



County Hall  
Cardiff  
CF10 4UW  
Tel: (029) 2087 2000  
  
Neuadd y Sir  
Caerdydd  
CF10 4UW  
Ffôn: (029) 2087 2000

## AGENDA

**Pwyllgor** PWYLLGOR CRAFFU AMGYLCHEDDOL

**Dyddiad ac amser y cyfarfod** DYDD IAU, 11 MAI 2023, 4.30 PM

**Lleoliad** YB 4, NEUADD Y SIR, CYFARFOD AML-LEOLIAD

**Aelodaeth** Cynghorydd Owen Jones (Cadeirydd)  
Y Cynghorwyr Derbyshire, Gibson, Green, Lancaster, Lloyd Jones,  
Jackie Parry, Proctor a/ac Wood

Tua  
Amser.

### 1 Ymddiheuriadau am Absenoldeb

Derbyn ymddiheuriadau am absenoldeb.

### 2 Datgan Buddiannau

I'w wneud ar ddechrau'r eitem agenda dan sylw, yn unol â Chod Ymddygiad yr Aelodau.

### 3 Cofnodion (*Tudalennau 5 - 14*)

Cymeradwyo cofnodion y cyfarfod blaenorol fel gwir gofnod o'r cyfarfod ar 24 Ebrill 2023.

### 4 Cynllun Rheoli Asedau Priffyrdd (*Tudalennau 15 - 162*)

4.35 pm

Eitem cyn penderfynu.

### 5 Caffael Trafnidiaeth Teithwyr (*Tudalennau 163 - 188*)

5.35 pm

Eitem cyn penderfynu.

### 6 Busnes y Pwyllgor (*Tudalennau 189 - 192*)

6.35 pm

Derbyn diweddariad ar argymhellion agored a wnaed gan y Pwyllgor

**7 Eitemau brys (os oes rhai)**

**8 Y Ffordd Ymlaen**

6.45 pm

Adolygu'r dystiolaeth a'r wybodaeth a gasglwyd yn ystod y cyfarfod, cytuno ar sylwadau, arsylwadau a phryderon yr Aelodau i'w hanfon at yr Aelod Cabinet perthnasol gan y Cadeirydd.

**9 Dyddiad y cyfarfod nesaf**

**Davina Fiore**

**Cyfarwyddwr Llywodraethu a Gwasanaethau Cyfreithiol**

Dyddiad: Dydd Gwener, 5 Mai 2023

Cyswllt: Graham Porter, 02920 873401, [g.porter@caerdydd.gov.uk](mailto:g.porter@caerdydd.gov.uk)

## **GWE-DARLLEDU**

Caiff y cyfarfod hwn ei ffilmio i'w ddarlledu'n fyw a/neu yn olynol trwy wefan y Cyngor. Caiff yr holl gyfarfod ei ffilmio, heblaw am eitemau eithriedig neu gyfrinachol, a bydd y ffilm ar gael ar y wefan am 12 mis. Cedwir copi o'r recordiad yn unol â pholisi cadw data'r Cyngor.

Gall aelodau'r cyhoedd hefyd ffilmio neu recordio'r cyfarfod hwn

Ar ddechrau'r cyfarfod, bydd y Cadeirydd yn cadarnhau a gaiff y cyfarfod cyfan neu ran ohono ei ffilmio. Fel rheol, ni chaiff ardaloedd y cyhoedd eu ffilmio. Fodd bynnag, wrth fynd i'r ystafell gyfarfod a defnyddio'r ardal gyhoeddus, mae aelodau'r cyhoedd yn cydsynio i gael eu ffilmio ac y defnyddir y lluniau a recordiadau sain hynny o bosibl at ddibenion gwe-ddarlledu a/neu hyfforddi.

Os oes gennych gwestiynau ynghylch gwe-ddarlledu cyfarfodydd, cysylltwch â'r Gwasanaethau Pwyllgorau ac Aelodau ar 02920 872020 neu e-bost [Gwasanethau Democrataidd](#)

Mae'r dudalen hon yn wag yn fwriadol

## ENVIRONMENTAL SCRUTINY COMMITTEE

24 APRIL 2023

Present: Councillor Owen Jones(Chairperson)  
Councillors Derbyshire, Gibson, Green, Lancaster, Lloyd Jones,  
Proctor and Wood

## 77 : APOLOGIES FOR ABSENCE

Apologies were received from Councillor Parry and Shifa Shazad

## 78 : DECLARATIONS OF INTEREST

Councillor Owen Jones declared a personal interest in Item 4 and Item 5 on the agenda as a Board Director of Cardiff Bus.

## 79 : MINUTES

The minutes of the meetings held on 27 February and 16 March 2023 were approved by the Committee as a correct record and signed by the Chairperson.

## 80 : CASTLE STREET - CITY CENTRE TRAFFIC MANAGEMENT ARRANGEMENTS

The Committee received a report providing Members with an opportunity to undertake pre-decision scrutiny of a report due to be considered by the Cabinet on 27 April 2023 regarding the implementation of air quality and traffic management proposals in Castle Street.

Members were advised that the Cabinet report sets out two options. Multi-modal traffic simulation software was used to assess the local impact of either option, providing detailed visualisation and statistical data, in addition to an updated Air Quality assessment.

In 2018, the Welsh Government issued a legal Direction requiring the Council to comply with the EU limit value for nitrogen dioxide (NO<sub>2</sub>) found in air. The two options considered are:

- Option 1 'All Traffic':

This scheme is the previously approved design included in the Council's Clean Air Plan. The scheme allows general traffic to access the area under reduced capacity, whilst also providing segregated cycling facilities, bus priority and public realm improvements. The design for this option is included in Appendix 3 of this report.

- Option 2

'Bus Gate': A variation on Option 1 where general traffic is restricted from using the street as a through-route. The scheme provides a segregated cycle lane, bus and taxi access through bus gating, and improved public realm via an extension to the

pavement on the south side. The design for this option is included in Appendix 3 of this report.

Both options achieve air quality compliance in Castle Street. However, Option 2 would result in a net gain of NO<sub>2</sub> concentrations in the wider network.

The Chairperson welcomed Councillor Dan De'Ath, Cabinet Member for Transport and Strategic Planning, Andrew Gregory, Director of Planning, Transport and Environment, Claire Moggridge, Head of Transport and Gethin Shields, Transport Programme Manager to the meeting. Following a statement from the Cabinet Member the officers were invited to deliver a presentation on the proposals.

The Chairperson opened the debate. Members were invited to comment, seek clarification or raise questions on the information received. Those discussions are summarised as follows:

- Members asked what permanent changes would be implemented in Castle Street to prioritise pedestrians and cyclists, in particular in relation to segregated cycle lanes. Officers confirmed that the temporary barriers currently in place on cycle lanes would be removed and replaced with curbed segregation as part of the permanent scheme. The scheme would also incorporate safe spaces for pedestrians and segregated bus stops that will improve safety for bus users getting on and off buses. A taxi rank/loading bay will also be provided at the southern end of the scheme near Duke Street.
- Officers were asked to provide additional detail in relation to the City Centre parking zones aspirations. The Head of Transport advised that a proportion of traffic in an around the city centre will navigate the area looking for free on-street car parking. Part of the considerations for the Castle Street scheme is the impact on the wider area. Each of the parking zones identified will have different criteria and will aim to remove traffic movements by commuters looking for parking spaces in residential areas.
- Officers confirmed that the original scheme proposed to infill the underpass on the junction of North Road and Boulevard de Nantes. That proposal will not be taken forward as part of the Castle Street scheme due to cost but if may considered in the future.
- Responding to a question from the Committee, the Cabinet Member stated that the decision in relation to the proposed scheme would improve air quality and would be evidence based. The Head of Transport stated that modelling showed closing Castle Street at this time would have a negative impact on the immediate residential areas and affect bus journey times. However, moving forward as viable alternative public transport options are introduced across the City then the decision to close Castle Street can be reviewed.

- Members asked whether wider air quality aspects, such as particulate matter, have been considered. The Director stated that the air quality consultants provided the broadest picture in terms of NO<sub>2</sub> and particulate matter and those issues will inform decisions on the wider transport network.
- Members asked what the alternative options were being looked at should funding for the scheme not come forward from Welsh Government and what effect this would have on future compliance. The Director stated that Welsh Government have been extremely supportive. The scheme is compliant and is reliant on the funding being made available.
- Officers were asked to comment on the veracity of the modelling undertaken. Officers stated that the modelling is comprehensive. Three sets of modelling has been undertaken. Modelling in its local context is used to inform decisions and design options. Local modelling also underpins the South East Wales regional model. A specialist consultant has been appointed to oversee the modelling and provide a summary report. Monitoring stations are in place on site and that data confirms the accuracy of the modelling. Modelling is also reviewed by the Welsh Government.
- Members asked whether consideration has been given to whether Option 2 would be reconsidered should NO<sub>2</sub> levels reach or exceed acceptable limits. Officers stated that live air quality monitoring in place in Castle Street would continue to monitor air quality. If NO<sub>2</sub> levels were breached then Cabinet would need to reconsider the matter. The Cabinet Member said that closing Castle Street at this time would have a negative impact on the neighbouring areas.
- Members asked whether any action has been taken to assess the potential negative impact the dissipation of traffic would have on people in surrounding areas. The Director stated that this would be a key consideration in any the modelling undertaken. The impact from the scheme on surround areas would be compliant. However, the authority is mindful that evidence is emerging that any level of air quality deterioration has a negative effect on health and some areas of the city, particularly inner city wards, are affected more than others. This will inform longer-term decisions about the transport network in the city.
- Responding to a question from the Committee regarding the potential for future non-compliance on the A48 in the Gabalfa area, the Head of Transport stated that air quality would be managed continuing to reallocate available road space to active travel and bus routes.
- Officers confirmed that traffic light signalling system is configured to keep traffic flow moving.

- The Cabinet Member advised that the Cardiff Bay metro link and associated redevelopment of Callaghan Square, and this impact that would have on the wider network, was the primary consideration affecting the Cabinet's decision.
- The Director stated that a conversation is ongoing with bus operators regarding a detailed plan for the strategic bus network and that would issue would be reported to the Committee at a future time.
- Members asked whether consideration would be given to rescheduling closures of the Butetown Tunnels. Officers stated that the closures of the Tunnels and any other decisions on the wider network would be reviewed in line with the reduced capacity in Callaghan Square and the development of the indoor area in Cardiff Bay.

RESOLVED – That the Chairperson writes to the Cabinet Member on behalf of the Committee to convey any comments, observations and recommendations made during the way forward.

## 81 : CITY WIDE TRAFFIC MANAGEMENT UPDATE

The Committee received a report providing Members with an opportunity to undertake pre-decision scrutiny of a report due to be considered by the Cabinet on 27 April 2023 regarding the road user payment options.

Members were advised that the Council set out its 10-year sustainable transport strategy in the Transport White Paper. In order to achieve the objectives of the strategy more investment is required in transport infrastructure and services, and to address the challenges in relation to air quality, climate change, congestion and encourage growth in the Cardiff and the City Region.

Environmental levy options provide a potential opportunity for the Council to generate the revenue required to invest in transport and to increase walking, cycling and use of public transport. The Welsh Government has a strategy to develop a framework for fair and equitable road-user charging in Wales. The Wales Transport Strategy Llwybr Newydd framework will require secondary legislation. Developing a business case is necessary in order to work towards Cardiff Council and Welsh Government decisions on a future levy agreement.

Councillor Dan De'Ath, Cabinet Member for Transport and Strategic Planning, Andrew Gregory, Director of Planning, Transport and Environment; Claire Moggridge, Head of Transport and Jason Dixon, Operational Manager for Transport Development were present for this item. Following a statement from the Cabinet Member the officers were invited to deliver a presentation on the report.

The Chairperson opened the debate. Members were invited to comment, seek clarification or raise questions on the information received. Those discussions are summarised as follows:



- Members considered that any consultation undertaken on road charging was may be skewed as road users were unlikely to be in favour of bringing in charges. Members asked how this would be addressed. The Director accepted the point. However, it was considered that residents would be more willing to pay for the improvements in transport and air quality that will be delivered. It was critical that the engagement process address the outcomes in terms of low carbon targets, public transport and public health in the city. The Cabinet Member stated that the consultation would be lengthy, multi-layered and representative of a range of sections of the community. It would focus on how to address the difficult challenges faced by everybody.
- Members questioned how the required improvements in public transport alternatives will be funded ahead of the introduction a road charging scheme. Members were advised that the improvements being introduced ahead of the road charging schemes are realistic and fundable.
- Members asked how much revenue would be required to deliver £1 bus fares on key routes. Officers were asked how confident they were that road charging can deliver the level of revenue required to fund such a scheme. Officers stated that some modelling has been undertaken regarding the cost of £1 fares on key routes but this was contingent on improvements to the strategic bus network and engagement with bus operators. This was likely to require several million pounds and will be clearly defined moving forward. No modelling has been undertaken regarding the income generated by the various road charging scheme options to date. This will be undertaken as part of the business case for the comparative schemes and presented to Cabinet in due course. It was intended that reduced fares will be applied across all operators.
- Members asked how a reduced fare scheme would continue to be funded if car usage was reduced across the city, as intended. The Director accepted that the introduction of charging would result in behaviour change. Forward projections around this would form part of the business case work. Road charging has been introduced in cities around the UK and there is evidence to inform that work.
- Officers were asked whether road charging would be applied across all areas of the city, as some rural areas did not have alternative public transport options. The Cabinet Member stated that no decision has been made regarding the road charging model but accepted that public transport in rural areas needed to be improved and that is why road charging is being considered.
- Members asked how the economically deprived and those under the age of 35, who traditionally engage less, are fully involved in the consultation process. The Cabinet Member stated that a Youth Panel will be convened and all materials will be translated into child friendly language. There will also be an emphasis on engaging with under-represented groups.

