HIGHWAYS ASSET MANAGEMENT PLAN

ANNUAL STATEMENT REPORT 2023

Highways and Transportation,
Environmental Infrastructure

Place and Infrastructure
Directorate

carmarthenshire.gov.wales

Cyngor Sir Gâr
Carmarthenshire
County Council

Executive Summary

In July 2018 Council adopted the Highway Asset Management Plan which included an undertaking to present an Annual Statement Report (this report) on the condition and performance of the highway network, one of the most valuable assets managed by the County Council. At the last valuation in 2018, the Highways asset was valued more than £3.2 billion.

The Report discusses how the highway assets have been managed over the past twelve months (financial year 2022-2023) and includes a discussion of the key issues and changes which have impacted performance and condition. The Report also provides an update on in-year activity and looks ahead to the next financial year.

The Report provides detailed commentary on the following three key highway asset areas:

- Highways (carriageways, footways, and cycleways)
- Bridges and Structures
- Highway Lighting and Traffic Signals

For each asset category the report details its condition, how its condition has changed since the last report and how it will change into the future depending on funding scenarios which are set out within the report.

Highways

The Highway network in Carmarthenshire is the second largest in Wales and extends to over 3500Km. Although much of the County is predominantly rural in nature it nevertheless has the third highest level of traffic in Wales.

The highway network carries a range of road users from cyclists and pedestrians through to 44 tonne heavy goods vehicles and operates through weather conditions ranging from hot sunny summer temperatures to sub-zero winters with snow and ice. The highway network is also being increasingly impacted by storm events which can lead to highway flooding and undermine the support for our highways. All of these are detrimental to the fabric of the highway asset and accelerate its natural deterioration.

Roads are particularly vulnerable to damage from winter weather as freeze / thaw and the hydraulic pressures exerted into deteriorating roads cause potholing.

The cost of providing the Winter Service is also a significant draw on budgets and resources and disrupts regular maintenance work. The winter of 2022/23 was particularly expensive with an outturn cost of £1.64m, compared to £1.00M the previous year. This diverted additional funding away from highway maintenance.

Continuous investment is required to ensure our roads are fit for purpose and it is calculated that in addition to investing to reduce the maintenance backlog, the County Council needs to invest at least £8M each year to maintain the road network in a ‘stand-still’ condition.

In common with other highway authorities Carmarthenshire has a significant backlog, estimated in Carmarthenshire at over £63M of highway surface maintenance, which is growing for year on year. The funding shortfall has necessitated a risk-based approach to asset management to allocate resources on the higher priority parts of the network in a reasonable and consistent way. Our road network hierarchy underpins the prioritisation of our maintenance investment.

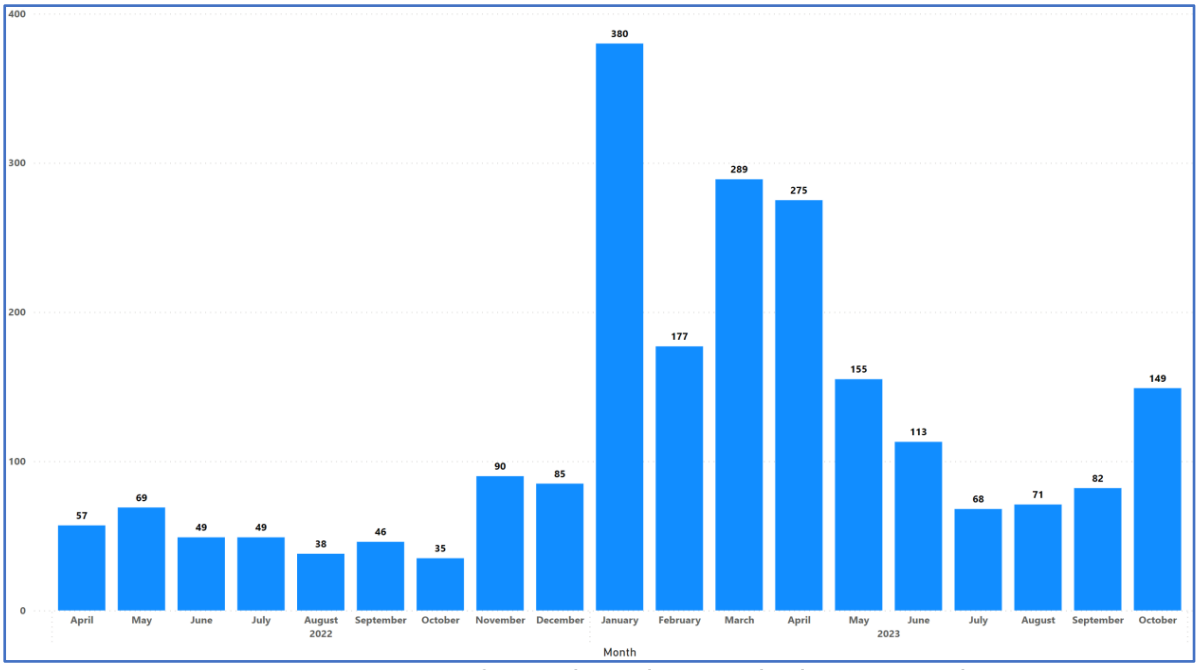
In 2022/23 County Council funding of £4.3M was allocated to Highway Maintenance, with £3.76m of this invested in to resurfacing and preventative maintenance. This is significantly below the stand-still figure but was sufficient to enable the authority to keep the higher-class roads in a reasonably stable condition. In 2023/24, our budget of £1.6m will allow 10.4km of road to be resurfaced, which equates to approximately 0.3% of the network. Deterioration will be more noticeable in the less trafficked lower-hierarchy roads.

In recent years Welsh Government has provided grant funding for roads refurbishment. However, there was no available funding in 2023/24 and there is no indication of funds being made available for 2024/25.

County Council Capital funding is expected to be £0.6M per year. The current funding scenario will increase the percentage of roads requiring resurfacing from around 10% in the current year to 23% in 10 years and 41% in 20 years. Reductions in preventative maintenance result in more expensive treatments with a higher carbon impact in future years.

Public dis-satisfaction with our highways is on the increase and customer service requests are growing which places a higher demand on resources as we respond to reactive issues.

A significant rise in demand due to increasing numbers of potholes can be seen on the graph below. Pothole numbers typically peak demand through the winter months.



Customer requests for road repairs over the last 15 months

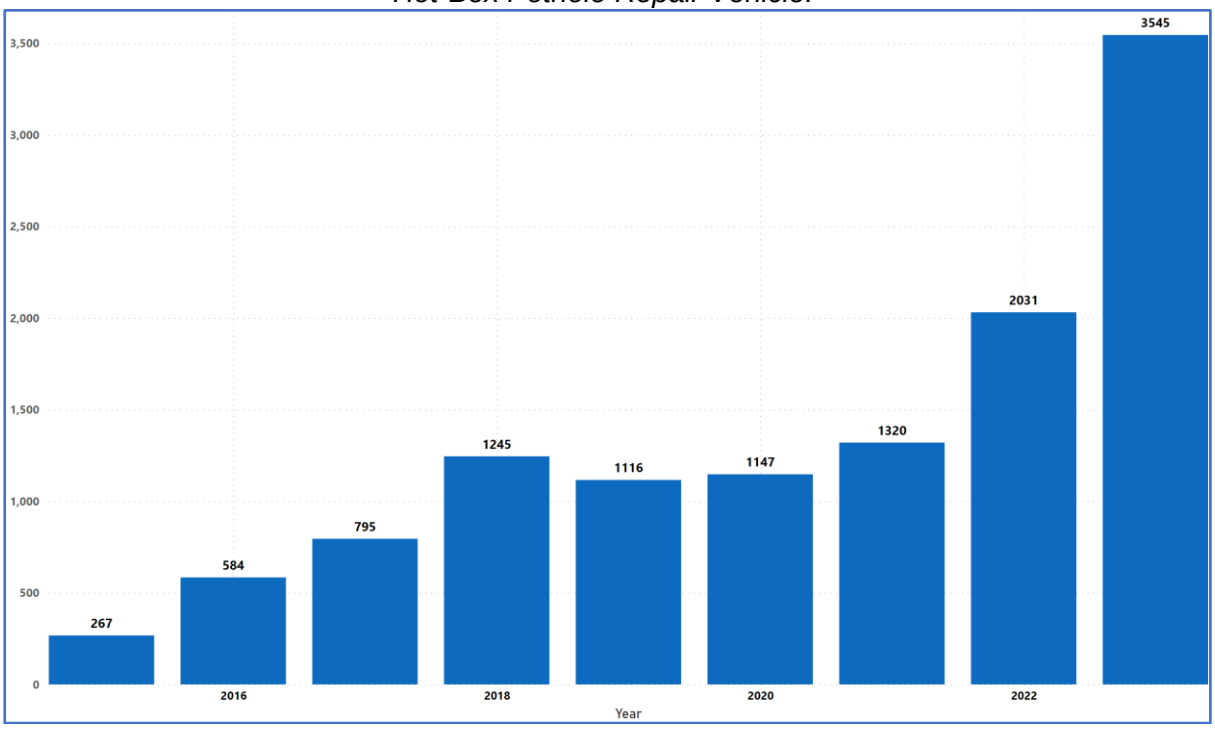
The number of potholes recorded year on year is increasing (see table below), with the number this year already more than double the figure in 2021. The figure for 2023 is expected to exceed 2022 levels by over 100%.

The increased impacts from periods of prolonged cold weather indicate a lack of preventative maintenance and reduced resilience of our roads. This trend is expected to continue as the long-term impacts of underinvestment results in further road deterioration.

This volume of reactive maintenance is placing a significant impact on highways teams which are increasingly diverted from other essential planned maintenance works.

Much of this work is absorbed by our neighbourhood cyclic gangs who often carry out urgent temporary pothole repairs. This year, the division is redirecting resources to improve the level of permanent repairs by introducing an additional dedicated hot macadam permanent repair team.

Hot-Box Pothole Repair Vehicle.



Recorded road defect totals by year 2015 – 2023 (year to date)

Highway Drainage
The impact of climate change and the increased frequency and intensity of adverse weather events are resulting in higher incidence of highway flooding. Our highway drainage systems are of critical importance and improvements have been introduced in this area of increasing concern.

A more focussed gully cleansing regime has been introduced and a drainage survey programme implemented on strategic roads. Sub-surface drains are not otherwise routinely inspected or cleansed due to resource levels and many drains are of historic construction and in unknown condition. Blockages and failures are likely to increase in the future as aged systems deteriorate.

The drainage surveys undertaken on our strategic routes indicated that 18% of our drainage pipes are compromised. The details are discussed in Section 2.4.

Footways & Cycleways.
Carmarthenshire has over 1000Km of footways and cycleways, 23Km of shared use paths and supports 126Km of the National Cycle Network (NCN).

In 2022/23 the Council invested £265,000 in resurfacing footways in 12 locations. There is no capital funding available for 2023/24.

Bridges and Structures
Our highways are supported by 1,958 structures which includes 799 bridges, 575 retaining walls 529 large culverts and 50 footbridges.

At the start of this financial year there were 47 structures which have been assessed as sub-standard for highway loading to 40 and 44t limits. These structures are subject to a regular monitoring regime to ensure that they are safe for public use. With recent capital investments, the number of our sub-standard structures has decreased from 54 in 2020, with 4 structures strengthened in 2021/22, and a further 3 in 2022/23. This represents steady progress but 6% of the bridge stock remain substandard which is the second highest number of sub-standard structures in Wales (2022 data).

Based on the current Capital funding of £400k per year it will take around 12 years to upgrade our sub-standard structures. Following this year's strengthening programme, 5 formal weight limits will remain in place due to of sub-standard structures.

Public Lighting and Traffic Signals
Our street lighting system includes over 20,000 lighting units. We also manage 5000 units for our Town and Community Councils. LED lighting units have been introduced for County and Community lights to replace less efficient street lighting units on an invest to save basis. This has lowered energy costs, improved light quality and reduced carbon emissions by 1,200 tonnes of CO_2 each year.

