Rd | TR | Hill Av | TL |
| Needwood Dr | TL | Crawford Av | TL |
| A4123 | TR | Ward Grove | TL |
| Laburnum Rd | TL | Gordon Av | TR |
| Dovedale Rd | TL | Pruden Av | TR |
| Ward Gro | TL | Lapper Av | TL |
| A4123 | TR | Ward Grove | TR |
| Needwood Dr | TR | Dovedale Rd | TL |
| Hilton Rd | TR | Delhurst Av (1st turn) | TL |
| A4126 Spring Rd | TL | Delhurst Av | TL |
| A4123 | TL | Farrington Rd | TR |
| A463 | TL | Camberley Cres (2nd turn) | TR |
| Circulate Overfield Dr back to A463 | TR | Farrington Rd to Camberley Cres | TL |
| A463 | TR | Camberley Cres | TL |
| A4123 | TL | Dovedale Rd | TL |
| Rookery Rd | TR | Grosvenor Rd | TR |
| Woodcross La, Woodcross St | TL | Delhurst Ave to Dovedale Rd | TL |
| Evans St | TL | Dovedale Rd | TR |
| Robert Wynd | TL | Laburnum Rd | TL |
| Childs Av | TR | Cranbourne Av | TL |

| Gritting Route No. | D | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| **Page 2** | | Dual Carriageway | DC |
| Tynedale Cres (2nd turn) | TL | Birchwood Rd | TL |
| Cranbourne Av to Tyndale Cres | SO | Westbourne Rd | TR |
| Cranbourne Av | TL | Mount Rd to A449 | TR |
| Ashbourne Rd | TR | **End of Route. Return to Depot.** | |
| Dovedale Rd | TL | | |
| Farrington Rd | TL | | |
| Delhurst Av | TL | | |
| Grosvenor Rd | TR | | |
| Farrington Rd | TL | | |
| Dovedale Rd | TR | | |
| Fieldhouse Rd | TL | | |
| Kenilworth Cres | TR | | |
| Moreton Av to Hateley Dr | SO | | |
| Kenilworth Cres | TL | | |
| Lawnswood Av | TR | | |
| A459 | TL | | |
| A4039 | TL | | |
| Ward Rd | TR | | |
| Dudley Wk, Himley Cres to Jeremy Rd | SO | | |
| Himley Cres | TR | | |
| Jeremy Rd | TR | | |
| Rosemary Cres W | TL | | |
| Jeremy Rd, Rosemary Cres | TL | | |
| Edham Rd | TL | | |
| A4039 | TL | | |
| Goldthorne Av, Westbourne Rd | TL | | |
| Mount Rd | TL | | |
| Links Rd, Dewsbury Dr | TL | | |
| Sandhurst Dr | TL | | |
| Mount Rd to Links Rd | SO | | |
| Mount Rd | TR | | |
| Wakeley Hill | TL | | |
| Church Hill | TL | | |
| Brenton Rd | TR | | |
| Wakeley Hill to BDRY | SO | | |
| Wakeley Hill | TR | | |
| Pennwood La to BDRY | SO | | |
| Pennwood La to Sedgley Rd | TR | | |
| Pennwood La | TL | | |
| Vicarage Rd | TR | | |
| The Avenue | TL | | |
| A449 | TL | | |
| Vicarage Rd | TL | | |
| The Avenue | TR | | |
| A449 | TR | | |
| Muchall Rd | TL | | |
| Mount Rd | TR | | |

| Gritting Route No. | E | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 1 | | Dual Carriageway | DC |
| A41 and A4126 Ettingshall Rd | TL | King St | TL |
| George St | TL | Bank St | TR |
| Pembroke Av | TL | Lord St, Lord St W | TL |
| Hinks St | TL | B4163 Ash St | TL |
| A4126 Ettingshall Rd | TL | Hall Green St | TL |
| George St to Pembroke Av | SO | Hill St, King St | TR |
| George St, Hall Park St | TR | Bank St to Lord St | SO |
| A41 | TR | Wilkinson Av, Rose St, Brierley La to | |
| B4162 Wolverhampton St | TR | B4163 Daisy St | UT |
| Park Rd | TR | Brierley St | TR |
| Bagnall Rd | TL | Batmans Hill Rd | TL |
| Coronation Road, Albany Cres | TR | Weddell Wynd, Peter Av | TR |
| Coronation Road | TL | Rose St | TR |
| Bagnall Rd to Park Rd | SO | Bradley La | TL |
| Bagnall Rd, Mill St | TR | Edinburgh Rd | TR |
| Hickman Rd | TL | Bilboe Rd, Rayleigh Rd, Elizabeth Av | TL |
| A4039 | SO | Princess Anne Rd | TL |
| High St | TL | Britannia Rd, Lees Rd | TR |
| Smith St | TL | Bradley La | TL |
| Broad St | TL | Stirling Rd, Rocket Pool Dr (2nd) | TL |
| A41 | TR | Rocket Pool Dr | TR |
| Windsor St | TL | Wallace Rd | TL |
| Green Lanes | TL | Bradley La to Edinburgh Rd | SO |
| Middleway Rd | TL | Bradley Ln | TR |
| Green Park Av | TL | Wilkinson Av | TR |
| Wolseley Rd | TR | Walter Rd | TL |
| Lambeth Rd | TR | King St | TR |
| Westfield Rd, Green Park Av | TR | Bank St | TR |
| Wolseley Rd to Lambeth Rd | SO | Salop St | TL |
| Wolseley Rd, Bailey Rd | TR | Chapel St, over A41 onto Hare St | TR |
| Hadley Rd | TL | Hare St | TR |
| A41 | TL | Vulcan Rd | TL |
| Windsor Rd | TR | Dale St (1st turn) | TR |
| Green Lanes, over A41 onto The Cresent | TL | Vulcan Rd | TL |
| Broad St | TR | Lunt St | TR |
| Smith St | TL | Beckett St | TR |
| High St, Church St | TL | Willenhall Rd | TR |
| Walsall St | TR | Lonsdale Rd | TR |
| A41 | TR | Vulcan Rd | TR |
| A463 | TL | Lunt Rd | TR |
| Bankfield Rd | TR | Ashley St | TR |
| Nettlefolds Way | TL | Mount Pleasant | TL |
| Dudley St | TL | Bunkers Hill La | TR |
| Highfields Rd | TL | Moseley Rd | TL |
| Bankfield Rd, Greenway Rd | TR | Dilloways La | TR |
| Salop St | TL | Beccles Dr | TL |
| Baldwin St | TR | Hawkswell Dr | TL |