- Members referred to the South East Wales Transport Commission's recommendation that travel alternatives must exist before local changes can be considered. The Committee questioned whether – rather than reduced fares – more effort should be made on improving the reliability and frequency of services. The Cabinet Member agreed and stated both reduced fare and the frequency and reliability of services will be prioritised. The Director stated that the bus services are fragmented and in need of improvement as more people are deciding not to use the bus and are using cars instead. The proposals set out in report aim to address this and encourage more people to use the bus.
- Members asked whether delays in providing travel alternatives would effect the timeline for the proposals and whether any road charging scheme should be gradually phased in across the city. The Cabinet Member stated that a few key sustainable travel improvements would be introduced prior to the roll out of road charging.
- A Member asked whether the introduction of a 20mph speed limit on roads across the city has achieved an increased walking and cycling and a reduction in congestion and whether these measures would be given an opportunity to 'bed in' before charging for road use. The Director stated that the 20mph limit is still being rolled out. It was not suggested that a 20mph limit policy will deliver health, environmental and economic benefits on its own but it was part of a wider transport policy.
- A Member noted that a poll in the local media resulted in 87% of respondents were against of a congestion charge. The Director stated that the engagement process has not yet started but it was important for residents to understand what is being proposed and the benefits to them. The challenge is to get people to understand how they can engage in the strategic issues facing the city. The Cabinet Member considered that a meaningful dialogue was necessary so that people understand any measure and the outcomes the administration is seeking to achieve. The Cabinet Member stated that Cardiff was in the top 10 cities in the world at risk of flooding and for elected representatives not the try to address the climate emergency would, in his opinion, be a dereliction of duty.
- Members noted the legal implications set out in the report that advised that the scheme should be referred to as 'road user charging' as per the legislative requirements. The Director also asked Members to note that the term referred to the principle of road user charging and was not in reference to any particular type of road user charging scheme.
- Members considered that those residents on lower incomes were more likely to drive less efficient vehicles. They were also more likely to contribute the least to carbon emissions and therefore, they should not be disproportionately penalised

by any road user charging scheme.

- Members asked whether a guarantee that funding to support public transport alternatives and that there would be no further cuts to bus services, particularly in Cardiff North, could be provided. The Head of Transport stated BES funding is being reviewed by the Welsh Government and there is a risk bus services could be affected, irrespective of whether road user charging is implemented. However, funding will be available and engagement is ongoing with bus operators concerning services based on the commerciality of routes and bus route removal. No guarantees can be given that routes will not be removed at this stage but the intention is to provide the best possible network that will have the ability to grow and service all areas of Cardiff.
- Members asked whether the authority and Welsh Government engage with train operators to ensure that ticket prices are affordable. The Head of Transport stated that officers work closely with Welsh Government and Transport for Wales (TfW). Decisions on ticket prices is a matter for train operators. It was hoped that single ticketing that will enable people to switch between various modes would make the cost more affordable. The Director stated that bus and train operators have fixed costs so with fewer people using services fares must increase. The intention is to increase patronage on these services – to double the number of bus and train journeys by 2030 – which will alleviate the pressure on price rises.
- It was noted that, whilst Welsh Government is promoting a regional approach to road user charging, some neighbouring authorities were against the introduction of road user charging. Members asked whether Cardiff would become less competitive as a result. The Director stated that Cardiff has a different economy to its neighbours. Cities that introduce road user charging are notably within the group of most successful cities and road user charging is not a disincentive.
- Responding to a point made by the Committee, the Cabinet Member stated that road user charging was not about penalising drivers and there was no suggestion that all journeys should be made on public transport. Any charge will be modest and road users would benefit from less congested roads.
- A Member asked whether there were any concerns that the introduction of road user charging lacked a democratic mandate and whether that would then affect the level of public acceptance of any scheme introduced. The Cabinet Member stated that the administration has made a manifesto commitment to deliver the Transport White Paper where road user charging is discussed extensively.
- A Member asked why road user charging was being introduced at this point in time and hadn't been considered earlier. The Director stated that as part of the One Planet Cardiff Strategy the costing of the initiatives required to reach carbon

neutral have only recently been forthcoming. The sums required to reach carbon zero are very substantial but there aren't apparent until analysis of the carbon benefits is undertaken. Evidence around the health benefits and the long term impact of poor air quality is also continually emerging.

- Members asked whether any support would be provided to enable the taxi fleet and bus fleet switch to EV vehicles. The Director advised that there is insufficient funding available and any scheme would need to address these issues as a priority. In principle, funding from the road charging scheme could be ringfenced and match funded by UK or Welsh Government but no decisions have been made.
- Members noted the responsibility the Council has to consider the implications of any decision it makes under the Wellbeing of Future Act. Members asked how the views of young people would feed into the consultation and how future generations would be factored in. The Cabinet Member stated a conversation was necessary and that consideration would be needed on how the city would look for decades to come.
- Members noted that EV vehicles were not included on the list of exemptions set out in the report. The Director stated that a clean air zone would focus on EV vehicles but that would not be the only exemption as that may advantage one section of the community over others. The list of exemptions was provided as examples and was not exhaustive.
- Officers confirmed that the list of public transport improvements to be implemented before the introduction of road user charging was fluid and allows for the service to respond to feedback received during the public consultation phase.
- Officers stated that the priorities for the future were set out in the Transport 10 Year Plan, including the Eastern Bay Link, the Coryton Line, the City Line, Bus Strategy. All schemes are interlinked and all were priorities.

RESOLVED – That the Chairperson writes to the Cabinet Member on behalf of the Committee to convey any comments, observations and recommendations made during the way forward.

82 : URGENT ITEMS (IF ANY)

No urgent items.

83 : DATE OF NEXT MEETING

Members were advised that the next Environment Scrutiny Committee is scheduled for 10 May 2023.

The meeting terminated at 8.00 pm

This page is intentionally left blank

**CARDIFF COUNCIL**  
**CYNGOR CAERDYDD**  
**ENVIRONMENTAL SCRUTINY COMMITTEE**

**11 MAY 2023**

---

**HIGHWAY ASSET MANAGEMENT PLAN - 3 (HAMP)**

---

**Purpose of Report**

1. To provide Members with the opportunity to consider the draft 'Highways Asset Management Plan' which will inform Cabinets recommendations to Council for the Revenue and Capital 2024/25 and Medium Term budget setting. This document aims to define a strategic long-term approach to highways and other asset maintenance funding.

**Structure of the Report**

2. Attached to this report are:
  - **Appendix A** - Cabinet Report
    - Appendix A1 – HAMP – 2 (approved in February 2012)
    - Appendix A2 – Highways Asset Management Plan – 3 (HAMP)

**Scope of the Scrutiny**

3. During this scrutiny, Members have the opportunity to explore:
  - The draft HAMP

**Background (Points 2 – 12)**

4. Highways and associated assets include:
  - Adopted public realm,
  - Carriageways,
  - Footways,
  - Drainage
  - Intelligent Transport Systems

- Street Furniture,
  - Road Markings,
  - Street Lighting and
  - Structures e.g., bridges, subways, tunnels
5. When the previous Highways Asset Investment Plan was considered by the Environmental Scrutiny Committee and subsequently adopted by the Council in 2016 a 'steady state' of funding was agreed to maintain resources in their current condition, therefore ensuring no deterioration but also no improvement, as it was deemed that this would be the best long term economic solution. However, this may not be possible in the current economic climate.
6. The principle behind the HAMP is to:
- Formalise strategies for investment in Highways asset groups.
  - Define service standards.
  - Improve how the Highways asset is managed.
  - Ensure the most effective service is delivered within available resources.
7. It is also intended that the HAMP aligns with the aspirations of the corporate priorities of Stronger, Fairer, Greener (SFG) which supports the One Planet Cardiff strategy. To achieve this synergy the HAMP will:
- where possible - develop a low carbon response to Highway maintenance.
  - Maximise the integration of sustainable mode use on the Highway.
  - Regard the Highways within the wider context of creating high quality public realm, based on placemaking, greening, accessibility, and design quality
8. A number of methods are noted that emphasize the aims of the HAMP. The approaches are, and further detail can be found in **point 7** :
- a. Placemaking
  - b. Low carbon
  - c. Sustainable transport
  - d. Greening
  - e. Sustainable Drainage Systems (SuDS)
  - f. 15-minute city ideas
  - g. City centre and local centre public realm



9. The report notes key legislation to be take into consideration are **Section 41** of the **Highways Act 1980** and the **Wellbeing of Future Generations (Wales) Act 2015**. Further information is provided under the **Legal Implications**

**Issues (Points 13 – 69)**

- 10. The city’s assets are inspected on a safety first, risk based approach, however in the city centre of the Capital of Wales areas of status using superior materials may need greater inspections to maintain the area as these materials will be more costly to repair/replace
- 11. The costs needed to maintain the approved ‘steady state’ of maintenance in 2016 have been recalculated to take into account the cost-of-living increases that are currently affecting the UK.
- 12. Table 1 below shows the cost of carriageway and footway build/treatment, per square metre, between 2020/21 and 2022/23 and demonstrates an average increase of around **56%**:

**Table 1**

<b>Carriageway m2 rate</b>				
<b>Financial Year</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>	<b>% difference 2021-2023</b>
<b>Reconstruction</b>	£115	£130	£185	61%
<b>Strengthening</b>	£30	£35	£45	50%
<b>Resurface inlay/overlay</b>	£17	£22	£27	59%
<b>Micro Asphalt</b>	£9	£11	£13	45%
<b>Footway m2 rate</b>				
<b>Financial Year</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>	<b>% difference 2021-2023</b>
<b>Reconstruction</b>	£75	£85	£125	66%
<b>Renew surface course</b>	£42	£50	£65	55%
<b>FW Micro Asphalt</b>	£7	£9	£11	57%

13. If the 56% increase is applied to the investment options that were presented in 2016 the ‘steady state’ investment required rises from £7.3m to £11.4m i.e., an additional £4.1m, which is shown in shown in table 2.

**Table 2**

Overview of Investment Options						
Asset Group	2015/16 Revenue Budget (£,000)	2015/16 Capital Budget (£,000)	Future Capital Investment Option Costs (2016)			Adjusted Steady State Value for 2023
			Managed Decline (£,000)	Steady State (£,000)	Enhanced (£,000)	
Carriageways	£450	£850	£850	£3,075	£5,175	£4,797
Footways	£790	£595	£470	£2,360	£3,810	£3,681
Drainage	£400	0	0	£160	£160	£250
Street Furniture	£33	0	0	£125	£125	£195
Street Lighting	£585	£270	£300	£1,200	£1,200	£1,872
Structures	£320	£500	£0	£400	£400	£624
<b>Total</b>	<b>£2,578</b>	<b>£2,215</b>	<b>£1,620</b>	<b>£7,320</b>	<b>£10,870</b>	<b>£11,419</b>

14. The following table highlights the funding gap between the current funding and the estimated requires funding of the 'steady state'.

Gaps Between Steady State, Current and Estimated Future Funding								
Asset	Funding source	Annual Funding - £k			Steady State Requirement (11,419 total)	Current 2023-24 Funding Gap between current funding & Steady State	Funding Gap between 2024-25 funding & Steady State	Funding Gap between 2025-26 funding & Steady State
		Current	Estimated					
		2023-24	2024-25	2025-26				
Carriageways	capital	3,350 (+2,000 additional funding)	3,350	3,376	<b>4,797</b>	-553	1,447	1,421
Drainage	capital	30	230	180	<b>250</b>	220	20	70
Footway	capital	880	595	595	<b>3,876<sup>1</sup></b>	2,996	3,281	3,281
Street Lighting	capital	1,000	1,070	270	<b>1,872</b>	872	802	1,602
Structures	capital	924	1,100	1,100	<b>624</b>	-300	-476	-476
<b>Total Gap between Annual Funding &amp; Steady State</b>						<b>3,235</b>	<b>5,074</b>	<b>5,898</b>

1 – Footway funding includes £195k for Street Furniture

2- Future Steady State funding requirements will be subject to industry inflationary & other increase

15. In the financial year **2023/24** an additional **£2m capital** monies has been made available. Capital funding can only be used to undertake 'repairs and replacement' owing to strict financial control measures.
16. This additional funding will be used to support the asset/s in greatest need i.e. carriage ways that have declined noticeably and need investment, in the following priority order:
  - Principle roads – e.g. A4232, A48
  - Main distributor roads – higher trafficked roads
  - Secondary distributor roads – unclassified high use roads
  - Estate roads that are showing the highest deterioration
17. Whilst additional capital funding has been made available pressure remains on the revenue budget. This usually has an impact on service provision, for example
  - Reactive Highway Safety Repairs (**points 25 – 29**)
  - Replacement of Road Markings and Traffic signs (**points 30 -33**)
  - Traffic Signs (**points 34 – 37**)
  - Painting of highway structures (**points 38 – 40**)
  - Gully emptying and sweeping highway channels (**points 41 – 43**)
  - City Centre, Local Centres and Bay (**points 44 – 47**)
  - Asset growth (**points 48 &49**)
  - Traffic growth (**point 50**)
  - Changing environmental conditions (**points 51 – 54**)
  - Carriage way condition benchmarking (**points 55 – 58 & tables 4-6**)
  - Carbon reduction (**points 59 – 66**)
  - Customer demand (**Points 67**)
18. The conclusion in relation to the issues raised is that in light of increasing costs and reducing budgets. It is likely that the fewer repairs and improvements will be undertaken resulting in an increased in 3<sup>rd</sup> party insurance claims and customer satisfaction falling.

