Vale of Glamorgan Council

Highway Maintenance Manual 2024

Cymdeithas Syrfewyr Sirol Cymru

County Surveyors' Society Wales

Document Control

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Council Approval

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Responsibility for the Manual

The responsibility for the delivery of and updating of this plan are shown below

Council Officer	Responsible for
Neighbourhood Manager (Highway Maintenance)	Ensuring compliance with the manual and updating of the manual

1 Introduction

Purpose

The purpose of this manual is to document how the council manages highway maintenance. The manual shows how the council aims to meet its duties as the highway authority. It documents the methods used to ensure that the risk to users is appropriately monitored and managed.

Scope

The manual describes how the council maintains the road network under its control. It details the procedures used to plan and execute all works and functions associated with the management, operation and maintenance of the highway asset including how the activities are monitored to ensure compliance with council policies.

Legal Requirements – Appendix A

As the Highway Authority the council has a duty to meet the requirement of the following legislation:

- **The Highways Act 1980:** This places a duty upon Highway Authorities to maintain highways, adopted as maintainable at public expense, and to keep them safe for public use
- **New Roads and Street Works Act 1991:** This places a duty upon Highway Authorities to co-ordinate all works in the highway for the purposes of ensuring safety, minimising inconvenience to highway users, and protecting the highway and apparatus in it.
- **The Traffic Management Act 2004:** This places a duty on Highway Authorities to ensure the expeditious movement of traffic on their road network and networks of surrounding authorities.

National Guidance

To assist authorities in meeting their duties the following National Guidance is provided. The methods adopted in this manual are based upon the contents of the following:

- "Well-Managed Highway Infrastructure: A Code of Practice, UK Roads Liaison Group, 2016"
- "Risk Based Approach: Method", 2019, CSSW, 2019
- "Highway Inspection Defect Recording Manual", CSSW, 2019

Relevant Council Plans and Documents

This manual is part of a suite of documents that support the councils approach to managing the highway asset. These include; Highway Asset Management Plan, Highway Data Improvement Plan and Annual Status Reports.

2 Roles, Responsibilities and Competencies

The roles, responsibilities and competencies required of those involved in managing the council's highway asset are defined below.

Roles and Responsibilities

Role	Responsibility
Cabinet Members	Approve the use of this document as council policy.
Neighbourhood Manager (Highway Maintenance)	Develop the policy and standards, ensure their effective implementation, monitor the results and undertake a risk assessment update.
Team Leader (Inspections)	Ensure their effective implementation, monitor and review the results.
Highway Inspectors	Carry out inspections as per the inspection regime, recording the appropriate data for input into the AM system.
Works Gangs	Carrying out repairs as per the repair regime and record the required data for input into the AM system.
Contractors	Carry out repairs as instructed as instructed and record the required data for input into the asset management system.

Competencies and Training

CSS Wales manages a competency confirmation scheme covering a range of highway management competencies. Details of the scope of the scheme are included in Appendix B.

3 Asset Register and Inventory

The asset register defines the roads that belong to and are maintained by the council. The inventory of the highway assets is based on the asset register and contains the detailed information required to manage the asset. The information includes amount, size, construction material, current condition etc. where such data is available.

Asset Register

The definitive record of the roads that are the councils responsibility including the full list of adopted streets is located on the QGIS.

4 Risk Management

The risks associated with maintaining the highway are managed using the methods described below. This includes how the methods comply with the risk based approach required by the Code of Practice.

Code of Practice

A revised Code of Practice (the code) for Highways "Well Managed Highway Infrastructure" was published in October 2016 providing guidance that authorities are expected to follow and may rely upon when defending themselves against third party claims.

The most significant change to the previous guidance, proposed by the new CoP, is the introduction of a risk based approach to all decision making to be undertaken by each authority individually.

CSSW have developed a method in response to the code that it recommendeds authorities adopt. The method includes development of Hierarchy, Inspection Regime and Repair Regime for the highway assets, along with recommended minimum standards for inspection and defect repair.

