



SCOTS / CSSW

ASSET MANAGEMENT PLANNING

RAMP/HAMP #2

Highway Maintenance Manual

Powys County Council

Working Document

Document Information

Title	SCOTS/CSSW Asset Management Planning RAMP/HAMP #2 5. Highway Maintenance Manual
Owner	Highways Transport & Recycling – Head of Service
Description	This document records how Powys County Council maintain the council’s highway network. It provides a reference for those who are employed to manage the highway asset. It records procedures covering all aspects of highway maintenance including inspection policies which may be relied upon by the council when defending 3 rd party claims.

Document History

Version	Status	Date	Author	Changes from Previous Version
1.0	Draft	June 2014	exp consulting	Not applicable

Document Control

Version	Status	Date	Powys County Council Approval
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1 Introduction

1.1 Purpose

This manual records how Powys County Council (PCC) manages and maintains the council's highway assets.

Separate sections are provided for carriageways, footways, street lighting, structures, traffic management systems and street furniture. The grouping match those required for financial reporting under the CIPFA Transport Infrastructure Code.

1.2 Use

This manual is a reference for use by those who manage the highway asset. The document is a controlled document. A register of those to whom it has been issued is included in front inside cover of the document.

1.3 Highway Asset Management Planning (Section 2)

The manual is an important part of the council's application of good highway asset management planning practices. The councils approach is outlined in section 2 of this document.

1.4 Highway Maintenance Procedures (Section 3)

The manual covers carriageways, footways, street lighting, structures, traffic management systems and street furniture. For each asset group details are given as to how the council:

- Inspects
- Categorises and prioritises reactive repairs
- Assesses condition
- Identifies and prioritises sites or assets for replacement, renewal or strengthening
- Chooses the materials used
- Prepares works programmes
- Procures and manages works
- Records and reports costs
- Records and responds to customer contacts

The details are included in section 3 of this document

1.5 Review and Updating

This document is reviewed and updated annually. The next update is due in May 2017.

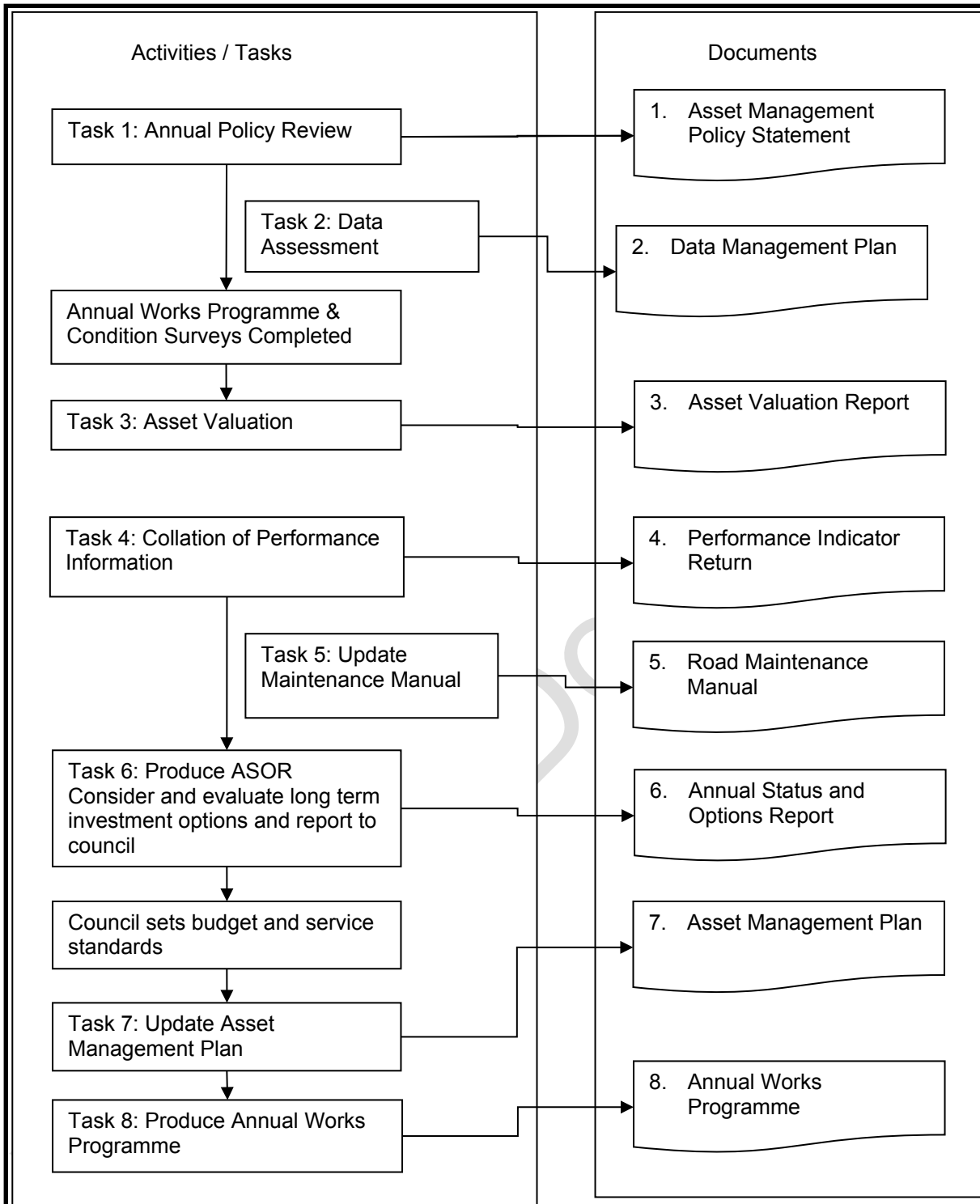
2 Highway Asset Management Planning

2.1 Introduction

This section summarises PCCs highways asset management planning practices. It details the tasks that are required and provides details of the documents, spreadsheets and template documents that are to be used.

2.2 Annual Asset Management Planning Process

The process below shows the steps that PCC uses to apply asset management planning. The documents that support this process are identified. The content of each document is described below.



2.3 Highway Asset Management Planning Documentation

PCC produces and updates the following asset management documentation

1. Asset Management Policy Statement

The Highway Asset Management Policy Statement formally confirms the council's commitment to applying asset management systems to manage highway assets, publishing an Asset Management Plan and reporting achievements and performance annually.

- The **PCC Highway Asset Management Planning Policy Statement** is stored at ([hyperlink](#))

2. Data Management Plan

The Data Management Plan records how the council manages relevant asset data, specifically: what data is held by the council about its highway assets, what methods used to maintain this data and what Plans there are for improvement of the data held

- The **PCC Highway Asset Data Management Plan** is stored at ([hyperlink](#))

3. Highway Asset Valuation Report

The Highway Asset Valuation Report details the results of the latest highway asset valuation. It provides a reference to support the figures that the council is required to submit annual for whole of government accounts and will assist with any financial audit of the valuation. It records the quality of the data used to produce the valuation, the method of calculation and the sources of data.

The report comment on the results, allows council finance people to understand what the valuation tells the council about the road asset and record any limitations with the current valuation. It should recommend improvements that would enable more reliable future valuations.

- PCC **Annual Highway Asset Valuation Reports and Spreadsheets** are stored at ([hyperlink](#))

4. Performance Indicator Return

The performance indicator report is produced in the form of a spreadsheet managed by APSE. It provides results which are required to be included in the Annual Status and Options Report and enables PCC to compare performance and undertake cost benchmarking against similar authorities.

- The current (and previous) **PCC Annual Highway Asset Performance** results are held ([hyperlink](#))

5. Maintenance Manual

This Highway Maintenance Manual records the methods used to manage the highway assets

6. Annual Status and Options Report (ASOR)

The Annual Status and Options Report (ASOR) summarises the status of each asset group in terms of its condition, compliance with meeting repair standards, level of public complaint/contact etc. The report describes the result of the previous year's investment in terms of meeting the target service standards. The status report enables council to note if the standards in the HAMP are being met or not. Based upon the current status the report set out the options available to the council for the future. This include long term (20yr)

predictions of levels of defects and condition and other relevant data sufficient to enable the council to choose how to best allocate the following years budgets and to decide whether any of the service standards contained in this HAMP need to be revised. Specific investment strategy options are presented for the major asset groups of carriageways, footways, structures, street lighting, drainage and traffic signals. Each option defines target service standards and their predicted cost and how they could be delivered. In particular they address the types of works that are planned and state the approach to be taken for example if a “prevention is better than cure” approach has been adopted.

- **The Annual Status and Options Reports** are stored at [\(hyperlink\)](#)

7. Highway Asset Management Plan (HAMP)

The Highway Asset Management Plan (HAMP) records the service standards that the council is aiming to deliver for each asset group. These standards are based upon detailed predicted budget levels in the short term (3yrs) and general budget level predictions over the longer term (20yrs). The plan identifies risks that may prevent the plan being realised. The plan reflects local traffic levels, customer preferences and the council’s corporate strategies.

- **The PCC HAMP is stored at** [\(hyperlink\)](#)

8. Annual Programme (Rolling Programme)

The planning process results in identified schemes, roads to be surfaced, bridges to be strengthened, streets where lighting it so be changed etc. A 3 year rolling programme of schemes is maintained conjunction with the HAMP. The methods of prioritisation of schemes are included in the relevant sections of this maintenance manual (this document)

Annual Updating Regime

If the documents above are reviewed and updated annually. The programme for updating is shown below.

Powys County Council Highway Asset Management Plan – Annual Programme													
Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1 Annual Policy Review													
2 Data Assessment													
3 Asset Valuation													
4 Collation of Performance Information													
5 Maintenance Manual Update													
6 Annual Status and Option Report													
7 Asset Management Plan Update													
8 Works Programme													

3 Financial Management

3.1 Sources of Funding

Revenue expenditure is recurring expenditure that is financed from current income (ie. not through borrowing). It consists of the day to day running costs of the highway including staff wages and salaries. The main source of revenue expenditure is the Welsh Assembly who provide an annual Grant which is based on complex formulas. The Council can also use funds provided by the Council Tax and generated income from charging for services such as parking.

Capital expenditure is spending which creates long term assets, whose benefits will last over a period of years such as spending on the purchase, construction or improvement of highway assets. Capital allocations are made by the Welsh Assembly taking into account factors such as road length, classification, traffic figures and road condition data. Other sources of funding include Government Grants by way of Emergency Capital Funding, for example, and Council Reserves.

3.2 Budget Allocation

3.2.1 Capital Allocation

The Capital Programme is developed using the following process:	
Step 1:	<p>Candidate Schemes (minimum of £10,000) for the Powys County Council's (PCC's) Capital Programme are primarily identified by the Area Managers and Highway Supervisors and recorded in the 'Capital List' which is stored ??? and the responsibility of the Area Managers. The 'Capital List' includes schemes for all assets.</p> <p>Customers notify PCC with their candidates via the PCC Customer Contact Centre or their Local Member. These are passed onto the Highway Supervisors for assessment as described in Section 11: Customer Contact Centre.</p>
Step 2:	<p>All Candidate Schemes on the 'Capital List' are allocated a priority using the 'Capital Programme Prioritisation Matrix' by the Highway Supervisor. The same process is used for all assets.</p> <p>Documentation of the 'Capital Programme Prioritisation Matrix' is stored ???</p>
Step 3:	<p>In October ??? the Highway Supervisor reviews the 'Capital List' identifying schemes in close proximity to each other which could be joined. The Highway Supervisor calculates a new priority for these schemes.</p>
Step 4:	<p>In November ??? the Area Manager travels to all the sites on the 'Capital List' and assigns their own priority. The schemes on the Capital List are re ranked using the Area Manager's priorities.</p>
Step 5:	<p>The 'Capital Programme Budget' is announced by the PCC ???.</p>
Step 6:	<p>The Area Manager / Network Manager selects the highest ranked schemes on the Capital List until the Capital Programme Budget is fully utilised. This becomes the Draft Capital Programme.</p> <p>The Area Manager / Network Manager also records the top five ranked schemes not selected on a second list which could be undertaken if issues occurred with any of the approved schemes.</p>
Step 7:	<p>The Network Manager prepares a committee report requesting the approval of the Draft Capital Programme.</p>
Step 8:	<p>The Members approve the Capital Programme</p>

Step 9:	The Finance Department set up the Finance Codes	
Step 10:	The Network Management Officer (NMO) and the Highways Grounds and Street Scene (HGSS) decide which schemes will be undertaken by the council and which schemes will be undertaken by external contractors.	
Step 11:	Scheme designs are completed.	
	Step 11A:	For schemes allocated to external contractors the Design Group prepare the contract and undertake the tendering process through to selecting the successful contractor.
	Step 11B	For schemes allocated to internal resources the Design Group provide the design only.
Step 12:	The works are completed	
Step 13:	The contractor completes the Maintenance Manual and the Health and Safety Documentation and provides to the NMO within 3 months	
Step 14:	The Designer completes the As Builts and provides them to the NMO.	
Step 15:	The NMO updates the inventory data in the appropriate asset database and links the As Built information.	

3.2.2 Revenue Allocation

The following process describes how the total revenue budget is allocated to individual areas and work categories.

The overall responsibility for this process is the Highways Grounds and Street Scene Manager.

The process requires input from the Area Managers.

The following process describes how the total revenue budget is allocated to individual areas and work categories.		
Step 1:	The Members approve a revenue budget for highways	
Step 2:	The Highways Grounds and Street Scene Manager (HGSSM) apportion the revenue budget to the fifteen operational areas which is based on inspection length (see Table below)	
Step 3:	The HGSSM apportion the revenue budget to the individual work categories (see Table below)	
Step 4:	The HGSSM sends the specific revenue budgets to the appropriate Area Manager to review.	
Step 5:	The HGSSM and Area Manager meet to discuss the revenue budgets	
	Step 5A:	If only minor changes are required between work categories and areas the HGSSM amends the revenue budgets and then publishes it as final.
	Step 5B:	If major changes are required between work categories and areas the HGSSM will hold a meeting with all Area Managers to discuss the allocation of the revenue budget.
	Step 5Bi:	The HGSSM and Area Managers agree on the breakdown of the revenue budget.
Step 6:	The Finance Department set up the Finance Codes	

Local Environment Area Breakdown		
Number	Name	% of Revenue Budget
Area 1		
Area 2		
Area 3		
Area 4		
Area 5		
Area 6		
Area 7		
Area 8		
Area 9		
Area 10		
Area 11		
Area 12		
Area 13		
Area 14		
Area 15		

Revenue Work Categories	
Revenue Category	Responsibility
Remedial Earthworks	Highways Grounds and Street Scene (HGSS)
Surface Dressing	HGSS
Safety & Minor Repairs (Reactive)	HGSS
Storm / Flood (Reactive)	HGSS
Patching & Minor Repairs (Reactive)	HGSS
Patching & Minor Repairs (Planned)	HGSS
Sweeping & Cleansing (Planned)	HGSS
Ditching & Grips	HGSS
Routine Jetting / Gully Emptying	HGSS
Traffic – carriageway markings	HGSS
Verge Maintenance	HGSS
Winter Maintenance Fixed Costs	HGSS
Winter Maintenance Rest Period	HGSS
Winter Maintenance Precautionary / Planned	HGSS

Revenue Work Categories	
Revenue Category	Responsibility
Winter Maintenance Reactive / Unplanned	HGSS
Safety Fencing & Barriers	HGSS
Traffic – signs illuminated	HGSS
Traffic – signs non-illuminated	HGSS
Street Lighting Energy	HGSS
Street Lighting Maintenance	HGSS
Bridge Inspection and Assessment	HGSS / Network Management Officer (NMO)
Bridge Structural Maintenance	HGSS / NMO
Cleaning of Bridge, Culverts, Subway	HGSS / NMO
Bridge & Culvert Structural Maintenance	HGSS / NMO
Retaining Walls & Cattle Grids	HGSS / NMO
Retaining Walls & Structures	HGSS / NMO
Traffic Energy	HGSS
Traffic Safety Maintenance	HGSS

3.3 Financial Cost Categories

The financial cost categories enable the council to group similar work types costs together. There are ten cost categories which are described below. Each financial transaction associated with highway maintenance should be allocated to one of the following cost categories.