## Financial Implications

19. **Points 72 – 79** set out the identified budget gap as detailed in the body of the report financial implications will be provided as detailed proposals are brought forward.
20. It notes the alternative external sources of funding must be sought to ‘close the gap’
21. The requirement to ensure that capital and revenue spend is in line with inspection policies, needing to rank works as necessary.
22. An additional £2m capital funding has been awarded in 2023/24.

## Legal Implications

23. **Points 80 – 92** set out the legal requirements in relation to the that that council needs to take into consideration which include:
  - Specifically, duties under **Section 41** of the **Highways Act 1980** to maintain highways which are maintainable at public expense.
  - **Well- Being of Future Generations (Wales) Act 2015** and in particular **Part 2** – Improved Well-being, **Section 5** – the sustainable development principle i.e. ensuring have a negative long term impact.
  - And in general duties with regard to the **Equality Act 2010**, the, **Welsh Language Measure (Wales) 2011** and Welsh Language Standards.

## HR Implications

24. No HR implications are noted in **point 93**

## Property Implications

25. No property implications are noted in **point 94**

## Previous Scrutiny

26. The Environmental Scrutiny Committee considered the previous Highways Investment Strategy on 9<sup>th</sup> September 2014 and again on 17<sup>th</sup> May 2016
27. At its meeting on the 9 September 2014. A paper titled ‘Highway Asset Management Strategy’ was received by the Committee as a part of a pre decision scrutiny prior to it being presented at Cabinet for a decision.

28. Following the meeting on the 9 September the Committee sent a letter to the Cabinet Member for Transport, Planning & Sustainability. The main Member comments and observations of this letter were that:

- The overall replacement cost of the Highway Asset was somewhere in the region of £2.8 billion to £3 billion. Members were informed that the repair backlog on its own is £320 million, approximately a third of the Council's gross annual expenditure;
- Despite receiving an explanation as to how the highway asset can be maintained, Members felt that further clarification was required about the level of investment actually required to maintain Cardiff's highway asset in a steady state;
- The Committee felt that the Council urgently needed to identify alternative funding sources to replace the loss of the LGBI;
- Members felt that there should be a review of street signs, and that signs that are no longer required should be recycled to generate an income;
- The Committee agreed that adopting a steady state funding approach was the best way forward for Cardiff in the current financial climate;
- The Committee was concerned that there was only a small budget to support the maintenance of major assets such as bridges in Cardiff. Members felt that the Council should review how it would deal with such a large failure and how this would be addressed financially.

## **RECOMMENDATIONS TO CABINET**

29. Cabinet is recommended to:

- i. To note the current state of the Highways Asset Management Plan - 3 (HAMP) which will inform the Cabinet's recommendations to Council for the Revenue and Capital 2024/25 and Medium-Term budget setting process.
- ii. Approve the expenditure of £2Million funding within 2023/24 budget against the carriageway asset as identified in this report to limit ongoing deterioration concerns relating to carriageways.

## **WAY FORWARD**

30. Cllr Dan De'Ath, Cabinet Member for Transport & Strategic Planning and Andrew Gregory, Director of Planning Transport & Environment have been invited to make a statement and answer Member's questions. They have been asked to make a brief presentation followed by Member's questions.

### **Legal Implications**

The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters, there are no direct legal implications. However, legal implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any legal implications arising from those recommendations. All decisions taken by or on behalf of the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers on behalf of the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Scrutiny Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances.

### **Financial Implications**

The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters, there are no direct financial implications at this stage in relation to any of the work programme. However, financial implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any financial implications arising from those recommendations.

## **RECOMMENDATION**

The Committee is recommended to:

- i. Consider the information in this report, and the presentation and any further information presented at the meeting; and
- ii. Determine whether they would like to make any comments, observations or recommendations on this matter to Cabinet.

**DAVINA FIORE**

**Director of Governance & Legal Services**

**4<sup>th</sup> May 2023**

Mae'r dudalen hon yn wag yn fwriadol



**BY SUBMITTING THIS REPORT TO THE CABINET OFFICE, I, Andrew Gregory (DIRECTOR, Planning, Transportation & Environment) AM CONFIRMING THAT THE RELEVANT CABINET MEMBER(S) ARE BRIEFED ON THIS REPORT**

**CARDIFF COUNCIL  
CYNGOR CAERDYDD**

**CABINET MEETING:** Thursday 18<sup>th</sup> May 2023

**REPORT TITLE:**

Highway Asset Management Plan - 3 (HAMP)

**CABINET PORTFOLIO:**

Transport & Strategic Planning (Cllr. Dan De'Ath)

**AGENDA ITEM:** xx

**Reason for this Report**

1. To note the current state of the Highways Asset Management Plan - 3 (HAMP) which will inform the Cabinet's recommendations to Council for the Revenue and Capital 2024/25 and Medium-Term budget setting process.

**Background**

2. Cardiff Council has had a successful record of managing the highly complex highway asset. Recent years have presented significant challenges in terms of maintaining a multibillion-pound asset in the context of, significantly constrained budgets, the covid lockdown and recovery, and rising costs. Nonetheless, the Council has a track record of not just maintaining the asset but also delivering significant innovation, such as the LED rollout. In this context, the aim of this strategy is to develop a foundation for taking forward a robust approach to highway asset management that also begins to address in a meaningful way the wider issues of climate emergency, economic growth and transport sustainability.

3. The HAMP sets out the council's proposals for the management of, and investment in, the highway, and associated assets. That being – Adopted public realm, Carriageways, Footways, Drainage, Intelligent Transport Systems, Street Furniture, Road Markings, Street Lighting and Structures. The HAMP is designed to ensure that highways funding is used in the most efficient and cost-effective way. This plan is based upon the choices made by the Council in terms of the level of investment in the highway assets, what that investment will be directed at and the service standards that the users can expect. The highway assets listed above have a replacement cost with a modern equivalent estimated at approximately £2.37bn (based on pre-inflationary costs) and are the Council's most valuable financial asset.
4. The purpose of the HAMP is to:
  - Formalise strategies for investment in Highway asset groups.
  - Define service standards.
  - Improve how the Highway asset is managed.
  - Ensure the most efficient service is delivered within available resources.
5. In this plan for the first time, we will also be exploring the opportunity to focus on aligning the HAMP with the wider corporate priorities found in Stronger, Fairer, Greener (SFG) vision for Cardiff. This document states: *"A greener city which, through our One Planet Cardiff programme takes a lead on responding to the climate emergency (see para 59), which celebrates and nurtures biodiversity, with high-quality open spaces within easy reach for rest and play which are connected by convenient, accessible, safe sustainable transport options"*. In this regard the purpose of the HAMP will seek to align and integrate to wider corporate strategies and will seek to:
  - Align the strategy with – where possible - developing a low carbon response to Highway maintenance.
  - Maximise the integration of sustainable mode use on the Highway.
  - Regard the Highways within the wider context of creating high quality public realm, based on placemaking, greening, accessibility, and design quality – supporting wider economic approach to city and local centre regeneration.
6. The HAMP applies to the following objectives from the Corporate SFG document, it will enhance the experience of pedestrians, cyclists and motorists and encourage economic growth by making it easier and safer to use the highway network
  - Play a leading role in the Capital Region, including developing strategic economic development, transport and planning strategies, as well as governance and delivery arrangements that support Cardiff's role as the economic, cultural and leisure centre of the region

- Deliver the ‘One Planet Cardiff’ response to the climate emergency, accelerating the transition to net zero by putting sustainable development at the heart of everything we do as a Council.
  - Continue to deliver an extensive programme of localised improvements to our roads and footways to remove defects such as potholes.
  - Adopt the principles of a 15-minute city approach, focusing on sustainability, placemaking, and the density of development that this vision requires.
  - Integrate great design, placemaking, greening and sustainability principles into all proposals for development and public spaces.
  - City centre recovery
7. The delivery of innovative, cost-effective risk-based maintenance within allocated budgets underpins the aspirations above and implementation of the following transformative approaches:
- i. **Placemaking** is a multi-faceted approach to the planning, design and management of public spaces. Placemaking capitalises on a local community's assets, inspiration, and potential, with the intention of creating public spaces that improve urban vitality and promote people's health, happiness, and well-being. The Council's highway infrastructure links and often maintains these community assets creating a cohesive unit of greater value for the community.
  - ii. **Low Carbon:** The Council has already utilised a highly innovative approach to low carbon asphalt. We will develop further opportunities for low carbon approaches to materials, systems, and working practices.
  - iii. **Sustainable Transport:** Traditionally the highway has been designed to maximise the efficiency of car and vehicle movements. This innovative approach that this plan will adopt seeks to develop the highway in a manner that also supports the usage of other transport modes in a more balanced manner, including walking, cycling, as well as tackling wider accessibility issues.
  - iv. **Greening** promotes the concept of healthy streets. Urban greening helps to make streets part of a public realm network that is designed more for people than for vehicles. Greening of Cardiff's streets, buildings and other public spaces does more than change the look of these places. Roofs and walls covered in plants, **street trees** and small pocket parks in between buildings help combat climate change and make the city a better place to live, work and invest. The **HAMP** manages the interface between existing highway infrastructure (e.g. SuDS planting described below and future biodiversity and amenity opportunities relating to flood risk management) and these new and emerging green

- infrastructure initiatives including the Councils Coed Caerdydd project.
- v. **Sustainable Drainage Systems (SuDS)** have been developed to imitate the natural drainage process and provide the community with green spaces promoting diverse wildlife and wellbeing. Traditional drainage systems can increase the risk of flooding and pose a serious risk of contamination, SuDS can help maintain water quality and limit the total amount of water leaving a site. An excellent example of where Cardiff has implemented SuDS is the Greener Grangetown project providing an exemplar of SuDS design. The **HAMP** illustrates the design and maintenance of Cardiff's SuDS undertaken by the Councils highway drainage teams.
  - vi. The concept of the **15-minute city** seeks to improve liveability and develop more sustainable, local communities by planning for residents to be able to access most of the facilities they need on a daily basis within a 15–20-minute walk, cycle or bus ride from their home. Again, the **HAMP** manages the interface between existing highway infrastructure and these new and emerging initiatives.
  - vii. **City Centre and Local Centre Public Realm** enhancements and maintenance in these more focal economic and social areas with very high levels of footfall and usage provides a particular challenge. Furthermore, due to their prominence there is more attention to any defects. Managing these key environments often requires more attention and resources. However, the extent of support provided needs to be understood as a part of a wider assessment of budgets and priorities (see para 13 below). In this regard, it is proposed that we identify a ringfenced sum within the budget to tackle these issues in a balanced yet prioritised manner.
8. There are two key pieces of national legislation that should be considered for the HAMP. It is important to remember that any level of funding less than steady state (described in para 15 below) will result in, to greater or lesser extent depending on investment, a managed decline of the condition of the highway asset.
  9. Section 41 of the **Highways Act 1980** imposes a legal duty of maintenance on highway authorities (The Council) in respect of those highways that are maintainable at the public expense.
  10. The **Well-being of Future Generations (Wales) Act 2015** is an Act of the National Assembly for Wales to make provision requiring public bodies to do things in pursuit of the economic, social, environmental and cultural well-being of Wales in a way that accords with the sustainable development principle; to require public bodies to report on such action; to establish a Commissioner for Future Generations to advise and assist public bodies in doing things in accordance with this Act; to establish public services boards in local authority areas; to make provision requiring those boards to plan and take action in pursuit of economic, social,

environmental and cultural well-being in their area; and for connected purposes.

Of particular relevance to this HAMP is part 2, section 5 of the Act:

***Well-being of Future Generations (Wales) Act 2015***

***Part 2 – Improved Well-being***

***Section 5 - The sustainable development principle***

*(1) In this Act, any reference to a public body doing something “in accordance with the sustainable development principle” means that the body must act in a manner which seeks to ensure that the **needs of the present are met without compromising the ability of future generations to meet their own needs.***

*(2) In order to act in that manner, a public body must take account of the following things—*

*(a) **the importance of balancing short term needs with the need to safeguard the ability to meet long term needs, especially where things done to meet short term needs may have detrimental long-term effect;***

11. The Highway Asset Investment Strategy (see extract below) illustrates different levels of asset investment and its outcomes was endorsed by the Council’s Environmental Scrutiny Committee on 9th September 2014 and again on 17<sup>th</sup> May 2016. The committee recommended adoption of a steady state investment profile for the highway asset. The reason for this recommendation is that this proves to be the best long term economic solution whilst enabling the network to support other corporate priorities such as economic growth in the city.
12. It is recognised that current financial pressures may make this unachievable at the present time. To make the investment more affordable a “phased approach” to increasing Capital and Revenue investment could be adopted. This would mean investment could be increased annually over an agreed period to reach the required steady state level.

## **Issues**

13. **Enhanced Public Realm** - Improvements in the public realm can provide significant enhancements to users as described in para 7 above. Currently the city centre is inspected in line with all other areas of the city, on a safety first, risk-based approach basis (in line with the Highway Safety Inspection Policy – Part C:001). Due to the prestige associated with the capital city centre and the high expectations of quality, an enhanced maintenance regime should be considered in this area. It should be noted, where higher quality materials or bespoke infrastructure are used this has an increased disproportionate demand on maintenance budgets due to their significantly higher replacement costs over those of routine materials. e.g., the maintenance of prestige granite paving in the city centre. Consideration should be made for increased maintenance budgets for the

ongoing maintenance and improvement of these areas of enhanced infrastructure.