Use of the CSSW Risk-Based Approach

Highway Maintenance undertake an risk assessments as detailed in the "CSSW Highways Asset Management Framework Recommended Practices - Recommended Practice 1 Risk Review". With the results being recorded in the "RP1 Risk Assessment – Spreadsheet"

The details of the asset hierarchy, inspection and repair regimes adopted by the council and where they differ from (exceed) the CSSW recommended standards is detailed later in this document.

5 Network Hierarchy

The highway assets have been divided into network hierarchy categories that reflect use and function. This enables the inspection and repair regimes to be related to their associated risk.

Establishing the Network Hierarchy

The network hierarchies have been derived in accordance with the the Code of Practice "Well-Managed Highway Infrastructure: A Code of Practice, UK Roads Liaison Group, 2016" and the CSSW "Risk Based Approach: Method". Details of how the hierarchies were derived is held in the "RP1 Annual Highway Asset Risk Review".

Network Hierarchy Categories

Details of the hierarchies used for each asset group can be found in Appendix C. The details of the hierarchy allocated to each individual asset are held in the council's asset management systems.
A separate hierarchy for footways has not being established as carriageways and footways are inspected concurrently.

Regional Consistency

CSSW recommends that to achieve regional consistency consultation is undertaken with neighbouring authorities to enable consistent hierarchies to be allocated to assets which cross boundaries. At this time the consultation process is yet to be completed once done the assets with differing hierarchies between the council and a neighbouring authority will be listed in Appendix C along with the reason for the difference.

Update and Review

The hierarchies are reviewed on an ongoing basis where changes to the asset occur and or significant changes in use happen (e.g. signficant changes in traffic volume). As a minimum the hierarchy is reviewed and confirmed every 2 years. Records of the review are held in the "Vale of Glamorgan Council RP1 Annual Highway Asset Risk Review". Any resultant recommended changes to the hierarchy will be proposed to council and their approval recorded.

6 Inspection Regime

In order to monitor the condition and repair needs of the asset the council deploys a regime of inspections of varying types and frequencies.

Types of Inspection

The council undertakes the following types of inspection:

1. **Reactive Inspections/Response:** inspections undertaken in response to the notification to the authority of potential defects by other sources (council employees, members of the public, emergency services etc.).
2. **Planned/Routine Inspections:** A regime of planned inspections the purpose of which is to identify defects that have the potential to cause harm to users and to identify defects that require repair in order to prevent escalation of deterioration and increased (avoidable) maintenance needs.
3. **Condition Surveys:** A regime of condition surveys that record the condition of components of the asset such that a programme of renewal/replacements can be derived. Condition surveys can be visual or machine based and may include testing where such is appropriate for the asset type.

Planned routine inspections are a combination of:

- **Driven Inspections**: inspections of the carriageway undertaken with a driver and a Highway Inspector, carried out from a slow-moving vehicle at a speed appropriate to the road conditions.
- **Walked Inspections:** inspections undertaken by a Highway Inspector on foot at a walking pace on the footway, where the footway and carriageway are assessed.

Inspection Frequencies

Reactive Inspections

Where a “safety” defect is notified to the council by a third party an inspection of the defect will take place within 24 hours and action will be taken as per the Council’s repair regime. (see section 7 repair regime for details of safety defect criteria).

Where a “maintenance” defect is notified to the council by a third party an inspection of the defect will take place within 5 working days and action will be taken as per the Council’s repair regime. (see section 7 repair regime for details of maintenance defect criteria).

Routine Inspection Frequencies

Routine Inspection frequency is based on the Network Hierarchy. It has been determined using the CSSW Highway Asset Risk Review Method and is reviewed every 2 years. The frequency of routine inspections is

shown below.

Carriageway Hierarchy	Inspection Interval	Comparison with CSSW Min Std
CHSR	Monthly	Meets
CH1	Monthly	Meets
CH2	Every 3 Months	Meets
CH3	Every 6 Months	Exceeds
CH4	Every 12 Months	Exceeds

Where a footway exists it is inspected to the frequency of the carriageway as shown above.

Inspection Tolerance

Due to the effect of adverse weather and to allow for sickness or leave it is possible that the specified frequencies cannot be met in some circumstances. Any changes to the frequencies must be approved by the Team Leader (Inspections) before they are implemented.