| Gritting Route No. | E | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| **Page 2** | | Dual Carriageway | DC |
| Dilloways La | TR | | |
| New St to A454 RBT (don't salt RBT) | UT | | |
| New St, Dilloways La | TR | | |
| Mount Rd, Alamein Rd | TR | | |
| Hill Rd | TL | | |
| A454 | TL | | |
| Moseley Rd | TL | | |
| Hill Rd to Alamein Rd | SO | | |
| Hill Rd | TR | | |
| Vaughan Rd | TR | | |
| Dilloways La | TL | | |
| Beccles Dr to Hawkeswell Dr | SO | | |
| Beccles Dr | TR | | |
| Moseley Rd | TL | | |
| Castlecroft Rd | TR | | |
| Bunkers Hill La | TL | | |
| Lansdowne Rd | TL | | |
| Central Av | TL | | |
| Central Av joining Mountford La | TR | | |
| Mountford La | TR | | |
| Proud's La | TL | | |
| Green Lanes to Middleway Rd | SO | | |
| Green Lanes | TR | | |
| Lime Grove | TR | | |
| Green Park Av to Middleway Rd | SO | | |
| Green Park Av | TL | | |
| Park Meadow Av | TL | | |
| Circulate School Gr & Church Gr | TL | | |
| Park Meadow Av | TL | | |
| Green Park Av | TL | | |
| Green Lanes | TR | | |
| Proud's La | TL | | |
| Cumberland Rd | TL | | |
| Central Av | TL | | |
| Holland Rd | TR | | |
| Bunkers Hill La | TR | | |
| Lansdowne Rd | TL | | |
| Central Av | TL | | |
| Central Av joining Mountford La | TL | | |
| Mountford La to B4484 Mt Pleasant | | | |
| **End of Route. Return to Depot** | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Gritting Route No. | F | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 1 | | Dual Carriageway | DC |
| A454 | TR | Graiseley La | TR |
| Colliery Rd, Stanton Rd | TR | Victoria Rd | TR |
| Old Heath Rd | TL | Vicarage Rd to School La | SO |
| Deansfield Rd | TL | Vicarage Rd | TL |
| Deans Rd, over A4124, Tudor Rd | TL | Graiseley La | TL |
| Powell St | TL | Frederick Rd, Woden Av to School Rd | SO |
| A460 | TL | Woden Av | TL |
| Woden Rd | TR | Amos La | TR |
| A4124 | TL | Bellamy La | TL |
| Inkerman St | UT | Wood End Rd | TR |
| Inkerman St | TL | Moat House La | TL |
| A4124 | TR | Ridge La | TR |
| Springfield Rd | TR | Linthouse La | TL |
| A460 | TR | Kitchen Ln | TR |
| Victoria Rd | TR | Phillips Av | TR |
| Bushbury Rd | TR | Griffiths Dr | TR |
| Shawbury Road, Valley Rd, Longford La | TL | Baylis Av | TR |
| Prestwood Rd | TR | Kitchen Ln to Phillips Av | SO |
| Prestwood Rd | TR | Kitchen Ln | TR |
| Victoria Rd | TL | Thornley Rd | TR |
| Vicarage Rd | TL | Griffiths Dr | TR |
| School Rd | TR | Clare Av | TR |
| Woden Av, Frederick Rd | TR | Kitchen Ln to Thornley Rd | SO |
| Graiseley La | TL | Kitchen La to High Hill | UT |
| Wolverhampton Rd, Rookery St | TR | Kitchen La to Thornley Rd | TL |
| Well La | TL | Thornley Rd | TL |
| Well La | TR | Griffiths Dr | TR |
| A4124 Wednesfield Rd | TL | Barnard Rd | TL |
| Planetary Rd | TR | Griffiths Dr | TL |
| Neachells La | TL | Griffiths Dr | TR |
| Watery La to BDRY | UT | Peacock Av | TL |
| Watery La | TL | Whiston Av | TL |
| Neachells La | TR | Ecclestone Rd | TR |
| Strawberry La | TR | Griffiths Dr | TL |
| Manfield Rd | TL | Ashmore Avenue | TR |
| Planetary Rd | TR | Acorn Road | TR |
| Planetary Industrial Estate through to | | Griffiths Dr | TR |
| Planetary Road | TR | Ashmore Avenue | TL |
| Planetary Rd | TR | Ashmore Avenue | TR |
| A4124 Wednesfield Rd | TL | Griffiths Dr | TL |
| Bentleybridge Way to 1st RBT | UT | Peacock Avenue to Whiston Avenue | SO |
| Bentleybridge Way to A4124 | UT | Peacock Av | TR |
| Bentleybridge Way to RBT | TR | A4124 Lichfield Rd | TL |
| Bentleybridge Way, Kenmare Wy | TL | Colman Av | TR |
| Well La | TR | Silverton Way | TL |
| High St | TL | B4484 Waddens Brook La | TL |
| Church St, Graiseley La to Frederick Rd | SO | Broad La S | TL |