14. **Achieving Steady State Investment & the Cost-of-Living Increase 2021 – 2023.** The Steady State calculations contained in the Asset Investment Strategy were undertaken in 2016. Annual inflation and its effects on increasing the cost of goods and services during the period 2016 to 2023 should be noted.
15. Steady State is a level of funding that maintains an asset in its current condition, neither improving nor deteriorating from an overall perspective. Maintenance funding below steady state will result in an ongoing deteriorating condition and consequent increasing maintenance backlog over time, the speed and level of deterioration is dependent on how far investment is below steady state.
16. A rapid increase in energy costs, particularly the wholesale price of gas, has been a key driver of the recent increases in inflation, compounded by supply chain stresses, increased prices for commodities and transportation. The cost of living has been increasing across the UK since early 2021. The annual rate of inflation reached 11.1% in October 2022, a 41-year high, before easing to 10.7% in November 2022. High inflation affects the affordability of goods and services.
17. This rapid increase of inflation is causing additional pressures in the area of highway and footway maintenance, especially around surfacing and surface treatments. This will be the first area that will show deterioration – structures, street lighting and drainage improvements will lag in terms of deterioration, albeit the cost of schemes will increase, so the risks of failed elements will increase over time.
18. Likewise, the costs relating to localised small-scale repairs such as patching, street furniture, tackling damaged paving, road markings renewal, signage and minor highway improvements has also increased in similar levels, so the volume of works completed will reduce. This unfortunately will promote deterioration further – moving early repairs to more expensive later treatments as we have not been able to provide the appropriate intervention in a timely manner.
19. Table 1 below shows how construction costs (illustrated by cost per square metre) have increased over the period 2021-2023. They are based on completed scheme costs delivered by carriageway and footway capital improvement programmes with the treatments listed in the left-hand column. The average cost increase is **circa 56%**.

**Table 1 – Increases in Carriageway and Footway Construction Costs**

<b>Carriageway m2 rate</b>				
Financial Year	2020-2021	2021-2022	2022-2023	% difference 2021-2023
Reconstruction	£115	£130	£185	61%
Strengthening	£30	£35	£45	50%
Resurface inlay/overlay	£17	£22	£27	59%
Micro Asphalt	£9	£11	£13	45%
<b>Footway m2 rate</b>				
Financial Year	2020-2021	2021-2022	2022-2023	% difference 2021-2023
Reconstruction	£75	£85	£125	66%
Renew surface course	£42	£50	£65	55%
FW Micro Asphalt	£7	£9	£11	57%

20. Table 2 below is an extract from the Asset Investment Strategy (2016) which shows the calculated steady state investment required for the main highway asset groups. Based on the 56% increases in actual carriageway and footway construction costs shown above, and the steady state calculation below from 2016, it could be logical to assume that the 56% increase demonstrated above could be considered representative across all highway assets. Therefore, we could assume the overall steady state figure could have increased by £4.09m (56% increase on £7.3m) to an annual steady state investment of **£11.41m in 2022-23**.

**Table 2 – Extract from 2016 Asset investment Strategy (with 2023 adjustment added)**

<b>Overview of Investment Options</b>						
Asset Group	2015/16 Revenue Budget (£,000)	2015/16 Capital Budget (£,000)	Future Capital Investment Option Costs (2016)			Adjusted Steady State Value for 2023
			Managed Decline (£,000)	Steady State (£,000)	Enhanced (£,000)	
Carriageways	£450	£850	£850	£3,075	£5,175	£4,797
Footways	£790	£595	£470	£2,360	£3,810	£3,681
Drainage	£400	0	0	£160	£160	£250
Street Furniture	£33	0	0	£125	£125	£195
Street Lighting	£585	£270	£300	£1,200	£1,200	£1,872
Structures	£320	£500	£0	£400	£400	£624

<b>Total</b>	<b>£2,578</b>	<b>£2,215</b>	<b>£1,620</b>	<b>£7,320</b>	<b>£10,870</b>	<b>£11,419</b>
--------------	---------------	---------------	---------------	---------------	----------------	----------------

21. Table 3 below demonstrates the gap between current and estimated future funding and the requirements to reach steady state.

**Table 3 – Gap between current and estimated future funding and the requirements to reach steady state.**

Gaps Between Steady State, Current and Estimated Future Funding								
Asset	Funding source	Annual Funding - £k			Steady State Requirement (11,419 total)	Current 2023-24 Funding Gap between current funding & Steady State	Funding Gap between 2024-25 funding & Steady State	Funding Gap between 2025-26 funding & Steady State
		Current	Estimated					
		2023-24	2024-25	2025-26				
Carriageways	capital	3,350 (+2,000 additional funding)	3,350	3,376	<b>4,797</b>	-553	1,447	1,421
Drainage	capital	30	230	180	<b>250</b>	220	20	70
Footway	capital	880	595	595	<b>3,876<sup>1</sup></b>	2,996	3,281	3,281
Street Lighting	capital	1,000	1,070	270	<b>1,872</b>	872	802	1,602
Structures	capital	924	1,100	1,100	<b>624</b>	-300	-476	-476
<b>Total Gap between Annual Funding &amp; Steady State</b>						<b>3,235</b>	<b>5,074</b>	<b>5,898</b>

1 – Footway funding includes £195k for Street Furniture

2- Future Steady State funding requirements will be subject to industry inflationary & other increase

22. It is important to note that the steady state levels of investment and gaps in current and future estimated budgets shown in Table 2 & 3 relate to Capital investment only. However, maintenance functions and cyclic activities financed through revenue budgets are experiencing equivalent pressures and have been frequently subject to historic budgetary reductions implemented to achieve annual cost savings.
23. **Additional Funding for the 2023/24 financial year** – an additional capital sum of £2M has been made available for the 2023/24 financial year. The investment of the additional sums will be directly linked to the asset of highest demand and that exhibiting the highest levels of deterioration. The additional sums will therefore be invested in the carriageway asset that has deteriorated significantly over the winter months and requires significant investment. Utilising a condition driven, risk-based approach, the additional funding will be utilised for resurfacing works in the following priority order:



- Principle Roads – e.g. A4232, A48
  - Main Distributor Roads – higher trafficked roads through wards
  - Secondary Distributor Roads – unclassified high usage routes
  - Estate Roads that are exhibiting highest levels of deterioration
24. **Revenue Pressures on Highway Maintenance Budgets** - There are strict financial rules on what the Council's Capital budgets can be spent on and there are many Highways Maintenance functions, repairs and replacements that can only be funded via Revenue budgets. Whilst we can demonstrate the effects of Capital funding on the condition of highway assets by its proximity to the steady state calculation, it is more difficult to achieve when considering the effect of Revenue investment. The reduction of Revenue budgets will often result in a reduction in service provision or an increase in maintenance backlog, both of which will have some detrimental effect on the short-, medium- and long-term condition of highway assets. Some of the key areas of Revenue pressure for Highway Maintenance functions are described below.
25. **Reactive Highway Safety Repairs** - The Council's Highway Safety Inspection Policy Part C:001 and the associated inspection and repair regime, is designed to maintain the highway network to an approved safe level and forms the basis of the Council's strategy for managing highway liability and risk. Utilising Section 58(1) of the Highways Act 1980 in the defence of 3rd party personal injury and property claims.
26. In accordance with the Highway Safety Inspection Policy, suitably qualified Safety Inspectors undertake cyclic inspections of the entire highway network identifying safety related defects and categorise them for an appropriate repair utilising the AMX asset management system. For the Council to have a successful defence against any 3<sup>rd</sup> party insurance claims we must demonstrate we've undertaken the safety inspection and completed any identified repairs in accordance with the defect investigatory levels and timescales of the Policy.
27. The Council has a robust safety inspection regime achieving an excellent 3<sup>rd</sup> party claim repudiation rate of 88%. In 2022 approximately 93% of critical defects were repaired within the required timescale. Over 25,000 safety and maintenance defects were picked up by Inspectors of which approximately 30% were unable to be repaired due to insufficient resources. The definition of these defects is shown below.

<b>Highway Safety Inspection Defect Definitions</b>		
<b>Critical Defect</b>	<b>Safety Defect</b>	<b>Maintenance Defect</b>
A situation where the inspecting officer considers the risk to safety high enough to require immediate action.	Defects that pose an imminent risk of injury to road users,  Requiring a response as soon as possible to	Defects that warrant treatment to prevent them deteriorating into a safety defect prior to the next scheduled inspection,

Requiring an immediate response to make the site safe	remove a potential risk of injury to users	Requiring a response to prevent them becoming a safety defect
---	--	---

28. The result of defects remaining untreated is their possible accelerated deterioration into more serious defects. To further improve efficiency, resources and processes are being upgraded for the management of performance and prioritisation of work. In addition, a new maintenance contract will be let in the new financial year which will develop more efficient working practices and a more robust legal defence.
29. Any defects not repaired as required pose a risk to the Council's 3<sup>rd</sup> party insurance defence. It is important to appreciate the level of financial risk associated with 3<sup>rd</sup> party insurance claims. Claims can be categorised into two main groups, property damage and personal injury. Property/vehicle damage claims (e.g., damage to a car wheel resulting from carriageway potholes) are generally of lower cost, in the region of £60 to £300. However, personal injury claims can range from several hundred pounds to millions of pounds, depending on the situation and injury sustained by the claimant. The average cost of a personal injury claim is approximately £15k. It should be noted that most higher value claims arise from footways as a result of claimed trips and falls.
30. **Replacement of Road Markings and Traffic Signs** - A significant proportion of road marking, traffic sign and street furniture (bollards, pedestrian guardrail, benches, fences etc) repair and replacement is undertaken using Revenue budgets, other than those replaced as part of wholesale capital highway improvement schemes.
31. The Council depends on signing and lining for the efficient control and movement of traffic, for enforcement of traffic regulations and, most importantly, as an aid to road safety. Traffic signs and road markings are placed by the Council, through the powers provided by the Road Traffic Regulation Act 1984, to provide warnings, information and details of restrictions to road users.
32. While faded road markings are not illegal in a definite black-and-white sense, the legislation of the Road Traffic Act 1988 outlines that roads must be safe for users. Therefore, if an accident were to occur due to the lack of road markings, or the inadequate quality of them, then the responsibility may well lie with the Council. An incident caused as a direct result of road marking quality could therefore be a violation of the law. In addition, missing, faded or incorrect road markings make parking restrictions unenforceable.
33. The recent RoadAI video survey of the highway network has identified that over 300km of the surveyed road markings were in the <25% condition value. At the time of preparation of this report, the RoadAI road marking data was being processed and evaluated by the Highways Asset Team. This data will enable us to establish a maintenance backlog and make more informed bids for planned improvement programmes.

34. **Traffic Signs** - Restrictions are legally unenforceable if the signs are missing, incorrect, wrongly orientated or obscured. Again, the legislation of the Road Traffic Act 1988 outlines that roads must be safe for users as described above.
35. Sign cleaning is undertaken following Councillor or customer request or where inspections have identified badly obscured signs. However, due to restricted Revenue budgets, a cyclic sign cleaning programme is unaffordable.
36. The replacement of faded, missing or damaged street nameplates is a good example of a continual demand on revenue maintenance budgets. During the three-year period 2020-2023 400 nameplates were replaced on approximately 200 streets at a cost of circa £60k. However, a backlog of 690 nameplates remains at an approx. replacement cost of £103k, at current investment rates this backlog will take more than 5 years to replace. (That is, if no more defective units were added to the backlog).
37. The recent RoadAI video survey has identified 23,800 traffic signs on the road network. At present the software is unable to automatically categorise sign condition. However, desk top condition analysis can be undertaken and recorded against each asset. At the time of preparation of this report, the RoadAI traffic sign data was being processed and evaluated by the Highways Asset Team. This data will enable us to establish a maintenance backlog and make more informed bids for planned improvement programmes.
38. **Painting of Highway Structures** - Painting structures are an essential and cost-effective maintenance strategy to protect the integrity of steelwork and help achieve their design lives of 120 years. Painting prevents corrosion and the subsequent structural deterioration of components minimising expensive repairs to strengthen or replace corroded beams. Elements of a structure that benefit from painting are steel beams under the bridge deck, parapets (the fences on the edge of the structure) and complete footbridges.
39. Modern paintwork systems used on highway structures have a lifecycle of between 20 to 25 years, a significant improvement over older systems lasting from 12 and 15 years, thus significantly extending new treatment cycles but limiting protection of older painted elements. It should be noted that access arrangements for carrying out painting can increase the cost of a scheme significantly, along with the legislative requirements of Railway companies and Natural Resources Wales over rivers.
40. The current revenue budget available for the maintenance of all Highway Structures is £130k, which is fully allocated to completing essential safety works and minor repairs. There is an estimated current backlog of £900k for painting Highway Structures that have significant steelwork

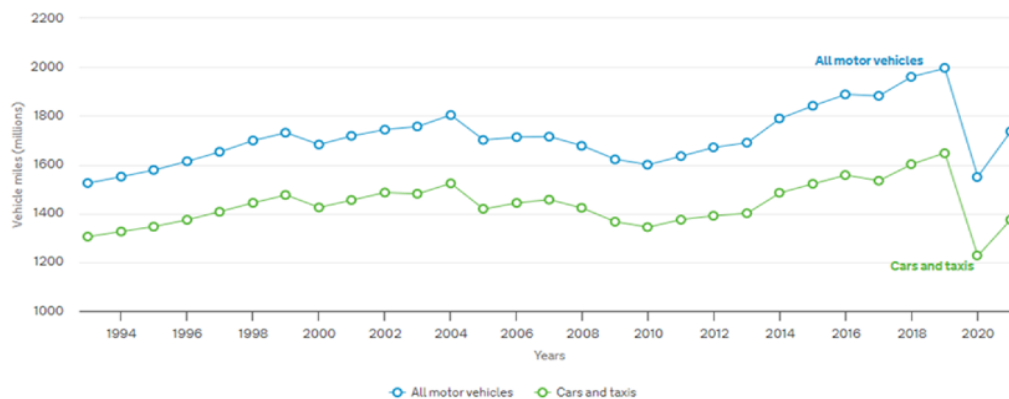
components. Based on current inspection data the painting of structural steelwork comprises approximately 25% of a £4m maintenance backlog.