Planned Maintenance - Preventative	Planned maintenance activities that are designed to ensure that more expensive future repairs may not be needed.
Planned Maintenance - Corrective	Planned maintenance activities that correct the condition of the asset and which would not cost significantly more if delayed.
Routine Cyclic Maintenance	Scheduled works consisting of activities that are based on a prescribed time interval.
Routine – Reactive Maintenance (Emergency)	Reactive repair of potentially dangerous defects identified from inspection or customer complaint / notification.
Routine - Reactive Maintenance (Non-Emergency)	Other less urgent minor repairs
Routine – Inspection and Survey	Cost of specialist inspection and surveys
Operating Costs	Costs of operating elements of the asset

Overhead	Internal costs associated with the management of the asset. NB it is accepted that these costs may not be available at an asset group level
Loss	Money expended that is effectively “lost” to the council from which no benefit to the asset or user is gained.
Improvements	Works that add new infrastructure to the asset.

4 Risk Management

Risk management is the process by which an organisation identifies risks, assesses their relative importance, determines the appropriate control mechanisms and ensures that the agreed action is taken.

Powys County Council manages all their risks using the ‘Powys County Council Risk Management Framework, **Date**’. An electronic copy of this document can be found **???**

The Highways Department maintain a Risk Register following the ‘Powys County Council Risk Management Framework, **Date**’. An electronic copy of the Highway Departments Risk Register can be found **???**

It is the responsibility of the Network Manager to ensure the Highway Departments Risk Register is kept up to date.

5 Procurement

Works on the highway asset are either undertaken internally by the Highways Ground and Street Scene Department or by external providers. The following table shows the providers and contract types for each asset.

Asset Procurement		
Asset	Routine & Reactive Repairs	Planned Maintenance
Carriageway	All completed by Highways Ground and Street Scene (HGSS)	Smaller length resurfacing (HGSS) Resurfacing – external Framework Framework – with other authorities Trunk Road Framework
Footways	All completed by HGSS	Reconstruction – Small – internal Large - external
Street Lighting	All completed by HGSS	Column (New / Replacement) – internal Luminaire (New / Replacement) – internal Structural Testing – external
Highway Structures	All completed by HGSS	Combination of Highways Ground and Street Scene and External Contractor (HGSS) First option is given to HGSS.
Traffic Signals	Some bulbs replaced by Internal External	External
Street Furniture	All completed by HGSS	
Weather Stations	Contract with Vaisala for the	External Provider (individual contract)

Asset Procurement		
Asset	Routine & Reactive Repairs	Planned Maintenance
	weather station provided by themselves.	

The Procurement Department are responsible for all procurements. They have their own set of processes which are not referred to in this document.

6 Programme Coordination

In Powys the 'Streetworks Team' of Powys County Council are responsible for managing the requirements of NSRWA.

6.1 Requirements for Highway Works

For all highway projects the following completed Notices need to be provided to the Streetworks Team

- i. Section 54 – Advance notice of certain works
- ii. Section 55 – Notice of starting date of works
- iii. Section 74 – Actual Start

The following are responsible for completing the above notices for highway projects:

- The Design Department are responsible for completing the notices for highway projects that they design and manage
- Contractors are responsible for completing the notices on projects which do not require design.

6.2 Three Monthly Meetings

The 'Streetworks Team' hold 3 monthly meetings with utility operators and the council representatives

All resolutions are recorded and sent to all affected parties

7 Adoption

The full list of adopted roads is located on the Street Gazetteer. The Network Management Officer is currently designated as the Street Custodian for the Gazetteer.

In the event that Powys County Council decide to adopt new assets the following process is in place to ensure that both parties' rights are attained. The main objective of the 'adoption process' in highway maintenance terms is to ensure that the 'adopted' asset meets a certain level of condition before the council takes ownership. All maintenance needs will come out of the highway maintenance budget once ownership is transferred.

It is also important to obtain the asset inventory and insert it into the appropriate asset management system.

The following process describes how non council assets become the responsibility of Powys County Council.

Who is responsible for managing this process?

<p>Adoption Process</p> <p>This process describes how non council assets become the responsibility of Powys County Council.</p>
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- Step 1:
- Step 2:
- Step 3
- Step 4:
- Step 5:
- Step 6:
- Step 7:
- Step 8:
- Step 9:

8 Third Party Claims

Customers who believe the highway asset has caused damage to their personal possessions or to themselves may make a claim against PCC. PCC takes this very seriously and have a robust process in place to ensure that there are minimal successful claims.

The full third party claim process is managed by the Third Party Claims Officer (TPCO).

All members of the public contacting PCC to claim for damages or personal injury caused by the Council assets will be directed to the TPCO. The most common methods of contacting the council are through the PCC Contact Centre or the Highways Grounds and Street Scene (HGSS) Department.

The HGSS Department will be specifically requested by the TPCO to collect specific information. This is initiated by the TPCO sending an information request to the Highway Supervisor.

The Highway Supervisor will undertake a site inspection, gather the required information and return to the TPCO.

The TPCO will contact the Highway Supervisor on receipt of the information to confirm their understanding and request further information if required.

9 Reclaims

PCC strive to reclaim costs for damage to assets from parties involved in Road Traffic Collisions (RTCs). These are mainly reported to PCC by the Police, members of the public and highway operatives.

The full third party reclaim process is managed by the Finance Department.

The HGSS's roles are:

- i. to attend the site and obtain photographs and details of the damage which needs to be repaired. This is provided to the Finance Department using the **'Reclaim Information' form** which is located on the PCC Server.
- ii. Complete the work to repair the damage and charge to a 'recharge number' which is specifically set up in the Finance System for this work. The Finance Department are responsible for setting up the 'recharge number' and informing HGSS.
- iii. Provide the specific invoice information to the Finance Department to be used as evidence of costs.

10 Safety Inspection

Safety inspections are undertaken to meet the key objective of Network Safety and they form a key aspect of the authority’s strategy for managing liabilities and risks. They are used to identify defects likely to be hazardous or cause serious inconvenience to users of the highway network or the communities served, including defects requiring urgent attention.

All carriageways, footways and cycleways are inspected at different frequencies depending upon the allocated hierarchy. The full list of frequencies are shown in the following sections.

10.1 Frequency of Safety Inspections

10.1.1 Carriageway Inspection Frequency

The following frequency for safety inspections is in place in Powys.

Carriageway Inspection Frequency					
Category	Hierarchy Description	Type of Road General Description	Inspection Frequency		Code of Practice
			Urban	Rural	All Roads
2	Strategic Route	Principal ‘A’ Roads between primary destinations.	28 days	28 days	Monthly
3a	Main Distributor	Major urban network and inter-urban primary links. Short-medium distance traffic.	28 days	28 days	Monthly
3b	Secondary Distributor	Classified Road (B & C) and unclassified urban bus routes.	28 days	28 days	Monthly
4a	Local Roads	Local interconnecting roads.	3 months*	3 months*	3 Monthly
4b	Local Access Roads	Access roads to limited number of properties.	6 months*	6 months*	12 Monthly
5	Recreational & Agricultural	Rural unsurfaced ways with a public vehicular right of way.	As required	As required	12 Monthly

* Inspection frequency also depends on location.

10.1.2 Footway Inspection Frequency

The following frequency for safety inspections is in place in Powys.

Footway Inspection Frequency				
Category	Hierarchy Description	Type of Footway/Cycleway General Description	Inspection Frequency	Code of Practice
1(a)	Prestige Area	Very busy areas of towns with high public space and streetscene 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	?	3 months

		primary routes, local shopping centres, etc.		
3	Link Footway	Linking local access footways through urban areas and busy rural footways	?	6 months
4	Local Access Footway	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs	?	1 year

10.1.3 Cycleway Inspection Frequency

The following frequency for safety inspections is in place in Powys.

Cycleway Inspection Frequency				
Category	Hierarchy Description	Type of Footway/Cycleway General Description	Inspection Frequency	Code of Practice
A	Part of Carriageway	Cycle lane forming part of the carriageway, commonly 1.5m strip adjacent to the nearside kerb.	Refer to Carriageway Inspection Frequency	As for Roads
B	Remote from Carriageway	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.	?	6 months
C	Cycle Trails	Cycle trails, leisure routes through open spaces.	?	1 year

10.2 Risk Matrix

The following matrix is adopted for the risk assessment for highway inspections.

Risk 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.	Risk Probability – The probability is qualified by assessing the likelihood of users encountering the risk. As the probability is likely to increase with increasing vehicular or pedestrian flow, the road classification, network hierarchy and/or location are important considerations in the assessment.				
	Probability Impact	Very Low (1) Very low probability	Low (2) Low probability	Medium (3) Medium probability	High (4) High probability
	Negligible (1) Little or negligible impact	1 (Category 2.3)	2 (Category 2.3)	3 (Category 2.3)	4 (Category 2.3)
	Low (2) Minor or low impact	2 (Category 2.3)	4 (Category 2.3)	6 (Category 2.2)	8 (Category 2.2)
	Noticeable (3) Noticeable impact	3 (Category 2.3)	6 (Category 2.2)	9 (Category 2.1)	12 (Category 2.1)
High (4) Major, high or serious impact	4 (Category 2.3)	8 (Category 2.2)	12 (Category 2.1)	16 (Category 1)	

Response Category	(Category 3) Outside of the Matrix. Estimate's for future maintenance or improvement works.	(Category 2.3) To be entered into a programme of works with an expectation of completion within 24 months of the initial inspection.	(Category 2.2) To be entered into a programme of works and completed within 12 months of the initial inspection.	(Category 2.1) To be entered into a programme of works and completed within 2 months of the initial inspection.	(Category 1) Hazards should be corrected or made safe at the time of inspection. Repairs of a temporary or permanent nature shall be carried out as soon as possible and in any case within a period of 24 hours. Permanent repair must be carried out within 28 days.
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10.3 Safety Inspection Process

The objective of the highway safety inspections is to identify and risk assess assets which are unsafe. All highway assets are assessed using the same methodology.

The following processes describes how highway safety defects are recorded and repaired.

This process describes how identified highway safety defects are recorded. Note: Highway Inspections are undertaken by the Highway Supervisor.	
Step 1:	The annual timetable of highway inspections are stored in the LE System. Every week the Highway Supervisor identifies where safety inspections are to be undertaken. The Highway Supervisor prepares a 'Highway Inspection Field Sheet' for each route.
Step 2:	The Highway Supervisor undertakes the highway inspection identifying defects and categorising them using the Highway Inspection Risk Matrix. Each category has an allocated response time. Note: The Highway Supervisor only records a quantity of Category Two defects which his resource will be able to treat within the response time. The Highway Supervisor records all the defect information on the 'Highway Inspection Field Sheet'
Step 3:	The highest priority defects are rated Category One which are to be made safe within 24 hours and permanently repaired within 28 days The following actions are undertaken if the defect is classified as Category One.
Step 3a:	The Highway Supervisor contacts a work gang and instructs them to attend the site and make it safe (either temporary or permanent)
Step 3b:	The work gang attends the site and makes it safe (either temporary or permanent). They record the work undertaken and specify whether further action is required on the 'Highway Maintenance Repair' Form.
Step 3c:	The work gang give the 'Highway Maintenance Repair' Form to the Highway Supervisor.

Step 4:	The Highway Supervisor gives the completed 'Highway Inspection Field' sheets and 'Highway Maintenance Repair' forms to the Highway Maintenance Administration Team who enters the details into the LE System.
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This process describes how all highway defects which are allocated a 'Category One' or Category Two' priority rating are programmed and completed.	
Step 1:	The Highway Supervisor generates 'Outstanding Defect' Lists from the LE System and allocates them to the work gangs to complete.
Step 1A:	<p><u>Category One Defects</u></p> <p>Every day the Highway Supervisor generates a new 'Category One' Outstanding Defect list from the LE System and allocates them to the work gang to complete.</p>
Step 1B:	<p><u>Category Two Defects</u></p> <p>Note: Category Two Defects will only be considered once all 'Category One' defects have resource allocated.</p> <p>Every Thursday the Highway Supervisor generates a new 'Category Two' Outstanding Defect list from the LE System</p> <p>At the 'Weekly Team Meeting' on a Thursday involving Area Managers, Supervisors and Foreman / Operatives the 'Category Two' Schedule for the following week is created.</p> <p>'Category Two' defects are prioritised to ensure they are all completed within 28 days of identification. The 'Category Two' defects with the highest amount of days since identification are therefore scheduled for completion first.</p> <p>Note: A Jetpatcher will be used in the advent of a backlog.</p>
Step 2:	<p>The work gang complete the defects on the 'Category One' and 'Category Two' Outstanding Defect list and note on the list the following:</p> <ul style="list-style-type: none"> • Action taken • Date of work • Work Gang • Other Comments <p>The completed 'Category One' and 'Category Two' Outstanding Defect list are returned to the Highway Supervisor.</p>
Step 3:	The Highway Supervisor updates the LE System by inserting a completion date.

11 Customer Contact Centre

Customers can contact the Powys County Council Customer Contact Centre 24 hours a day.

The Contact Centre Representative records details of the 'contact' in the customer contact system, LE System.

The Contact Centre Representative is responsible for allocating a responsible PCC Department.

For Highways the customer contacts are allocated to the Highway Supervisor

Once the information is entered into the LE System it will automatically send an email to the appropriate Highway Supervisor.

Note:

- i. **If the highway fault is deemed an ‘emergency’ the Contact Centre Representative will also ring the Highway Supervisor as well as entering it into the LE System.**
- ii. **If the customer contact is received ‘out of hours’ the Customer Contact Centre will ring the on call staff member who will make the appropriate decision.**

11.1 Emergency

On receipt of an email and / or phone call from the Customer Contact Centre which is considered an emergency the Highway Supervisor will allocate a work gang to attend the site and ‘make safe’ with either a temporary or permanent repair. See Section 10.3: Safety Inspection Process for how ‘Category One’ and ‘Category Two’ defects are programmed, completed and signed off.