| Gritting Route No. | F | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 2 | | Dual Carriageway | DC |
| Stubby La | TL | | |
| Colman Av | TL | | |
| Silverton Wy | TR | | |
| Lyndale Dr | TR | | |
| A4124 Lichfield Rd | TL | | |
| Moat House La E | TL | | |
| Hyde Road to A4124 | | | |
| End of Route. Return to Depot | | | |

| Gritting Route No. | G | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 1 | | Dual Carriageway | DC |
| A454 Lower Horseley Fields | TR | Vicarage Rd | TR |
| Lower Walsall St, Commercial Rd, Sharrocks St | TL | Sutherland Pl<br>Steelhouse Ln to Eagle St | TR<br>SO |
| A41 | TR | Steelhouse Ln | TL |
| Eagle St | TL | Cable St | TL |
| Steelhouse Ln, Major St | TR | A41 | TL |
| Kent Rd | SO | Jenner St | TR |
| Myatt Ave | TL | Steelhouse Ln to Sutherland Pl | SO |
| A4039 | TL | Steelhouse Ln | TL |
| Craven St | TR | A41 | TL |
| Ivanhoe Rd | TL | Hospital St | TR |
| D'Urberville Rd | TL | Cleveland Rd, Vicarage Rd | TL |
| Wessex Rd | TR | Sutherland Pl | TL |
| D'Urberville Close | TL | Steelhouse Ln | TL |
| Rough Hills Rd | TR | A41 | TR |
| Cheviot Rd | TR | A4150 Ring Road | TR |
| Dixon St | TL | Waterloo Rd | TL |
| Major St | TL | Staveley Rd, Dunstall Rd | TR |
| Kent Rd | TR | Dunstall Rd | TL |
| Pond Ln, Silver Birch Ln | TL | Dunstall Ln | TL |
| A4123 | TR | Gatis St | TL |
| A4039 | TL | Craddock St | TL |
| Ward Rd | TL | Goosebrook Rd | TR |
| Park Hall Rd | TL | Loop Glentworth Gdns | TL |
| Dudding Rd | TL | Glentworth Gdns | TR |
| Patricia Av | TR | Gorsebrook Rd | TL |
| Ednam Rd | TR | Dunsall Pk to Dales Cl | UT |
| Honor Av | TR | Dunstall Pk | TL |
| Ward Rd | TL | Gorsebrook Rd | TL |
| Dudding Rd | TR | A449 | TL |
| Patricia Av<br>Ward Rd | TL<br>TR | South St, Jones Rd, The Downs, Snowdon Way | UT |
| Hornby Rd<br>Park Drive, Ednam Rd | TR<br>TR | Snowdon Way, The Downs, Jones Rd, South St | TL |
| A4039 | TL | Leverton Rise | UT |
| A4123 | TR | Leverton Rise, South St | TL |
| Silver Birch Ln | TL | A449 to Bushbury Ln RBT | UT |
| Pond Ln | TL | A449 | TR |
| Derry St | TL | Dunstall Rd, Leicester St | TR |
| A4123 | TL | Gloucester St | TL |
| Brown St | TL | Evans St | TL |
| Pond Ln to Derry St | SO | New Hampton Rd | TR |
| Pond Ln, Vicarage Rd | TL | Lansdowne Rd, Park Rd E, Park Rd W | TL |
| All Saints Rd | TL | Connaught Rd | TL |
| A4123 | TL | A41 | TL |
| Cartwirght St | TL | Bath Rd | TL |
| Vicarage Rd to All Stants Rd | SO | Summerfield Rd | TL |