41. **Gully Emptying & Sweeping Highway Channels** - The removal of detritus from the highway channels (gutter) and cleansing of drainage gullies allows the free flow of rainwater off the highway into the drainage system to prevent flooding. The removal of rainwater from the highway also helps to maximise the life of the asphalt carriageway.
42. Water can be one of the most damaging elements to an asphalt surface. Moisture damage decreases strength and durability of asphalt, weakening the bond between the bitumen and the aggregate, thus speeding up deterioration forming potholes and cracking. When cracks form it allows water to seep under the surface, which is damaging to the base beneath. Extended exposure to these defects can have significant detrimental effects to the structure and foundation of the road.
43. It is very difficult to quantify the direct damage to the carriageway caused by the effects of standing water because of blocked drains and channels. However, reductions in revenue investment for cyclic gully emptying and street sweeping functions, and their consequent reduced frequency, can be attributed to accelerated carriageway deterioration as described above.
44. **City Centre, Local Centres and Bay.** It is recognised that some focal areas of the city experience significantly higher volumes of pedestrian, cycle and public transport. Also, these central areas will require a higher level of materials and maintenance. This results from the higher levels of servicing activity, being driven on by loading vehicles, higher access of services by utilities, as well as general wear and tear. In the past materials may have been selected for these areas of a more specialised or decorative character.
45. The prestige maintenance expectation in these focal areas demands a higher “Serviceability standard” than our routine safety/risk-based approach. This higher serviceability standard will undertake repairs that would not trigger a safety repair but improve the aesthetics and maintain the overall appearance of these areas. For example, re-painting bollards and lampposts, early repair interventions to footway and carriageway surfaces and street furniture, re-grouting of paving joints etc.
46. Cyclic safety inspections would continue in these areas as specified in the Safety Inspection Policy to ensure statutory requirements are met and an appropriate claims defence is maintained.
47. The HAMP will seek to adopt an approach that supports the delivery of high-quality materials and maintenance that are also sustainable in terms of robustness and simplicity of pallet whilst continuing to provide an effective risk-based maintenance and management approach to the rest of the highway network.

48. **Asset Growth** - The highway asset grows each year due to the adoption and construction of new sections of highway often resulting from private developments. This will also include the introduction of new Council promoted schemes on the existing network such as high-status city centre public realm improvements, upgraded junctions, new traffic management such as raised tables and speed humps, segregated cycle lanes etc. This ongoing continual increase in the quantity of highway assets will require future maintenance as they age and deteriorate, placing a continually increasing demand on maintenance budgets.
49. For example, over the 10-year period 2012-22 the carriageway length has increased by 26.5km and over 1,700 new street lighting columns have been erected.
50. **Traffic Growth** - The graph below (source DFT) illustrates a steady growth in traffic volume placing increasing pressure on the Highway network and accelerating deterioration in carriageway condition with HGV's and buses causing disproportionate wear on road surfaces. Some of the main arterial routes into the city have in the region of 80,000 vehicles per day with a proportion of heavy goods vehicles of approximately 6%.

#### Annual traffic by vehicle type in Cardiff

Traffic in Cardiff from 1993 to 2021 by vehicle type in vehicle miles (millions)



51. **Changing Environmental Conditions** also place increased pressure on maintenance budgets.
52. Increased frequency of more extreme weather can have direct and indirect impact on road condition. The deterioration in asphalt construction from the effects of water is discussed in para 42 above. Changes in temperature (both high and low temperatures) and rainfall patterns can interact where wider temperature variation promotes cracking, compounding the effects of increased rainfall and damage caused by traffic (especially HGV's).
53. This cycle of climatic events places an increased burden on existing maintenance budgets. If such extreme events occur during the period of this HAMP and increased damage or deterioration is experienced, it may be necessary to divert existing budgets and revise service standards that are affordable unless additional funding can be secured.

54. Wherever possible highway teams are adopting modern materials, technologies and maintenance techniques to minimise the negative effects of climate change on the highway asset. Also, pushing suppliers and contractors to continually develop new approaches and alternative opportunities.
55. **Carriageway Condition Benchmarking** - Utilising WG all Wales KPI's for classified road condition a benchmarking analysis has been undertaken to compare how Cardiff's classified road condition compares with other Welsh Local Authorities, see Tables 3 to 5 below (full size tables are shown in section 12 of the HAMP document). These KPI's only apply to the classified A, B and C class roads and are not undertaken on the U class (unclassified) network.
56. It must be noted that historically classified roads (20% of the network) attract a disproportionate amount of funding compared to unclassified roads (80% of the network). This funding allocation adopts a risk-based approach based on the classified network carrying significantly higher levels of traffic, often at higher speeds, than unclassified roads. As can be seen from Tables 3, 4, & 5 below Cardiff's classified A, B and C class carriageway network conditions compare favourably against all Wales averages. However, it should be noted an effect of this risk-based approach and the availability of maintenance budgets means classified roads are kept in a better condition than the unclassified roads. Unfortunately, the majority of residents will live adjacent to the unclassified network in residential areas and might not fully appreciate the increased investment in classified roads that they may use infrequently.
57. In late 2022 the Council introduced a video data collection exercise utilising RoadAI technology commissioned to collect carriageway condition. The road Condition data generated by RoadAI can identify lengths of highway that are in various stages of deterioration feeding into the programming of improvement works. This survey is repeatable and will be undertaken on a cyclic basis, building an ongoing record of the changing condition of the carriageway network. At the time of preparation of this report, the RoadAI carriageway data was being processed and evaluated by the Highways Asset Team and a U class condition indicator will be developed from this data. Prior to this new RoadAI survey being implemented the condition of the unclassified network was measured via visual inspections undertaken by highway Safety Inspectors whilst carrying out their cyclic inspection of the highway network.

**Table 4 – Condition of A Class Roads**

Council	THS/012a - A Roads - % in Red Condition										
	Length (km)	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Anglesey	145.20	3.40%	3.10%	3.69%	2.70%	2.30%	3.20%	2.90%	4.00%	4.60%	3.00%
Blaenau Gwent	44.62	7.20%	4.80%	3.60%	2.60%	2.30%	2.60%	2.60%			
Bridgend	104.00	5.70%	5.00%	5.24%	4.70%	5.20%	4.50%	4.00%			
Caerphilly	96.60	5.00%	5.40%	4.16%	4.50%	4.30%	4.60%	3.90%	4.10%	3.00%	3.20%
Cardiff	152.00	7.00%	4.00%	4.29%	3.70%	4.10%	3.30%	3.50%	3.30%	2.60%	2.80%
Carmarthenshire	249.10	6.60%	4.70%	4.34%	4.60%	4.30%	4.10%	5.20%	5.40%	4.10%	3.60%
Ceredigion	158.30	6.60%	5.90%	4.90%	5.12%	4.10%	4.20%	4.70%		3.20%	
Conwy	118.06	4.30%	2.60%	2.87%	2.90%	3.10%	3.50%	3.90%	4.30%	3.90%	
Denbighshire	139.80	5.60%	3.70%	3.51%	3.00%	2.70%	2.70%	3.40%	3.60%	3.50%	2.60%
Flintshire	152.00	2.20%	1.50%	1.23%	1.40%	1.50%	1.40%	1.70%	2.20%	2.10%	
Gwynedd	310.20	5.20%	4.40%	3.53%	3.10%	3.50%	3.20%	3.30%	3.50%	2.80%	2.60%
Merthyr Tydfil	27.62	5.30%	5.60%	3.47%	3.30%	3.20%	3.30%	3.60%	3.70%	2.70%	
Monmouthshire	59.00	4.20%	3.00%	2.56%	2.30%	2.10%	2.40%	2.70%	2.60%	2.70%	
Neath Port Talbot	140.19	7.90%	6.80%	5.87%	4.50%	4.10%	4.50%	5.30%	5.00%		
Newport	51.30	3.10%	3.30%	2.58%	2.20%	2.60%	2.60%	2.30%	2.70%	2.30%	2.10%
Pembrokeshire	160.30	5.70%	4.50%	4.94%	4.60%	5.40%	5.40%	4.80%	4.40%	3.90%	3.90%
Powys	238.20	4.70%	5.00%	3.35%	2.80%	3.60%	3.90%	3.90%	3.90%	3.40%	3.00%
Rhondda Cynon Taf	165.40	7.60%	8.10%	8.01%	7.20%	5.70%	5.20%	4.90%	4.70%	4.60%	3.70%
Swansea	102.30	3.70%	3.90%	3.18%	3.30%	3.20%	3.20%	4.10%	4.00%	3.10%	2.60%
Torfaen	26.00	2.30%	1.50%	1.18%	1.40%	1.70%	2.10%	2.50%			
Vale of Glamorgan	73.90	6.80%	6.00%	5.62%	5.90%	5.90%	6.54%	6.30%	6.00%	5.10%	
Wrexham	110.00	2.90%	2.80%	2.70%	2.30%	2.40%	2.40%	3.30%	3.80%	3.20%	3.50%
<b>Welsh Avg</b>		<b>5.14%</b>	<b>4.35%</b>	<b>3.86%</b>	<b>3.55%</b>	<b>3.51%</b>	<b>3.58%</b>	<b>3.76%</b>	<b>3.96%</b>	<b>3.38%</b>	<b>3.05%</b>

**Table 5 – Condition of B Class Roads**

Council	THS/012b - B Roads - % in Red Condition										
	Length (km)	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Anglesey	122.50	7.50%	5.90%	5.11%	3.80%	3.20%	4.40%	3.80%	3.80%	3.80%	2.80%
Blaenau Gwent	17.95	8.10%	6.80%	5.48%	4.80%	5.10%	5.60%	5.60%			
Bridgend	30.90	7.70%	6.10%	4.84%	4.90%	3.30%	4.20%	3.90%			
Caerphilly	64.80	6.30%	4.80%	3.44%	4.10%	3.70%	3.60%	3.40%	3.30%	2.40%	2.20%
Cardiff	32.00	8.40%	8.20%	7.34%	6.50%	7.10%	5.60%	4.70%	5.60%	4.10%	3.30%
Carmarthenshire	331.50	7.70%	5.50%	3.61%	4.00%	3.50%	3.10%	4.20%	4.70%	3.40%	2.80%
Ceredigion	325.00	10.00%	7.70%	5.40%	5.17%	3.10%	3.00%	3.50%		2.00%	
Conwy	173.28	7.30%	6.50%	6.06%	4.30%	4.30%	4.30%	5.80%	5.90%	4.80%	
Denbighshire	133.70	9.30%	8.80%	7.71%	6.50%	5.80%	5.10%	4.70%	5.30%	5.00%	3.80%
Flintshire	78.00	2.80%	1.20%	1.34%	1.50%	1.30%	1.30%	1.40%	1.80%	1.90%	
Gwynedd	204.22	5.30%	4.70%	3.72%	3.40%	3.90%	3.80%	3.90%	3.90%	3.00%	2.50%
Merthyr Tydfil	12.13	11.80%	14.40%	10.83%	8.80%	8.60%	7.40%	6.20%	7.10%	7.20%	
Monmouthshire	151.00	6.10%	5.30%	5.30%	5.10%	4.30%	4.90%	4.70%	5.10%	5.20%	
Neath Port Talbot	63.42	6.70%	5.20%	4.04%	2.60%	2.40%	2.90%	2.90%	2.80%		
Newport	46.70	6.50%	6.00%	4.99%	4.00%	4.20%	4.40%	4.20%	5.00%	4.40%	3.10%
Pembrokeshire	240.90	6.90%	5.10%	4.97%	4.00%	4.40%	5.20%	5.60%	5.40%	4.10%	3.40%
Powys	604.10	9.40%	8.60%	5.98%	5.20%	5.50%	5.70%	5.30%	5.10%	4.50%	4.10%
Rhondda Cynon Taf	76.20	9.90%	8.40%	6.43%	7.10%	5.90%	6.20%	6.50%	6.20%	5.90%	4.80%
Swansea	101.60	5.70%	5.60%	4.04%	4.50%	5.00%	4.50%	5.10%	5.10%	4.20%	3.10%
Torfaen	17.00	6.20%	5.60%	5.60%	5.60%	4.20%	4.30%	4.80%			
Vale of Glamorgan	57.80	5.90%	4.80%	5.04%	4.70%	4.20%	4.20%	4.96%	4.10%	5.20%	
Wrexham	142.50	5.70%	4.60%	2.83%	2.70%	2.70%	2.40%	2.60%	2.90%	2.60%	3.00%
<b>Welsh Avg</b>		<b>7.33%</b>	<b>6.35%</b>	<b>5.19%</b>	<b>4.69%</b>	<b>4.35%</b>	<b>4.40%</b>	<b>4.40%</b>	<b>4.67%</b>	<b>4.09%</b>	<b>3.24%</b>