There are two significant challenges for the Public Lighting Team:

- Ageing lighting columns, including more than 7,000 steel columns need to be replaced to avoid the risk of collapse. A programme is underway for this.

- 304Km of deteriorating underground electrical cabling needs replacing to prevent cable faults, power outages and to ensure public safety. Aluminium-armoured cabling is emerging as a particular concern. There is no funding available for this.

The County Council also has 3,400 illuminated traffic signs and bollards, 60 signalised pedestrian crossings and 20 signalised junctions.

Section 1 – Introduction

1.1 Introduction

The highway network plays a vital role in facilitating the safe and efficient movement of goods and people. It underpins not just our economy but also the fabric and wellbeing of our communities. Carmarthenshire has the second largest highway network in Wales with over 3,500km of highway, 1,000km of footways & cycleways, 1,958 structures and 20,000 lighting units. All these important assets require continual investment and management to ensure that they continue to support and connect our communities.

Highway authorities around the country have maintenance backlogs and Carmarthenshire has an increased to £63m. This is recognised through the HAMP where a risk-based approach is adopted in line with the recommended Code of Practice.

1.2 HAMP Management Approach

Maintaining the highway network in a serviceable condition remains a continuing challenge against a weight of public expectation. External influences such as traffic loading, winter and adverse weather events and a natural deterioration undermine the fabric of our roads.

The HAMP recognised this difficultly with the adoption of a risk-based approach to focus limited resources where they are most urgently needed. This is applied through the development of a Maintenance Manual which utilises the Highway Network Hierarchy to update service policies. In 2023 the Maintenance Manual focuses on the Adverse Weather and Winter Service operation.

1.3 Challenges

Through 2022 and 2023 the authority has faced and continues to face many challenges, and these have had an impact on the highway network and how it is managed. The key challenges are highlighted below.

Key Challenges – Carbon Reduction
• We have introduced a carbon calculator for our resurfacing and surface dressing programme using assessment tools developed by County Surveyors Society Wales as a HAMP initiative. This data will help us to consider the carbon impact of more investment in preventative maintenance and the cost of reducing carbon by using less carbon heavy treatments. • A new highway repair methodology is being implemented to improve the durability of pothole repairs and improve efficiency with a 'fix-first time' approach. More resilient repairs have a reduced carbon impact. • The introduction of LED lighting units has made a significant contribution towards reducing carbon emissions saving an estimated 1,200 tonnes of CO2 emissions each year. • A review is also underway of our vehicle fleet to introduce ultra-low emission vehicles where feasible. • The Vaisala video survey system has reduced the need for many site visits and is increasingly utilised throughout the Division. • Increasing use of virtual meetings to improve efficiency and reduce travelling. • Develop a reduction strategy for embodied Carbon emissions as part of bridge construction schemes.
Key Challenge – Climate Change
• The Service operates an emergency management plan to respond to the increasing frequency of adverse weather events. Our adverse weather plan is being put forward this year as an update to our Highway Maintenance Manual and will set out our approach to adverse weather and Winter service. • Out of Hours management systems are in place with Duty Officers, Operatives, and contingency plant such as gulley cleaners, pumps, and a snow blower on standby. • A programme of Highway drainage and geotechnical surveys of key routes and high-risk locations is on-going to improve network resilience. • Additional roadside weather stations have been introduced across the County to improve the accuracy and detail of weather forecasting.
Budget pressures
• The structures maintenance backlog is estimated at £13.8m. Failure to carry out essential maintenance will accelerate progressive deterioration of structures, particularly our older masonry type structures which are increasingly at risk during extreme weather events. • The cost for lighting energy has increased from £600k in 2022/23 to £1.5m in 2023/24. However, if LED units had not been introduced the cost would have been £2.5M • Increased fuel, materials and contract costs will result in less value for money being achieved.

- Winter Service costs have increased. Although this is dependent on weather conditions through the season, the outturn cost in 2022/23 had risen to £1.6M from £1.0M in 2021/22. This diverted funding away from maintenance operations.
- The road maintenance backlog is estimated at £63m and is increasing.
- Expected macro-economic pressure on public sector budgets are likely to result in further service cuts.
- Recruitment in critical areas is challenging as private sector out-competes the public sector.

Asset Deterioration

- Road condition deterioration – Investment levels continually fall short of steady state budget levels and roads deteriorate.
- Road deterioration is accelerated by climate change and severe weather events.
- Increasing public interest – BBC Wales reported in April 2023 highlighting a sign erected by a frustrated road user on one of our unclassified roads. Other media articles point to similar stories which indicate this is a widespread issue.

- Sub-standard structures - The recommended period for monitoring is 2 years and a review of assessments and interim measures commenced this year to ensure the appropriateness of the current monitoring regime. In accordance with Technical Standards, monitoring of sub-standard structures should be for a defined period. Deterioration of these structures is inevitable and may affect assessed capacity.

1.4 Achievements

Despite a very challenging backdrop, several notable achievements have been made during the last 12 months.

Risk-based Inspection and defect management regime

In December 2021, Council adopted a risk-based approach to the management of highway defects. This approach is in line with many authorities across Wales and brings us in line with updated National Codes of Practice – Well Managed Highway Infrastructure. Following approval of this new policy we have updated our computer systems to match the new defect categories, intervention levels and response times. Following training of our highway inspection team, the new approach has been introduced in October 2023. By using a planned approach repairs can be programmed more efficiently and will enable us to carry out better quality permanent repairs.

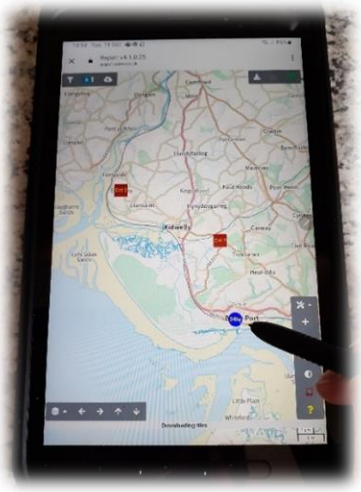
Defect Categories	Description	Response Time
Critical Defect	A situation where the inspecting officer considers the risk to safety high enough to require immediate action,e.g. Collapsed cellar, missing manhole/gully cover, fallen tree, unprotected opening	2 Hours*
Safety Defect	Service requests or defects requiring a response as soon as possible to remove a potential risk of injury to users	By end of Next Working Day (CHSR,CH1,CH2) Within 5 working days (CH3,CH4,CH5**)
Maintenance Defect	Defects that warrant treatment to prevent them deteriorating into a safety defect prior to the next scheduled inspection	30 Days (CHSR,CH1,CH2) 90 days (CH3,CHJ4,CH5**)
Programmed repairs	Defects that warrant treatment, in order to prevent them deteriorating to such an extent that additional works or costs are incurred	As per the local works programme. Subject to resources.

Following a successful business case, the division has created a dedicated Maintenance planner role with specific focus on Pothole repairs and highway drainage maintenance. We will make use of technology to continually review and improve maintenance planning and using a data led approach.

Improved Pothole repairs

Historically, many pothole repairs have been carried out using cold set materials as a temporary repair, and permanent repair levels have not kept pace with deterioration. In conjunction with the risk-based intervention levels we have introduced 2 additional repair teams to carry out hot macadam repairs. The introduction of the Hot-box teams will allow the use of hot macadam to be used on many more repairs providing a first-time fix approach.

Mobile working



In 2022, 22 highway maintenance gangs were equipped with tablet computers, allowing us to issue work instructions directly to mobile devices using wireless connectivity.

Operatives now receive details of works and travel directions, improving efficiency and reducing paperwork.

Our teams on the ground can collect photographic evidence of repairs and accurately update our systems when works are complete. The process automatically completes any associated customer enquiries and provides customers with updates on repairs carried out.

Following the success of this initiative this technology has been rolled out to our out of hours service, allowing incidents to be dealt with more effectively and providing more timely information to aid decision making, especially during storm events and periods of high demand.

Bridge Strengthening Programme

During 2022-23, 3 sub-standard bridges were replaced at a cost of £712,511.78. This removed 2 weight restrictions from the network and reduced our sub-standard structures to 47.

A significant upgrade was carried out by replacing Glanrhyd Bailey bridge that crosses Afon Tywi near Cilycwm. Collaborative working between multiple departments, external agencies, and our framework contractor was essential to ensure the scheme was completed on time, within budget and to a high standard.

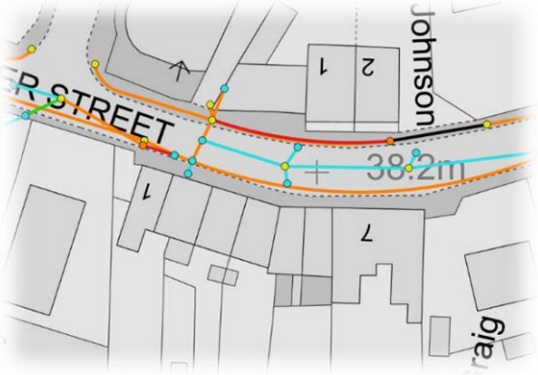
Drainage Management

A new management gully management system was introduced last year to improve the planning and operation of the gully cleaning regime as we develop a risk-based approach to our maintenance activities. In June 2022 we introduced new mobile recording devices with our gully cleansing crews. This has gone well and over the last 12 months to October 2023 26,300 gullies have been visited and recorded in the system.

Resilience of our strategic routes is a key priority, and in addition to an improved gully cleansing regime, condition surveys have been carried out on selected key main roads. The surveys are recording below ground pipework and identifying issues that are not immediately obvious from routine gully cleansing but can cause surface water flooding.

To date we have completed surveys on 168km of A road including the A482, A484, A485, A486, A476 and A4138 recording and mapping over 130km of pipework. Surveys are on-going on the A474, A4069 and A4068.

The details are discussed in section 2.4 of this report, however initial results show that over 18% are blocked/unsafe and over 8% of pipework is not fit for purpose. These figures only represent a small portion of the 3500km highway network; however, they indicate an urgent need to increase investment in our drainage systems.



The following three sections provide detail of the three key highway asset areas:

- Highways (carriageways, footways, cycleways, and Drainage)
- Bridges and Structures
- Public Lighting and Traffic Signals

Section 2 – Highways

2.1 Introduction

The road, or carriageway asset, is by far the largest and most visible highway asset in terms of operational importance and has an investment value of over £3.2 billion. Over recent years traffic volumes have continued to increase along with customer expectation. Increased levels of usage combined with the effects of more frequent adverse weather events accelerate the natural deterioration of road surfaces.

Carmarthenshire has higher car ownership levels compared to the rest of Wales and our roads provide the vital infrastructure which supports and facilitates connectivity within our County and with the rest of Wales. A functioning road system ensures businesses continue to operate, people get to work, food reaches shelves, children get to school, and patients get to hospitals. Keeping this network fit for purpose is critical for the safe and efficient movement of goods and people and is an essential component in maintaining a healthy, vibrant, and prosperous Carmarthenshire. Maintaining the highway network is also a statutory duty the County Council has under the Highways Act 1980.

There are two main methods for maintaining the fabric of our roads.

- Surface dressing (Preventative). This is the most cost-effective treatment which involves laying a thin coat of bitumen and aggregate over an existing road surface. This seals the pavement below to prevent water ingress and provides a high friction surface. The treatment prolongs the life of the road, but it can only be undertaken if the existing road surface is in a reasonable condition and some patching may be required. Treatment cost £6/sq. m.