| Gritting Route No. | G | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | 2 | Turn Right | TR |
| | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |
| | | U-Turn | UT |
| Page 2 | | Dual Carriageway | DC |
| Park Rd W to Connaught Rd | SO | St Judes Rd to A41 | SO |
| Park Rd W, Park Rd E to Lansdowne Rd | SO | St Judes Rd | TL |
| Park Rd E | TL | Riches St to Newbridge St | SO |
| Park Ave | TL | Riches St to New Hampton Rd W | |
| New Hampton Rd E | TL | **End of Route. Return to Depot.** | |
| Lansdowne Rd | TR | | |
| Park Rd E & Park Rd W to Park Rd W | SO | | |
| Albert Rd, over A41, Paget Rd, Clark Rd | TR | | |
| A454 | TL | | |
| Richmond Rd | TR | | |
| Finchfield Rd | TR | | |
| York Ave | TL | | |
| Richmond Rd | TL | | |
| A454 | TL | | |
| Linden Lea | TR | | |
| B4161 Finchley Rd W | TR | | |
| B4161 Finchley Rd W | TL | | |
| Oak Hill | TR | | |
| Castlecroft Road to Windmill Hill | TL | | |
| Castlecroft Rd to Radford Ln | UT | | |
| Castlecroft Rd | TL | | |
| Castlecroft Ave | TR | | |
| Windmill Hill | TL | | |
| Wood Bank Rd | TL | | |
| Windmill Cres, Bagridge Rd | TL | | |
| Castlecroft Rd | TL | | |
| White Oak Dr | TL | | |
| B4161 Finchley Rd | TR | | |
| The Spinney | TL | | |
| Walnut Dr | TL | | |
| Linden Lea | TR | | |
| A454 | TL | | |
| Clark Rd | TR | | |
| Clark Rd | TL | | |
| A41 | TR | | |
| Riches St | TL | | |
| Newbridge St | TR | | |
| New Hampton Rd W | TL | | |
| Court Rd | TR | | |
| Hordem Rd | TL | | |
| Farndale Ave | TR | | |
| Horden Rd | TL | | |
| Crowther Rd | TR | | |
| A41 | TL | | |
| Newbridge Cres | TR | | |
| A41 | TR | | |
| St Judes Rd W to High School | UT | | |

# Appendix
# Footway salting Routes 2016/2017

| City Centre Footpath Gritting | 1 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | | Turn Right | TR |
| Travel to Ring Road Stafford Street junction<br>Set up on east side footpath<br>**GRIT FOOTPATHS IN CAPITAL LETTERS ONLY** | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |

| | |
|---|---|
| STAFFORD STREET | TL |
| BROAD STREET | TL |
| WESTBURY STREET | TL |
| WHITMORE STREET | Cross at Stafford Street junction |
| WHITMORE STREET | TL |
| ST. MARY'S STREET | Returning TL |
| WESTBURY STREET | TL |
| BROAD STREET | Cross at Ring Road junction |
| BROAD STREET | TL |
| FRYER STREET | SO |
| RAINWAY DRIVE | Returning at station |
| RAILWAY DRIVE | SO |
| FRYER STREET | TL |
| BROAD STREET | TL |
| PRINCES SQUARE | TL |
| LICHFIELD STREET | SO |
| OUTER FOOTPATH OF BUS STATION | SO |
| LICHFIELD STREET | TL |
| PRINCESS STREET | TL |
| BERRY STREET | Cross at Piper's Row junction |
| BERRY STREET | TL |
| PRINCESS STREET | TL |
| QUEEN STREET | Cross at Piper's Row junction |
| QUEEN STREET | TL |
| MARKET STREET | TL |
| CASTLE STREET | Cross at Piper's Row junction |
| CASTLE STREET | TL |
| MARKET STREET | TL |
| TOWER STREET | Cross at Piper's Row junction |
| TOWER STREET | TL |
| MARKET STREET | TL |
| BILSTON STREET | TL |
| PIPER'S ROW | Cross at Berry Street junction |
| PIPER'S ROW | TL |
| BILSTON STREET | Finish gritting at Ring Road |

| City Centre Footpath Gritting | 2 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | | Turn Right | TR |
| Travel to Ring Road Stafford Street junction<br>Set up on west side footpath<br>**GRIT FOOTPATHS IN CAPITAL LETTERS ONLY** | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |

| | |
|---|---|
| STAFFORD STREET | TR |
| WULFRUNA STREET | SO |
| ST PETER'S SQUARE | Grit to sub-way returning |
| ST PETER'S SQUARE | SO |
| WULFRUNA STREET | TR |
| STAFFORD STREET | TR |
| LICHFIELD STREET | TR |
| LICHFIELD PASSAGE | Return at end TR |
| LICHFIELD STREET | TR |
| ST PETER'S CLOSE | Return at end TR |
| LICHFIELD STREET | TR |
| LICH GATES | Grit to Wulfruna St returning TR |
| QUEEN SQUARE | TR |
| CHEAPSIDE INCLUDING STEPS TO LICH GATES | Return at North Street junction |
| CHEAPSIDE | TR |
| QUEEN SQUARE | TR |
| NORTH STREET | Turn at Paternoster Row returning |
| NORTH STREET | TR |
| MITRE FOLD | Cross at Red Lion Street junction |
| MITRE FOLD | TR |
| NORTH STREET | TR |
| CORPORATION STREET | Cross at Red Lion Street junction |
| CORPORATION STREET | TR |
| NORTH STREET | TR |
| BLOSSOM'S FOLD | Return at Darlington St junction TR |
| NORTH STREET | TR |
| DARLINGTON STREET | TR |
| RED LION STREET | TR |
| PATERNOSTER ROW | Grit to Ring Rd sub-way returning |
| PATERNOSTER ROW | TL |
| RED LION STREET | TR |
| DARLINGTON STREET | TR |
| WATERLOO ROAD | Cross at Ring Road junction |
| WATERLOO ROAD | TR |
| CLARENCE STREET | TR |
| BIRCH STREET | TR |
| CLARENCE ROAD | Cross at Clarence Street junction |
| CLARENCE ROAD | TL |
| BIRCH STREET | TL |
| CLARENCE STREET | TR |
| WATERLOO ROAD | TR |
| DARLINGTON STREET | Finish gritting at Ring Road |