**Table 6 – Condition of C Class Roads**

Council	THS/012c - C Roads - % in Red Condition										
	Length (km)	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Anglesey	360.90	17.60%	17.60%	15.80%	13.40%	10.10%	8.90%	8.70%	8.20%	8.50%	8.20%
Blaenau Gwent	55.25	17.70%	10.50%	9.44%	7.00%	6.40%	6.10%	5.50%			
Bridgend	108.10	11.80%	11.40%	12.78%	10.10%	8.90%	8.60%	8.00%			
Caerphilly	152.40	13.40%	12.80%	9.90%	9.20%	8.70%	7.30%	6.60%	6.00%	4.90%	4.70%
Cardiff	106.00	12.80%	10.10%	9.29%	6.60%	6.90%	6.00%	5.80%	5.60%	4.50%	4.60%
Carmarthenshire	1,271.50	21.80%	20.40%	15.56%	13.70%	11.60%	11.90%	12.50%	12.50%	12.00%	11.70%
Ceredigion	840.60	22.60%	21.60%	21.90%	21.02%	19.10%	19.40%	17.30%		14.70%	
Conwy	485.86	13.80%	17.10%	16.95%	15.30%	15.70%	14.04%	15.40%	15.50%	15.10%	
Denbighshire	521.60	13.90%	14.50%	12.95%	13.30%	10.50%	10.20%	8.20%	8.30%	7.60%	7.50%
Flintshire	262.00	8.00%	6.90%	7.25%	6.30%	5.00%	5.30%	5.80%	4.90%	5.30%	
Gwynedd	923.25	10.30%	14.70%	14.23%	15.80%	15.20%	14.10%	14.50%	14.20%	12.90%	11.00%
Merthyr Tydfil	34.77	8.40%	6.70%	5.93%	5.20%	5.20%	4.00%	4.10%	3.90%	3.30%	
Monmouthshire	459.00	9.90%	14.20%	13.41%	12.30%	8.00%	7.70%	7.30%	7.60%	7.70%	
Neath Port Talbot	53.08	9.60%	8.20%	7.04%	5.90%	5.40%	5.30%	5.30%	5.70%		
Newport	142.40	11.00%	10.70%	10.63%	7.00%	6.90%	7.10%	6.90%	7.40%	6.40%	5.90%
Pembrokeshire	979.60	15.60%	14.90%	10.80%	7.50%	7.70%	7.20%	8.90%	9.40%	8.50%	7.60%
Powys	2,102.00	26.00%	26.70%	27.09%	25.10%	24.40%	23.00%	21.60%	22.00%	19.60%	17.90%
Rhondda Cynon Taf	123.50	13.90%	13.60%	13.28%	11.60%	10.20%	6.20%	3.00%	3.50%	3.40%	2.30%
Swansea	127.90	10.40%	10.10%	7.10%	7.30%	6.80%	6.70%	6.90%	7.00%	6.20%	5.20%
Tarfaen	85.00	9.10%	8.70%	7.58%	7.00%	6.00%	5.30%	5.10%			
Vale of Glamorgan	311.30	16.20%	15.10%	13.91%	12.30%	11.20%	10.47%	9.70%	10.30%	8.10%	
Wrexham	370.50	21.00%	24.00%	21.55%	19.70%	18.50%	16.30%	16.20%	19.00%	18.90%	19.70%
<b>Welsh Avg</b>		<b>14.31%</b>	<b>14.11%</b>	<b>12.93%</b>	<b>11.48%</b>	<b>10.38%</b>	<b>9.60%</b>	<b>9.24%</b>	<b>9.50%</b>	<b>9.31%</b>	<b>8.86%</b>

58. As discussed above the highway's teams adopt a risk-based approach to the development of highway improvement schemes and repairs. A number of innovative machine-based and manual survey techniques inform this process, for example:

- Vaisala RoadAI video survey (as discussed above)
- SCANNER machine-based laser condition survey of the classified A, B and C class carriageways.
- SCRIM skid resistance machine survey
- Manual pendulum test skid resistance surveys (localised areas)
- Cyclic safety inspections managed from inspection to repair via the AMX asset management system.
- Core tests and trial holes.
- Chemical analysis to identify existing tar-bound surfacing.
- Engineers site inspections.

59. **Carbon Reduction** - The Council's One Planet carbon reduction policies play an important role in the delivery of the Highway Maintenance service. The service is actively seeking effective new working practices to achieve carbon reduction and help Cardiff become a carbon neutral city by 2030.

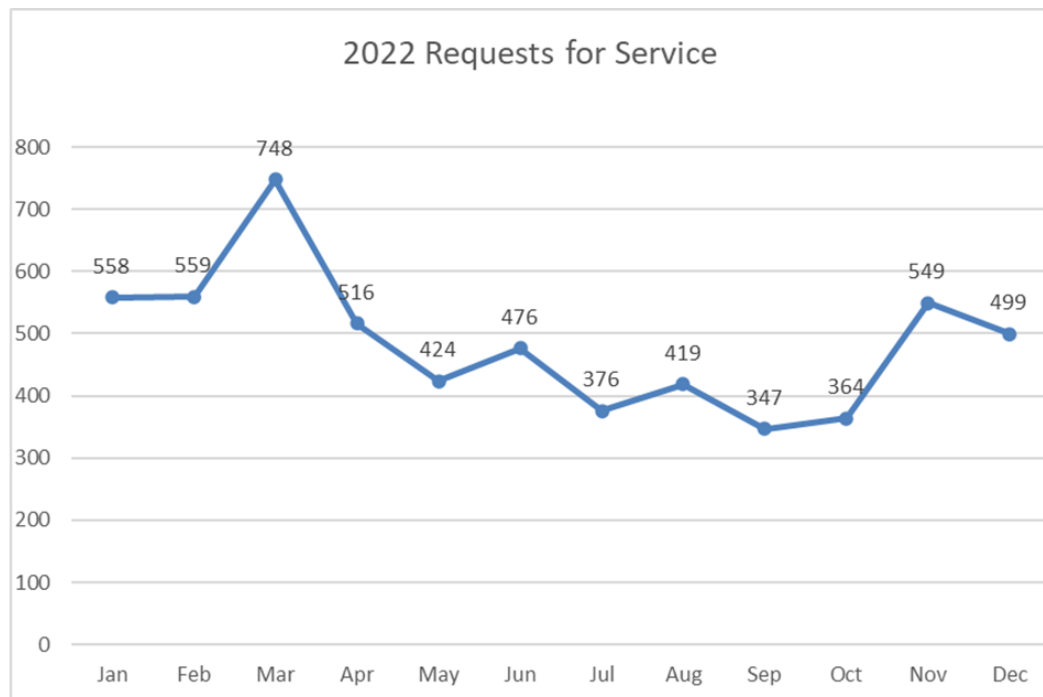
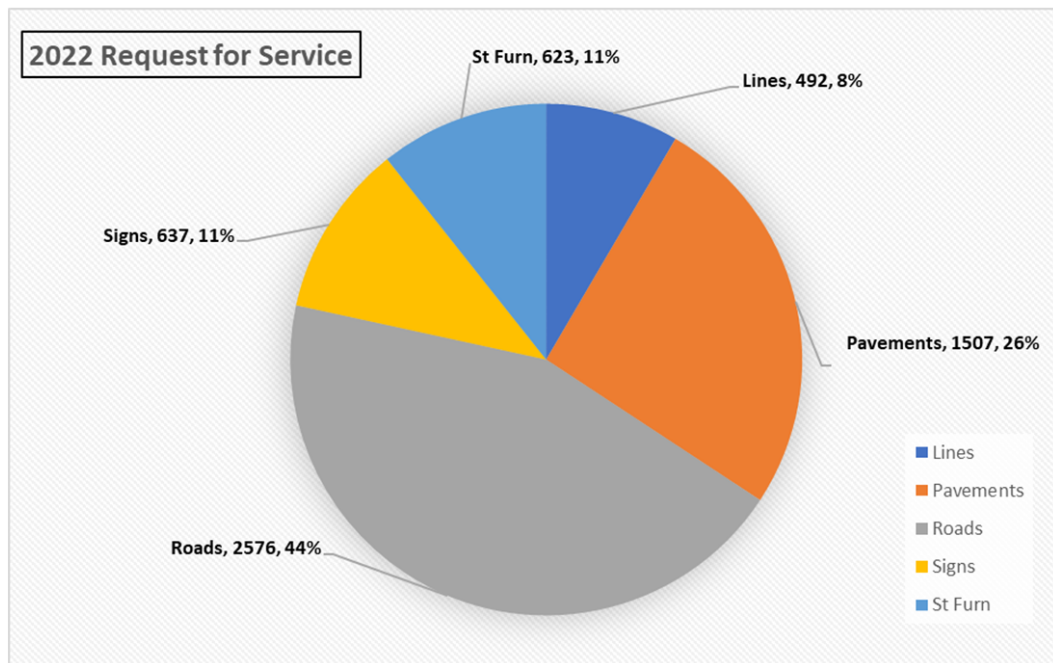
60. For example, warm mix asphalts are used wherever possible replacing traditional hot mixes and carriageway asphalt arisings (the removed existing asphalt surface) from resurfacing schemes are recycled by the contractor for future use. Also, utilising a new maintenance contract, arisings from routine repairs and maintenance will be recycled or reused wherever possible.

61. Preventative cold applied surface treatments are frequently used on carriageways and footways wherever appropriate.

62. Wales's first carbon neutral highway surfacing scheme utilising recycled steel slag in place of virgin quarried stone aggregate was delivered on



- 1.2km of the A470 Northern Avenue in 2022 with support of One Planet funding.
- 13,000m<sup>2</sup> of surfacing
  - First Net Zero Carbon Emissions scheme in Wales
  - Cost approx. £500k - One Planet Cardiff contributed £200k
63. At the time of preparation of this report the Highways teams were awaiting a response from the One Planet steering group for the funding of another innovative carbon reduction trial. This latest trial is taking the model used on the A470 described above a step further seeking to create genuinely Carbon Zero surfacing materials, without offsetting, using Biochar to sequester Carbon to form a carbon sink and Lignin (a natural plant material) as a bitumen replacement.
64. The service has had an ongoing programme of replacing existing street lighting units with modern efficient LED units across the entire network. As a result of the efficiencies associated with LED's and its reduced energy consumption, it will contribute favourably towards the Councils carbon reduction targets.
- Strategic Network – 16,500 LED units
  - Residential Network – 23,500 LED units
  - Over £1.2m energy savings/annum
  - Thousands of Tonnes of carbon emission reduction
65. The Highway teams will continue to seek innovative carbon reduction initiatives as technology and operational opportunities emerge. In addition, the engineers work closely with the County Surveyors Society all Wales HAMP project which is looking to develop models and approaches to assist Highway Authorities implement and measure Carbon reduction solutions.
66. It should be noted there is a general consensus in the construction industry that the adoption of new low carbon engineering opportunities may be more costly than traditional repairs, treatments and approaches.
67. **Customer Demand** - AMX records customer contacts regarding carriageways, footways, street furniture and road markings, the charts below show contact statistics for requests for service in 2022. There were over 5,800 annual requests, which on average equates to approx. 480 per month and over 110 per week. There are seasonal peaks between January and April because of the effects of winter weather on carriageway condition.



- 68. **Conclusion on Issues** - As described in this issues section, increased costs and reducing budgets, coupled with numerous external pressures and ongoing deterioration, are placing Highway Maintenance functions funded from both Capital and Revenue sources under significant pressure.
- 69. Whilst the highway teams have developed processes utilising available asset data and adopting risk-based approaches to best allocate funding to areas of greatest need, the increasing demand and consequent reduced availability of budget will mean that fewer repairs and improvements are able to be delivered. Therefore, increasing the risk of 3rd party insurance claims and reducing customer satisfaction in the condition of the highway asset.

**Local Member consultation (where appropriate)**

70. No requirement for consultation.

**Reason for Recommendations**

71. To note the current state of the Highways Asset infrastructure within the Highway Asset Management Plan – 3 (HAMP) which will inform the Cabinet's recommendations to Council for the Revenue and Capital 2024/25 and Medium-Term budget setting process.

**Financial Implications**

72. This report presents for approval by Cabinet the updated Highway Asset Management Plan setting out the proposals for future management and investment of the highway and associated assets. It further recommends that Cabinet note the steady state and revenue investment proposals as detailed within the plan and considers future funding levels that may be required in order to move towards this target of investment.
73. This report identifies a significant budget gap for future years between the current capital budget allocations and the investment level deemed necessary to achieve steady state, without reliance on additional Council resources. It must therefore seek to identify alternative external funding sources, actions, mitigations and efficiencies which enable the service to close the gap.
74. The Directorate must not undertake any activity approved as part of the future plan which cannot be managed within available budgets without impacting on existing maintenance obligations and minimum condition standards. Any additional funding requirements will need to be considered along with other pressures as part of the medium-term budget planning process.
75. The Directorate must ensure that at all times spend is managed within available capital and revenue resources and in accordance with relevant inspection policies. This will necessitate prioritisation of work and diversion of resources as appropriate in order to maximise resources within a cost effective and risk-based planned maintenance programme.
76. The report identifies the pressures on the service which include inflationary cost increases, customer demand, environmental conditions and increased traffic volume against a backdrop of significant ongoing repairs and investment requirements.