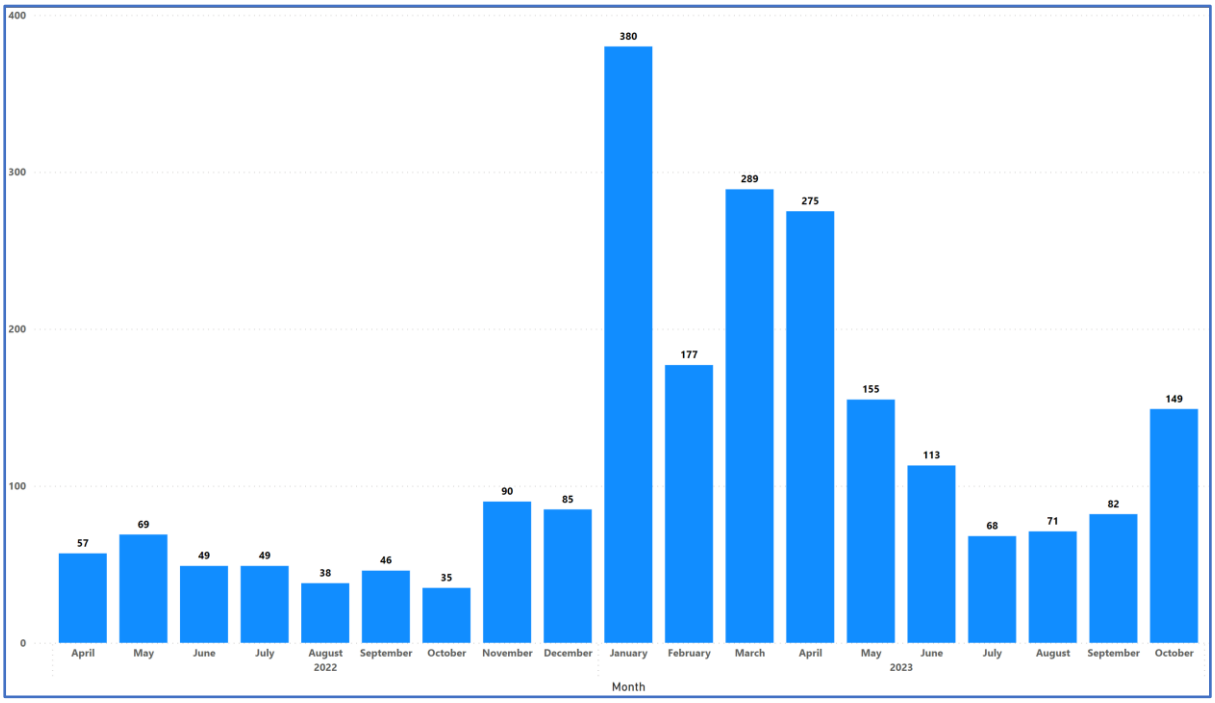
- Resurfacing (Corrective). Where a road cannot be surface dressed it will need to be excavated and replaced. This is a considerably more expensive operation. Treatment cost £20/sq. m.

It is the estimated that £8m needs to be invested in corrective and preventative maintenance every year to achieve a ‘standstill’ network condition. The adage a ‘*stitch in time saves nine*’ is very appropriate to highway maintenance where a timely preventative investment saves more expensive reactive treatment later. Our investment rates are significantly below this threshold.

Where potholes form in deteriorated road surfaces, they require repair to prevent further deterioration and to ensure the Council meets its statutory duty. Potholes normally form due to a lack of preventative maintenance over the preceding years. These reactive repairs are a necessary but particularly costly exercise. A treatment typically costs £50-£100 per pothole.
There has been a steady increase in the numbers of potholes due to the reduction in funding for preventative maintenance.

As planned maintenance decreases, the condition of the road surface deteriorates, and more potholes and surface failures materialise. This then leads to an increased need for reactive repairs. there is a consequent increase is leading to an increase in reactive maintenance for potholes and surface failures, placing increased pressure on diminishing revenue budgets and increased replacement costs for future generations. Current budget levels (£600k Capital from 23/24) are not keeping pace with deterioration, and we face increased future costs and risk of claims against the authority. Current funding does not support the authorities' commitments and promotion of cycling on the highway network. Cyclists using our public roads are more vulnerable to poor road conditions.

Customer demand can be seen to be on the increase with road condition and potholes the most reported issue. The chart below shows a significant peak in pothole reports in January this year following a period of wet and then freezing conditions. The levels of reported potholes in October this year are already almost 4 times higher than the corresponding period last year. This is of significant concern and particularly if we experience a poor winter.



Customer requests for road repairs over the last 18 months

2.2 Highways Status and Condition Report

Our carriageways are maintained through a combination of corrective and preventative treatments, and we use the network hierarchy to prioritise investment within budget resources. Early investment in preventative treatments provides a more cost-effective approach and decreases the need for more expensive reactive maintenance. We require additional investment to fund a pro-active approach so that road treatments can be carried out before road surfaces deteriorate beyond an economic threshold.

Key Facts
Carmarthenshire has the **second largest** highway network in Wales (3566 Km of highway) and is more than double the Welsh average of 1514km *
We have the **third highest traffic volume** in Wales - in 2020 the Wales average was 1.12 billion vehicle km/per year and Carmarthenshire was third at 1.68 billion (Cardiff 2.65 and RCT at 1.77 were highest). *
In 2021/22 our **spend on highways and transport was ranked 18th out of 22** authorities on money spent per km on highways and roads. £3510/km compared to a Welsh average of £6720/km. *
Based on current road condition figures, there is a backlog of carriageway maintenance works in Carmarthenshire equating to **£63.4M.**
Based on current funding levels, the length of road estimated to be in a poor condition is **predicted to increase from 10% to 37.81% over the next 20 years.**

In 2022/23 we invested £3.9m Capital funds in carriageway maintenance. This is below the standstill figure of £8m however it enabled the authority to:

- Surface dress 48km of road
- Resurface 39km of road.

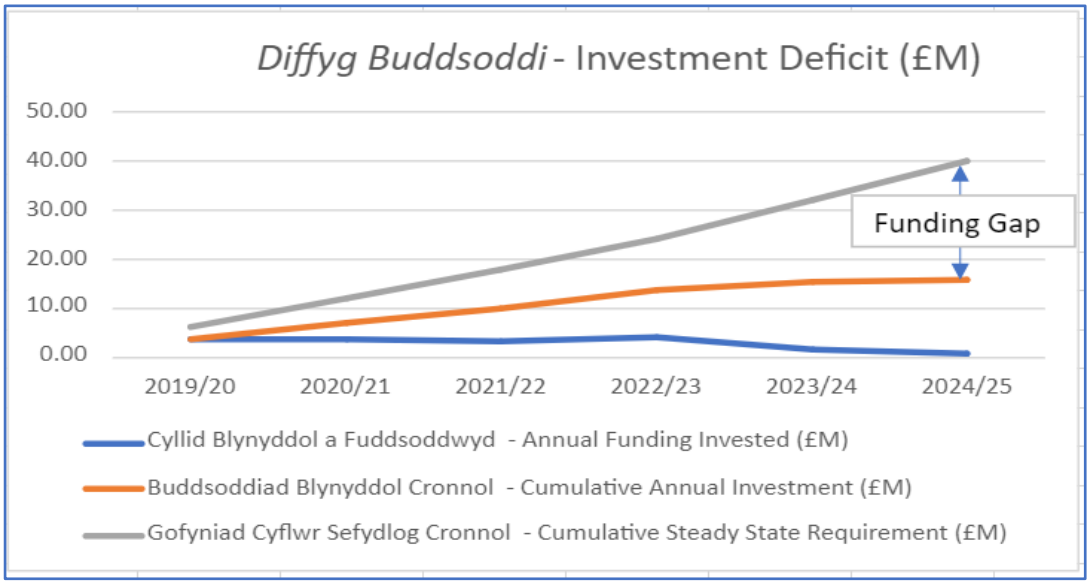
Road Surfacing Investment		
Year	Resurfaced	Surface Dressed
2021/2022	31Km	51Km
2022/2023	39Km	48Km
2023/24	10km	25km

In addition to Capital investment in our road's, revenue funding supported our core highway maintenance functions as set out below:

Summary by category spend 22-23		
Road maintenance (Planned Corrective)	£364,242	Surface dressing patching
Road maintenance (Reactive Corrective)	£1,655,367	General Patching & Potholes
Emergency Gangs out of Hours	£295,818	Emergency response 365/24hr
Community Gangs	£2,397,849	Cyclic & Repair gangs, including minor pothole repairs
Planned Routine Maintenance	£1,596,508	Verge mowing, gully cleaning, sweeping, signs & lines etc
Other	£825,004	Overheads, Depots, PPE, H&S etc
Winter Service	£1,643,860	Precautionary and Reactive Gritting, Grit bins etc
Total	£8,778,648	

In 2024 our Capital budget reduces to £0.6m and there is no indication of any grant funding in the immediate future. Our future road refurbishment programmes will be significantly reduced as a result. This is in addition to further reductions in revenue funding from PBB's. We have an overall lower than average level of investment in highways and transport in Carmarthenshire, typically in the lower quartile for funding across Wales.

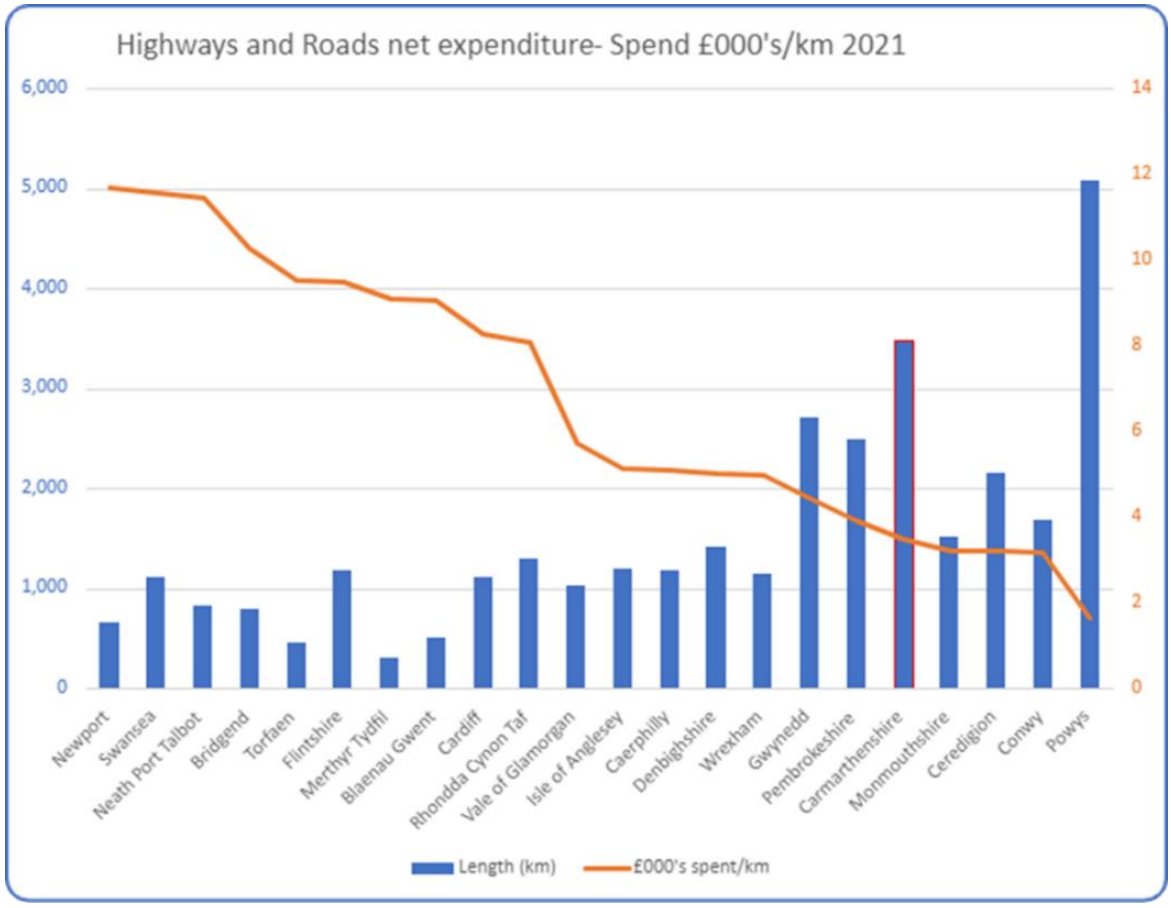
In 2023/24 the County Council will invest £1.6M in road surfacing, this is considerably below the £8M investment required to maintain our roads in a stable condition and increases the cumulative deficit. Since 2020, tendered surfacing costs have increased by around 30%, resulting in significantly less surfacing for our budget.
Based on the estimated steady state budget requirement over the last 5 years, compared to actual investments, and looking ahead to 2024 budgets, our Capital budget of £600,000 for highway surface treatment takes our level of underinvestment to around *£24million* (Funding Gap). The impact of this on highway condition can be seen by the corresponding increases in potholes across the County.