Inspection Schedule

Inspection routes in compliance with the regime above are held in the council's asset management system The asset management system contains details of the inspection regimes, the inspections undertaken and the date of the next scheduled inspection. Inspections to be undertaken are provided to the inspectors at the beginning of each month. The use and character of a road will be considered when scheduling inspections, for example to avoid periods with higher numbers of parked vehicles. Best endeavours will be made to ensure that the timing of the inspection enables defects to be identified effectively.

Inspected Assets

The assets inspected during the routine inspection include (but are not be limited to) the following:

- Carriageways
- Footways
- Covers, Gratings & Frames (inc Statutory Undertakers apparatus)
- Kerbs, Edgings and Channels
- Drainage
- Guardrails, Fencing and Restraint Systems
- Verge, Trees and Hedges
- Road Studs and markings
- Signage
- Street Lighting
- Traffic Systems, Controlled Crossings, Illuminated Bollards and Cabinets
- Cleanliness and Weed Growth

Recording of Inspection Records

Records of the inspection and the resulting observations are recorded using tablet computers and the results transferred into the AM System in real time.

Condition Assessments

The council undertake the following condition assessments on their highway assets.

Carriageways

i. SCANNER (Surface **Condition Assessment** of the National Network of Roads)

SCANNER is a machine condition survey undertaken from a vehicle moving at traffic speeds. The results of the survey are held offsite by WDM and accessed via the WDM / WIP online interface.

ii. Visual Condition Assessment –

A visual condition survey of all roads is undertaken using the CSSW Visual Condition Assessment Method. The carriageway condition is assessed by a CSSW trained inspector. Carriageway visual condition information is stored in the AMS database.

SCANNER surveys are arranged via a central contract managed by the Welsh Government. The contract covers A, B and C Roads. SCANNER surveys are not undertaken on the unclassified road network.

The SCANNER survey is undertaken at the following frequencies

Carriageway Annual Survey Coverage	
Road Class	**SCANNER**
A Roads	100% (one direction)*
B Roads	100% (one direction)*
C Roads	25% (one direction)

Visual condition assessments are not currently undertaken.

Footways

Visual condition assessments are not currently undertaken.

Structures

Visual Condition Assessment

Structures are inspected using two levels of inspection:

i. General Inspections (GIs'); GIs are visual inspections, possibly with some hands-on and basic assessment e.g. hammer tapping and measurements.

ii. Principal Inspections (PIs); PIs are a more detailed visual inspection, with hands-on assessment of most/all elements plus detailed assessment.

A General Inspection involves recording the extent and severity of observed defects on a form the data from which is subsequently entered into the council's Bridge Management System (AMX).

A Principal Inspection involves the creation of a detailed report along with the data recorded on the form. The results of these inspections are also entered into the council's Bridge Management System (AMX).

Condition assessments are undertaken at the following frequencies.

Inspection Type	Survey Coverage
General Inspection	100 % Every 2 Years
Principal Inspection	100 % Every 6 Years (where required*)

*For smaller structures with easy access a General Inspection is considered sufficient without the need for a Principal Inspection to be undertaken.

Street Lighting

The condition of street lighting assets is assessed as follows:

Visual Condition

Visual condition assessment is carried out on an adhoc basis during maintenance visits with any obvious defects or poor condition assets being reported and actioned accordingly.

Electrical Safety

Electrical testing is carried out by an external contractor on all equipment. The results of the electrical testing are entered onto the Confirm asset management system.

Inspection Type	Survey Coverage
Electrical	100 % Every 6 Years

Remote Monitoring

The council has a quantity of lanterns that have remote monitoring. By the end of 2020/21 approximately 3700 lanterns will be controlled by Philips City Touch remote monitoring system.

Condition assessments are undertaken at the following frequencies.

7 Repair Regime

Repairs identified via inspection or by 3rd party notification, are prioritised for repair based upon the risk that they pose to users. The methods used to do this are set out below.

Defect Categories

The data recorded during inspections is used to determine defect categories. Defect categories prioritise repairs using the defect response times adopted by the council and shown below.