77. An additional £2 million capital funding was allocated for 2023/24 as part of the Capital Programme budget approved by Council in March 2023. Priorities for this funding are detailed in paragraph 22 which highlight that related spend will be directed toward the asset with the highest demand and level of deterioration.
78. It is essential that the Directorate use all means available to identify priorities for available capital and revenue budgets which meet existing commitments, reducing highway liability and risk as far as possible and which allocates resources to the areas of greatest need.
79. Alternative funding sources and efficiencies must be maximised and mitigations identified to manage the position and to further develop the medium to long term strategy.

#### **Legal Implications (including Equality Impact Assessment where appropriate)**

80. Legal Services have not considered the Highway Asset Management Plan document annexed to this report in detail but understand from the body of this report that it contains a number of potential schemes and initiatives. Legal advice should be obtained on each such scheme and initiative prior to being implemented to ensure the same can be achieved within legal constraints.
81. To the extent that any proposed scheme and initiative involves the procurement of works, goods or services then the Council must comply with its Contract Standing Orders and Procurement Rules and procurement legislation.
82. In addition, to the extent that any of the proposed schemes and initiatives are dependent on the making of any orders or the obtaining of any consents or the like then it will be necessary to follow the appropriate statutory processes. By way of example only if a scheme is dependent on the making of a traffic regulation order (TRO) then the outcome cannot be guaranteed as individuals have the right to object. Due and proper consideration would need to be given to any such objections in determining how to proceed.
83. The body of the report notes the Councils legal duty imposed by Section 41 of the Highways Act 1980 (“the Act”) to maintain highways which are maintainable at public expense. The section itself does not specify what is the standard required of the highway authority in executing this duty. Case law has however established, that the duty to maintain a highway requires maintenance of a standard necessary to accommodate the ordinary traffic which passes or may reasonably be expected to pass along the highway. Therefore, the extent of the duty will vary according to the type of highway and the type of traffic that may normally be expected on it.

84. In addition, it should be noted that claims can be brought against a highway authority for alleged failure to maintain the highway. Section 58 of the Act provides a defence against such claims where the highway authority can be shown to have taken such care, as in all the circumstances was reasonably required to secure that the part of the highway to which the claim relates was not dangerous. It is understood that the preparation and approval of the Highway Asset Maintenance Plan will, in part, assist the Council to demonstrate the approach adopted to carry out highway inspections.

#### Equality and Socio-Economic Duty

85. In considering this matter, the Council must have regard to its public sector equality duties under the Equality Act 2010 (including specific Welsh public sector duties). This means the Council must give due regard to the need to (1) eliminate unlawful discrimination, (2) advance equality of opportunity and (3) foster good relations on the basis of protected characteristics. The protected characteristics are: age, gender reassignment, sex, race – including ethnic or national origin, colour or nationality, disability, pregnancy and maternity, marriage and civil partnership, sexual orientation, religion or belief – including lack of belief.
86. When taking strategic decisions, the Council also has a statutory duty to have due regard to the need to reduce inequalities of outcome resulting from socio-economic disadvantage ('the Socio-Economic Duty' imposed under section 1 of the Equality Act 2010). In considering this, the Council must take into account the statutory guidance issued by the Welsh Ministers (WG42004 A More Equal Wales The Socio-economic Duty Equality Act 2010 (gov.Wales) and must be able to demonstrate how it has discharged its duty.
87. An Equalities Impact Assessment aims to identify the equalities implications of the proposed decision, including inequalities arising from socio-economic disadvantage, and due regard should be given to the outcomes of the Equalities Impact Assessment.

#### Well-Being of Future Generations (Wales) Act 2015

88. The Well-Being of Future Generations (Wales) Act 2015 ('the Act') places a 'well-being duty' on public bodies aimed at achieving 7 national well-being goals for Wales – a Wales that is prosperous, resilient, healthier, more equal, has cohesive communities, a vibrant culture and thriving Welsh language, and is globally responsible.
89. In discharging its duties under the Act, the Council has set and published well-being objectives designed to maximise its contribution to achieving the national well-being goals. The well-being objectives are set out in Cardiff's Corporate Plan 2023-26. When exercising its functions, the Council is required to take all reasonable steps to meet its well-being objectives. This means that the decision makers should consider how the proposed decision will contribute towards meeting the well-being

objectives and must be satisfied that all reasonable steps have been taken to meet those objectives.

90. The well-being duty also requires the Council to act in accordance with a 'sustainable development principle'. This principle requires the Council to act in a way which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs. Put simply, this means that Council decision makers must take account of the impact of their decisions on people living their lives in Wales in the future. In doing so, the Council must:

- Look to the long term
- Focus on prevention by understanding the root causes of problems
- Deliver an integrated approach to achieving the 7 national well-being goals
- Work in collaboration with others to find shared sustainable solutions
- Involve people from all sections of the community in the decisions which affect them
- The decision maker must be satisfied that the proposed decision accords with the principles above; and due regard must be given to the Statutory Guidance issued by the Welsh Ministers, which is accessible using the link below:  
<http://gov.wales/topics/people-and-communities/people/future-generations-act/statutory-guidance/?lang=en>

### General

91. The Council has to be mindful of the Welsh Language (Wales) Measure 2011 and the Welsh Language Standards when making any policy decisions and consider the impact upon the Welsh language, the report and Equality Impact Assessment deals with all these obligations. The Council has to consider the Well-being of Future Guidance (Wales) Act 2015 and how this strategy may improve the social, economic, environmental and cultural well-being of Wales.

92. Cabinet must be satisfied that the proposal is within the Policy and Budget Framework, if it is not then the matter must be referred to the Council. All decisions taken by or on behalf the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers of behalf of the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Council Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances

### HR Implications

93. There are no HR implications for this report.

### **Property Implications**

94. There are no property implications for this report.

## RECOMMENDATIONS

Cabinet is recommended to:

- (1) To note the current state of the Highways Asset Management Plan - 3 (HAMP) which will inform the Cabinet's recommendations to Council for the Revenue and Capital 2024/25 and Medium-Term budget setting process.
- (2) Approve the expenditure of £2Million funding within 2023/24 budget against the carriageway asset as identified in this report to limit ongoing deterioration concerns relating to carriageways.

<b>SENIOR RESPONSIBLE OFFICER</b>	<b>Director Name – Andrew Gregory</b>
	Date submitted to Cabinet office.

*The following appendices are attached:*

Appendix A - Previously presented HAMP 2 (approved by Council Executive in February 2012 (Decision No. EXECM/11110 Min No. 121)

Appendix B - Highway Asset Management Plan – 3 (HAMP)



**Final DRAFT – v3.0**

**Cardiff Council**

**Highway Asset Management Plan**

**2012 - 2015**





## Contents

Document Control .....	4
Executive Summary .....	5
1. Introduction and Asset Description .....	7
2. Community Requirements .....	12
3. Future Demands .....	14
4. Investment Strategies .....	16
5. Levels of Service .....	16
6. Financial Summary .....	17
7. Risk Management .....	18
8. Asset Management Planning .....	19
9. Management & Control of the Plan .....	21
Appendix A: - Lifecycle Plan Content .....	22
Appendix B: - Improvement Action Plan .....	23
Appendix C: - Carriageway Proposals .....	25
Appendix D: - Footway Proposals .....	29
Appendix E onwards – Lifecycle Plans for other Highway Assets	31

## Document Control

Version Number/Date	Approved by Council
3.0 – February 2012	Executive Business Meeting – 16 <sup>th</sup> February 2012
<b>Next Update Due</b>	February 2015

## Executive Summary

### Context

This highway asset management plan (HAMP) is Cardiff Council's 2<sup>nd</sup> and covers the period 2012-2015. HAMP progress was last reported to the Council's Executive in December 2008. The government is encouraging councils to formalise their approach to highway asset management. This plan confirms the council's commitment to doing so.

### Purpose

The HAMP will develop and formalise strategies for investment in highway assets over the plan period. It will develop affordable service standards and set out how improvements to how the highway asset is managed can be achieved, all with the aim of enabling a better value for money service to be delivered. It should be noted that the asset management plan alone will not deliver the benefits possible from improved highway asset management. **To realise these benefits a combination of data, processes, skills, resources, finance and information systems are required.** Consequently, an improvement action plan has been developed (see appendix D) which describes the activities being undertaken in order to further develop asset management planning within Cardiff.

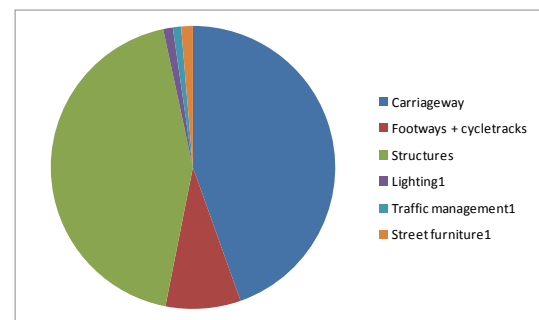
### The Asset

Our highways are used by most people, most days providing critical access to services. An efficient highway asset, in an appropriate condition is the backbone of the local economy.

The asset comprises of:

- 1088km of carriageway
- 1,900km of footway
- 359 bridges
- 37,045 street lights

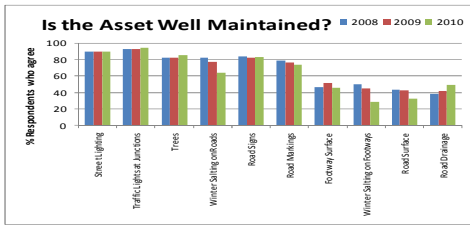
Plus various items of street furniture. It has a replacement cost valuation of £ 2.7bn



### Demands

Demands on the highways continue to grow and include traffic growth that means that many roads carry levels of traffic they were not designed for and approximately 11,000 road openings each year causing disruption to travel and disturbance to the road structure. Recent harsh winters have also resulted in an increase in the number of defects and repairs and increased level of surface water ponding has been caused by more frequent and more extreme storm events.

## Community Expectations



Customer surveys over the last 3 years indicate that footway and road surfaces are not felt to be as well maintained as other highway assets and that the level of satisfaction with these assets has also fallen over the last 3 years.

This information has been used together with day to day customer contact data to influence the strategies contained in this plan and in particular have led to the commitment to increase the funding allocated to carriageways and footways.

## Demands

Increasing demands on the highway asset include:

- Traffic growth; many roads carry levels of traffic they were not designed to carry
- Utility activity; >11,000 road openings per year disrupting the structure of the road
- Recent harsh winters; causing a surge of defects that needed repair
- More frequent storms; causing an increased potential for surface water ponding/flooding/erosion.

## Investment Strategy

**\*/\*\*Subject to Approval of Budget setting in February 2012 Council and WG Highways Funding Terms and Conditions 2012-2015 for Cardiff**

The plan is based on the following investment strategy for carriageways and footways which:

- Current baseline funding of approx £4.6 m continues through and beyond the 2012 to 2015 investment period
- A Welsh Government prudential borrowing strategy totalling £14m\* will be spent on the highway network over the investment period of 2012 to 2015.
- To achieve a steady state maintenance regime additional revenue of £2.3 m\*\* will be built between 2012-2016 to achieve a base budget of £6.9M in parallel to the 3 year investment period is deemed essential to capture the medium to long term benefit of the capital injection.
- All future budget figures are subject to rises in inflation and annual budget reports to Council. In addition, material costs (i.e. Asphalt) are sensitive to fluctuations in oil prices which must be considered.

## Introduction and Asset Description

### 1.1 Overview

Asset management is recognised as an appropriate way of managing highway assets. The Welsh Government actively encourages councils to develop asset management plans for their highway assets. The principle is also promoted by the 2005 Code of Practice for Highway Maintenance Management "Well Maintained Highways".