11.2 Non-Emergency

The following process details how a non-emergency customer query is managed:	
Step 1:	The Highway Supervisor reviews email from the LE System. All emails must be reviewed within 3 days of being sent by the LE System.
Step 2	An assessment of the non-emergency query to identify whether action is realistically necessary and achievable is undertaken. The Highway Supervisor will appoint a competent person, considering the locality of the query, to attend the site and assess the query. This assessment must be undertaken within 10 days of the email been sent by the LE System. The following details will be reported: <ul style="list-style-type: none"> i. Exact problem. ii. Work required to repair the problem iii. Quantities of materials required to allow for pre-ordering if necessary iv. Plant required – any non-core plant needs to be identified to enable its timely delivery. This information must be recorded within 1 day of been collected. (where is it recorded)
Step 2A:	If ‘No Action’ is determined to be required by the assessor, the Highway Supervisor will update the LE System accordingly within 1 day of the completion of the assessment.
Step 3:	The action is programmed.
Step 3A	If the action is to be completed within the ‘Reactive Defect Programme’ see Section 10.3: Safety Inspection Process
Step 3B	If the action is to be completed within the ‘Capital Programme’ see Section 3.2.1:

		Capital Allocation
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12 Out of Hours

Powys County Council (PCC) has an 'Out of Hours Service Manual'.

The most up to date version is located on the PCC intranet.

This Manual is the responsibility of the Network Management Department.

13 Customer Consultation

The Highways Department uses the following customer surveys and databases to understand what is important to the Customer.

13.1 Residents Survey

Every year Powys County Council undertakes a Residents Survey where they ask 1,000 residents to provide a rating on a range of council services.

The rating options are as follows:

- Very Satisfied
- Fairly Satisfied
- Neither
- Fairly Dissatisfied
- Very Dissatisfied

The following questions relate to the highway asset:

1. Maintenance and Repair of Local Roads
2. Maintenance and Repair of Streetlighting
3. Provision of Winter Maintenance
4. Maintenance of Grass & Verges

This information is annually available on the website: <http://www.powys.gov.uk/corporate/find-out-about-consultations-in-powys>.

13.2 Customer Relationship Management System

The majority of times a customer contacts Powys County Council about the highways it is to 'complain'. This information is stored in the Powys County Council Customer Relationship Management System called the 'LE System'.

Every year the **insert position** receives a Report **(insert name of report)** which provides the number of occasions customers have contacted the council about problems with the highway assets.

The **insert position** reviews the information and decides whether any specific action needs to be undertaken on any operational or management processes currently used for the highway assets.

14 Network Availability Considerations

The list of traffic sensitive streets is documented in the Street Gazetteer located in the Aligned Assets imange Symphony System. Streets identified as traffic sensitive have certain documented criteria for when work can be undertaken. The main example is streets with high peak time traffic volumes.

It is the responsibility of the Streetworks **Team** to identify whether any carriageway works are programmed on traffic sensitive streets.

If carriageway works are identified then the Streetworks **Team** must ensure that they comply with the specific requirements of the traffic sensitive street.

15 Utility Activity

Utility information for the location of any highway works is obtained from the Street Works Department.

The Highway Supervisor must review the provided information prior to starting the highway works to ensure that no utility infrastructure will be damaged.

If there are utilities which could be affected by the highway works it is the responsibility of the Highway Supervisor to contact the relevant authority.

16 Asset Valuation

Every year Powys County Council has to undertake a valuation of the highway assets.

A spreadsheet has being provided as part of the CSS Wales Asset Management Project.

Note: a new version of this spreadsheet is provided every year with updated regional factors, inflation indices and unit rates.

16.1 Information Types

16.1.1 Inventory

The quantity of each asset type is required for valuation. Some assets are separated into groups with similar characteristics to improve the accuracy of the valuation.

16.1.2 Condition

The condition of the asset is used to calculate the depreciation. This information is either the physical condition of the asset which is obtained by a recommended condition survey or an age.

16.1.3 Unit Rates

Unit rates are provided for the cost of returning the asset to a condition which provides the highest level of remaining life. This cost should reflect the modern equivalent asset which may be different to the current asset. An example of this is street lighting where a non-galvanised column will be replaced by an aluminium

column when it reaches a certain condition. The unit rate for the aluminium column is required for the valuation.

Note: Unit rates should include all costs associated with installation including associated traffic management requirements, staff costs and overheads.

It is important that the breakdown of the unit rate is documented to ensure that consistent unit rates are used in future valuations.

16.1.4 Additions

Additions are assets added to the network in the previous financial year.

There values are included in the total GRC, DRC and ADC for the financial year as they are also included within the total quantities as at the end of the financial year.

The reason for reporting them separately is that they are removed from the revaluation calculation which provides the change in value over the financial year. New assets would cause an over revaluation if they were included as they will generally be in good condition and have a low level of depreciation.

16.1.5 Disposals

Disposals are assets removed from the network in the previous financial year.

There values are included in the total GRC, DRC and ADC for the financial year as they are also included within the total quantities as at the end of the financial year.

The reason for reporting them separately is that they are removed from the revaluation calculation which provides the change in value over the financial year. New assets would cause an under revaluation if they were included as they could be in poor condition and have a high level of depreciation.

16.2 Carriageways

Carriageway Road Types	<ul style="list-style-type: none"> i. A Road (Urban) ii. B Road (Urban) iii. C Road (Urban) iv. Unclassified Road (Urban) 	<ul style="list-style-type: none"> v. A Road (Rural) vi. B Road (Rural) vii. C Road (Rural) viii. Unclassified Road (Rural)
% of Depreciation	A % of Depreciation which is based on the most recent SCANNER survey information is calculated by the SCANNER survey provider for each road category.	
Quantities	Quantities for all carriageway types are stored in ???.	
Unit Rates	<p>Unit rates for carriageway gross replacement cost have been provided on a national basis by CIPFA. The GRC unit rates are deemed to include for removal and disposal of the existing asset, supply and installation of the modern equivalent asset and associated traffic management requirements, staff costs and overheads. These are provided in the CSS Wales HAMP Task 3 Asset Valuation spreadsheet.</p> <p>The DRC Cost unit rate is calculated using maintenance treatment rates which are determined by council officers using available cost records. The following two unit rates are required to calculate the DRC Cost unit rate:</p> <ul style="list-style-type: none"> i. 100mm Inlay Rate (£/sqm) – this rate shall include works, overheads, design costs and traffic management costs. 	

	ii. Reconstruction Rate (£/sqm) – this rate includes works, overheads, design costs and traffic management costs and is to be based on reconstruction of small areas within ‘surface treatment’ schemes.
Additions	New carriageway is identified within ??? by selecting assets installed within the financial year under the ‘Date Installed’ Inventory Attribute.
Disposals	Carriageway removed from the network is identified within ??? by selecting assets removed within the financial year under the ‘Date Removed’ Inventory Attribute.

16.3 Footways

Footway Hierarchies	i. Higher Amenity Footways ii. Other Footways
Condition Bandings	i. Condition 1 – As New ii. Condition 2 – Aesthetically Impaired iii. Condition 3 – Minor Deterioration iv. Condition 4 – Major Deterioration
Quantities	Quantities for all footway types are stored in AMX
Condition Information	Condition information for each footway type is stored in UKPMS
Unit Rates	The footway valuation requires for each material type a reconstruction unit rate and a resurfacing unit rate. Each unit rate for footways is calculated by averaging costs of all footway schemes completed in the last financial year. These costs are stored in the Work Module of ???.
Additions	New footway is identified within ??? by selecting assets installed within the financial year under the ‘Date Installed’ Inventory Attribute.
Disposals	Footway removed from the network is identified within ??? by selecting assets removed within the financial year under the ‘Date Removed’ Inventory Attribute.

16.4 Highway Structures

Structure Types	i. Road Bridges ii. Footbridges iii. Unusual Structures iv. Retaining Walls v. Height, Sign and Signal Gentries vi. Culverts vii. Subways
Quantities	Quantities for all these structure types are stored in AMX.
Unit Rates	The rates used to compute the structures gross replacement cost are supplied by

	<p>CIPFA and are incorporated into the 6ST Structures Cost Projection.</p> <p>The rates used for maintenance treatments are shown in the 6ST Structures Cost Projection spreadsheet as developed by the SCOTS/CSSW R/HAMP Project and agreed with the Project Board and Structures Working Group. The figures used have been estimated by the members of the structures working group representing all the local authority bridge engineers across Scotland and Wales.</p>
Additions	New structures are identified within AMX by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Structures removed from the network are identified within AMX by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.5 Highway Lighting

16.5.1 Highway Lighting Columns

Column Groupings	
Material Type	<ul style="list-style-type: none"> i. Non Galvanised Steel ii. Galvanised Steel iii. Concrete iv. Aluminium (pre 2000) v. Aluminium (post 2000) vi. Stainless Steel vii. Cast Iron
Height (m)	<ul style="list-style-type: none"> i. 5 metres ii. 6 metres iii. 8 metres iv. 10 metres v. 12 metres
Supply	<ul style="list-style-type: none"> i. DNO Supply ii. Private Supply
Cable Groupings	<ul style="list-style-type: none"> i. Cable under Carriageway ii. Cable under Footway iii. Cable under Verge
Additional Columns Types	<ul style="list-style-type: none"> i. Wall Brackets – Divided into DNO Supply and Private Supply ii. Wooden Poles – Divided into DNO Supply and Private Supply iii. High Mast Columns – Divided into DNO Supply and Private Supply

	iv. Control Cabinet – Divided into Large and Mini
Quantities	In the Asset Valuation street lighting columns are further grouped into Age Categories from 0 years to 50 years. All columns older than 50 years old are included in the 50 year age category. This information is stored in ???.
Unit Rates	Unit rates for street lighting columns are calculated by averaging the costs of all street lighting columns replaced in the last financial year. The costs of the street lighting columns are located in the Work Module of ???.
Additions	New street lighting columns are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Street lighting columns removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.5.2 Highway Lighting Luminaires

Quantities	In the Asset Valuation street lighting luminaires are further grouped into Age Categories from 0 years to 40 years. All luminaires older than 40 years old are included in the 40 year age category. This information is stored in ???.
Unit Rates	Unit rates for street lighting luminaires are calculated by averaging the costs of all street lighting luminaires replaced in the last financial year. The costs of the street lighting luminaires are located in the Work Module of ???.
Additions	New street lighting luminaires are identified within ??? selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Street lighting luminaires removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.5.3 Illuminated Signs & Bollards

Groupings	i. Illuminated Signs ii. Illuminated Bollards
Quantities	Quantities for the illuminated signs and bollards are stored in ???.
Unit Rates	Unit rates for illuminated signs and bollards are calculated by averaging the costs of all illuminated signs and bollards replaced in the last financial year. The costs of the illuminated signs and bollards are stored in the Work Module of ???.
Additions	New illuminated signs and bollards are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Illuminated signs and bollards removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.6 Traffic Management

Traffic Management	i. Traffic Signals – Junctions
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	ii. Traffic Signals – Pedestrian Crossing
Quantities	Quantities for traffic signal assets are stored in ???
Unit Rates	Unit rates for traffic signals are calculated by averaging the costs of traffic signals replaced in the five years. Powys County Council only have a small number of traffic signal assets. The renewal of these assets is not a regular occurrence so the unit rate is based on the most recent five years. The costs of the non-illuminated signs are located in the Work Module of ???.
Additions	New traffic signals are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Traffic signal assets removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7 Street Furniture

16.7.1 Traffic Signs (non-illuminated)

Quantities	Quantities for the non-illuminated traffic signs are estimated. The estimation assumes that there are 10 non-illuminated signs on every kilometre of road.
Unit Rates	Unit rates for non-illuminated traffic signs are calculated by averaging the costs of all non-illuminated traffic signs replaced in the last financial year. The costs of the non-illuminated signs are stored in the Work Module of ???.
Additions	New non-illuminated traffic signs are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Non-illuminated traffic signs removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.2 Safety Fences

Quantities	Quantities for the non-illuminated safety fences are stored in ???.
Unit Rates	Unit rates for safety fences are calculated by averaging the costs of all safety fences replaced in the last financial year. The costs of the safety fences are stored in the Work Module of ???.
Additions	New safety fences are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Safety fences removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.3 Pedestrian Barriers

Quantities	Quantities for the pedestrian barriers are stored in ???.
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Unit Rates	Unit rates for pedestrian barriers are calculated by averaging the costs of all pedestrian barriers replaced in the last financial year. The costs of the pedestrian barriers are stored in the Work Module of ???.
Additions	New pedestrian barriers are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Pedestrian barriers removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.4 Street Name Plates

Quantities	Quantities for the street name plates are stored in ???.
Unit Rates	Unit rates for street name plates are calculated by averaging the costs of all street name plates replaced in the last financial year. The costs of the street name plates are stored in the Work Module of ???.
Additions	New street name plates are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Street name plates removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.5 Bins

Quantities	Quantities for the bins are stored in ???.
Unit Rates	Unit rates for bins are calculated by averaging the costs of all bins replaced in the last financial year. The costs of the bins are stored in the Work Module of ???.
Additions	New bins are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Bins removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.6 Bollards

Quantities	Quantities for the bollards are stored in ???.
Unit Rates	Unit rates for bollards are calculated by averaging the costs of all bollards replaced in the last financial year. The costs of the bollards are stored in the Work Module of ???.
Additions	New bollards are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Bollards removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.7 Bus Shelters

Quantities	Quantities for the bus shelters are stored in ???.
Unit Rates	Unit rates for bus shelters are calculated by averaging the costs of all bus shelters replaced in the last financial year. The costs of the bus shelters are stored in the Work Module of ???.
Additions	New bus shelters are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Bus shelters removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.8 Grit Bins

Quantities	Quantities for the grit bins are stored in ???.
Unit Rates	Unit rates for grit bins are calculated by averaging the costs of all grit bins replaced in the last financial year. The costs of the grit bins are stored in the Work Module of ???.
Additions	New grit bins are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Grit bins removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.9 Cattle Grids

Quantities	Quantities for the cattle grids are stored in ???.
Unit Rates	Unit rates for cattle grids are calculated by averaging the costs of all cattle grids replaced in the last financial year. The costs of the cattle grids are stored in the Work Module of ???.
Additions	New cattle grids are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Cattle grids removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.10 Gates

Quantities	Quantities for the gates are stored in ???.
Unit Rates	Unit rates for gates are calculated by averaging the costs of all gates replaced in the last financial year. The costs of the gates are stored in the Work Module of ???.
Additions	New gates are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Gates removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.11 Trees

Quantities	Quantities for the trees are stored in ???.
Unit Rates	Unit rates for trees are calculated by averaging the costs of all trees replaced in the last financial year. The costs of the trees are stored in the Work Module of ???.
Additions	New trees are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Trees removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.12 Seating

Quantities	Quantities for seating are stored in ???.
Unit Rates	Unit rates for seating are calculated by averaging the costs of all seating replaced in the last financial year. The costs of the seating are stored in the Work Module of ???.
Additions	New seating are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Seating removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.13 Verge Marker Posts

Quantities	Quantities for the verge marker posts are stored in ???.
Unit Rates	Unit rates for verge marker posts are calculated by averaging the costs of all verge marker posts replaced in the last financial year. The costs of the verge marker posts are stored in the Work Module of ???.
Additions	New verge marker posts are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Verge marker posts removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.14 Weather Stations

Quantities	Quantities for the weather stations are stored in the Winter Maintenance Manual.
Unit Rates	The unit rate for the replacement of weather stations is the cost of the last replacement. This cost is stored in ???.
Additions	New weather stations are identified within ??? by selecting assets installed within the financial year under the 'Date Installed' Inventory Attribute.
Disposals	Weather stations removed from the network are identified within ??? by selecting assets removed within the financial year under the 'Date Removed' Inventory Attribute.