Cumulative Funding Gap over 5 years.

The graph below shows highway investment in comparison with other local authorities in Wales.

The latest figures available for total revenue expenditure, show that 10 authorities invested more than double the Carmarthenshire investment in 2021-22. Only 4 authorities invested less, 3 of which are investing very similar levels to Carmarthenshire. The lowest investor, Powys, have announced they are investing significantly in 2023-24 with Capital funding of £6.5m.



Data source: Stats Wales Total Revenue out-turn expenditure on Highways and Roads [Roads and transport revenue outturn expenditure, by authority (£ thousand) (gov.wales)]

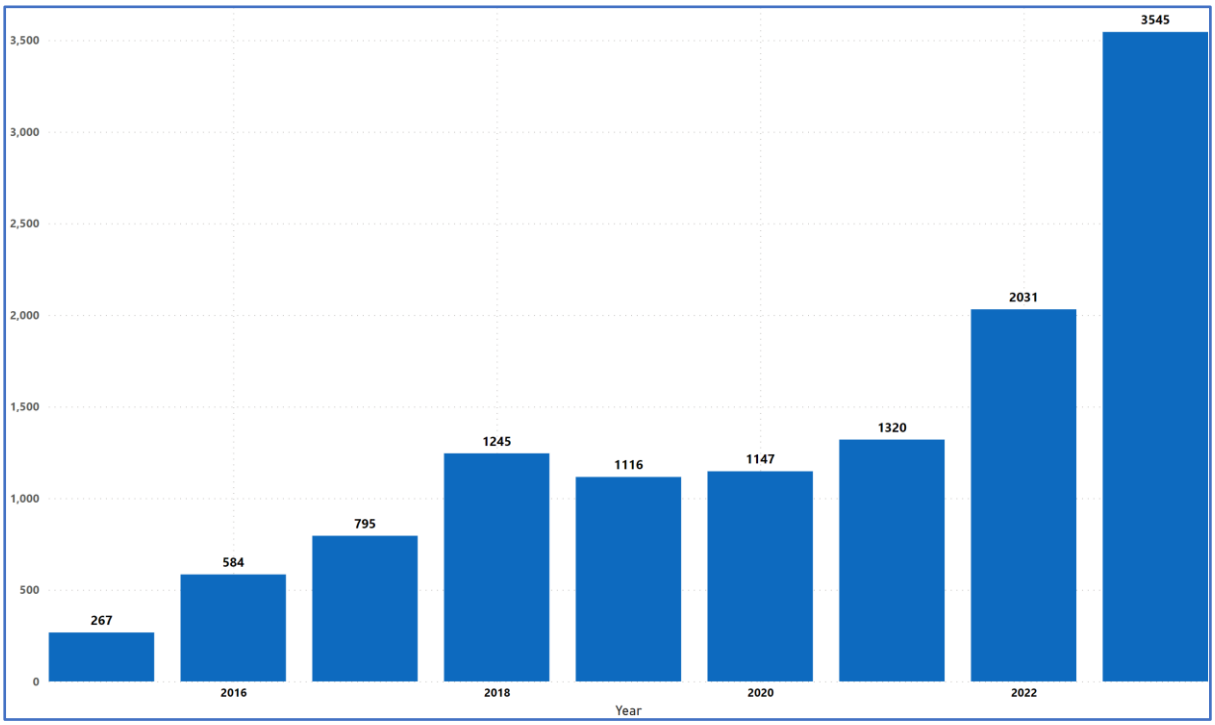
The table below indicates that to rectify all areas of highway requiring remedial surfacing works would cost more than £63 million.

Road Class	A	B	C	U	Total	
Network Length (km)	249.6	331.5	1284.4	1691.2	**3556.7**	
Av. Width (m)	7.3	6	5	3		
Surfacing rate (£)	15	15	15	14		
Surface dressing Rate (£)	5.3	5.3	4.4	4.4		
% Red (>100) Resurfacing	3.1	2.4	10.1	15		Condition
% Amber 1 (80-100) Resurfacing	4.4	4	8.8	13.7		
% Amber 2 (40-80) Surface treatment	20.1	19.2	27.6	41		
Total	**27.6**	**25.6**	**46.5**	**69.7**		
Area Red	56484.48	47736	648622	761040		One off costs
£ (resurfacing cost)	£847,267	£716,040	£9,729,330	£10,654,560	**£21,947,197**	
Area Amber 1	80171.52	79560	565136	695083.2		
£ (Resurfacing cost)	£1,202,573	£1,193,400	£8,477,040	£9,731,165	**£20,604,178**	
Area Amber 2	366238.08	381888	1772472	2080176		
£ (Surface treatment cost)	£1,941,062	£2,024,006	£7,798,877	£9,152,774	**£20,916,719**	
Sum Total	£3,990,902	£3,933,446	£26,005,247	£29,538,499	**£63,468,094**	

Estimated carriageway maintenance need based on measured road condition.

Carriageway Condition

This section sets out the condition trend and provides commentary on the asset performance. The primary asset discussed in this section is the carriageway or road surface, a key component in maintaining a safe and efficient highway network. A key indicator of road condition is shown below. The table below portrays a significant increase in the numbers of recorded road surface defects year on year.

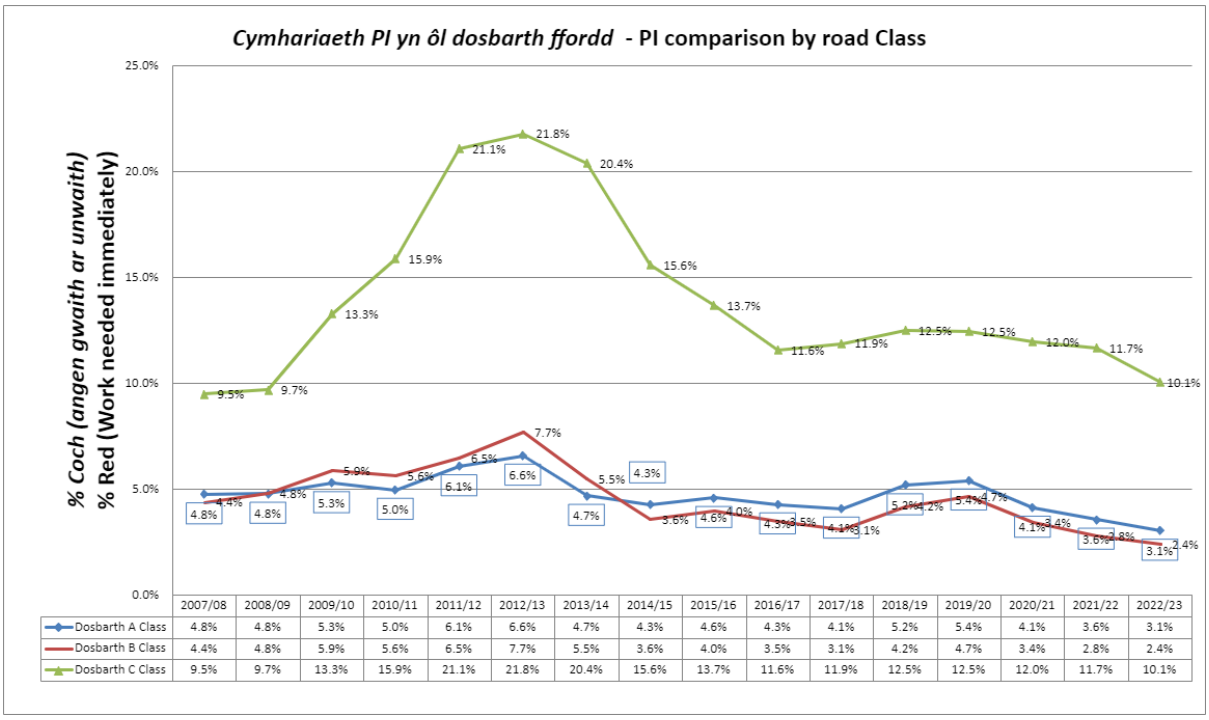


Recorded road defect totals by year 2015 – 2023 (year to date)

Measured road condition (PI – Performance Indicator)

Classified Roads

The notable peaks in the graph below in 2012/13 show the impact of significant flooding and harsh winters. Currently 7.8 % (145km - £11.2m) of the County's classified road network are in a RED condition (plan maintenance soon), and in need of refurbishment to provide a safe and sustainable transport network. In addition, 15% (250km - £10.6m) of the unclassified network needs refurbishment. This equates to almost 400km of road in poor condition. Many other roads are showing signs of deterioration (Amber condition) and require on-going remedial repairs.



	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Dosbarth A Class	4.8%	4.8%	5.3%	5.0%	6.1%	6.6%	4.7%	4.3%	4.6%	4.3%	4.1%	5.2%	5.4%	4.1%	3.6%	3.1%
Dosbarth B Class	4.4%	4.8%	5.9%	5.6%	6.5%	7.7%	5.5%	3.6%	4.0%	3.5%	3.1%	4.2%	4.7%	3.4%	2.8%	2.4%
Dosbarth C Class	9.5%	9.7%	13.3%	15.9%	21.1%	21.8%	20.4%	15.6%	13.7%	11.6%	11.9%	12.5%	12.5%	12.0%	11.7%	10.1%

Road condition performance indicator Classified roads 2007-2022

Unclassified Roads

There is no national survey regime in place to inform on road condition for the larger rural unclassified network which has received less investment. Condition indicator data produced from our AI Camera surveys indicates that 15% of our 1508km of unclassified roads are in poor condition needing maintenance soon. This equates to 226km km and a broad estimate of around £10.6m to resurface.

The adoption of a risk-based approach focuses funding on the highway class roads in accordance with the Highway Network Hierarchy. Consequently, the condition of Carmarthenshire's A, B and C class roads have remained relatively stable. This has, however, taken investment away from the unclassified network. Typically, highway surfaces will last around 25 years with preventative treatments. Based on current investment rates over the last 3 years our resurfacing rate for the whole network is broadly 1 in 131 years.

2.3 Highways Investment Options

Road assets gradually deteriorate over time and consequently a long-term view needs to be taken. This report includes 20-year forecasts to enable decisions to be taken with an understanding of their long-term impact. The investments analysis for 2022-23 includes the recent additional Capital funding invested in 2022, which provided a total of £3.9m investment in highway surfaces.

Three budget scenarios showing the effect of investment on the carriageway condition performance indicator have been carried out.