Defect Categories	Description	Response Time
Critical Defect	A situation where the inspecting officer considers the risk to safety high enough to require immediate action,e.g. Collapsed cellar, missing utility cover, fallen tree, unprotected opening	2 Hours*
Safety Defect	Service requests or defects requiring a response as soon as possible to remove a potential risk of injury to users	Make safe by the end of the next working day
Maintenance Defect (High)	Other defects that warrant treatment, in order to prevent them deteriorating into a safety defect prior to the next scheduled inspection	15 Working Days (a working day is Monday to Friday and excludes bank holidays)

*Response time for critical defects refers to the time to attend site, make safe. Repair will then be asap thereafter. Making safe may constitute displaying warning notices, coning off or fencing off to protect the public from the defect.

Defect Types and Intervention Levels – Appendix D

Details of the defect types identified and the intervention levels that have been prescribed for each defect category are shown below.

Asset Type	Defect Type	Hierarchy	Dimensional Criteria		Comparison with CSSW Min Std
			Depth/Height	Extent	
Carriageways	Pothole	All	>40mm	Maximum horizontal dimension greater than 150mm	Meets
	Protrusion	All	>40mm	Maximum horizontal dimension greater than 150mm	Meets
Footways	Pothole	All	>20mm	Maximum horizontal dimension greater than 75mm	Meets

"24 Hour" Emergency Cover

The Council operates a 24 hour emergency service via an out of hours Contact Centre, Contact One Vale (www.valeofglamorgan.gov.uk , 01446 700 111). Incidents are reported to the contact centre who forward them to the Duty Officer and emergency response is provided if required.

This service provides where necessary an immediate and co-ordinated response to maintain highway safety at all times. Hazards dealt with include problems such as flooding, ice and snow, unsafe street works, traffic signal failure, electrical danger at street lighting installations, stray animals and clearing of the highway following a road traffic accident.

An incident log is produced by the Duty Office for every out of hours period. When action can be safely deferred, this log is used to initiate any additional action required in respect of particular incidents on the next working day.

Works Ordering

Works orders are generated automatically using the council's asset management system following the input of the inspection records.

Recording of Repair Records

On completion of the repair the contractor records the defect repaired noting if the size or depth has changed since the inspection.

The contractor returns the order to the council.

The admin team update the Council's asset management system with the supplied information.

The defect will only be deemed 'fully repaired' once all records have been entered into the asset management system.

8 Procurement

Details of how maintenance works for each asset are procured are shown below. Works are procured using a combination of internal and external resources.

How the service is delivered for each asset is shown below.

Asset	Work Type	In-House or Contractor
Carriageway	Routine and Reactive	Term Contract
	Planned	Term Framework Contract (South East Wales)
Footways	Routine and Reactive	Term Contract
	Planned	Term Framework Contract (South East Wales)
Drainage	Gully Cleansing	Inhouse Direct Labour Workforce
Street Lighting	Routine and Reactive	Term Contract
	Planned	Term Framework Contract (South East Wales)
Traffic Signals	Routine and Reactive	Term Contract
	Planned	Term Framework Contract (South East Wales)
Street Furniture	Routine and Reactive	Adhoc Contracts as required

9 Customer Contact

Customer contact relating to the highway asset is managed as below.

Customer Relationship Management System

Communications are received from the public (customer) and Members of the Council via the following methods.:

- www.valeofglamorgan.gov.uk
- Phone – 01446 700111
- Email – c1v@valeofglamorgan.gov.uk / contactonevale@valeofglamorgan.gov.uk
- Social Media – Facebook and Twitter
- Post – Vale of Glamorgan Council, The Alps, Alps Quarry Road, Wenvoe, CF5 6AA

Each request is logged on the councils customer relationship system and referred to the relevant Officer for attention. The target to determine appropriate action is five working days.

Progress in dealing with complaints is monitored and pursued to a conclusion. When the matter has been addressed, the database is updated to record the action taken and, where applicable, the date on which the defect was rectified. Subsequently, the customer is advised of the action taken where necessary.

Scheme Notification and Roadwork's Reports

A weekly Roadwork's Report is circulated to the major motoring organizations, bus service providers, emergency services and local councils. This information is also available via the council's web site (www.valeofglamorgan.gov.uk/en/living/roads/roadworks-and-road-closures.aspx).

The website gives details of works being undertaken on all routes, including the nature and anticipated duration of the works, and the method of traffic management being employed. Additional publicity is provided where exceptionally severe traffic delays are anticipated including using mobile variable messaging systems.