16.7.15 Last Years Asset Valuation

The following information from the previous years asset valuation is used in the current years valuation to calculate the revaluation of the asset.

1. Gross Replacement Cost (GRC)
2. Depreciated Replacement Cost (DRC)
3. Annualised Depreciation Charge (ADC)

This information is stored in the previous years Asset Valuation Spreadsheet which is stored in the ??? directory on the Powys County Council Server.

17 Carriageways

The carriageway asset consists of the following assets:

- Carriageways

17.1 Asset Inventory

The carriageway asset inventory is stored in ???

The ??? is responsible for maintaining the accuracy of the inventory.

17.2 Asset Hierarchy

The concept of a highway maintenance hierarchy is the foundation of a coherent, consistent and auditable maintenance strategy. This hierarchy should reflect the needs, priorities and actual use of each road in the network and will be used as the main tool in determining policy priorities, maintenance standards, targets and performance. It is also crucial to asset management in establishing levels of service and to the network management role for developing co-ordination and regulating occupation.

The Council has a process for developing the hierarchy for carriageways which has initially been based upon traffic flows for highways. In addition, a further assessment has been undertaken to consider the type of highway, the role of the route in a local context, and a consideration of functional factors that may influence how the highway is managed. The current hierarchy is detailed in the following table.

Carriageway Hierarchy		
Category	Hierarchy Description	Type of Road General Description
2	Strategic Route	Trunk and some Principal 'A' roads between Primary Destinations
3a	Main Distributor	Major Urban Network and Inter-Primary Links; Short – medium distance traffic
3b	Secondary Distributor	Classified Road (B and C class) and unclassified urban bus routes carrying local traffic with frontage access and frequent junctions.
4a	Link Road	Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions.
4b	Local Access Road	Roads serving limited numbers of properties carrying only access traffic

The allocated hierarchy for each road is stored in the Street Gazetteer.

The hierarchy is reviewed annually by ???

17.3 Budgets

17.3.1 Budget Codes

All carriageway works are charged to one of the following budget codes.

Carriageway Budget Codes	
Carriageway Work Types	Budget Code
i. Reactive Defects – Category One	Revenue – Safety and Minor Repairs
ii. Reactive Defects – Category Two	Revenue – Patching and Minor Repairs
iii. Cyclical - Sweeping	Revenue – Sweeping and Cleansing
iv. Planned Maintenance (Preventative)	Revenue – Surface Dressing
v. Remedial Earthworks	Revenue – Remedial Works
vi. Planned Maintenance (Corrective)	Capital – Highway Strengthening

17.3.2 Budget Allocation

17.3.2.1 Safety and Minor Repairs

Responsible Officer – HGSSM

This budget is allocated to responding and making safe category one defects on all assets. The proportion of this budget allocated to carriageways changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

17.3.2.2 Patching & Minor Repairs

Responsible Officer – HGSSM

This budget is allocated to completing permanent repairs on category two carriageway and footway defects. The proportion of this budget allocated to carriageways changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

17.3.2.3 Sweeping and Cleansing

Responsible Officer – HGSSM

This budget is allocated to removing detritus off carriageway and footway assets and emptying and maintaining litter bins.

This budget is historically the same from year to year.

17.3.2.4 Surface Dressing

Responsible Officer – HGSSM

This budget is allocated to completing surface dressing treatments on all carriageway types.

This budget is historically the same from year to year???

17.3.2.5 Remedial Earthworks

Responsible Officer – Network Manager

This budget is used to undertake remedial earthworks on sites with programmed planned maintenance.

How is this calculated?

17.3.2.6 Highway Strengthening

Responsible Officer – Network Manager

This budget is used for carriageway planned maintenance.

The annual capital budget is allocated to the assets with the most need. This budget depends upon the priority of the carriageway schemes compared to the other assets. (see Section 12: Capital Programme Development).

17.4 Amenity Value Considerations

The following sites are constructed of non standard materials to meet the respective amenity conditions of the area.

Carriageway Amenity Locations		
Location	Material Details	Quantity (m ²)

17.5 Policies

A policy in this document refers to a ‘statement of intent’ that must be approved by the Council Members.

17.6 Condition Assessments

There are two conditional assessment undertaken on carriageways

The purpose of Condition Assessment is to address the key objective of Network Sustainability and to ensure that value for money is achieved when undertaking structural repairs. By following asset management principles and providing information on the nature and severity of the condition, the timing and nature of appropriate treatments can be determined. Data from these surveys are also used in the production of National Performance Indicators and repeatable condition surveys allow for analysis of trends within the network.

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

SCANNER is a traffic speed condition survey. The vehicle records longitudinal and transverse profile, rut depth, texture depth, gradient, crossfall and radius of curvature. In addition the SCANNER also records the extent of surface cracking.

- ii. SCRIM (Sideway-force Coefficient Routine Investigation Machine)

SCRIM measures wet road skidding resistance, which can then be compared to investigatory levels. It should be noted that there is no value at which a surface passes from being safe to unsafe, however some sites due to geometric or other constraints often require higher levels of skidding resistance to reduce accident risks. This data is a prime factor in determining maintenance requirements on the Principal Road Network.

The SCANNER and SCRIM assessments are undertaken at the following frequencies

Annual Inspection Coverage and Frequency		
Road Class	% Inspected Annually	
	SCANNER	SCRIM
A Roads	100% (one direction)*	100% (both direction)*
B Roads	40% (one direction)*	40% (one direction)*
C Roads	20% (one direction)	20% (one direction)*
Unclassified Roads	n/a	n/a

Both types of carriageway assessments are undertaken by an external contractor.

The provision of SCANNER and SCRIM is managed by a central contract managed by the Welsh Assembly Government. This contract only covers A Roads, B Roads and C Roads.

Information is accessed via the WDM / WIP.

17.7 Reactive Maintenance

Reactive maintenance is undertaken in response to highway inspections, complaints or emergencies.

17.7.1 Work Types

The following table details the carriageway reactive maintenance treatments undertaken in Powys.

Carriageways Reactive Maintenance Treatments			
Treatment	Notes and Typical defects	Responsibility	
Pothole Repair (Emergency)	Classified as Category One with 24 hour response. Make safe treatment is to fill pothole with suitable material.	Highway Supervisor	
Minor Patching	Localised cracking or spalling and fretting, difference in level.	Highway Supervisor	
Refurbish Traffic Calming features	Damaged road cushions, difference in levels, incorrect height, coloured surfacings , loss of surface aggregate.	Highway Supervisor	
Provide Sweeper	Loose debris, excessive mud, spillages	Highway Supervisor	
Provide Siding	Encroachments of verge onto the carriageway	Highway Supervisor	

17.7.2 Unsurfaced Roads

Safety inspections are not undertaken on unsurfaced roads.

PCC are only made aware of defects by customers contacting the Contact Centre.

The cheapest solution is always used when treating defects on unsurfaced roads.

17.7.3 Reactive Work Programme

The Reactive Work Programme consists of 'Category One' and 'Category Two' defects identified and then assessed by the Highway Supervisor for all assets.

The development and completion of the Reactive Maintenance Programmes is described in Section 10.3: Safety Inspection Process.

17.8 Planned Maintenance

17.8.1 Treatment Types

The following table lists the planned maintenance treatments undertaken on the carriageway asset in Powys.

Carriageway Planned Maintenance Activities			
Treatment Type	Description/Comments	Anticipated Frequency (years)	
		Classified	Unclassified
Major Patching	A large number of patch repairs or a number of very large patches in a discrete area.	15	22
Surface Dressing	Application of a bituminous emulsion to the carriageway upon which one or more layers of stone chippings are applied.	7	10
Haunching	Major repairs to the edge of the carriageway.	20	30
Overlay	Addition of new surfacing materials on top of existing construction.	18	25
Resurfacing (inlay)	Removal of existing materials, surface & binder courses and replacement with new.	18	25
Reconstruction	Removal of existing construction, full or partial depth and replacement with new.	40	60
High Friction (Anti-skid) Surfacing	Application of high friction surfacing to improve skid resistance.	7	10

17.8.2 Carriageway Planned Maintenance Programme

The planned maintenance programme development process assesses all asset schemes using the same criteria. Details of the process are shown in Section 3.2.1: Capital Allocation.

17.9 Disposal

The 'Stopping Up' process is managed by the **(Insert Department responsible for managing 'Stopping Up' Orders.)**

The process for archiving all carriageway information from Asset Management System is located **(insert location of 'Stopping Up' Data Management)**

17.10 Performance Measurement

The following table describes performance measures associated with the carriageway asset.

18 Footways

The footway asset consists of the following assets:

- Footways
- Footpaths
- Cycleways

18.1 Asset Inventory

There is no footway asset inventory.

18.2 Asset Hierarchy

The concept of a footway maintenance hierarchy is the foundation of a coherent, consistent and auditable maintenance strategy. This hierarchy should reflect the needs, priorities and actual use of each footway in the network and will be used as the main tool in determining policy priorities, maintenance standards, targets and performance. It is also crucial to asset management in establishing levels of service and to the network management role for developing co-ordination and regulating occupation.

The Council has a process for developing the hierarchy for footways which is based on the functionality and scale of use. In the urban areas the contribution of the footway to the quality of public space and streetscene is particularly important. Local factors such as the age, distribution of the population, the proximity of schools or other establishments attracting higher than normal numbers of pedestrians to the area are also taken into account. The current hierarchy is detailed in the following table.

Footway Hierarchy		
Category	Category Name	Description
1(a)	Prestige Walking Zone	Very busy areas of towns and cities with high public space and street scene contribution.
1	Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes.
2	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
3	Link Footways	Linking local access footways through urban areas and busy rural footways.
4	Local Access Footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.

Cycleway 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

Cycleway Hierarchy	
Category	Description
	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.

18.3 Budgets

18.3.1 Budget Codes

All footway works are charged to one of the following budget codes.

Footway Budget Codes	
Footway Work Types	Budget Code
i. Reactive Defects – Category One	Revenue – Safety and Minor Repairs
ii. Reactive Defects – Category Two	Revenue – Patching and Minor Repairs
iii. Planned Maintenance	Capital – Town Centre Footways

18.3.2 Budget Allocation

18.3.2.1 Patching & Minor Repairs

Responsible Officer – HGSSM

This budget is allocated to responding and making safe category one defects on all assets. The proportion of this budget allocated to footways changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

18.3.2.2 Safety and Minor Repairs

Responsible Officer – HGSSM

This budget is historically the same from year to year.

18.3.2.3 Town Centre Footways - Capital

Responsible Officer – Network Manager

This budget is used for footway planned maintenance undertaken on Category 1 and 1a hierarchy footways.

The annual capital budget is allocated to the assets with the most need. This budget depends upon the priority of the footway schemes compared to the other assets.

18.4 Amenity Value Considerations

The following sites are constructed of non standard materials to meet the respective amenity conditions of the area.

This accounts for footways where there are special footway materials. These are usually situated in town centre environments and may be either part of the town centre policy or a special surface type. It may be

difficult to source these if additional material was not purchased and stored. It is likely they will be quite expensive due to the difficulty of sourcing them.

Footway Amenity Locations		
Location	Material Details	Quantity (m ²)

18.5 Policies

The following policies associated with the footway asset have been approved by the Council Members:

18.6 Condition Assessments

There is currently no process in place in Powys to collect condition information for footways.

18.7 Reactive Maintenance

Reactive maintenance is undertaken in response to highway inspections, complaints or emergencies.

18.7.1 Work Types

The following table details the footway and cycleway reactive maintenance treatments undertaken in Powys.

Footways / Cycleways Reactive Maintenance Treatments		
Treatment	Notes and Typical defects	Responsibility
Pothole Repair (Emergency)	Classified as Category One with 24 hour response. Make safe treatment is to fill pothole with suitable material.	Highway Supervisor
Reinstate Sets / Slabs	(Repair existing) Difference in level or profile, excessive joints, loose, rocking, cracked or missing	Highway Supervisor
Reinstate Kerbs	(Repair existing) Damaged, misaligned or displaced kerbs	Highway Supervisor

18.7.2 Reactive Work Programme

The Reactive Work Programme consists of 'Category One' and 'Category Two' defects identified and then assessed by the Highway Supervisor for all assets.

The development and completion of the Reactive Maintenance Programmes is described in Section 10.3: Safety Inspection Process.

18.8 Planned Maintenance

18.8.1 Treatment Types

The following table lists the planned maintenance treatments undertaken on the footway and cycleway assets in Powys.

Footways / Cycleways Planned Maintenance Treatments		
Treatment	Notes and Typical defects	Responsibility

Footways / Cycleways Planned Maintenance Treatments		
Treatment	Notes and Typical defects	Responsibility
Thin Surfacing	Localised cracking, fine crazing and fretting	Highway Supervisor
Patch & Thin Surfacing	Localised cracking, fine crazing and fretting with Localised spalling and fretting	Highway Supervisor
Overlay > 40mm	Difference in level, Cracking, coarse crazing, severe fretting & loss of aggregate	Highway Supervisor
Inlay < 40mm	Difference in level, cracking, coarse crazing, severe, severe fretting & loss of aggregate.	Highway Supervisor
Renew Sets / Slabs	(Replace Old for New) Difference in level or profile, excessive joints, loose, rocking, cracked or missing	Highway Supervisor
Reconstruct	(Replace Old for New – blacktop only). Difference in level or profile, excessive joints, loose, rocking, cracked or missing	Highway Supervisor
Renew	(Replace Old for New) Damaged, misaligned or displaced kerbs	Highway Supervisor

18.8.2 Footway Planned Maintenance Programme

The planned maintenance programme development process assesses all asset schemes using the same criteria. Details of the process are shown in Section 3.2.1: Capital Allocation.

18.9 Disposal

The 'Stopping Up' process is managed by the **(Insert Department responsible for managing 'Stopping Up' Orders.)**

The process for archiving all footway information from the Asset Management System is located **(insert location of 'Stopping Up' Data Management)**

18.10 Performance Measurement

The following table describes performance measures associated with the footway asset.

19 Street Lighting

The street lighting asset consists of the following assets:

- Columns
- Luminaires
- Illuminated Signs
- Illuminated Bollards

19.1 Asset Inventory

There is an inventory of assets which is kept in the Mayrise Asset Management System.