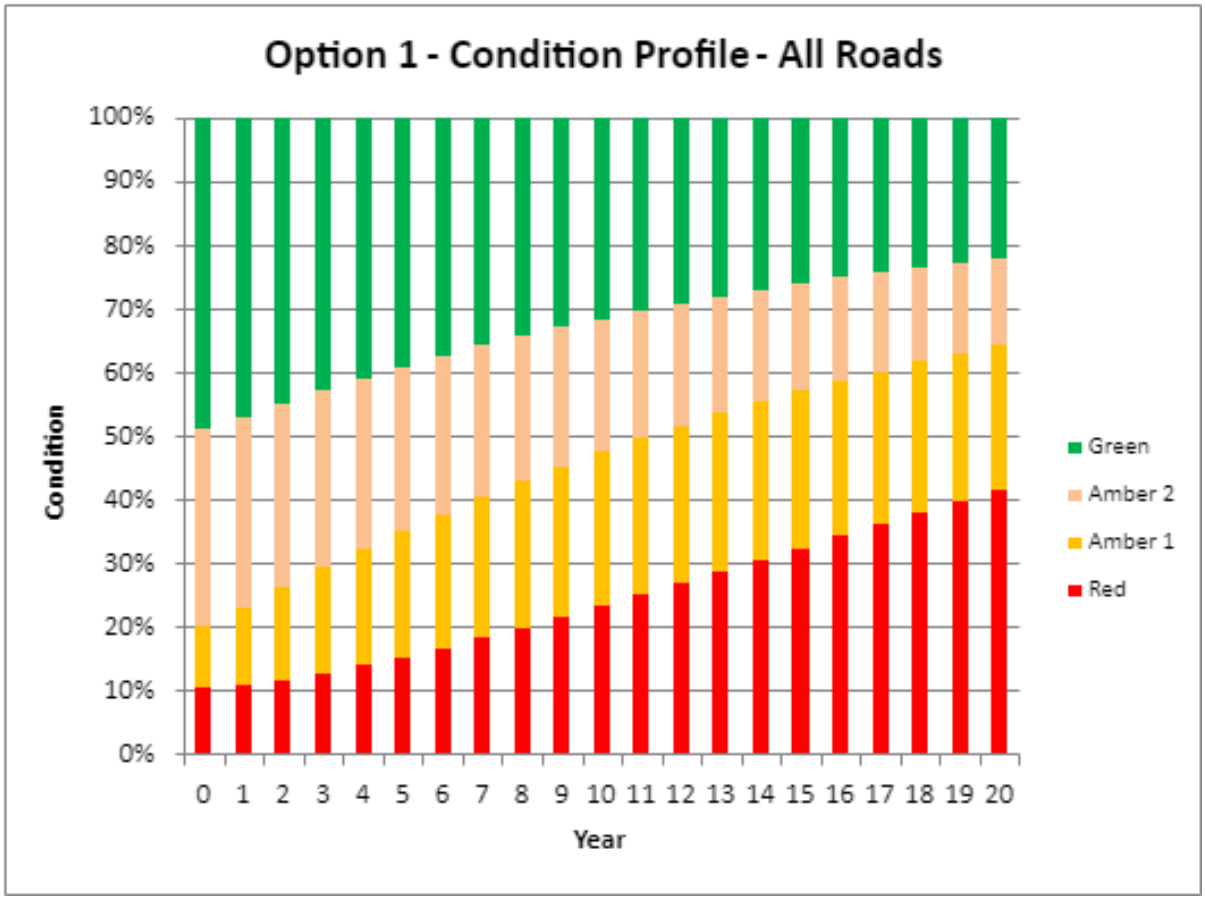
Road condition indicators	A description of the condition indicators and indicative maintenance treatments are as follows: **Green** – Good condition - No planned works are anticipated in the next 3 years. **Amber 2** – Preventative maintenance, typically surface dressing on the 3–5-year programme **Amber 1** – (Imminent Red) Works should be planned by Year 3 – part Preventative/Corrective maintenance i.e., Resurfacing/Surface dressing/patching. **Red** – Maintenance work needed now – Corrective maintenance i.e., Road Resurfacing

The following options show the predicted levels of road condition related to each funding scenario. There are 3 investment options that have been considered for comparison:

- Option 1 – Current budgets - Modelled investment of £1.6M in 23/24, then reducing to £0.6m in total in 24/25 and for next 20 years
- Option 2 - Optimistic – Modelled increase in 24/25 budget from £0.6m to £1.1m and assuming WG grant £1.5m – Total £2.6m
- Option 3 – Steady-state Option - Modelled investment of £8M/annum.

Option 1

Option 1 – Predicted option (Current budget forecast) - Modelled investment of £1.6M in 23/24, then reducing to £0.6m in total in 24/25 and for next 20 years		
For Surface dressing		
Funding/Year	**23/24**	**24/25 onwards**
Welsh Government	0	0
CCC	1.6	0.6
Total invested	**1.6**	**0.6**

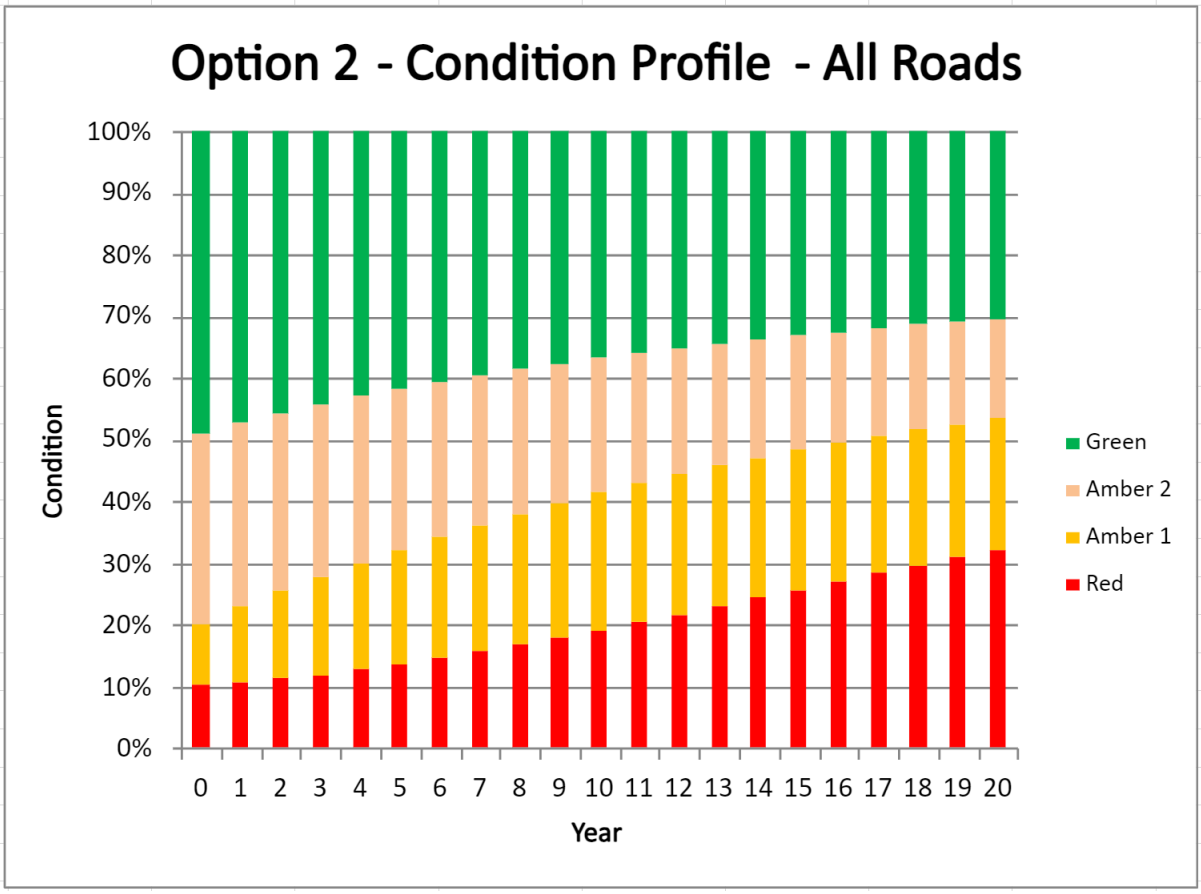


The percentage of **Red** increases from 10% (355km) to 23% (818km) at 10 years and to 41% (1458km) at 20 yrs.

The percentage of **Green** falls from 49% to 32% at 10 years and to 22% at 20 years.

Option 2

Option 2 Optimistic – Increase 24/25 budget to £1.1m and assuming WG grant £1.5m		
2023-24 County £1.6m, then £1.1m + WG Grant £1.5m– Total £2.6m pa next 20 years		
Funding/Year	**23/24**	**24/25 onwards**
Welsh Government		1.5
CCC	1.6	1.1
Total invested £m	**1.6**	**2.6**

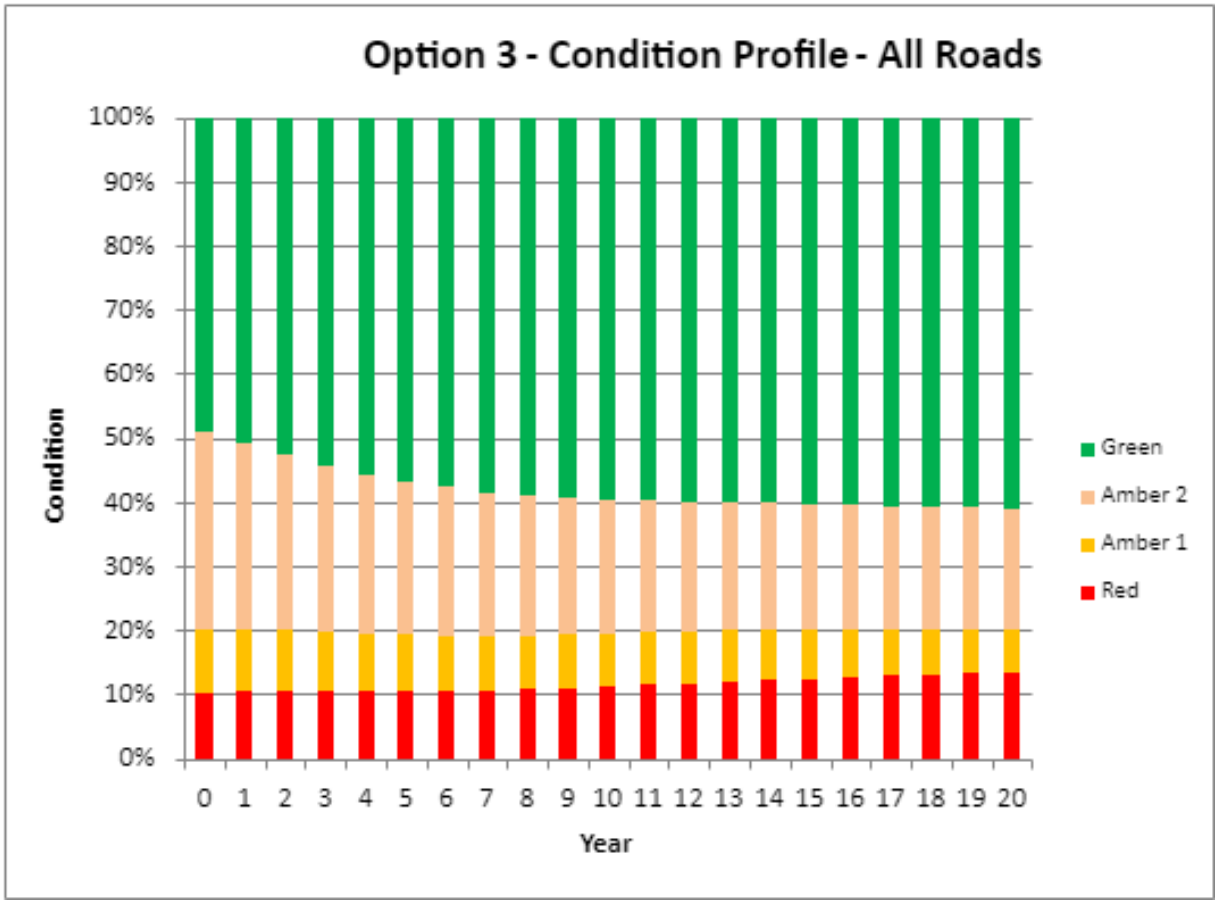


The percentage of road in poor condition **Red** increases from 10% (355km) to 19% at 10 years and 32% (1138km) at 20 yrs.