10 Utility Activity

The condition and management of the highway is affected by third party works. The management of these third-party activities is governed by legislation (New Roads and Street Works Act (NRSWA) 1991). The manner in which the council complies with its duties under this act is set out below.

Street Works

All utility activity undertaken on the council's highway network is co-ordinated by the Street Works Team and recorded within the asset management system. The Street Works Team ensure that all statutory undertakers comply with the New Roads and Street Works Act (NRSWA) 1991 and all amendments as notified in the Traffic Management Act 2004, to ensure that all works undertaken on the highway are completed to the required standards and are programmed to achieve the least disruption to members of the public.

The contact details can be found on www.WHAUC.com.

11 Third Party Claims

Third party claims are made against the council when members of the public believe that negligence on the part of the council, has resulted in injury or property damage.

Contacting the Council

If a member of the public wants to claim from the council they contact the Call Centre who will provide the 'Third Party Claim' form.

Processing 3rd Party Claims

The details of the third party claim process are held by the Highways Maintenance Team.

Review of Claims

The responsible officer receives an annual report from the Insurance team. The report details:

- the number of claims
- a breakdown of the type of claim (personal injury/property damage),
- the asset to which it refers,
- the specific details of the claim and
- whether the claim was successful or repudiated.

12 Routine “Cyclic” Planned Maintenance

Cyclic maintenance activities are undertaken at set frequencies to ensure the service standard is achieved. include gully emptying and verge maintenance. The frequencies at which Cyclic Maintenance activities are conducted are shown below.

The only cycle maintenance activity undertaken is gully cleansing as shown below:

Activity	Frequency
Gully Cleansing	
Standard Gullies	12 months and 15 months

There are currently no cyclic maintenance activities undertaken for footways, lighting or structures assets.

13 Highway Works Scheme Prioritisation Regime

Assets that are identified as in need of substantial repair or replacement are included on a works programme of potential schemes. A prioritisation regime is used to identify which of the proposed schemes should be undertaken during the following year/s.

Scheme Prioritisation

Team Leader (Street Scene) is responsible for maintaining a 3 year rolling programme of schemes.

Schemes are identified by inspectors and analysing SCANNER information.

A prioritisation value is obtained for each scheme using the following factors:

Classification of Road

SCANNER

Onsite Condition Assessment

Third Party Claims

Customer Complaints

Bus Route

Previous Maintenance Costs

Appendix A: Extract from highways Act 1980

As the highway authority the council is subject to legal requirements that include:
The 1980 Highways Act,

- Section 41; to maintain those roads, footways and cycle tracks that are '*Highways maintainable at public expense'*.
- Section 58 ; states that a statutory defence against third party claims is provided where the Highway Authority can establish that reasonable care has been taken to 'secure that the part of the highway to which the action relates' to a level commensurate with the volume of ordinary traffic such that it 'was not dangerous to traffic'.

Section 58 : Special defence in action against a highway authority for damages for non-repair of highway.

(1)In an action against a highway authority in respect of damage resulting from their failure to maintain a highway maintainable at the public expense it is a defence (without prejudice to any other defence or the application of the law relating to contributory negligence) to prove that the authority had taken such care as in all the circumstances was reasonably required to secure that the part of the highway to which the action relates was not dangerous for traffic.

(2)For the purposes of a defence under subsection (1) above, the court shall in particular have regard to the following matters:—

a) the character of the highway, and the traffic which was reasonably to be expected to use it;

b) the standard of maintenance appropriate for a highway of that character and used by such traffic;

c) the state of repair in which a reasonable person would have expected to find the highway;

d) 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;

e) where the highway authority could not reasonably have been expected to repair that part of the highway before the cause of action arose, what warning notices of its condition had been displayed;

but for the purposes of such a defence it is not relevant to prove that the highway authority had arranged for a competent person to carry out or supervise the maintenance of the part of the highway to which the action relates unless it is also proved that the authority had given him proper instructions with regard to the maintenance of the highway and that he had carried out the instructions.

The New Roads & Street Works Act 1991 imparts a duty on Statutory Undertakers to maintain their apparatus in the Highway, but it has been established in Case Law that they can rely on the Highway Authority's Safety Inspection regime to some extent when defending Claims.