The Street Lighting Manager (SLM) is responsible for the overall accuracy of the information in the Mayrise Asset Management System.

The SLM is responsible for updating the inventory in the Mayrise Asset Management System after any work is completed.

Note: Street lighting inventory is reviewed when undertaking structural and electrical inspections.

19.1.1 Numbering of Columns

PCC number their street lighting columns as follows:

- First two characters are letters of the alphabet representing the Area Code where the column is located.
- Final four characters are numbers between 1 and 9999. The numbers are applied numerically eg. if the largest current number is 1256, then the next new column will be numbered 1257.

19.2 Budgets

19.2.1 Budget Codes

All street lighting works are charged to one of the following budget codes.

Street Lighting Budget Codes	
Street Lighting Work Types	Budget Code
i. Reactive Maintenance	Revenue – ???
ii. Routine Maintenance	Revenue – ???
iii. Electrical Inspections	Revenue – ???
iv. Structural Inspections	Revenue – ???
v. Energy	Revenue – ???
vi. Planned Maintenance – LED Upgrade	Capital – ???
vii. Planned Maintenance – Column Renewal	Capital – ???

19.2.2 Budget Allocation

19.2.2.1 Revenue - Reactive Maintenance (insert name of budget)

Responsible Officer – SLM

This budget is allocated to responding to emergency callouts.

This budget is historically the same from year to year.

19.2.2.2 Revenue - Routine Maintenance (insert name of budget)

Responsible Officer – SLM

This budget is allocated to repairing day to day faults identified through night inspections and customer contacts.

This budget is historically the same from year to year.

19.2.2.3 Revenue - Electrical Inspections (insert name of budget)

Responsible Officer – SLM

This budget is allocated to undertaking electrical inspections.

This budget is historically the same from year to year as the same quantity of electrical inspections are completed annually.

19.2.2.4 Revenue - Structural Inspections (insert name of budget)

Responsible Officer – SLM

This budget is allocated to undertaking structural inspections.

This budget varies from year to year as the number of structural inspections completed depends upon the current age and / or results of previous inspections.

19.2.2.5 Revenue - Energy (insert name of budget)

Responsible Officer – SLM

This budget is allocated to the street lighting energy

This budget varies from year to year for the following reasons:

- The energy unit rate varies. PCC confirm the energy unit rate at the start of the financial year.
- The energy usage increases with the addition of new street lighting assets.
- The energy usage increases or decrease when lanterns are replaced.

19.2.2.6 Capital - Planned Maintenance - LED Upgrade (insert name of budget)

Responsible Officer – SLM

This budget is for implementing a long term strategy to upgrade a portion of existing lanterns to the new LED technology.

This budget was obtained as a result of a report documenting the benefits of using LED technology compared to the existing technology.

19.2.2.7 Capital - Planned Maintenance - Column Renewal (insert name of budget)

Responsible Officer – SLM

This budget is used for renewing street lighting columns.

This budget is derived ???

19.3 Amenity Value Considerations

The following street lighting assets are constructed of non-standard column materials or luminaires to meet the respective amenity conditions of the area.

Street Lighting Assets with Amenity Considerations		
Location	Column / Luminaire Details	Quantity

19.4 Policies

The following policies associated with the street lighting asset have been approved by the Council Members:

19.5 Customer Contacts

Customers contact the Powys County Council Contact Centre (PCCCC) to report street lighting faults.

The process for how these contacts are managed is detailed in Section 11: Customer Contact Centre

The following process details how the customers concern is managed from receiving it from the LE System through to confirming action has been taken.

Customer Contact Street Lighting Non-Emergency Fault Process	
The following process details how non-emergency street lighting faults identified by the customer are managed	
Step 1:	Every morning the SLM checks for emails from the LE System relating to non-emergency faults provided by the Customer.
Step 2:	As it is not always 100% clear what the actual problem is the SLM instructs the Street Lighting Work Operative (SLWO) to visit the sites to assess and identify further action.
Step 2A:	If 'No Action' is determined to be required, the SLWO will notify the SLM. Go to Step 3
Step 2B:	If action is required the SLWO enters the defect into Mayrise. The defect is repaired following the Standard Fault Process see Section 19.7.3.2: Standard Fault Process.
Step 3:	The SLM updates the LE System when confirmation of the completed action is entered into Mayrise.

19.5.1 Out of Hours Response

The process for Out of Hours is detailed in the 'Out of Hours Service Manual'.

The following actions are documented for street lighting:

Ref	Category	Action
???	Damage to Illuminated Road Signs and Street Lighting Columns	Make safe
???	Street Lights / Footway Lights not Working	No action unless widespread fault. Action where 3 consecutive lights out or risk to life or limb or crime prevention.

19.6 Inspections

19.6.1 Night Inspections

19.6.2 Structural Inspections

Structural testing is completed in accordance with Institution of Lighting Engineers (ILE) Technical Report TR22: Managing a Vital Asset: Lighting Supports Guidance.

All street lighting columns are inspected every six years.

The SLM is responsible for creating the Annual Structural Inspection Programme and managing the process.

Structural testing information is stored in Mayrise Asset Management System

The structural testing hard copy information is scanned and stored in Mayrise Asset Management System.

19.6.3 Electrical Inspections

Electrical testing is completed in accordance with the requirements of BS7671: Requirements of Electrical Installations

Electrical testing information is stored in Mayrise Asset Management System.

All street lighting columns are inspected every six years.

The SLM is responsible for creating the Annual Electrical Inspection Programme and managing the process.

The electrical testing hard copy information is stored in Mayrise Asset Management System

Note: Brackets are visually inspected at the time of the Electrical Inspection.

19.7 Energy - Part Night Lighting

PCC have implemented a part night lighting programme as follows:

- 6,889 street lights are turned off part of the night from 00:00 to 05:00
- 2,273 street lights are turned off permanently

The status of the street light (all night / part night / turned off) is recorded in the ??? of the Mayrise Asset Management System.

19.8 Reactive Maintenance

19.8.1 Response Times

Every identified fault is recorded in the Mayrise Asset Management Systems and allocated one of the following ??? response times. The response times reflect the risk to the public of the lighting asset not functioning correctly.

Street Lighting Response Times	
Response Time Category	Defect Types
Emergency – two hours	???
24 hour priority	???
5 day response	???
7 day response	???

19.8.2 Fault Types

The table below provides a list of street lighting reactive maintenance fault types and the location of their associated work instructions.

Street Lighting Reactive Maintenance Fault Types		
Fault	Work Instruction	Responsibility
Lamp Change	Location of Work Instruction	Work Operatives
Blown Fuse	Location of Work Instruction	Work Operatives
Cable Fault	Location of Work Instruction	Work Operatives
Section Fault	Location of Work Instruction	Work Operatives

19.8.3 Routine Maintenance

19.8.3.1 Standard Fault Process

Street lighting defects are identified by

- public contacting the Powys County Council (PCC) Contact Centre (see Section 19.5: Customer Contacts for how this process is managed)
- Night Inspectors (NI) undertaking the two weekly inspections and identifying street lighting defects.

Standard Street Lighting Fault Process	
The following process details how street lighting defects inserted into the Mayrise System are managed through to completion.	
Step 1:	Every morning the SLM reviews the list of defects in Mayrise and creates a programme of works for the SLWOs. Defects are prioritised by length of time since entered into Mayrise
Step 2:	The SLM raises a 'Job Number' for each defect within Mayrise.
Step 3:	The SLM allocates the 'Jobs' to the SLWO's on the 'Street Lighting Job Schedule'.

	Note: This is a Mayrise report.	
Step 4:	The SLWOs complete the work and sign off with the date and their name on the 'Street Lighting Job Schedule'.	
	Step 4A:	The SLWOs update the inventory information which is provided on the 'Street Lighting Job Schedule'.
Step 5:	The SLWOs return the completed 'Street Lighting Job Schedule' to the SLM	
Step 6:	The SLM signs off the 'Job' within Mayrise and updates the inventory where necessary.	

19.9 Planned Maintenance

19.9.1 Column Renewal Programme

Street lighting columns are renewed when they get to a certain condition level where they provide a risk to the public. The results of the annual structural inspections (see Section 19.6.2) provide the information to identify these columns. A column is added to the renewal programme if it requires a retest within the six year period.

Is there a prioritisation process in the case that there was more columns on the renewals list than funding available?

What is the process for installing it – eg. is it managed through Mayrise, is there a special contract, etc.

19.9.2 New Column Process

PCC have a policy on 'New Columns'

Currently no new street lighting is able to be approved.

19.10 Disposal

The SLWOs are responsible of disposing of all replaced equipment.

The process for archiving all street lighting information from Mayrise Asset Management System is ???

19.11 Performance Measurement

20 Structures

The structures asset consists of the following assets:

- Road Bridges
- Footbridges
- Retaining Walls
- Culverts
- Subways
- Cattle Grids

20.1 Asset Inventory

There is an inventory of assets which is kept in the Expert (AMX) Asset Management System.

The responsibility of this inventory is the Network Management Officer.

20.2 Budget Allocation

All structures works are charged to one of the following budget codes.

Footway Budget Codes	
Footway Work Types	Budget Code
i. Structural Inspections	Revenue – Bridge Inspection and Assessment
ii. Bridge Routine Maintenance	Revenue – Bridge Structural Maintenance
iii. Structures Cyclic	Revenue – Cleaning of Bridge, Culverts, Subway
iv. Retaining Walls & Cattle Grids	Revenue – Retaining Walls & Cattle Grids
v. Retaining Walls & Structures	Revenue – Retaining Walls & Structures
vi. Structures Strengthening	Capital – Structures Strengthening

20.2.1 Budget Allocation

20.2.1.1 Bridge Inspection and Assessment

Responsible Officer – Network Management Officer

This budget is allocated to all costs incurred in undertaking bridge inspections and assessments.

This budget is historically the same from year to year.

20.2.1.2 Bridge Structural Maintenance

Responsible Officer – HGSSM

This budget is allocated to work type ???

This budget is historically the same from year to year.

20.2.1.3 Cleaning of Bridge, Culverts, Subways

Responsible Officer – HGSSM

This budget is allocated to work type ???

This budget is historically the same from year to year.

20.2.1.4 Retaining Walls & Cattle Grids

Responsible Officer – Network Manager Officer

This budget is allocated to work type ???

This budget is historically the same from year to year.

20.2.1.5 Retaining Walls & Structures

Responsible Officer – Network Manager Officer

This budget is allocated to work type ???

This budget is historically the same from year to year.

20.2.1.6 Structures Strengthening

Responsible Officer – Network Manager Officer

This budget is used for strengthening highway structures

The annual capital budget is allocated to the assets with the most need. This budget depends upon the priority of the structures schemes compared to the other assets.

20.3 Environmental Considerations

Information on Sites of Special Scientific Interest (SSSI) and Special Areas of Conservation (SAC) are located at **(Insert location of this information)**

20.4 Policies

The following policies associated with the structures asset have been approved by the Council Members:

20.4.1 Footbridges

Powys County Council takes responsibility for footbridges with the following characteristics:

- included on the Definitive Map **(where is this located?)**
- located in an urban area
- has a metal surface

This has been agreed with the members and is documented ???

The responsible party for all footbridges is shown in the 'Ownership' field within AMX.

20.4.2 Retaining Walls

Powys County Council only adopts retaining walls which hold up the highway asset.

All records including documents are held in AMX for both Powys County Council owned and privately owned retaining walls.

20.5 Inspections

20.5.1 Assessment Programme

A programme of structural assessments commenced in 1987 under EU Directive 85/3, subsequently amended to 89/460/EEC which specified a minimum loading capacity for highways to carry 40t 5-axle lorries and 44t 6-axle lorries.

The Council identified 1069 of the 1699 bridges that qualified for assessment, which includes British Waterways, Network Rail and British Rail Property Board (disused railway) bridges that needed structural assessment.

Since 1987 the Council has endeavoured to complete the structural assessment of the 1069 bridges. However, restricted resource and reduced budgets have limited the ability of the Council to complete the programme. As a result, in 2012 some 315 bridges still remain to be structurally assessed. These are generally smaller span bridges that were graded as low risk following a risk appraisal process carried out in 1999 by the County's bridge engineers.

Current funding levels only permit approximately 10 bridges to be assessed in a single financial year. On this basis it will take over 30 years to complete the programme which exposes the Authority to the risk of;

- Potential failure to undertake their duty under the Highway Act to protect highway users;
- Failure to act in accordance with an EU Directive.

20.5.2 Abnormal Indivisible Load (AIL) Movements

Abnormal Indivisible Loads (AILs) are those vehicles that exceed the current Construction & Use (C&U) vehicle limits as detailed in the table below;

Construction & Use Limits		
Category	Imperial Measurement	Metric Measurement
Height *	16' 3"	4.95 m
Weight	44 tonnes	44,000 kg
Width	9' 6"	2.90 m
Length	60'	18.30 m

* From Prevention of Bridge Strikes – A Good Practice Guide for Transport Managers – July 2004

The movement of AIL's is controlled by legislation under Statutory Instrument 2003 No.1998 The Road Vehicles (Authorisation of Special Types) (General) Order 2003.

Under this legislation hauliers are required to notify the Highway Authority of any movements that exceed 44 tonnes. Those loads below that weight but exceed width and/or length are only required to be notified to the relevant Police Authority.

Notifications are received either by facsimile or email. Each notification is checked for suitability of the proposed route against the vehicle details. If a load movement is unsuitable for the route proposed, ie, they are crossing a weight limited bridge or going under a height restricted bridge, then the haulier is contacted and an alternative route is proposed if one is available. The amended route is then re-submitted by the haulier. Details of all notified movements are logged including the actions taken.

The increase in wind farm proposals will lead to a large number of extraordinary AIL's coming into and through the county. This is likely to cause significant disruption to the travelling public so the council in conjunction with the Welsh Government and the Police Authority have introduced a requirement for the wind farm developers to produce Traffic Management Plans (TMP). These detail the complete route an AIL will take and

identify all potential problem areas along the route and the mitigation measures that will be taken to minimise any disruption.

20.5.3 General Inspections

A General Inspection (GI) consists of an inspection of the visible components of the structure to detect any defects or deterioration. Areas that are not safety accessible by the inspector, such as confined spaces, are not inspected.

General inspections are undertaken on structures as follows:

- A and B Roads – every two years
- C, U & Other Roads – every three years

General inspections are undertaken in accordance with **(insert specification and date)** by the Design Group.

Information from the general inspections is stored in Expert Management System (AMX) Asset Management System.

20.5.4 Principal Inspections

A Principal Inspection (PI) is a detailed examination of all the structures components to determine the full extent of any defects and/or deterioration. The suggested interval for PI's is 6 years; however this can be extended to up to 12 years following a risk assessment.

Currently no PI's are routinely undertaken on the county's structures, only being undertaken on an ad-hoc basis when requested by the inspector if they feel the condition of the structure warrants further inspection.

Principal inspections are undertaken in accordance with **(insert specification and date)** by the Design Group.