The percentage of road in good condition **Green** falls from 49% to 37% at 10 years and to 30% at 20 years.

Option 3

Option 3 – Steady-state Option -. **Modelled investment of £8M/annum.**		
This option maintains the asset in a steady state condition with a gradual improvement overall. This requires an increase to the existing budgets to £8M.		
Funding/Year	**23/24**	**24/25 onwards**
Welsh Government	0	0
CCC	8.0	8.0
Total invested (£m)	**8.0**	**8.0**



The percentage of **Red** at this level of investment increases marginally from 10% to 11% at 10 years and 13% in 20 yrs.
The percentage of **Green** increases from 49% to 59% at 10 years and to 31% at 20 years, with a reduction of roads in the amber category.

This provides for an almost steady state and a modest improvement is predicted in the percentage of highway in good condition with the length of roads in poor condition remaining relatively stable. Additional up-front investment aimed at clearing the maintenance backlog (estimated at £22m), in addition to the steady state budget, would further reduce the length of roads in poor condition. In addition to road condition

improvement there will be a corresponding reduction in reactive and emergency repairs and abortive costs and a reduction in claims against the authority.

Conclusion

The current level of investment in the highway network is considerably below that necessary to maintain it in a stable condition. Each year this cumulative deficit increases the maintenance backlog and results in the continuing deterioration of the road network. Unless a significant and sustained investment is made in maintaining our highway infrastructure the following trends are expected to continue:

- The maintenance backlog will increase as roads continue to deteriorate.
- More revenue resources will be required for pothole repairs at the expense of other work areas.
- Pothole numbers will continue to increase along with public complaints.
- Claims for damages will increase and repudiation levels will decrease.

2.4 Highway Drainage

Our highway drainage infrastructure should take surface water off the carriageway to ensure roads are safe and accessible. This system of pipes, culverts, gullies, and grips is an aging and predominantly unmapped asset which will be of increasing importance as climate change increases wet weather.

The Council has invested £250k capital funding for five years (2022-2027) to improve highway drainage systems which is being used to undertake survey and remedial works.

To better understand the condition of our drainage systems, surveys have been carried out on sections of our A road network by specialist survey teams. To date we have surveyed 168 km of our key routes including:

- A484
- A485
- A482
- A4138

The surveys have recorded and mapped:

- 130km of pipework
- 9833 point items including manholes and gullies.

All of these have been graded and photos and video evidence recorded. Survey work in 2023/24 will provide an additional 15km of data on the A474, A4069 and A4068.

The surveys so far have shown that **18%** of our drainage pipes are either **Blocked or Unsafe** or **Performance severely reduced** (this amounts to over 20km of pipework). Structurally, **8%** are graded as **Not fit for purpose** or as having **Major defects**.

Where possible high-pressure jetting has been used to clear blockages during the survey works and the survey results have then been used to develop a programme of remedial works. This has so far resulted in:

- Blocked pipes – programme of 60 locations on main routes to remove blockages.
- Asset renewal – Replacement of failed pipework at 6 locations
- Scheme preparation – Development of Asset replacement schemes in 2024-25 at 4 locations

Whilst the investment programme is providing key asset data and helping to address points of failure the survey results indicate that the programme should be beneficially extended beyond the 5-year period.

2.5 Footways and Cycleways

Our footway and cycleway networks play an important role in facilitating sustainable modes of travel and directly support the Active Travel agenda. The County Council has set out its ambition of being the cycling hub of Wales and the HAMP has an important role in supporting our adopted cycling strategy.

Footways are currently inspected on a regular basis alongside carriageway inspections and a methodology is being developed for cycleway inspections. A footway and cycleways hierarchy and maintenance regime will be developed as part of our maintenance manual.

Footways and Cycleways Assets
• Carmarthenshire's footway/cycleway network is extensive at over 1000km. • On road cycle-lanes – 2.6km • Dedicated cycle-tracks/shared use paths – 23.3km • On road cycle routes (e.g., National Cycle Network) – 126km

In 2022/23 we were obliged to spend £126,503 of the revenue budget on reactive footway repairs and invested £265,000 of Capital funding in footway refurbished at:

- Heol Spurrell, Carmarthen
- Login Square, Login
- Lime Grove, Carmarthen
- Pontyberem Hall
- Brandyway, Pontyberem
- Llannon Road Upper Tumble
- Heol Hathren, Cwmann
- Bridge St, Llangennech
- Bryn Road, Seaside
- Maes Tomos, Trimsaran
- Tirwaun, Burry Port
- Coed y Clun, Trimsaran

There is no capital funding for footway refurbishment in 2023/24.

Section 3 – Bridges and Structures

3.1 Bridges and Structures Introduction

Carmarthenshire has an extensive highway network, the second largest in Wales, and providing vital support to that network there are some 1958 structures consisting of:

- 799 highway bridges
- 50 footbridges
- 575 retaining walls (cumulative length 19Km)
- 529 large culverts
- 5 subways

These structures provide a largely unseen but nevertheless key role in supporting the highway network. These structures have been built over a wide timespan and vary considerably in the materials and construction methods. Fifty-five of the structures are also listed meaning that they require additional care and attention when carrying out maintenance.

These structures are relied upon to remain in service year after year and accommodate changes in traffic and vehicle loadings and weather impacts.

All structures are inspected and assessed on a scheduled basis in accordance with national standards to provide detailed information on asset condition. Safety defects are identified and addressed in a prioritised manner, and the data gathered informs effective maintenance management and planning of our highway structures.

At the close of 2022-23 there were 47 bridges that were assessed as sub-standard with 4 structures being strengthened in 2023/24 bringing the total down to 43. Of these, 6 bridges are weight restricted.

Where required, regular monitoring inspections are being carried out on all sub-standard bridges which are managed in accordance with strict technical standards to keep these structures in service and maintain their safe operation. The recommended period for monitoring is 2 years and a review of assessments and interim measures commenced this year to ensure the appropriateness of the current monitoring regime. In accordance with Technical Standards, monitoring of sub-standard structures should be for a defined period. Should sufficient funding not be forthcoming, then the number of structural weight restrictions on the highway network will increase as the condition of structures deteriorates.

It is estimated that the cost of strengthening the remaining sub-standard structures is of the order of £5.1 million. It is also estimated that the maintenance backlog on highway structures is £13.8 million giving a combined total maintenance/strengthening backlog of circa £19 million.

In addition to on-going maintenance of existing structures stock, in 2022-23 there were 21 highway support failures which can be attributed severe weather events, historic underfunding of drainage maintenance, additional impact from increased traffic volumes and larger agricultural vehicles on the highway network. Each failure usually requires a structural intervention and often results in a new asset to maintain.

Scour Assessments

A large proportion of the bridge stock, especially those located on fast flowing rivers, are susceptible to scour. The risk of scour is significant with an increasing number of flood incidents and the impacts of climate change. National guidance recommends a formal review is carried out following appropriate technical standards and Carmarthenshire has commenced its review. Following the initial review of all 799 bridges, 207 were identified as requiring a Level 1 Scour Assessments which have been completed this year. Structures identified as requiring Level 2 Scour Assessments are currently being reviewed and assessments will be carried out 2023/24 and into 2024/25, subject to available funding.

Inspection Training

As part of our review of practices to comply with recommendations of the 2018 Code of Practice, CSS Wales are developing accreditation for Structures inspections. Our inspection team are in the process of under-going a competency assessment to ensure our inspections are carried out to the required standards. Final accreditation was delayed in 2021 due to COVID restrictions however this is expected to conclude in 2023/24.

Bridge Improvement Works

Revenue funding in 2023 has remained steady and allows reactive and routine maintenance works to be undertaken. There is however an estimated £13.8m backlog of repair and preventative works which should be considered for funding. The structures unit is prioritising funding for planned maintenance to improve access to structures and ensure basic maintenance visits to all structures on a 2 yearly cycle. This may reduce contingency funds available for unplanned failures.

A programme is underway to continually reduce the number of sub-standard structures year on year. This also reduces the burden and liability of maintaining the enhanced inspection regimes required for sub-standard structures and the inconvenience for road users. This programme is set out in the table below.

Bridge Upgrade Programme - 2022-25		
2022-23 - £1,025,845	2023-24 - £809,427.09	2024-25 - £400,000
Railway Inn Llanpumsaint - Bridge Replacement	Bridgend Inn Culvert, Pontamman – Bridge Replacement	Garregllys Bridge, Whitemill – Bridge Replacement
Glanrhyd Bailey Bridge, Cilycwm – Bridge Replacement	Pont Y Pentre, Llannon – Bridge Replacement	Cwrtygollen Bridge, Llandovery – Bridge Replacement
Danrheol Bridge, Meidrim – Bridge Strengthening	Mynyddygarreg Bridge – Bridge replacement	Glanyrannell Bridge, Caio – Bridge Replacement Scheme
	Tan Y Berllan, Ffairfach – Bridge Replacement	

Glanrhyd Bridge replacement 2023

Prioritisation of Overall Funding Needs
Using the structures priority matrix for funding we consider the following:

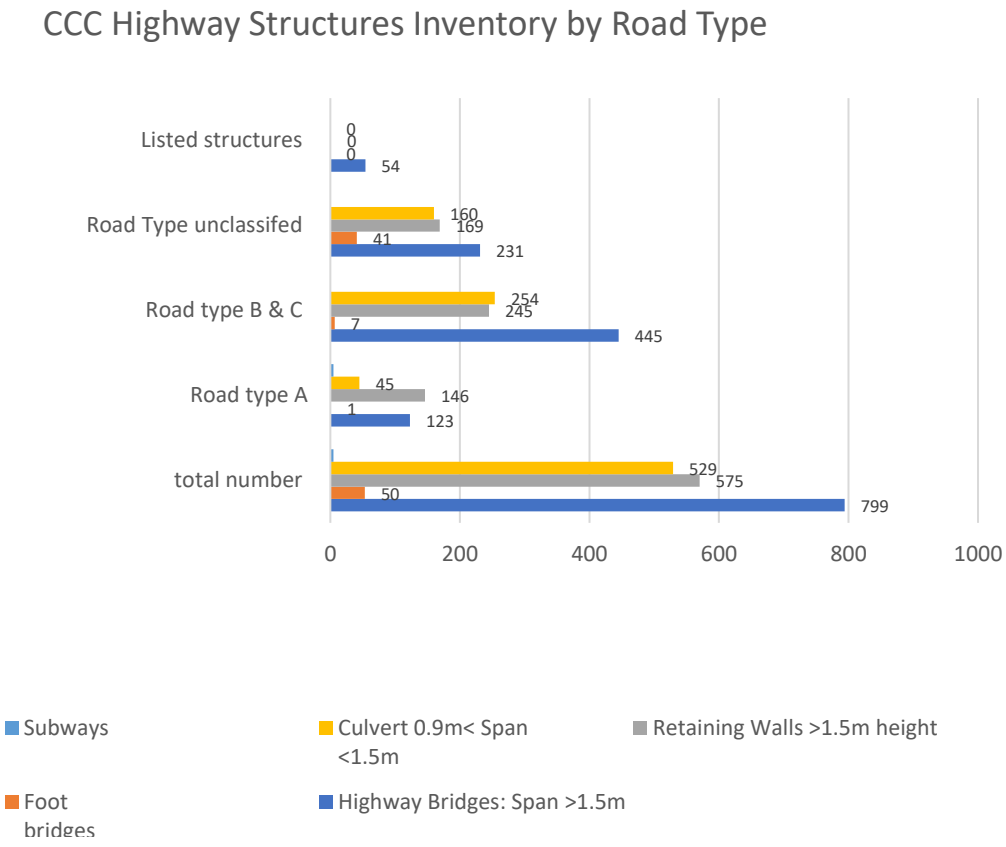
- Road Hierarchy
- Structural condition
- Access/community impact
- Network issues
- Traffic management impact

The following section provides detail on the status of our structure's assets, their condition and investment options for their continued maintenance.