The Council can avoid being held jointly liable for defective apparatus by issuing a Section 81 Notice - New Roads & Street Works Act 1991 to the Utility Company whenever a defect is identified by the Authority within the Highway.

Appendix B: Competency Requirements

CSS Wales manages a competency confirmation scheme. The scheme has been used to enable the competency of authority staff in key areas to be confirmed. The scheme covers the following areas:

- Visual Condition Assessment (Carriageways)
- Visual Condition Assessment (Footways)
- Bridge /Structures Inspection
- Highway Inspections

Those who are accredited by these schemes are listed internally.

Appendix C: Asset Hierarchy Categories

Carriageways	
Category	**Description (approximate daily traffic volume)**
CHSR	Route enabling travel between locations of regional significance (NA, Strategic routes are identified based on their importance regionally rather than their traffic volume)
CH1	Travel between locations (traffic volume 10,000 - 20,000)
CH2	Travel between locations (5,000 - 10,000)
CH3	Travel between locations (1,000 - 5,000)
CH4	Access to housing (200 – 1,000)
CH5	Access to properties (housing and farms) (< 200)

Structures	
Category	**Description**
Vital Structure	A structure that is vital to the network i.e. if restricted or out of service it would cause a very significant adverse effect such as major traffic delays and a lengthy diversion route with the potential to affect other important services or community severance
Important Structure	A structure that is important to the functioning of the network, i.e. if restricted out of service would have an adverse effect on the operation of the network
Standard Structure	All other structures

Street Lighting Hierarchy

There is no hierarchy for street lighting assets managed by Vale of Glamorgan Council. All assets are inspected at the same frequency and repaired within the same response time

Details of the hierarchy allocated to each individual asset are held in the Confirm asset management system.

Appendix D: Defect Types and Intervention Levels

The following is a list of defect types and intervention levels used within the authority.

Critical Defects

Asset Type	Defect	Magnitude	Hierarchy	Road Character	Response Time
All	A situation where the inspecting officer considers the risk to safety high enough to require immediate action, typically include items such as; Carriageway / footway / cycleway collapse with high risk of accidents / loss of control; Critically unstable overhead wires, trees or structures; Exposed live wiring; Isolated standing water with high risk of loss of control; Missing or seriously defective ironwork with high probability of injury to highway users.	Not Applicable. Critical defects are defined by their potential to cause immediate injury not by defect size	All	Not Applicable. Critical defects are defined by their potential to cause immediate injury not by defect size	2 hours

the response time for a critical defect is the time until the site is made safe, this may be achieved by closing all or part of the road or coning off the hazard. In some instance a repair may be immediately possible but in many instances the repair will occur later

Safety Defects

Asset Type	Defect Type	Hierarchy	Dimensional Criteria		CSSW National Minimum Standard		Comparison with CSSW Min Std and Comment
			Depth/Height	Extent	Depth/Height	Extent	
Carriageways	Pothole	All	>40mm	Maximum horizontal dimension greater than 150mm	> 50mm	Maximum horizontal dimension greater than 150mm	Exceeds Depth / Height
	Protrusion	All	>40mm	Maximum horizontal dimension greater than 150mm	>75mm	Maximum horizontal dimension greater than 150mm	Exceeds Depth / Height
Footways	Pothole	All	>20mm	Maximum horizontal dimension greater than 75mm	> 40mm	Maximum horizontal dimension greater than 75mm	Exceeds Depth / Height

The standards in the preceding tables are a guide only. Reference should be made to the CSSW Highway Inspection Defect Recording Manual . It is an essential part of the authorities' inspection regimes that inspectors are appropriately trained. In doing so inspectors are able to complement application of the standard with their own assessment of individual defects, which may result in a different response time.

Street Lighting

The defect types and response times for street lighting faults are:

Category of Fault	Response Time
Routine	10 working days
Illuminated Regulatory Sign	
Three or more Lighting Units	
Other Routine Jobs	
Non Routine	10 working days
Illuminated Regulatory Sign	
Other Routine Jobs	
Emergency	
To make safe potential electrical danger	2 hours
Temporary repair of traffic bollards	2 working days