Information from the any principal inspections undertaken is stored in Expert Management System (AMX) Asset Management System.

20.5.5 Special Inspections

A Special Inspections (SI) are undertaken at times outside the normal frequency. These will be instances such as flooding, RTC's, or special monitoring following a structural assessment. General inspections are undertaken on structures as follows:

Special inspections are undertaken in accordance with **(insert specification and date)**

The Design Group is responsible for managing Special Inspections.

Information from special inspections undertaken is stored in Expert Management System (AMX) Asset Management System.

20.6 Construction / Asset Acquisition

20.7 New Assets

20.7.1 Cattle Grids

Members of the public can apply for new cattle grids.

The process is documented in ??? which is stored in ???

The Network Management Officer is responsible for managing this process.

20.8 Routine Maintenance

20.8.1 Physical Processes

The following types of faults are undertaken as Routine Maintenance.

Routine Maintenance Activities	
Structure / Substructure Component Type	Maintenance Activity
Piers, abutments, wing-walls, retaining walls, reinforced earth walls and crib walls.	<ul style="list-style-type: none"> Remove graffiti Remove vegetation from structure Clear debris from bearing shelves Clean drainage channels Rod outlet pipes Clear drainage outlet manhole chambers Rod weep pipes and remove silt & debris Check operation of valves and grease where required Repair gap sealant to movement joints Check pedestrian protection measures Remove debris and bird droppings
Steel beams, girders, trusses, concrete beams and fascia's	<ul style="list-style-type: none"> Remove debris and bird droppings from flanges Clear drainage holes for box sections
Deck carriageway, verge and parapet cantilever.	<ul style="list-style-type: none"> Remove grass and weeds from verges and channels Repair gap sealant to movement joints
Expansion joints.	<ul style="list-style-type: none"> Clean out debris and vegetation (water jetting where appropriate) Clear drainage systems Check and tighten where necessary any loose nuts and bolts, replace where necessary Replace gaskets where there is a specific requirement in the structure maintenance manual
Metal parapets.	<ul style="list-style-type: none"> Check and tighten where necessary any loose nuts and bolts, replace where necessary Clear hollow section drain holes
Masonry and concrete parapets.	<ul style="list-style-type: none"> Remove graffiti Remove any vegetation
Bearings (elastomeric, sliding & roller).	<ul style="list-style-type: none"> Remove general dirt & debris Clean sliding and roller surfaces if accessible and regrease
Culverts.	<ul style="list-style-type: none"> Remove any vegetation and debris from within the structure

20.8.2 Routine Maintenance Programme

The following process details how the 'Structures Routine Maintenance Programme' is created and completed.	
Step 1:	Design Group undertake General Inspections and Principal Inspections using either handheld devices or manual forms.
	Step 1A: Individual inspectors who have used the handheld devices download the General Inspection information into AMX
	Step 1B: Individual inspectors who have used the General Inspection Forms enter the information manually into AMX. Manually completed General Inspection Forms are stored in ???
Step 2:	The Network Management Officer (NMO) downloads the 'Structures Routine Maintenance List' and selects works to be undertaken in the upcoming financial year up to the value of the approved budget. What is the prioritisation process if there was more work than available budget? The approved works are copied into the 'Structures Routine Maintenance Programme'
Step 3:	The NMO provides the 'Structures Routine Maintenance Programme' and 'Return Sheets' to the Highways Grounds and Street Scene (HGSS)
Step 4:	The HGSS complete the work, complete the Return Sheets and return to the NMO
Step 5:	The NMO updates AMX.

20.9 Planned Maintenance

20.9.1 Physical Processes

The following types of faults following specific work instructions are undertaken as Planned Maintenance.

Work Type	Work Instruction
	Location of Work Instruction
	Location of Work Instruction
	Location of Work Instruction
	Location of Work Instruction
	Location of Work Instruction

20.9.2 Structures Planned Maintenance Programme

The planned maintenance programme development process assesses all asset schemes using the same criteria. Details of the process are shown in Section 3.2.1: Capital Allocation.

20.10 Disposal

The process for disposing of a highway structure is located at **(Insert location of Structures Disposal Process)**

The process for archiving all highway structures information from the Asset Management Database is located [\(insert Archiving of Structures Asset Data\)](#)

20.11 Performance Measurement

The following table describes performance measures associated with the structures asset.

Bridge Stock Condition Indicator Average (BSCI_{av})
Responsible Officer: Network Management Officer
Calculation: The BSCI _{av} is calculated within the Expert (AMX) Asset Management System.
Bridge Condition Indicator Critical (BSCI_{crit})
Responsible Officer: Network Management Officer
Calculation: The BSCI _{crit} is calculated within the Expert (AMX) Asset Management System.

21 Traffic Signals

Powys County Council has the following traffic signal types

- Junctions
- Pedestrian Crossings

21.1 Asset Inventory

There is an inventory of assets which is kept in the ???

The responsibility of this inventory is ???

21.2 Budget

21.2.1 Budget Codes

All traffic signal works are charged to one of the following budget codes.

Traffic Signal Budget Codes	
Traffic Signal Work Types	Budget Code
i. Routine Maintenance	Revenue – Traffic Signal Routine Maintenance
ii. Traffic Signal Energy	Revenue – Traffic Signal Energy
iii. Planned Maintenance	Capital – Traffic Signal Capital

21.2.2 Budget Allocation

21.2.2.1 Traffic Signal Routine Maintenance

Responsible Officer – ???

This budget is allocated to undertaking all reactive maintenance and annual inspections.

This work is undertaken by a sub-contractor with a multi-year contract. The annual allocation will be as specified in the winning contract. This will change when the contract is renewed.

21.2.2.2 Traffic Signal Energy

Responsible Officer – ???

This budget is allocated to the energy used by the traffic signals.

This budget is calculated at the start of the financial year using the previous years energy consumption and the most recent unit rate.

21.2.2.3 Traffic Signal Capital

Responsible Officer – ???

This budget is allocated to renewing traffic signal equipment.

The annual capital budget is allocated to the assets with the most need. This budget depends upon the priority of the traffic signal schemes compared to the other assets.

21.3 Policies

There are no known policies associated with the traffic signal asset that have been approved by the Council Members:

21.4 Annual Inspections

The Traffic Signal Maintenance Contractor (TSMC) undertakes an electrical inspection of all traffic signal apparatus.

Full reports are provided including test certificates to the ??? who saves them on the PCC server under 'Traffic Signal Testing'.

21.5 Energy

21.6 Reactive Maintenance

21.6.1 Out of Hours Response

The process for Out of Hours is detailed in the 'Out of Hours Service Manual'.

The contract between PCC and the contractor states that 'the maintenance contractor must visit a signal site within 9 hours of receiving notification of a fault (this does not include Out of Hours).

If the signals are "all out" then the Street Lighting Section should be called to erect the standard traffic lights out of order signs (held at Depots). All other faults can await the maintenance contractor's arrival on site.

21.6.2 Fault Types

All traffic signal faults are repaired by the TSMC. The TSMC has a 'Traffic Signals Quality Manual' which provides detailed information on traffic signal specifications and work practices that they will follow in undertaking the work on PCC's traffic signals.

21.6.3 Standard Fault Process

21.7 Planned Maintenance

21.7.1 Traffic Signal Renewal Process

The planned maintenance programme development process assesses all asset schemes using the same criteria. Details of the process are shown in Section 3.2.1: Capital Allocation.

What is the process once the renewal of the traffic signal is approved?

21.8 Disposal

The Traffic Signal Contractor (TSC) is responsible for disposing of all equipment that is surplus to requirement.

21.9 Performance Measurement

The following performance measures associated with the traffic signal asset are monitored annually.

22 Weather Stations

Powys County Council has five weather stations as follows:

- Four Findlay Irvine brand
- One Vaisala brand

Currently Powys County Council has an agreement with Vaisala to undertake annual inspections and complete routine maintenance on the weather station provided by them.

There are no arrangements in place for maintaining the Findlay Irvine weather stations.

22.1 Asset Inventory

The location of all weather stations is documented in the Winter Maintenance Plan.

The specific details of the weather stations are held by the specific provider.

22.2 Budget

22.2.1 Budget Codes

All structures works are charged to one of the following budget codes.

Weather Station Budget Codes	
Weather Station Work Types	Budget Code
i. Annual Maintenance	Revenue – Winter Maintenance
ii. Communication Costs	Revenue – Winter Maintenance
iii. Miscellaneous Costs	Revenue – Winter Maintenance

22.2.2 Budget Allocation

22.2.2.1 Annual Maintenance

Responsible Officer – HGSSM

This budget is allocated to the following activities for the Vaisala brand weather station only:

- Pre winter maintenance check
- Reactive maintenance
- Sensor data quality monitoring

This work is undertaken by a sub-contractor with a multi-year agreement. The annual allocation will be as specified in the agreement.

Note: there is no budget allocation for the Findlay Irvine weather stations

22.2.2.2 Communication Costs

Responsible Officer – HGSSM

This budget is for providing data every 10 minutes 365 days per year (366 days in a leap year).

This service is provided by a sub-contractor with a multi-year agreement. The annual allocation will be as specified in the agreement.

22.2.2.3 Miscellaneous Costs

Responsible Officer – Highway Grounds and Street Scene Manager (HGSSM)

This budget is allocated to the following activities for the Vaisala brand weather station only:

- i. Bureau Service
- ii. Help Desk
- iii. Display Software

This work is undertaken by a sub-contractor with a multi-year agreement. The annual allocation will be as specified in the agreement.

22.3 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

22.4 Annual Inspections

22.4.1 Findlay Irvine Weather Stations

No annual inspections are undertaken on weather stations provided by Findlay Irvine.

22.4.2 Vaisala Weather Station

All reactive maintenance is identified and repaired by Vaisala when undertaking their pre-season checks on their provided weather station.

22.5 Weather Station Operating Service

The main function of the weather station is to provide information to enable decisions to be made on when and where winter maintenance treatments should be undertaken.

The following process details how the weather station information is transferred to Powys County Council Officers to enable them to make the appropriate decision on applying salt.

Weather Information Process	
The process details how the weather station information is transferred to Powys County Council Officers to enable them to make the appropriate decision on applying salt.	
Step 1:	Weather information gathered by the weather station is processed by the weather station provider
Step 2:	The weather station provider sends the weather information to the Met Office.
Step 3:	The Met Office analyses the weather station data for winter maintenance purposes and sends to Powys County Council.
Step 4:	Powys County Council implement the required action documented in the Powys County Council Winter Maintenance Manual.

22.6 Reactive Maintenance

22.6.1 Findlay Irvine Weather Stations

There are currently no arrangements in place to repair reactive defects on Findlay Irvine Weather Stations.

22.6.2 Vaisala Weather Station

All reactive maintenance is identified and repaired by Vaisala when undertaking their pre-season checks on their provided weather station.

22.7 Planned Maintenance

There is currently no process for managing the renewal of a weather station.

22.8 Disposal

It is the responsibility of Viasala to dispose of any old weather station components

22.9 Performance Measurement

There is no performance measures associated with the weather station.

23 Non - illuminated Signs

This asset group includes all non-illuminated signs

23.1 Asset Inventory

There is no inventory of non-illuminated signs.

23.2 Budget

23.2.1 Budget Codes

All non-illuminated sign works are charged to one of the following budget codes.

Non-illuminated Sign Budget Codes	
Non-illuminated Sign Work Types	Budget Code
i. Reactive Maintenance	Revenue – Non-Illuminated Signs
ii. Traffic Signs - New	???

23.2.2 Budget Allocation

23.2.2.1 Traffic Signs - Non-Illuminated

Responsible Officer – Highway Grounds and Street Scene Manager (HGSSM)

This budget is allocated to repairing non-illuminated signs which are in an unsafe condition or in a condition which does not enable them to provide the respective safety function.

This budget is historically the same from year to year.

23.2.2.2 Traffic Signs - New

Responsible Officer – Traffic Officer

This budget is allocated to the provision of brand new signs which are approved by the Traffic Officer.

This budget is historically the same from year to year

23.3 Safety Considerations

The installation and / or removal of any non-illuminated signs are always approved by the Traffic Officer.

23.4 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

23.5 Annual Inspections

No regular inspections are undertaken on the non-illuminated signs

23.6 Maintenance

23.6.1 Non-illuminated Sign Defects

The following types of non-illuminated sign defects are undertaken as reactive maintenance in Powys.

Non-illuminated Sign Defect Types		
Non-illuminated Sign	Notes and Typical defects	Responsibility
Faded Sign Face	Poor sign retro-reflectivity	Highway Supervisor
Knocked Over	Sign and post lying on ground	Highway Supervisor
Misaligned	Sign face is not showing in the correct direction	Highway Supervisor
Post Damage	Post is broken	Highway Supervisor

23.6.2 Standard Non-illuminated Sign Defects

Non-illuminated Sign Standard Defect Process		
This process details how non-illuminated sign defects are selected for work programmes, repaired and then signed off.		
Step 1	Step 1Ai:	The Highway Supervisor identifies non illuminated signs defects which require action by the following methods: <ul style="list-style-type: none"> i. Undertaking highway inspections ii. Responding to Customer and Member Contacts
	Step 1B:	The Highway Supervisor assesses the non-illuminated signs defects allocating a priority and enters information into the LE System.
	Step 1Bi:	If the Highway Supervisor does not apply a priority to the non-illuminated sign defect and it was identified by a Customer or Member the initial query will be signed off in the LE System.
	Step 1Bii:	If the Highway Supervisor identifies a non-illuminated sign while undertaking the safety inspection and does not apply a priority it will be not be recorded.
Step 2:	The Highway Supervisor allocates the non-illuminated sign defect to the work schedule to ensure it is repaired within the response time.	
Step 3:	If the sign face needs replacing the Highway Supervisor will liaise with the Traffic Engineer to ensure that the replacement sign still complies with the latest regulations.	
	Step 3a:	If the sign face does not need replacing the defect will be repaired. Go to Step 7.
Step 4:	The Highway Supervisor will request the new sign face from the Powys County Council (PCC) Sign Store using the 'Sign Request' form.	
Step 5:	The PCC Sign Store will manufacture the sign and arrange to deliver it to the applicable Depot.	
Step 6:	The Highway Supervisor will instruct the Work Gang to install the sign via the work programme.	
Step 7:	The work gang install the sign and note on the work programme the following: <ul style="list-style-type: none"> • Action taken • Date of work • Work Gang • Other Comments The completed work programme is returned to the Highway Supervisor.	
	Step 8:	The Highway Supervisor updates the LE System by inserting a completion date.

24 Drainage

The drainage asset consists of the following assets:

- Gullies
- Pipes
- Grips
- Culverts
- Ditches

24.1 Asset Inventory

There is no inventory of drainage assets.

24.2 Budget

24.2.1 Budget Codes

All drainage works are charged to one of the following budget codes.