3.2 Bridges and Structures Status

Asset Group: Highway Structures

The Asset



- Bridge inventory is stored in the WDM Asset Management System (WDM)
- Data is updated as part of the routine General Inspection regime of structures.
- Growth in the structures' asset has been minimal in the last five years. The increase in numbers is related to new highway retaining structures to address highway support issues coupled with the construction of new structures.

Asset Group: Highway Structures

Inspection Statistics	No.
Number of bridges requiring principal inspections – 6 years	42
Number of principal inspections scheduled	2
Number of principal inspections on time	2
Number of structures requiring general inspections 22/23	757
Number of planned general inspections	757
Number of general inspections on time	757

- 42 structures are subject to Principal Inspection (PI). The remainder are subject to General Inspections (GI).
- PIs were resumed in 22/23 following suspension in 20/21 due to COVID restrictions.

Structural Condition

Assessment Statistics	No.
Number of privately owned bridges within council's road network that failed assessment	5
Number of council owned / maintained bridges subject to monitoring / special inspection regimes	47

- 5 privately owned bridges are owned by Network Rail (3no.) and Sustrans (2no.). Two of these have since been strengthened to 40 tonne live loading standard

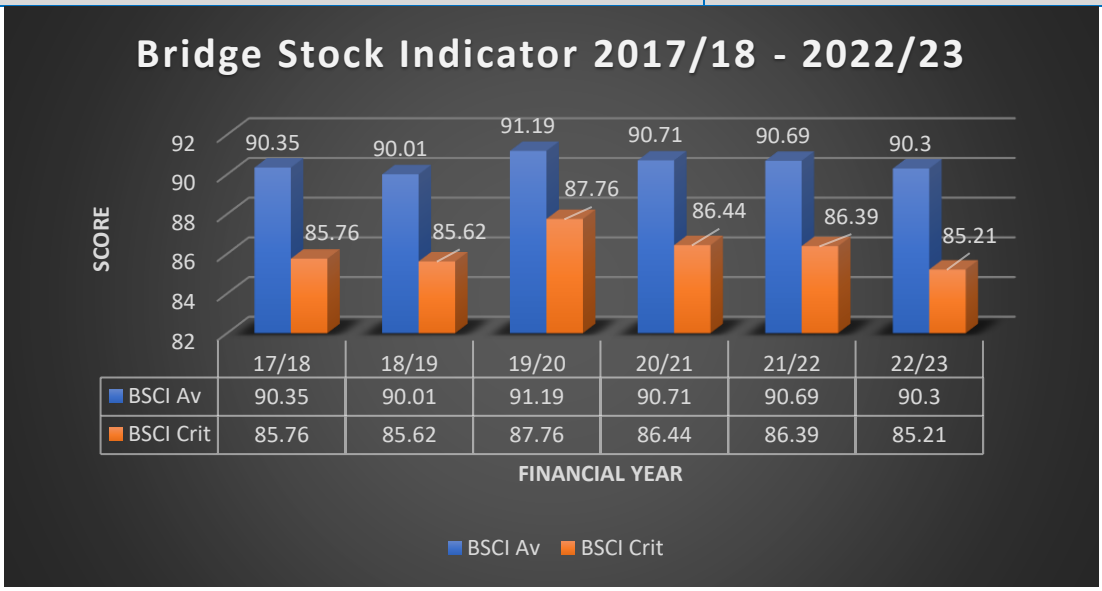
Weight and height Restrictions

Weight Restrictions	No.
Number of council owned / maintained weight restricted bridges (excluding acceptance weight restriction)	6
Number of council owned / maintained height / width restricted bridges	1

Of the 6 weight restricted bridges, 1 is programmed for upgrading in 2023/24. There are 17 height restrictions in the county, mainly Network rail structures, with 1 being the responsibility of Carmarthenshire County Council at Llanpumsaint.

Asset Group: Highway Structures

Bridge Condition Indicators



Definition:

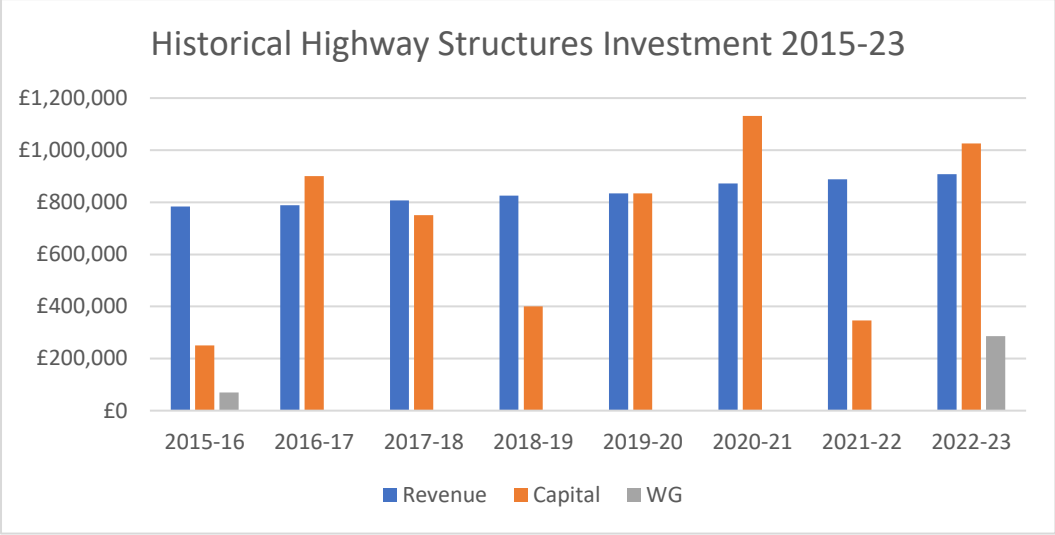
BCIAv is the average BCI for a bridge evaluated considering the condition of all structural elements in a bridge.

BCICrit is the critical BCI for a bridge evaluated considering the condition of those elements deemed to be of very high importance to the bridge.

BSCIAv and BSCCrit are the average and critical condition index for a bridge stock evaluated using the BCIAv and BCICrit values for all bridges in the stock.

The 2022-23 BSCIave of 90.30 and BSCIcrit of 85.21 indicate that the highway structures are in a good to very good condition (score of 80-100 in accordance with CSS Wales performance indicators. There are concerns nationally that the condition ratings do not adequately represent true structural condition and as a result a review is underway to re-evaluate the scoring matrix. These scores do not consider sub-standard assessment ratings.

Whilst the overall figure is good, the lower condition scores this year does represent some deterioration.

Asset Group: Highway Structures		
Historical Investment		
	• Planned works comprise of maintenance programmes which target renewing the asset. • Reactive works are smaller scale defects which require repair to reduce safety issues. Budgets are based on historical costs. Such works are funded from the revenue budget.	

Strengthening / Replacement

By the end of 2022/23 there will be 47 structures located on the highway network that whilst in safe operation, are considered sub-standard in terms of their load carrying capacity. There are also several structures, due to their overall poor condition, which have been included for replacement. Detailed design is currently being carried out on 16 structures, with a high priority being assigned to structures with a high scoring derived from the priority matrix.

Carmarthenshire has the second highest number of sub-standard structures across all 22 Welsh authorities.

Rank	Local Authority	Number of bridges	Number of substandard bridges	Proportion of substandard bridges
1	Conwy	278	57	21%
2	Carmarthenshire	799	50	6%
3	Powys	1399	43	3%
4	Monmouthshire	400	22	6%
5	Gwynedd	631	18	3%
6	Swansea	157	12	8%
7	Cardiff	113	11	10%
8	Denbighshire	164	10	6%
9	Bridgend	175	9	5%
10	Torfaen	189	9	5%

Note: Figures based on 2022 data. Carmarthenshire now has 47 sub-standard structures.

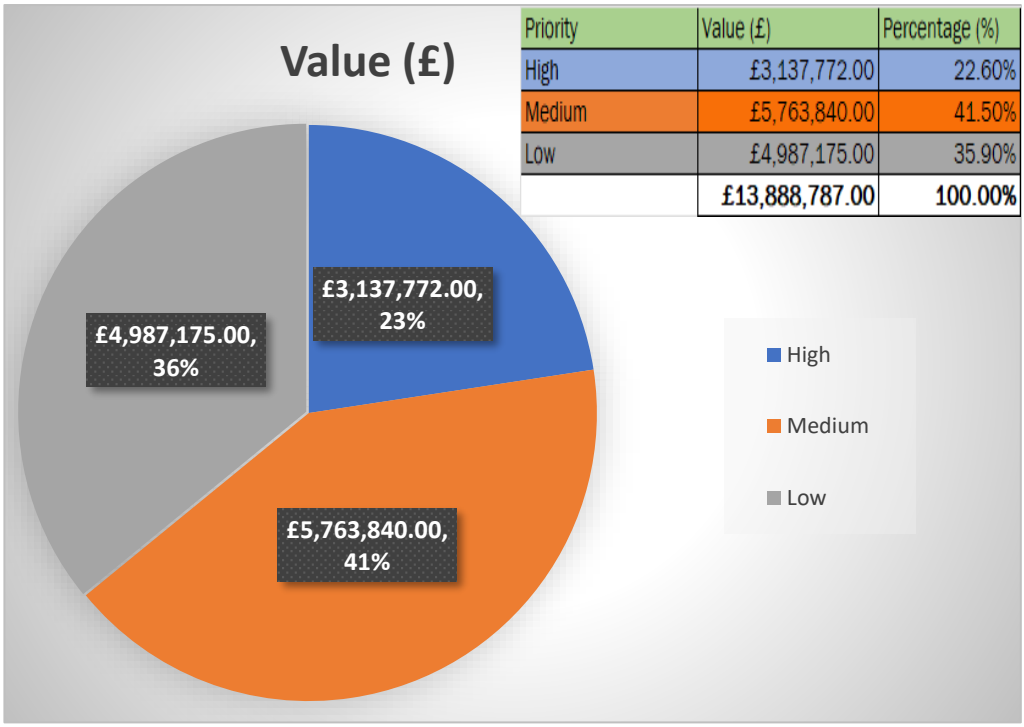
The repair or replacement of sub-standard structures is funded through council capital investment of £400k per year. The overall estimated cost of addressing the 47 sub-standard structures is £5.1 million. With current levels of funding this will take approximately 12 years to complete the programme as a minimum, and assuming no other major structural work is funded by this budget during this period.

Monitoring sub-standard structures for a further 12 years places the authority at risk, as the condition of structures may deteriorate. Addressing the backlog over a shorter period is recommended. An increase of Capital budget to £850k per annum for bridge strengthening would accelerate the programme for substantial completion over 6 years. Higher risk structures would be addressed in the early part of the programme.

A budget of £1m per annum would complete the programme in 5 years and this option is recommended due to the on-going risk of deterioration and the monitoring programme being significantly beyond that recommended in technical standards.

Maintenance Needs

The following figures are derived from the Department's Bridge Management System and relates to the estimated cost of addressing defects identified by the Bridge Inspectors as part of biennial General Inspections. The work is categorised as high, medium, and low priority in a scoring matrix which uses factors including extent, severity, and defect type. The overall cost is termed the work bank total.



Priority	Value (£)	Percentage (%)
High	£3,137,772.00	22.60%
Medium	£5,763,840.00	41.50%
Low	£4,987,175.00	35.90%
	£13,888,787.00	100.00%

3.3 Bridges and Structures Summary

The bridge stock has remained stable in terms of the Condition Performance Indicators since 2016/17 with a marginal deterioration but it should be noted that this rating does not include sub-standard structures.

The high number of sub-standard structures presents a risk to the authority and places a pressure on the Structures Team due to the enhanced management regimes required.

Continued investment in our bridges and structures is essential to maintain continuity of our highway network. To tackle the current maintenance backlog and to upgrade our sub-standard structures requires investment of £18.9m.