| City Centre Footpath Gritting | 3 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | | Turn Right | TR |
| Travel to Market Street junction with Bilston Street<br>**GRIT FOOTPATHS IN CAPITAL LETTERS ONLY** | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |

| | |
|---|---|
| MARKET STREET | SO |
| PRINCESS STREET | TL |
| LICHFIELD STREET | TL |
| DUDLEY STREET | TR |
| WOOLPACK ALLEY | Turn at end returning |
| WOOLPACK ALLEY | TL |
| DUDLEY STREET | TL |
| QUEEN SQUARE | TL |
| VICTORIA STREET | TL |
| BELL STREET | Cross at Cleveland Street junction |
| BELL STREET | TL |
| VICTORIA STREET | Cross at Cleveland Street junction |
| VICTORIA STREET | TL |
| DARLINGTON STREET | TL |
| SCHOOL STREET | TL |
| SKINNER STREET | Cross at Victoria Street junction |
| SKINNER STREET | TL |
| SCHOOL STREET | TL |
| SALOP STREET | Cross at Victoria Street junction |
| SALOP STREET | TL |
| SCHOOL STREET | TL |
| PITT STREET | Cross at Worcester Street junction |
| PITT STREET | TL |
| SCHOOL LANE | Cross at Ring Road junction |
| SCHOOL LANE | SO |
| SCHOOL STREET | TL |
| SALOP STREET | TL |
| PEEL STREET | Return at School Street junction |
| PEEL STREET | TL |
| SALOP STREET | Cross at Salop Street junction |
| SALOP STREET | TL |
| FOLD STREET | Cross at School Street junction |
| FOLD STREET | TL |
| SALOP STREET | TL |
| SCHOOL STREET | TL |
| DARLINGTON STREET | Finish gritting at Ring Road |

| City Centre Footpath Gritting | 4 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | | Turn Right | TR |
| Travel to Bilston Street junction with Ring Road **GRIT FOOTPATHS IN CAPITAL LETTERS ONLY** | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |

| | |
|---|---|
| BILSTON STREET | TL |
| GARRICK STREET | TL |
| HALL STREET | Cross at St George's Pde junction |
| HALL STREET | TL |
| GARRICK STREET | TL |
| ST GEORGE'S PARADE | Cross at Bilston Street junction |
| ST GEORGE'S PARADE | TL |
| TEMPEST STREET | Cross at Ring Road junction |
| TEMPEST STREET | TL |
| ST GEORGE'S PARADE | TL |
| SNOW HILL | Cross at Ring Road junction |
| SNOW HILL | TL |
| CLEVELAND STREET | TL |
| WORCESTER STREET | TL |
| TEMPLE STREET | TL |
| SUMMER ROW | Cross at Cleveland Street junction |
| SUMMER ROW | TL |
| TEMPLE STREET | Cross at Snow Hill junction |
| TEMPLE STREET | TL |
| BOND STREET | TL |
| ST JOHN'S SQUARE | TL |
| GEORGE STREET | Cross at Snow Hill junction |
| GEORGE STREET | TL |
| ST JOHN'S SQUARE | TL |
| CHURCH STREET | Cross at Worcester Street junction |
| CHURCH STREET | TL |
| ST JOHN'S SQUARE | TL |
| BOND STREET | TL |
| TEMPLE STREET | TL |
| WORCESTER STREET | Cross at Ring Road junction |
| WORCESTER STREET | TR |
| CLEVELAND STREET | TL |
| GARRICK STREET | Finish gritting at Bilston St junction |

| **Bilston Footpath Gritting Route** | 5 | Standard Abbreviations | |
|---|---|---|---|
| **Route Priority** | | Turn Right | TR |
| Travel to Oxford Street car park, Bilston<br>**GRIT ROADS IN CAPITAL LETTERS ONLY** | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |

| | |
|---|---|
| OXFORD STREET | SO |
| LICHFIELD STREET | TL |
| HALL STREET | TL |
| PIPES MEADOW including ACCESS FOOTPATHS TO HALL STREET, PIPES MEADOW AND OXFORD STREET CAR PARKS | Returning |
| PIPES MEADOW | TL |
| HALL STREET | TL |
| WALKWAY TO BLACK COUNTRY ROUTE | SO |
| FOOTPATH TO MORISONS | SO |
| FOOTPATH FROM MORISONS TO MARKET WAY | TR |
| FOOTPATH BLACK COUNTRY ROUTE | TL |
| THE ORCHARD | TR |
| LICHFIELD STREET | TR |
| HALL STREET | TR |
| WOOD STREET | TR |
| STAFFORD STREET | Returning at Church St for |
| STAFFORD STREET | TR |
| WOOD STREET | Returning at Church St for |
| WOOD STREET | Crossing for |
| BUS STATION | Crossing for |
| MARKET FOOTPATH | TL |
| MARKET WAY | TR |
| BLACK COUNTRY ROUTE FOOTPATH | TR |
| PINFOLD STREET CAR PARK FOOTPATH | TR |
| PINFOLD STREET | Returning at Church St for |
| PINFOLD STREET | TR |
| DUDLEY STREET | Returning at High St for |
| DUDLEY STREET | Stop gritting at junction of Dudley Street and Pinfold Street |

| **Bilston Footpath Gritting Route** | 6 | Standard Abbreviations | |
|---|---|---|---|
| **Route Priority** | | Turn Right | TR |
| Travel to Pinfold Street junction with Dudley Street, Bilston<br>**GRIT ROADS IN CAPITAL LETTERS ONLY** | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |

| | |
|---|---|
| DUDLEY STREET | TL |
| HIGH STREET | TL |
| STONEFIELD ROAD | TL |
| PINFOLD STREET | Cross at Dudley St junction returning |
| PINFOLD STREET | TR |
| STONEFIELD ROAD | TL |
| HIGH STREET | Cross at Coseley Road island |
| HIGH STREET | SO |
| CHURCH STREET | TL |
| BROAD STREET | TR |
| BATCHCROFT | Crossing at Homer's Fold & returning |
| BATCHCROFT to Pedestrian Crossing | TL |
| BROAD STREET | TL |
| CHURCH STREET | TL |
| FLEET STREET | Turn at end returning |
| FLEET STREET | TL |
| CHURCH STREET | TL |
| HOMER'S FOLD | Turn at end returning |
| HOMER'S FOLD | TL |
| CHURCH STREET | TL |
| WALSALL STREET | Crossing at end and returning |
| WALSALL STREET | TL |
| CHURCH STREET | TL |
| LICHFIELD STREET | To Bus Stop opp Prouds Lane Crossing and returning |
| LICHFIELD STREET | TL |
| CALEDONIA STREET | Crossing and returning at Mountford Lane car park |
| CALEDONIA STREET | TL |
| LICHFIELD STREET | TL |
| MOUNT PLEASANT | Crossing at Robin 2 and returning |
| MOUNT PLEASANT | TL |
| LICHFIELD STREET | TL |
| FOOTPATH TO BOW ST CAR PARK | Turn at car park returning TL |
| LICHFIELD STREET | Stop at Fraser St bus stop Return to Lichfield St junction with The Orchard |
| CHURCH STREET | SO |
| HIGH STREET | Stop at Dudley Street |

| Wednesfield Footpath Gritting | 7 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | | Turn Right | TR |
| Travel to Wednesfield Set up on footpath Alfred Squire Road out side police station **GRIT ROADS IN CAPITAL LETTERS ONLY** | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |

| | |
|---|---|
| ALFRED SQUIRE ROAD | Crossing for |
| HIGH STREET | TL |
| CHURCH STREET | TR |
| CHURCH STREET | TR |
| HIGH STREET | TR |
| CHURCH STREET | TR |
| CHURCH STREET | TL |
| HIGH STREET | To public toilets<br>Move to car park entrance<br>Neachells Lane |
| NEACHELLS LANE | TL |
| HIGH STREET | TL |
| ALFRED SQUIRE ROAD | TL |
| BEALEY,S FOLD | Return at High Street for |
| BEALEY.S FOLD | TL |
| ALFRED SQUIRE ROAD | To car park |

| Tettenhall Footpath Gritting | 8 | Standard Abbreviations | |
|---|---|---|---|
| Route Priority | | Turn Right | TR |
| Travel to Tettenhall High Street<br>**GRIT ROADS IN CAPITAL LETTERS ONLY** | | Turn Left | TL |
| | | Straight On | SO |
| | | Roundabout | RBT |
| | | Boundary | BDRY |

| | |
|---|---|
| HIGH STREET | TL |
| HIGH STREET SERVICE ROAD | TL |
| UPPER STREET | TR |
| UPPER GREEN ( Service Road to 10-18 ) | SO |
| STEPS to The Rock | Turn and return |
| UPPER GREEN | TL |
| UPPER STREET | TL |
| ACCESS TO LIBRARY | Turn and return |
| ACCESS TO LIBRARY | TR |
| UPPER STREET | TL |
| HIGH STREET SERVICE ROAD | TL |
| HIGH STREET | Crossing at police station |
| HIGH STREET | TL |
| UPPER GREEN | To limes Road returning for |
| UPPER GREEN | TL |
| WERGS ROAD | To bus stop returning |
| WERGS ROAD Between bus stop and Stockwell Road | |