Drainage Budget Codes	
Drainage Work Types	Budget Code
i. Reactive Maintenance	Revenue – Safety and Minor Repairs
ii. Cyclic - Ditching & Grips	Revenue – Ditching & Grips
iii. Cyclic - Routine Jetting / Gully Emptying	Revenue – Routine Jetting / Gully Emptying
iv. Major Drainage	Capital – Major Drainage

24.2.2 Budget Allocation

24.2.2.1 Safety and Minor Repairs

Responsible Officer – HGSSM

This budget is allocated to responding and making safe category one defects on all assets. The proportion of this budget allocated to drainage changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

24.2.2.2 Ditching & Grips

Responsible Officer – HGSSM

This budget is allocated to cyclical ditching and grip cleaning.

This budget is historically the same from year to year.

24.2.2.3 Routine Jetting / Gully Emptying

Responsible Officer – HGSSM

This budget is allocated to the cyclical gully emptying programme.

This budget is historically the same from year to year.

24.2.2.4 Major Drainage

Responsible Officer – Network Manager

This budget is used for planned maintenance on drainage assets.

The annual capital budget is allocated to the assets with the most need. This budget depends upon the priority of the drainage schemes compared to the other assets.

24.3 Environmental Considerations

Information on Sites of Special Scientific Interest (SSSI) and Special Areas of Conservation (SAC) are located at **(Insert location of this information)**

24.4 Policies

A policy in this document refers to a ‘statement of intent’ that must be approved by the Council Members.

24.5 Annual Inspections

No regular inspections are undertaken on the drainage assets.

24.6 Reactive Maintenance

Reactive maintenance is undertaken in response to highway inspections, complaints or emergencies.

24.6.1 Work Types

The following types of drainage works are undertaken as reactive maintenance in Powys.

Highway Drainage Work Types		
Treatment	Notes and Typical defects	Responsibility
Unblock Gully and Repair Defect	Gully not functioning in wet weather causing flooding	Highway Supervisor
Reinstate	(Repair existing) Ironwork Cracked or broken, Differential levels, Damaged or Blocked Chambers & Pipes	Highway Supervisor
Reinstate Piped Drainage	(Repair existing) Blocked or obstructed, Scour damage caused by flow of water, Excessive build up of silt, Partial collapse.	Highway Supervisor
Reinstate Filter Drain	(Repair existing) Displaced or Contaminated filter material, blocked or obstructed pipe work	Highway Supervisor
Reinstate Ditch	(Repair existing) Undergrowth causing obstruction, scour damage caused by flow of water, excessive build up of silt, partial collapse.	Highway Supervisor

24.6.2 Reactive Work Programme

The Reactive Work Programme consists of ‘Category One’ and ‘Category Two’ defects identified and then assessed by the Highway Supervisor for all assets.

The development and completion of the Reactive Maintenance Programmes is described in Section 10.3: Safety Inspection Process.

24.7 Cyclic Maintenance

24.7.1 Gully Cleansing

Powys County Council empty gullies once per year on the following roads:

- i. Primary Gritting Routes
- ii. Secondary Gritting Routes
- iii. Urban Areas

The remaining gullies are emptied on a reactive basis as described in Section 9.3: Safety Inspection Process.

24.7.1.1 Gully Cleansing Work Process

<u>Gully Cleansing Process</u>	
The following process details how gully cleansing is programmed, completed and recorded.	
Step 1	Step 1Ai: The Highway Supervisor allocates a weekly programme of gully cleansing to the Gully Cleansing Operatives.
Step 2:	The Gully Cleansing Operatives undertake the cleansing. All completed gullies are recorded on the HTR08a Gully Cleansing & Defect Record. The Gully Cleansing Operatives also record any other gully defects which may require additional maintenance.
Step 3:	The Gully Cleansing Operatives give the completed HTR08a Gully Cleansing & Defect Record to the Highway Supervisor.
Step 4:	The Highway Supervisor reviews the completed record and inserts the identified gully defects into the LE System.
Step 4a:	All gully defects classified as reactive will be managed using the process in Section 10.3: Safety Inspection Process
Step 4b:	All gully defects which require renewing will be managed in Section 3.2.1: Capital Allocation.
Step 5:	The Highway Supervisor files the completed HTR08a Gully Cleansing & Defect Record in the Area Office files.

24.7.2 Ditches and Grips

Powys County Council clears ditches and grips as follows:

- i. Grips

All grips located on Primary and Secondary Gritting Routes are cleared annually in Autumn.

There is no inventory and it is the responsibility of the Work Operatives to locate and clear the grips.

- ii. Ditches

Problem ditches are cleared annually in Autumn

There is no inventory and it is the responsibility of the Highway Supervisor to provide the programme to be completed.

All grips located on Primary and Secondary Gritting Routes are cleared annually in Autumn.

- iii. Grips / Ditches not included in i and ii shall be treated as reactive maintenance.

24.7.2.1 Ditches / Grips Work Process

<u>Ditches / Grips Cleansing Process</u>
The following process details how the ditches and grips are programmed, completed and recorded.

Step 1	The Highway Supervisor allocates a weekly programme of ditches and grips to be cleared by the Work Operatives.	
Step 2:	The Work Operative undertakes the clearing of the drainage assets. All completed assets are recorded on the HTR07a Dual Form Programmed Siding / Ditching & Grips. The Works Operative also records any other drainage defects which may require additional maintenance.	
Step 3:	The Works Operative gives the completed HTR07a Dual Form Programmed Siding / Ditching & Grips to the Highway Supervisor.	
Step 4:	The Highway Supervisor reviews the completed record and inserts the identified drainage defects into the LE System.	
	Step 4a:	All drainage defects classified as reactive will be managed using the process in Section 10.3: Safety Inspection Process
	Step 4b:	All drainage defects which require renewing will be managed in Section 3.2.1: Capital Allocation.
Step 5:	The Highway Supervisor files the completed HTR07a Dual Form Programmed Siding / Ditching & Grips in the Area Office files.	

24.8 Planned Maintenance

24.8.1 Treatment Options

The following types of highway drainage treatments are undertaken as planned maintenance in Powys.

Highway Drainage Planned Maintenance Treatment Options		
Treatment	Notes and Typical defects	Responsibility
Renew	(Replace Old for New) Ironwork Cracked or broken, Differential levels, Damaged or Blocked Chambers & Pipes, Worn covers which may cause skidding in wet conditions	Highway Supervisor
Provide New	(New) Additional drainage systems to prevent ponding or flooding (Safety)	Highway Supervisor

24.8.2 Drainage Planned Maintenance Programme

The planned maintenance programme development process assesses all asset schemes using the same criteria. Details of the process are shown in Section 3.2.1: Capital Allocation.

24.9 Disposal

The following process details how a drainage asset is removed permanently from its location.

24.10 Performance Measurement

There is no performance monitoring for the drainage asset.

25 Carriageway Markings

This asset group includes all carriageway marking

25.1 Asset Inventory

Powys County Council does not currently have an inventory of carriageway marking assets.

25.2 Budget

25.2.1 Budget Codes

All carriageway marking works are charged to one of the following budget codes.

Road Marking Budget Codes	
Road Marking Work Types	Budget Code
i. Traffic – Carriageway Markings	Revenue – Road Markings
ii. Traffic – New Carriageway Markings	???

25.2.2 Budget Allocation

25.2.2.1 Traffic - Carriageway Markings

Responsible Officer – HGSSM

This budget is allocated to repaint carriageway markings which do not meet the required standard

This budget is historically the same from year to year.

25.2.2.2 Traffic - New Carriageway Markings

Responsible Officer – Traffic Officer

This budget is allocated to the provision of brand new carriageway markings which are approved by the Traffic Officer.

This budget is historically the same from year to year

25.3 Safety Considerations

The installation and / or removal of any carriageway markings are always approved by the Traffic Officer.

25.4 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

25.5 Annual Inspections

No regular inspections are undertaken on the carriageway marking asset

25.6 Reactive Maintenance

25.6.1 Remarking Types

The following types of carriageway marking remarks are undertaken in Powys

Carriageway Marking Remark Types		
Remark Types	Notes and Typical defects	Responsibility
Renew – Center Line Broken	All centre line markings where there is no solid continuous white line, Missing or Greater than 30% wear, Poor retro-reflectivity	Highway Supervisor
Renew – Center Line Solid	All centre line markings where there is at least one solid continuous white line either with a second solid or a broken line. Missing or greater than 30% wear, Poor retro-reflectivity	Highway Supervisor
Renew – Edge Lines	Missing or Greater than 30% wear, Poor retro-reflectivity	Highway Supervisor
Renew – Hatched Markings	Missing or Greater than 30% wear, Poor retro-reflectivity	Highway Supervisor
Renew – Stop / Give Way Junction Markings	Missing or Greater than 30% wear, Poor retro-reflectivity	Highway Supervisor
Renew – Words & Specialist road markings	Missing or Greater than 30% wear, Poor retro-reflectivity	Highway Supervisor

25.6.2 Standard Carriageway Marking Defects

Carriageway Marking Standard Defect Process		
This process details how carriageway marking defects are selected for work programmes, remarked and then signed off.		
Step 1	Step 1Ai:	The Highway Supervisor identifies carriageway marking defects which require action by the following methods: <ul style="list-style-type: none"> i. Undertaking highway inspections ii. Responding to Customer and Member Contacts iii. Traffic Engineer observations
	Step 1B:	The Highway Supervisor assesses the carriageway marking defects allocating a priority and enters information into the LE System.
	Step 1Bi:	If the Highway Supervisor does not apply a priority to the carriageway marking defect and it was identified by a Customer or Member the initial query will be signed off in the LE System.
	Step 1Bii:	If the Highway Supervisor identifies carriageway marking while undertaking the safety inspection and does not apply a priority it will be not be recorded.
Step 2:	The Highway Supervisor creates a carriageway marking schedule to ensure it is remarked within the response time.	
Step 3:	The Highway Supervisor will liaise with the Traffic Engineer to ensure that the proposed remark still comply with the standards.	
Step 4:	The Highway Supervisor will instruct the Carriageway Marking Crew to undertake the remarking	

	via the work programme.
Step 5:	The Carriageway Remarketing Crew complete the remarketing and note on the work programme the following: <ul style="list-style-type: none">• Action taken• Date of work• Work Gang• Other Comments The completed work programme is returned to the Highway Supervisor.
Step 6:	The Highway Supervisor updates the LE System by inserting a completion date.

25.7 Performance Measurement

There are no forms of performance monitoring for the road marking asset.

26 Cats Eyes

This asset group includes all cats eyes

26.1 Asset Inventory

Powys County Council does not currently have an inventory of cats eye assets.

26.2 Budget

26.2.1 Budget Codes

All cats eye works are charged to one of the following budget codes.

Road Marking Budget Codes	
Road Marking Work Types	Budget Code
i. Traffic Safety Maintenance	Revenue – Traffic Safety
ii. Traffic – New Cats Eyes	???

26.2.2 Budget Allocation

26.2.2.1 Traffic Safety Maintenance

Responsible Officer – Highway Grounds and Street Scene Manager (HGSSM)

This budget is allocated to responding and making safe traffic safety assets. The proportion of this budget allocated to cats eyes changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

26.2.2.2 Traffic - New Cats Eyes

Responsible Officer – Traffic Officer

This budget is allocated to the provision of brand new cats eyes which are approved by the Traffic Officer.

This budget is historically the same from year to year

26.3 Safety Considerations

The installation and / or removal of any cats eyes are always approved by the Traffic Officer.

26.4 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

26.5 Annual Inspections

No regular inspections are undertaken on the cats eye asset

26.6 Reactive Maintenance

26.6.1 Cats Eye Work Types

The following types of cats eyes work types are undertaken in Powys

Cats Eye Work Types		
Cats Eye Work Types	Notes and Typical defects	Responsibility
Renew – Catseyes / Studs Mandatory	Cats eyes / Studs are mandatory where solid continuous white lines are present, missing, incorrect level, poor reflectivity	Highway Supervisor

26.6.2 Standard Cats Eye Defects

Replacing Cats Eye Standard Process		
This process details how sites with missing cats eyes are selected for work programmes, replaced and then signed off.		
Step 1	Step 1Ai:	The Highway Supervisor identifies missing or damaged cats eyes which require replacing by the following methods: <ol style="list-style-type: none"> i. Undertaking highway inspections ii. Responding to Customer and Member Contacts iii. Traffic Engineer observations
	Step 1B:	The Highway Supervisor assesses the site with missing or damaged cats eyes, allocating a priority and enters information into the LE System.
	Step 1Bi:	If the Highway Supervisor does not apply a priority to the site with missing or damaged cats eyes and it was identified by a Customer or Member the initial query will be signed off in the LE System.
	Step 1Bii:	If the Highway Supervisor identifies sites with missing or damaged cats eyes while undertaking the safety inspection and does not apply a priority it will be not be recorded.
Step 2:	The Highway Supervisor creates a schedule of sites with missing or damaged cats eyes. Sites are prioritised by time since identified.	
Step 3:	The Highway Supervisor will liaise with the Traffic Engineer to ensure that the replaced cats eyes will still meet the current standards.	
Step 4:	The Highway Supervisor will instruct the Carriageway Remarketing Crew to undertake the remarketing via the work programme.	
Step 5:	The Carriageway Remarketing Crew complete the replacing of the cats eyes and note on the work programme the following: <ul style="list-style-type: none"> • Action taken • Date of work • Work Gang • Other Comments The completed work programme is returned to the Highway Supervisor.	
Step 6:	The Highway Supervisor updates the LE System by inserting a completion date.	

26.7 Performance Measurement

There are no forms of performance monitoring for the cats eye assets.

27 Safety Fences

This asset group includes all safety fences

27.1 Asset Inventory

There is no inventory of safety fences.

27.2 Budget

27.2.1 Budget Codes

All safety fence works are charged to one of the following budget codes.

Safety Fence Budget Codes	
Safety Fence Work Types	Budget Code
i. Reactive Maintenance	Revenue – Safety and Minor Repairs
ii. Planned Maintenance	Capital – ???

27.2.2 Budget Allocation

27.2.2.1 Safety and Minor Repairs

Responsible Officer – HGSSM

This budget is allocated to responding and making safe category one defects on all assets. The proportion of this budget allocated to safety fences changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

27.2.2.2 Safety Fence Capital

Responsible Officer – Network Manager

This budget is used for planned maintenance on safety fence assets.

The annual capital budget is allocated to the assets with the most need. This budget depends upon the priority of the safety fence schemes compared to the other assets.

27.3 Safety Considerations

The installation and / or removal of any safety fences are always approved by the Traffic Officer.

27.4 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

27.5 Annual Inspections

No regular inspections to assess the current condition are undertaken on the safety fences asset.

27.6 Reactive Maintenance

27.6.1 Repair Types

The following types of repairs are undertaken as reactive maintenance.