Historically, revenue funding has been focussed on reactive repairs which often require urgent attention. A more pro-active approach to carrying out repairs at an early stage of identification will reduce more costly repairs in the future. This planned approach may place pressure on revenue budgets for larger repairs or structural failures in the shorter term and additional Capital funding will be required going forward to address emergency repairs previously funded from planned maintenance budgets.

Section 4 – Public Lighting and Traffic Signals

4.1 Public Lighting Introduction

Our street lighting system includes over 20,000 lighting units. We also manage 5000 units for our Town and Community Councils. The Public Lighting Team have implemented a Carmarthenshire wide LED replacement project in partnership with Town and Community Councils.

This project has reduced carbon emissions, lowered energy costs and improve light quality. The project is estimated to save 2.4 million Kwh which equates to 1,200 tonnes of CO_2 emissions each year.

The introduction of energy efficient lighting has also helped cushion the Council, to an extent, against the significant rise in energy prices. In 2022/23 energy costs were £900,000. This has risen to £1.5M which is substantially less than the £2.5M it would have otherwise cost the authority had it not been for the LED programme.

The Public Lighting Team have also introduced new technology to enable mobile working so that lighting surveys, checks and works can be recorded electronically in place of the previous paper-based system.

There are two significant challenges for the Public Lighting Team:

- Ageing lighting columns need to be replaced to avoid the risk of collapse.
- Underground electrical cabling which is perishing.

In addition, the Public Lighting Team also manage our stock of illuminated traffic signs and our permanent traffic signals.

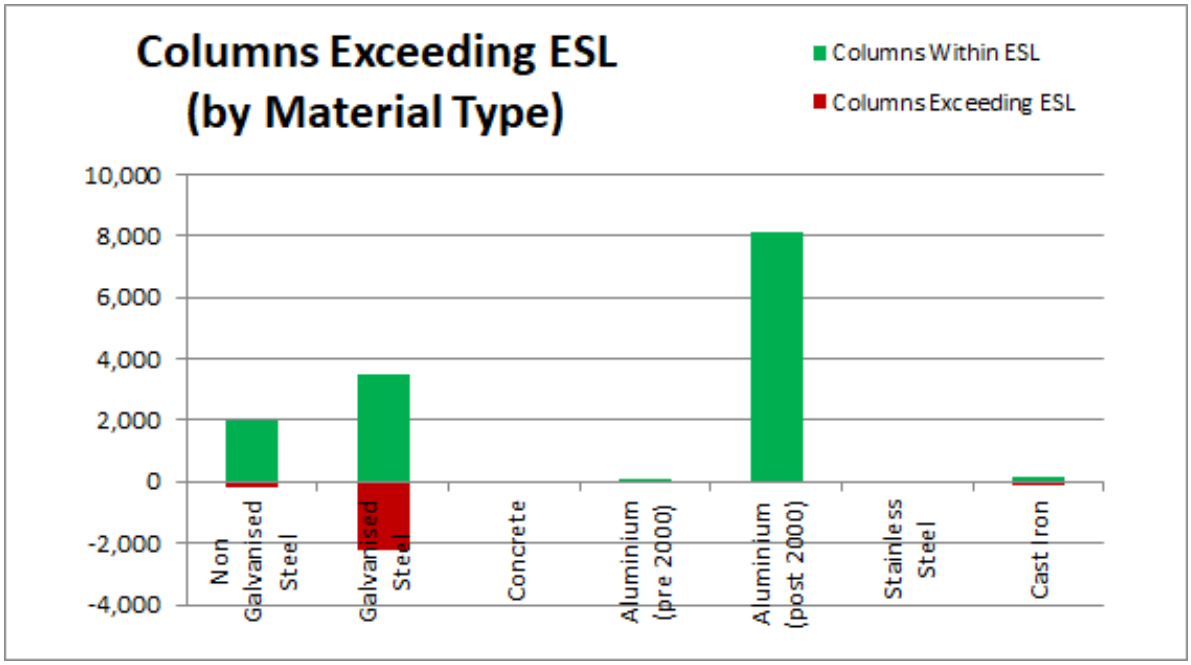
- There are around 304Km of underground electric cables supplying lighting units. Often the cable in not ducted and is more prone to perishing in the ground. This is leading to an increasing number of cable faults and power outages and presents a safety concern.
- A funding bid for cable renewal has been unsuccessful to date.

4.2 Lighting Columns

There are currently 20,600 street lighting units which includes bracketed units on third party wooden poles. This figure grows by variable amounts every year as new lighting either through highway improvements or new development is adopted.

There is a risk of lighting column failure and collapse which is largely related to the age of the column and type of material used. Regular inspections help to reduce the risk of failure and high-risk columns are removed immediately.

The age of a street lighting column and its construction material can be used to provide a broad assessment of structural condition and Expected Service Life (ESL) of the column. This is represented for the range of lighting columns in use throughout the County in the graph below.

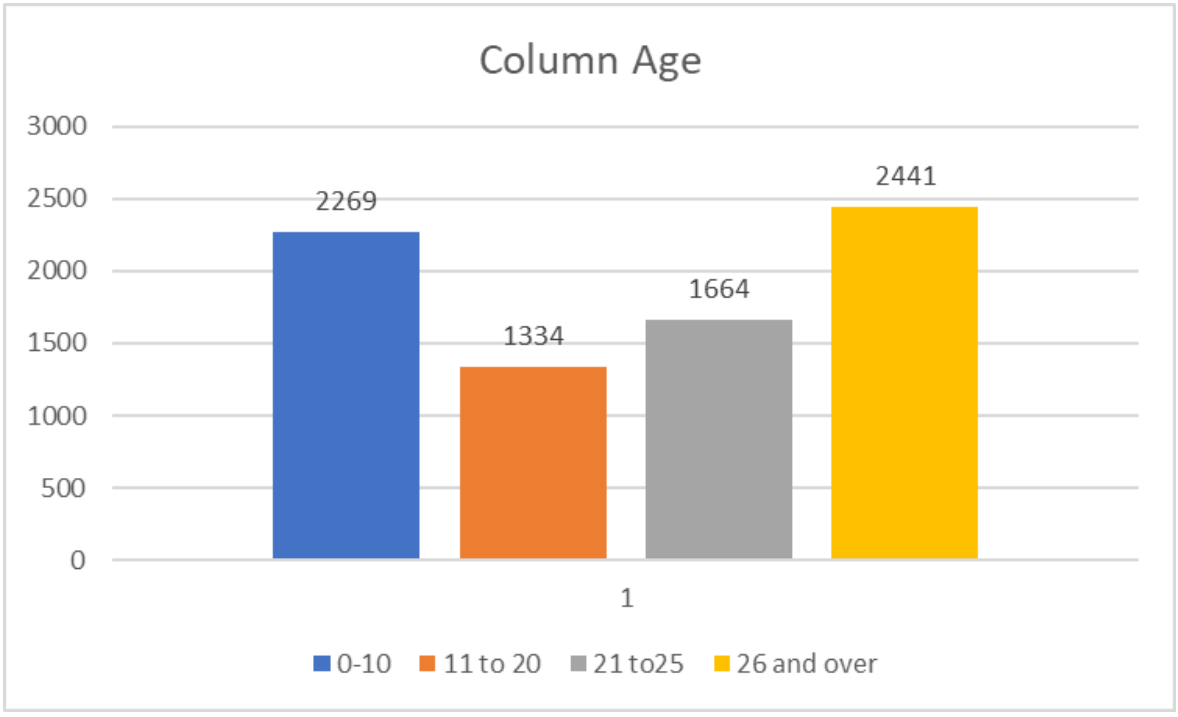


Existing steel columns are a key concern. These columns are considered to have an ESL of up to 25 years before replacement and columns exceeding their ESL are subject to a management regime with periodic inspections.

Based on current data 32% (2441 out of 7708) of our metallic lighting columns/brackets exceed their expected service life.

Capital funding is in place has been secured for a column replacement programme which will enable the replacement of approximately 400 columns each year from 2024/25, and these will be prioritised to target the older life-expired steel columns which present the greatest risk of collapse. 150 life expired columns were taken down and replaced last year.

The graph below shows the age profile of these metal columns and identifies the number currently beyond their Expected Service Life.



Column Age Profile

Underground Electrical Supply Cable

Perished Underground Electrical Cabling

The County Council is responsible for approximately 304km of underground electrical supply cabling which has been in operation for a substantial period of time. In many instances, precise records regarding its exact age and cable type are not readily accessible. In addition, a notable portion of the cable infrastructure is not ducted which renders it more susceptible to deterioration when buried underground.

Numerous concerning instances have been experienced regarding aluminum-armored cables within our public lighting infrastructure. These problematic installations predominantly stem from legacy of older, de-trunked road networks, characterized by their extended circuit lengths compared to conventional highway lighting systems. This unique challenge has necessitated a closer examination of the situation, with a focus on the following key aspects:

- **Aging Infrastructure:** The presence of aluminum conductors and armor in legacy systems underscores the significance of aging infrastructure. As these components deteriorate over time, they become increasingly susceptible to faults and degradation.
- **Circuit Length:** Old Trunk road networks typically feature longer circuits, which can subject aluminum-armored cables to additional stresses and environmental factors that can accelerate wear and tear, making them more prone to faults.

- **Maintenance Requirements:** The evolving needs of these older networks necessitate a reevaluation of maintenance protocols and schedules to address the specific challenges posed by aluminum-armored cables.
- **Upgrading Strategies:** Consider is required of the feasibility and benefits of upgrading these aging systems to more modern and robust materials that offer enhanced reliability and longevity.
- **Safety Implications:** Faulty cables within public lighting infrastructure can pose safety hazards and increase operational costs. Addressing these issues is crucial to ensure the safety and well-being of road users and the efficient operation of the lighting network.

It is imperative that the County Council works collaboratively to implement effective solutions, prioritize maintenance, and consider potential upgrades to safeguard the integrity and reliability of our public lighting systems, particularly within the older aluminium cable networks.

To achieve these objectives, it is essential that funding is made available to support the implementation of these vital initiatives. Securing capital funding is crucial for the comprehensive improvement and modernization of our aging infrastructure, ensuring its continued efficiency and safety for the benefit of our community.

4.3 Illuminated Traffic Signs

Carmarthenshire has over 3,400 illuminated signs and bollards on the highway network. All new installations are specified to be LED sign lights and solar bollards.

The Public Lighting Team are currently assessing a project proposal aimed at reducing the use of unnecessary traffic sign illumination and transitioning to more energy-efficient LED units.

This initiative has been aligned with the ongoing 20mph speed limit rollout, which has, in fact, mandated the introduction of additional illuminated road signs across the county, in accordance with Welsh Government regulations. It's important to acknowledge that implementing this proposal will involve a capital expenditure.

4.4 Traffic Signals and Pedestrian Crossings

There are 80 Traffic signal installations on the Highway network (there were 74 facilities reported in 2022).

These are made up of 60 pedestrian crossings, up from 54 in 2022, and 20 Traffic Signal junctions.

These assets are regularly inspected and are maintained by externally procured contractors who also provide an Out of Hours service to deal with emergencies.

Appendix. A. – Road Condition Deterioration Forecasting

Condition forecasting methodology
This has been carried out using a forecast model developed by the County Surveyors Society Wales CSSW Road Asset management project. The tool is intended for use by Welsh authorities to assist in Asset Management and budget planning. The results are considered realistic and demonstrate the impact of a continued reduction in real terms investment in the highway network, against a backdrop of increasing traffic volumes and user expectation. Reductions in preventative maintenance are leading to higher levels of reactive repair placing further pressure on the reducing revenue resources. Unplanned works are by nature less economical and increase safety risk for road users and increased risks to the authority and are less environmentally friendly due to wasted resources. The calculations are based on depreciation of the existing highway network and using known treatment costs and current condition values from SCANNER data. The condition indicator used in the examples is a combined indicator across all road classes and provides an indication of the likely effect of current budget levels on actual carriageway condition across the County.