# Appendix
# Salt Bin Locations 2016/2017

| Salt Bin Locations 2016/2017 | | |
|---|---|---|
| **Road Name** | **Area** | **Location** |
| Abney Drive | Lanesfield | Adj No.1 |
| Amanda Avenue | Penn | Jct Manor Road |
| Appletree Grove | Whitmore Reans | Jct Dunstall Hill |
| Arley Grove | Warstones | Jct Highgate Ave |
| Ascot Drive | Penn | Nr Jct Sandringham Road |
| Ash Hill | Compton | Jct cul-de-sac |
| Ashbourne Road | Lanesfield | Jct Cranbourne Avenue |
| Balmoral Road | Penn | Jct Buckingham Road |
| Balmoral Road | Penn | Jct Sandringham Road |
| Bantock Gardens | Finchfield | Opp No.33 |
| Bate Street | Lanesfield | Mid way on right |
| Bath Avenue | City Centre | Bottom of steps |
| Bay Avenue Junction | Bradley | Jct Arbour Drive |
| Bayliss Avenue | Lanesfield | Jct Rookery Road |
| Bayliss Avenue | Lanesfield | Opp No.10 |
| Belmont Road | Penn Fields | Nr jct Mount Road |
| Bickford Road | Fallings park | opp No.9 |
| Boundary Way | Warstones | o/s No.65 |
| Boundary Way | Warstones | Opp Stourton Drive |
| Bowood Drive | Tettenhall | Opp No.2 |
| Bridgnorth Rd serv rd | Wightwick | Nr Torvale Road |
| Broad Street | City Centre | Middle splitter jct Ring Rd |
| Broad Street | City Centre | o/s Westbury Chaple |
| Broadway | Finchfield | Jct Lea Bank |
| Broadway | Finchfield | Jct Willow Bank |
| Buckingham Road | Penn | Jct Sandringham Road |
| Cable Street | Monmore Green | Jct Bilston Road |
| Cadle Road | Low Hill | Nr Jct Hawksford Crescent |
| Camberley Crescent | Ettingshall Park | Jct Farrington Road |
| Chanterelle Gardens | Penn | o/s No.6 |
| Chartwell Drive | Bushbury | o/s 62 |
| Chartwell Drive | Bushbury | Near No.35 |
| Chelston Drive | Tettenhall | Jct Newbridge Crescent |
| Church Hill | Stockwell End | Jct Bowwood Drive |
| Church Road | Tettenhall Wood | Jct Broxwood Park steps |
| Church Road | Oxley | Jct Three Tuns lane |
| Church Walk | Bradmore | o/s No.11 |
| Claverley Drive | Warstones | Opp No.10 |
| Cleveland Street | City Centre | Disability Car Park |

| Salt Bin Locations 2016/2017 | | |
|---|---|---|
| **Road Name** | **Area** | **Location** |
| Coalport Road | East Park | Jct Wedgwood Close |
| Compton Hill Drive | Compton | Top of hill by field gate |
| Compton Park | Compton | Jct Compton Road |
| Compton Road West | Compton | Jct Compton Hill Drive |
| Cranbourne Avenue | Lanesfield | Jct Tynedale Crescent |
| Cranbourne Avenue | Lanesfield | Jct Tynedale Crescent |
| Cranbourne Avenue | Lanesfield | Nr Jct Laburnum Road |
| Crossland Crescent | Aldersley | Nr Jct Lynton Avenue |
| Denham gardens | Finchfield | Opp No.28 |
| Derwent road | Palmers Cross | Jct Windemere Road |
| Ennerdale Road | Palmers Cross | Jct Windemere Road |
| Farmbrooke Avenue | Fordhouses | Jct Stafford Road |
| Farrington Road | Lanesfield | o/s No.57 |
| Fenmere Close | Goldthorn Park | Side of No. 27 |
| Finchfield Hill | Finchfield | o/s The Westacres |
| Finchfield Hill | Finchfield | Jct Compton Road West |
| Forton Close | Tettenhall Wood | f/w to Grove Lane |
| Gamesfield Green | Merridale | Nr first house on left |
| Goldthorn Hill | Goldthorn Park | o/s No.194 |
| Greenfield Lane | Fordhouses | Jct Ainsworth Road |
| Grove Lane | Tettenhall Wood | Opp Oakleigh |
| Hackett Close | Lanesfield | Opp No.8 |
| Halecroft Avenue | Wednesfield | Nr canal |
| Havelock Close | Bradmore | Jct Maple Road |
| Henwood Rd serv rd | Compton | Nr col opp jct Henwood Cl |
| Henwood Rd serv rd | Compton | o/s No.157 |
| Henwood Rd serv rd | Compton | opp No.129 |
| Henwood Road | Tettenhall | Jct The Rock |
| High Meadows | Compton | opp No.36 |
| High Meadows | Compton | o/s No.18 |
| High Meadows | Compton | o/s 50-60 |
| Himley Close | Bilston | Jct Dudley Street |
| Hollington Road | Stow Lawn | By Shops |
| Hopstone Gardens | Penn | o/s No.14 |
| Hurstbourne Crecent | Stow Lawn | o/s library |
| Hyperion Drive | Penn | Nr field gate |
| Jack Holden Avenue | Woodcross | Opposite No.1 |
| Lea Monor Drive | Penn | o/s No.52 |
| Lichfield Road | Wednesfield | Jct Halecroft Ave |