Safety Fence Repair Types		
Repair Types	Notes and Typical defects	Responsibility
Accident Damage - severe	Severe deformation of beams and posts, deformed / broken items causing an additional hazard to the road user	Highway Supervisor
Accident Damage - moderate	Moderate deformation to several beams and posts	Highway Supervisor
Accident Damage - slight	Minor damage to single beam or post, may be slightly out of alignment but S/F substantially sound	Highway Supervisor
Loose assembly	More than 5m of Safety Fence unstable	Highway Supervisor
Beam Overlap – incorrect	Beam overlap not aligned with the direction of traffic	Highway Supervisor
Beam Height – incorrect	Beam height measured to centre of beam, Wire rope measured to centre of upper pair	Highway Supervisor
Beam – corrosion		Highway Supervisor
Beam – horizontal misalignment	Horizontal gaps between beams greater than 10mm	Highway Supervisor
Post – misaligned or the wrong way around		Highway Supervisor
Post – incorrect height		Highway Supervisor
Post – deterioration	Corrosion around metal post or rotting wood	Highway Supervisor
Bolt - missing	Including post bolts, lap bolts, anchor bolts and other bolt assemblies.	Highway Supervisor
Bolt – loose	Including post bolts, lap bolts, anchor bolts and other bolt assemblies.	Highway Supervisor
Bolt – corrosion	Including post bolts, lap bolts, anchor bolts and other bolt assemblies.	Highway Supervisor
Shear Bolt – missing		Highway Supervisor
Shear Bolt – loose		Highway Supervisor
Shear Bolt – inadequate tolerance		Highway Supervisor
Tensioners – missing		Highway Supervisor
Tensioners – loose		Highway Supervisor
Washers – missing		Highway Supervisor
Unable to inspect due to vegetation or detritus		Highway Supervisor
Other	eg. damaged support brackets	Highway Supervisor

27.6.2 Reactive Work Programming

The Reactive Work Programme consists of 'Category One' and 'Category Two' defects identified and then assessed by the Highway Supervisor for all assets.

The development and completion of the Reactive Maintenance Programmes is described in Section 10.3: Safety Inspection Process.

27.7 Planned Maintenance

Planned Maintenance is defined as work required to renew the asset by extending its current life.

The planned maintenance programme development process assesses all asset schemes using the same criteria. Details of the process are shown in Section 3.2.1: Capital Allocation.

27.8 Performance Measurement

There are currently no performance monitoring undertaken on safety fences.

Working Document

28 Pedestrian Barriers

This asset group includes all pedestrian barriers

28.1 Asset Inventory

There is no inventory of pedestrian barriers.

28.2 Budget

28.2.1 Budget Codes

All pedestrian barrier works are charged to one of the following budget codes.

Pedestrian Barrier Budget Codes	
Pedestrian Barrier Work Types	Budget Code
i. Reactive Maintenance	Revenue – Safety and Minor Repairs
ii. Planned Maintenance	Capital – ???

28.2.2 Budget Allocation

28.2.2.1 Safety and Minor Repairs

Responsible Officer – HGSSM

This budget is allocated to responding and making safe category one defects on all assets. The proportion of this budget allocated to pedestrian barriers changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

28.2.2.2 Pedestrian Barrier Capital

Responsible Officer – Network Manager

This budget is used for pedestrian barrier planned maintenance.

The annual capital budget is allocated to the assets with the most need. This budget depends upon the priority of the pedestrian barrier schemes compared to the other assets.

28.3 Safety Considerations

The installation and / or removal of any pedestrian barriers are always approved by the Traffic Officer.

28.4 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

28.5 Annual Inspections

No regular inspections to assess the current condition are undertaken on the pedestrian barrier asset.

28.6 Reactive Maintenance

28.6.1 Repair Types

The following types of repairs are undertaken as reactive maintenance.

Pedestrian Barriers Repair Types		
Repair Type	Notes and Typical defects	Responsibility
Reinstate Pedestrian Guard Rail	(Repair existing) Damaged Pedestrian Guard Rail	Highway Supervisor

28.6.2 Reactive Work Programming

The Reactive Work Programme consists of 'Category One' and 'Category Two' defects identified and then assessed by the Highway Supervisor for all assets.

The development and completion of the Reactive Maintenance Programmes is described in Section 10.3: Safety Inspection Process.

28.7 Planned Maintenance

Planned Maintenance is defined as work required to renew the asset by extending its current life.

The planned maintenance programme development process assesses all asset schemes using the same criteria. Details of the process are shown in Section 3.2.1: Capital Allocation.

28.8 Performance Measurement

There is currently no performance monitoring undertaken on pedestrian barriers.

29 Traffic Calming

This asset group includes the following:

- Road Humps
- Speed Tables
- Speed Cushions
- Islands

29.1 Asset Inventory

There is no inventory of traffic calming assets.

29.2 Budget

29.2.1 Budget Codes

All traffic calming works are charged to one of the following budget codes.

Traffic Calming Budget Codes	
Traffic Calming Work Types	Budget Code
i. Reactive Maintenance	Revenue – Safety and Minor Repairs
ii. Planned Maintenance	Capital – ???

29.2.2 Budget Allocation

29.2.2.1 Safety and Minor Repairs

Responsible Officer – HGSSM

This budget is allocated to responding and making safe category one defects on all assets. The proportion of this budget allocated to traffic calming assets changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

29.2.2.2 Traffic Calming Capital

Responsible Officer – Network Manager

This budget is used for traffic calming asset planned maintenance.

The annual capital budget is allocated to the assets with the most need. This budget depends upon the priority of the traffic calming schemes compared to the other assets.

29.3 Safety Considerations

The installation and / or removal of any traffic calming are always approved by the Traffic Officer.

29.4 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

29.5 Annual Inspections

No regular inspections to assess the current condition are undertaken on the traffic calming asset.

29.6 Reactive Maintenance

29.6.1 Repair Types

The following types of repairs are undertaken as reactive maintenance.

Traffic Calming Repair Types		
Repair Type	Notes and Typical defects	Responsibility
Repair Traffic Calming Asset	<ul style="list-style-type: none">Missing / dislodged blocksPotholes / gaps within surface	Highway Supervisor

29.6.2 Reactive Work Programming

The Reactive Work Programme consists of 'Category One' and 'Category Two' defects identified and then assessed by the Highway Supervisor for all assets.

The development and completion of the Reactive Maintenance Programmes is described in Section 10.3: Safety Inspection Process.

29.7 Planned Maintenance

Planned Maintenance is defined as work required to renew the asset by extending its current life.

The planned maintenance programme development process assesses all asset schemes using the same criteria. Details of the process are shown in Section 3.2.1: Capital Allocation.

29.8 Performance Measurement

There is currently no performance monitoring undertaken on traffic calming assets.

30 Benches

This asset group includes all benches located on Powys County Council footways???

30.1 Asset Inventory

There is no inventory of benches assets

30.2 Budget

30.2.1 Budget Codes

All benches works are charged to one of the following budget codes.

Benches Budget Codes	
Benches Work Types	Budget Code
i. Reactive Maintenance	Revenue – Safety and Minor Repairs

30.2.2 Budget Allocation

30.2.2.1 Safety and Minor Repairs

Responsible Officer – HGSSM

This budget is allocated to responding and making safe category one defects on all assets. The proportion of this budget allocated to seating assets changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

30.3 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

30.4 Annual Inspections

No regular inspections to assess the current condition are undertaken on the benches assets.

30.5 Reactive Maintenance

30.5.1 Repair Types

The following types of repairs are undertaken as reactive maintenance.

Traffic Calming Repair Types		
Repair Type	Notes and Typical defects	Responsibility
Replace Panel	Panel is broken or missing	Highway Supervisor
Tighten Bolts on Panels	Panels are loose	Highway Supervisor

30.5.2 Reactive Work Programming

The Reactive Work Programme consists of 'Category One' and 'Category Two' defects identified and then assessed by the Highway Supervisor for all assets.

The development and completion of the Reactive Maintenance Programmes is described in Section 10.3: Safety Inspection Process.

30.6 Disposal

Who decides whether benches should be removed?

30.7 Performance Measurement

There is currently no performance monitoring undertaken on benches assets.

31 Bus Stations

Bus stations are managed by the Transportation Manager

Highway Grounds and Street Scene (HGSS) undertake reactive maintenance when required after consulting with the Transportation Manager.

Working Document

32 Verges

This asset group includes all verges

32.1 Asset Inventory

Powys County Council does not currently have an inventory of verges.

32.2 Budget

The verge maintenance budget is the responsibility of the Programme Manager.

The budget allocation is historically the same from year to year.

32.3 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

32.4 Annual Inspections

No regular inspections are undertaken on the verges.

32.5 Cyclic Maintenance

The following section describes the scope of work undertaken on urban and rural highways as specified in the Ground Maintenance Service Specifications 2015.

32.5.1 Highway Urban Areas

This encompasses:

- most adopted roadside verges inside 30 & 40 mph speed restrictions limits.

Work Undertaken:

Cut 3 times a year – depending on seasonal conditions, but usually 1st cut May, 2nd cut July, and 3rd cut September.

Weed Control – Planned treatment of town centres and estates.

32.5.2 Highway Rural Areas

This encompasses:

- all roadside verges outside of speed restriction limits

Work Undertaken:

- One safety cut on all County rural verges are cut starting middle June in order of Class 1, Class 2, Class 3 & Unclassified roads.

Note: the same operatives complete the rural verges on the Trunk Roads. These are the highest priority and are completed prior to the verges on the County Roads.

- Safety cuts required at junctions are undertaken as necessary.

32.5.3 Management of Verge Cyclic Maintenance

All verge cyclic maintenance is undertaken by subcontractors except Class One which is undertaken by inhouse resource.

The subcontractor is required to complete the following reporting:

- i. Provide a weekly programme of works one week in advance to the Programme Manager
- ii. Provide a weekly report of actual work completed
- iii. Update the current work programme for urban areas on the 'Grass Cutting Website'

32.6 Disposal

The 'Stopping Up' process is managed by the (Insert Department responsible for managing 'Stopping Up' Orders.)

The process for archiving all carriageway information from Asset Management System is located (insert location of 'Stopping Up' Data Management)

32.7 Performance Measurement

There are currently no performance monitoring undertaken on verges.

33 Trees

This asset group includes all trees

HGSSM are only responsible for reactive maintenance on trees.

33.1 Asset Inventory

Powys County Council does not currently have an inventory of trees.

33.2 Budget

33.2.1 Budget Codes

All tree works are charged to one of the following budget codes.

Benches Budget Codes	
Benches Work Types	Budget Code
i. Reactive Maintenance	Revenue – Safety and Minor Repairs

33.2.2 Budget Allocation

33.2.2.1 Safety and Minor Repairs

Responsible Officer – HGSSM

This budget is allocated to responding and making safe category one defects on all assets. The proportion of this budget allocated to seating assets changes annually depending on the level of defects that occur.

This budget is historically the same from year to year.

33.3 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

33.4 Annual Inspections

No regular inspections are undertaken on the trees by HGSSM.

33.5 Reactive Maintenance

The highway maintenance service is only responsible for addressing highway trees which are deemed safety hazards. These are identified by

- Public contacting the Powys County Council (PCC) Contact Centre and
- Highway Supervisor undertaking inspections

The following process details the steps required in managing an unsafe highway tree.

Note: All other tree maintenance is managed by the Powys County Council Tree Officer.

The following process details the steps required in managing an unsafe highway tree.		
Step 1	Step 1Ai:	The Highway Supervisor identifies unsafe highway trees which require action by the following methods: i. Undertaking highway inspections ii. Responding to Customer and Member Contacts
	Step 1B:	The Highway Supervisor assesses the unsafe tree allocating a priority and enters information into the LE System.
	Step 1Bi:	If the Highway Supervisor does not apply a priority to the unsafe tree and it was identified by a Customer or Member the initial query will be signed off in the LE System.
	Step 1Bii:	If the Highway Supervisor identifies an unsafe tree while undertaking the safety inspection and does not apply a priority it will be not be recorded.
Step 2:	The Highway Supervisor notifies the Powys County Council Tree Officer of the unsafe tree and requests whether any special guidance is required to enable the tree to be made safe.	
	Step 2A:	The Highway Supervisor will add any details of special guidance into the LE System.
Step 3:	The Highway Supervisor instructs the Work Gang to remove the safety issue caused by the tree via the work programme.	
Step 4:	The Work Gang make the tree safe and note on the work programme the following: <ul style="list-style-type: none"> • Action taken • Date of work • Work Gang • Other Comments The completed work programme is returned to the Highway Supervisor.	
	Step 5:	The Highway Supervisor updates the LE System by inserting a completion date.

33.6 Performance Measurement

There is currently no performance monitoring undertaken on trees.

34 Sweeping and Street Cleaning

Sweeping and street cleansing is a work activity undertaken on carriageways and footways.

34.1 Budget

34.1.1 Budget Codes

The sweeping and cleansing maintenance budget is the responsibility of the Highway Grounds and Street Scene Manager (HGSSM).

The budget allocation is historically the same from year to year.

34.2 Policies

A policy in this document refers to a 'statement of intent' that must be approved by the Council Members.

Currently there are no policies approved by the Council Members associated with the sweeping and cleansing.

34.3 Cyclic Maintenance

34.3.1 Street Cleansing Matrix

The following matrix shows the annual street cleaning undertaken in Powys County Council

Code of Practice Zone	Manual Cleansing & Litter Picking	Empty Litter Bins	Channel & Footway	Full Carriageways Sweep (Maintenance)
Zone 1 (Main Town Centres)	Daily by 0830 (incl. weekends)	Daily (incl. weekends)	3 weekly	Determined by safety inspection
Zone 2 (High Density Housing / Parks / Car Parks / Main Roads)	Weekly	Weekly	3 weekly	Determined by safety inspection
Zone 3 (Low Density Housing / Industrial Estates)	6 monthly	Weekly	6 monthly	Determined by safety inspection
Zone 4 (Small Towns / Large Villages)	Weekly	Weekly	3 weekly	Determined by safety inspection
Zone 4A (Small Villages)	6 monthly	Weekly	6 monthly	Determined by safety inspection
Zone 7T	Litter pick x 2 (&2 by	N/A	Kerbed areas	Determined by safety

Code of Practice Zone	Manual Cleansing & Litter Picking	Empty Litter Bins	Channel & Footway	Full Carriageways Sweep (Maintenance)
(Rural Roads – Trunk)	Verge Maintenance) (Laybys weekly)		annually	inspection
Zone 7A (Rural Roads – Class 1)	Litter pick x 2 (&2 by Verge Maintenance) (Laybys fortnightly)	N/A	Kerbed areas annually	Determined by safety inspection
Zone 7B (Rural Roads – Class 2)	Determined by safety inspection	N/A	Kerbed areas annually	Determined by safety inspection
Zone 7C (Rural Roads – Class 3)	Determined by safety inspection	N/A	Determined by safety inspection	Determined by safety inspection
Zone 7U (Rural Roads – Unclassified)	Determined by safety inspection	N/A	Determined by safety inspection	Determined by safety inspection

34.3.2 Work Process

All street cleansing activities detailed in the matrix in Section 31.3.1 are managed by the Highway Supervisor.

Work Operatives record all work undertaken on 'Street Cleansing Work Completed' Forms and give to the Highway Supervisor.

The Highway Supervisor stores these completed forms in the file in the Area Office.

34.4 Performance Measurement

There is currently no performance monitoring undertaken on sweeping and cleansing