| Salt Bin Locations 2016/2017 | | |
|---|---|---|
| **Road Name** | **Area** | **Location** |
| Lichfield Road | Wednesfield | By canal nr Thetford Gdns |
| Links Road | Penn | Jct Dewsbury Drive |
| Linley Drive | Bushbury | o/s No.5 |
| Lodge Road | Oxley | Side of No.46 Ribbesford Ave |
| Long Ley | Heath Town | on slope nr school |
| Lothians Road | Aldersley | Jct Lower Street |
| Lynton Avenue | Aldersley | Jct Kendal Rise |
| Marlbrook Drive | Goldthorn Park | Jct Coton Road |
| Merridale Avenue | Merridale | s/o No.17 |
| Mobberley Road | Lanesfield | Jct Kossuth Avenue |
| Molineux Alley | Whitmore Reans | Nr jct Waterloo Road |
| Molineux Street | Whitmore Reans | By wall nr lamp No.6 |
| Molineux Street | Whitmore Reans | Nr car park entrance |
| Neachells Lane | Willenhall | By bridge |
| Nevis Court | Compton | Jct Glen Court o/s No.2 |
| Oak Green | Tettenhall Wood | Opp No.3 |
| Ormes Lane | Tettenhall Wood | Jct The Holloway |
| Orton Grove | Penn | Jct Braden Road |
| Osbourne Road | Penn | On bend |
| Oxley Avenue | Dunstall | Jct Stafford Road |
| Parklands Road | East Park | Jct East Park Way |
| Parklands Road | East Park | on bend o/s School |
| Perry Street | Bilston | Jct Field Street |
| Perton Brook Vale | Wightwick | Jct Wightwick Bank |
| Peterdale Drive | Penn | Jct Brenton Road |
| Peterdale Drive | Penn | Outside No.11 |
| Quail Green | Wightwick | o/s No.19 |
| Quail Green | Wightwick | Opp No.12A |
| Ranworth Rise | Goldthorn Park | Jct Park Hall Road |
| Redacres | Aldersley | o/s No.1 |
| Redacres | Aldersley | Jct Malthouse Lane |
| Ring Road, St Peter's | City Centre | Nr jct Waterloo Rd |
| Ringwood Road | Bushbury | Opp No.22 |
| Rookery Road | Lanesfield | o/s 51 |
| Rookwood Drive | Wightwick | Jct Tinacre Hill |
| Ruskin Avenue | Lanesfield | Jct Mount Road |
| Rycroft Avenue | Penn | At top |
| Sandford Rise | Aldersley | o/s No.21 |
| Sandford Rise | Aldersley | By lamp No.33 |

| Salt Bin Locations 2016/2017 | | |
|---|---|---|
| **Road Name** | **Area** | **Location** |
| Sandy Lane | Aldersley | Jct Aldersley Road |
| Sandy Lane | Low Hill | lamp No.42 opp Leacroft Av |
| Sherborne Road | Bushbury | o/s No.11 |
| Sherwin Avenue | Woodcross | Half way down hill |
| Sherwin Avenue | Woodcross | Opp shops |
| Snowdon Way | Oxley | Jct Logan Close |
| Snowdon Way | Oxley | Jct Sidlow Close |
| Spring Road | Lanesfield | Nr Jct Birmingham New Road |
| Springhill Lane | Penn | o/s No.37 |
| Stafford Road | Oxley | o/s Goodyears |
| Surrey Drive | Finchfield | Jct Bantock Gardens |
| Telford Gardens | Merry Hill | Jct Trysull Gardens |
| The Dingle | Finchfield | Nr jct The Spinney |
| The Downs | Oxley | Opp Atlas Croft |
| The Meadway | Tettenhall | Opp No.8 |
| The Orchard | Aldersley | Jct Malthouse Lane |
| The Orchard | Aldersley | o/s No.3 |
| Torridge Drive | Wednesfield | Between flats 27-49 and Hostel |
| Trimpley Gardens | Penn | o/s No.25 |
| Trimpley Gardens | Penn | Top of cul-de-sac |
| Tudor Crescent | Blakenhall | Jct Rookery Lane |
| Upper Street | Tettenhall | In cul-de-sac off Upper Street |
| Vicarage Road | Penn | Jct Church Hill |
| Waterloo Road | City Centre | Jct Ring Road |
| Waverley Crescent | Woodcross | Jct Lapper Avenue |
| Wednesfield Way | Wednesfield | Jct Dean’s Road |
| Wheathill Close | Penn | o/s No.10 |
| Whitley Close | Tettenhall Wood | Jct Bramstead Avenue |
| Wightwick Hall Road | Wightwick | Side of No.16 |
| Wingfoot Avenue | Low Hill | Jct Bushbury Lane |
| Wolaston Crescent | Wednesfield | Jct Wood End Road |
| Wolverhampton Road | Wednesfield | Jct Church Street |
| Wolverhampton Road | Wednesfield | Jct Church Street |
| Wolverhampton Road East | Lanesfield | Jct Lawnswood Avenue |
| Wood Street | Lanesfield | Jct Spring Road |
| Woodcross Lane | Woodcross | Jct Childs Avenue |
| Woodfield Heights | Tettenhall | o/s No.40 |
| Woodfield Heights | Tettenhall | Opp lamp No.2 |
| Woodhall Road | Penn | Opp No.8 |