This HAMP covers 2012 – 2015 and has been prepared by updating the first HAMP to take into account:

- Current financial constraints
- Recent national and regional developments in asset management
- Changes in local practice since Cardiff's first HAMP was published
- On-going CSS Wales work to develop highway asset management in Wales

### 1.2 Purpose

The purpose of the HAMP is to:

- Define working practices to embed asset management planning into the highway service
- Formalise strategies for investment in highway assets
- Define affordable service standards
- Improve how the highway asset is managed,
- To enable a better value for money service to be delivered

### 1.3 Links to Other Plans

The linkage between the HAMP and other Council plans/ strategy documents is shown below:

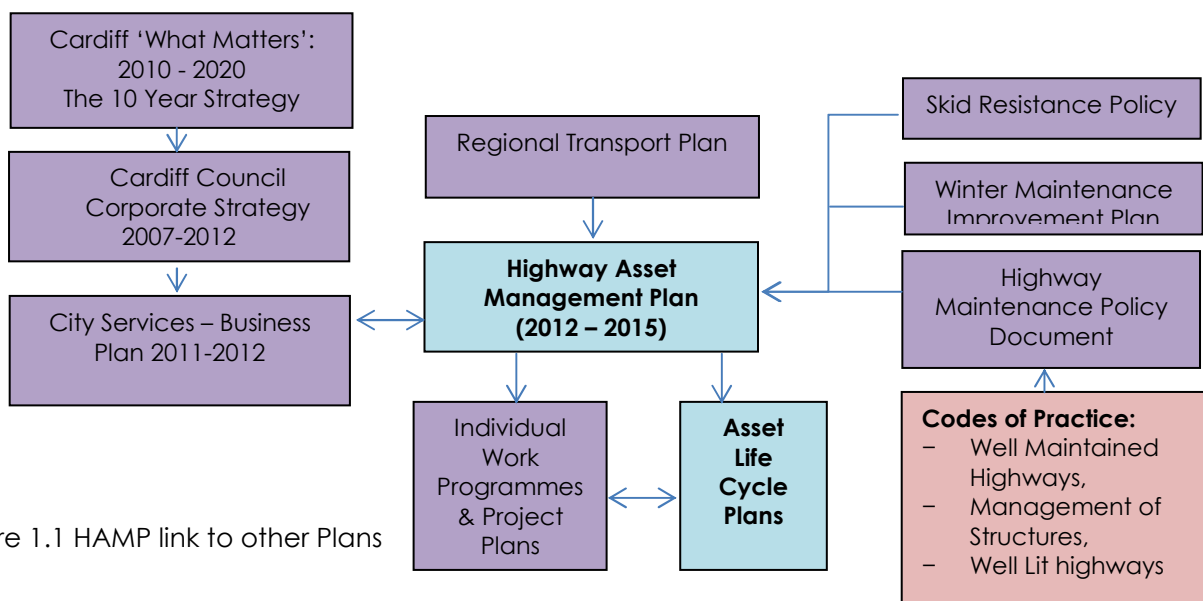


Figure 1.1 HAMP link to other Plans

## 1.4 Development of Life Cycle Plans

A lifecycle plan (LCP) will be created for each major asset group documenting how the asset group is managed. It provides a definition of the standards that are applied to the asset group in question and details the processes that are used to ensure that the standards are delivered. Production and updating of the lifecycle plans also captures local knowledge of key staff. Life cycle plans will be developed for major asset groups in 2012/13

## 1.5 Asset Description

A comprehensive asset data collection exercise has been undertaken in order to understand the composition of the highway asset, results of which can be seen below. This information will be used to inform the lifecycle planning process discussed above.

Asset Group	Element	Quantity	Data Confidence	To be Included in;
Carriageway	Including lay-bys, bus lanes etc.	1,088 km	Medium	C/way LCP
Footway	Adjacent to carriageway	1,900 km	Low	F/way LCP
Footpath	Remote from c/way (surfaced ROWs)	200 km	Low	
Cycleway	On c/ways; shared with f/ways; remote from c/ways	103 km	Medium	
Structures	Bridge	359 No	Medium	Structures LCP
	Footbridge	23 No	Medium	
	Culvert > 0.9m < 1.5m	1,604 m	High	
	Retaining Wall	5122m	Low	
	Underpass / Subway	1,028m	High	
Street Lighting	Lighting columns	37,045	Medium	Lighting LCP
	Illuminated Signs and Posts	5,083 No	Medium	
	Illuminated Bollards	437	Medium	
Traffic Signals	Signalised junctions – <i>under City Management control</i>	196	High	Traffic Signal LCP
	Signalised pedestrian crossings – <i>under City Management control</i>	115	High	
Safety Fences	Vehicle safety fences	68,000 m	Medium	Street Furniture LCP
Non illuminated Signs	Warning, Regulatory and local direction/information signs/posts	23,000 No	Medium	Signs & Road Markings LCP
Drainage	Gullies, piped drains, watercourses, roadside ditches, swales, etc.	Gullies TBA - Remainder unknown	Low	Drainage LCP
Traffic Calming	Including Tables, Humps, Chicanes etc.	TBA	TBA	TBA
Road Marking	All road markings	900 km	Medium	Signs & Road Markings LCP
Verges and Planted Areas	Verges, soft landscaped areas – <i>under Parks Services control</i>	TBA	TBA	TBA
Rights of Way	Public Rights of Way	180km	Medium	Rights of



Asset Group	Element	Quantity	Data Confidence	To be Included in;
				Way LCP
Street Furniture	Bollards	22,000 No	Medium	Street Furniture LCP
	Pedestrian Guardrail	20,000 m	Medium	
	Street Name Plates	8,815 No	Medium	
	Bins – <i>under Waste Management control</i>	3,000 No	Low	
	Trees – <i>under Parks Services control</i>	12,000 No	Medium	
	Grit bins	400	Medium	
	Cattle grids	3	Medium	
	Seating	411 No	Low	
	Weather Stations	7 No	High	
	Bus Shelters – <i>under City Management control</i>	1,419 No	Medium	

The level of data confidence represents a combination of 'extent', the amount of data available and the 'accuracy' of that data. Appendix D show the actions planned to improve asset data

## 1.6 Assets Not Covered by this Plan

Highway related assets that the Highways Maintenance Service does not maintain and are the responsibility of other council departments and are not covered in this HAMP are as follows:

- Council Car parks
- Footways and footpaths in council housing estates

## 1.7 Asset Management Responsibilities

The table below illustrates how the ongoing development and implementation of this plan (HAMP) is the responsibility of a number of individuals within the Council. It is important to remember that the integration of Asset Management principles into the day to day running of service will be a key measure of success. As discussed earlier a significant factor in achieving this will be the development of lifecycle planning in all asset groups.

HAMP Area	Main Council Position(s) Responsible
HAMP Document Approval	<ul style="list-style-type: none"> <li>- Council's Executive</li> <li>- Elected Member (portfolio holder) responsible for Highways</li> <li>- Chief Officer City Services</li> </ul>
HAMP implementation and practice improvements	<ul style="list-style-type: none"> <li>- Chief Officer City Services</li> <li>- Asset Manager (Highways)</li> </ul>

	- Operational Managers (Highways)
HAMP document updating and reporting	- Asset Manager (Highways)
Finance and Valuation	- Asset Manager (Highways) - Council Finance Section - Asset Owners (all)
HAMP Data	- Asset Manager (Highways) - Asset Owners (all) - Highways UKPMS / data section - Council GIS section
HAMP Risk	- Asset Manager (Highways) - Asset Owners (all) - Councils Corp Risk section
Carriageway lifecycle plan	- Asset Owner – Carriageways
Footway lifecycle plan	- Asset Owner – Footways
Street lighting lifecycle plan	- Asset Owner – Street Lighting
Structures lifecycle plan	- Asset Owner – Highway Structures
Traffic signals lifecycle plan	- Asset Owner – Traffic Signals
Street furniture lifecycle plan	- Asset Owner – Street Furniture
Signs & Road Markings lifecycle plan	- Asset Owner - Signs & Road Markings
Drainage lifecycle plan	- Asset Owner - Drainage
Rights of Way lifecycle plan	- Asset Owner – Rights of Way

## 1.8 Council Strategic and HAMP Objectives:

The Council's current objectives for the highway asset as outlined in the corporate plans noted above have been summarised in the figure below:

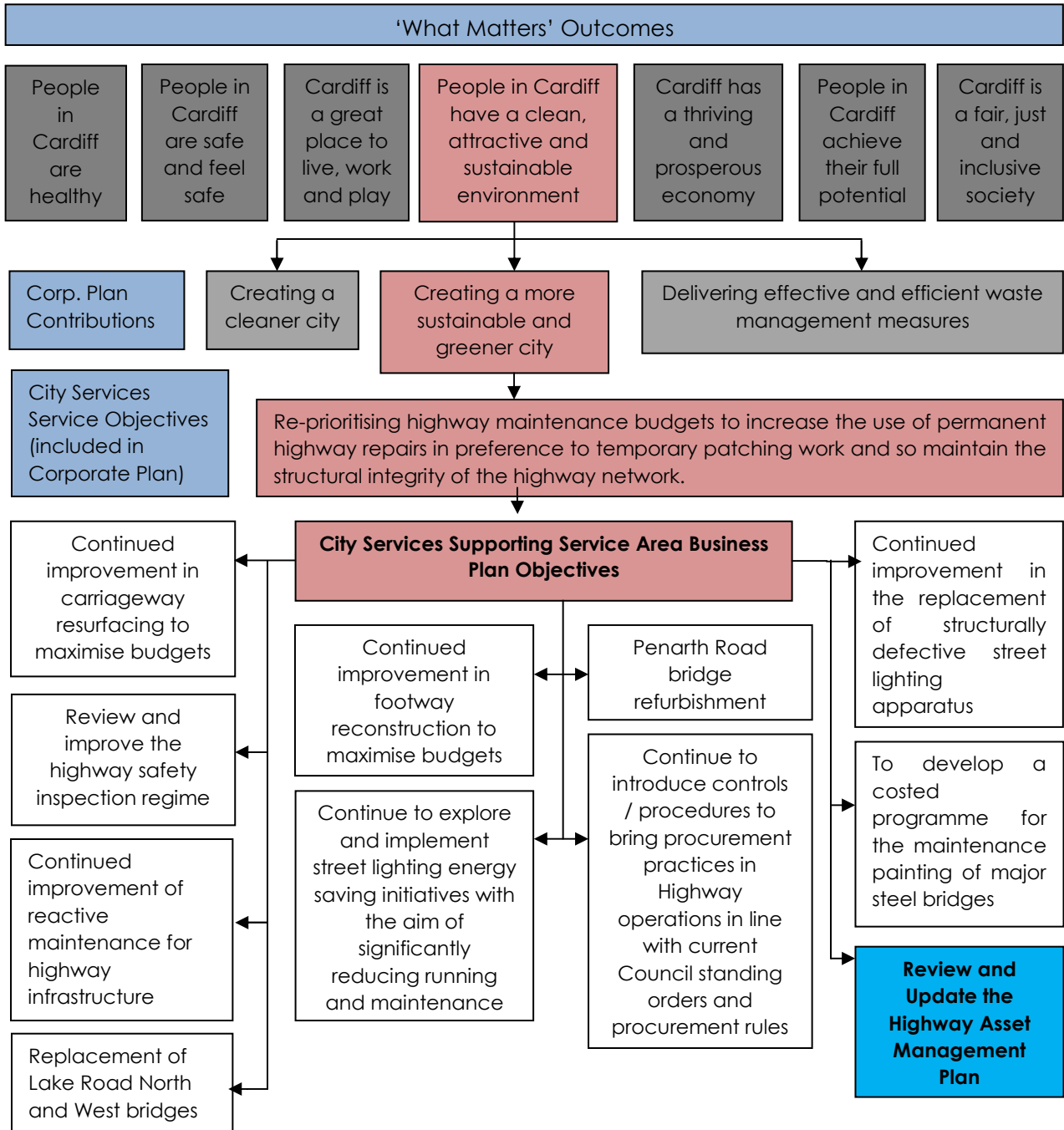


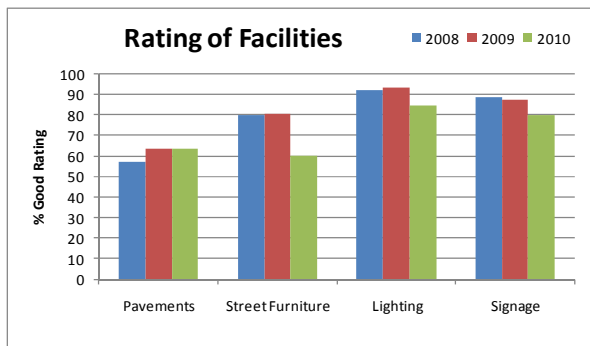
Figure 1.2 Council Objectives for the Highway Asset

## 2. Community Requirements

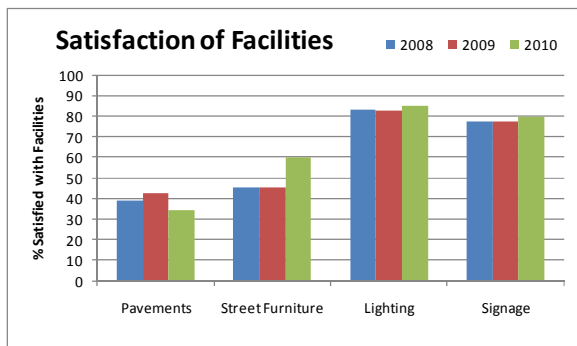
A range of information is used to identify community requirements for the highway asset including customer surveys, member feedback and data from customer contacts.

### 2.1 Customer Consultation

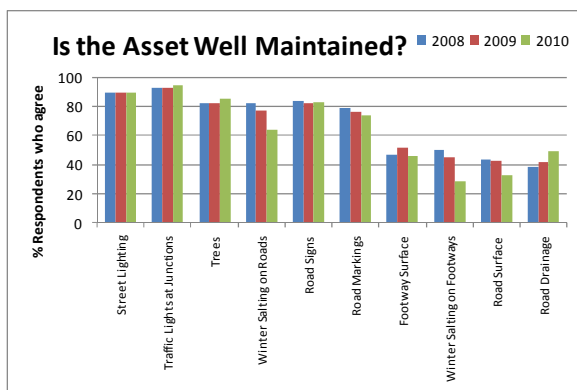
An annual customer consultation, The 'Ask Cardiff' survey, is used to obtain information on the level of satisfaction with highway assets. The survey uses a large and representative sample of residents with the results then extrapolated to represent the whole population. The survey has been completed annually since 2008. The questions are the same each year which allows comparisons to be made over time. Relevant results for 2008 to 2010 are shown below.



Rating given to pavement lags behind the other asset types.



Satisfaction with pavements is comparatively low and has decreased over the last 3 years.



Opinion on if the asset is well maintained shows a comparatively low level of satisfaction with footway and road surfaces.

Overall the results indicate that the pavements are a source of dissatisfaction for many users.

### 2.2 Customer Contact

A summary of contacts received by the Council in relation to its highways is shown below:

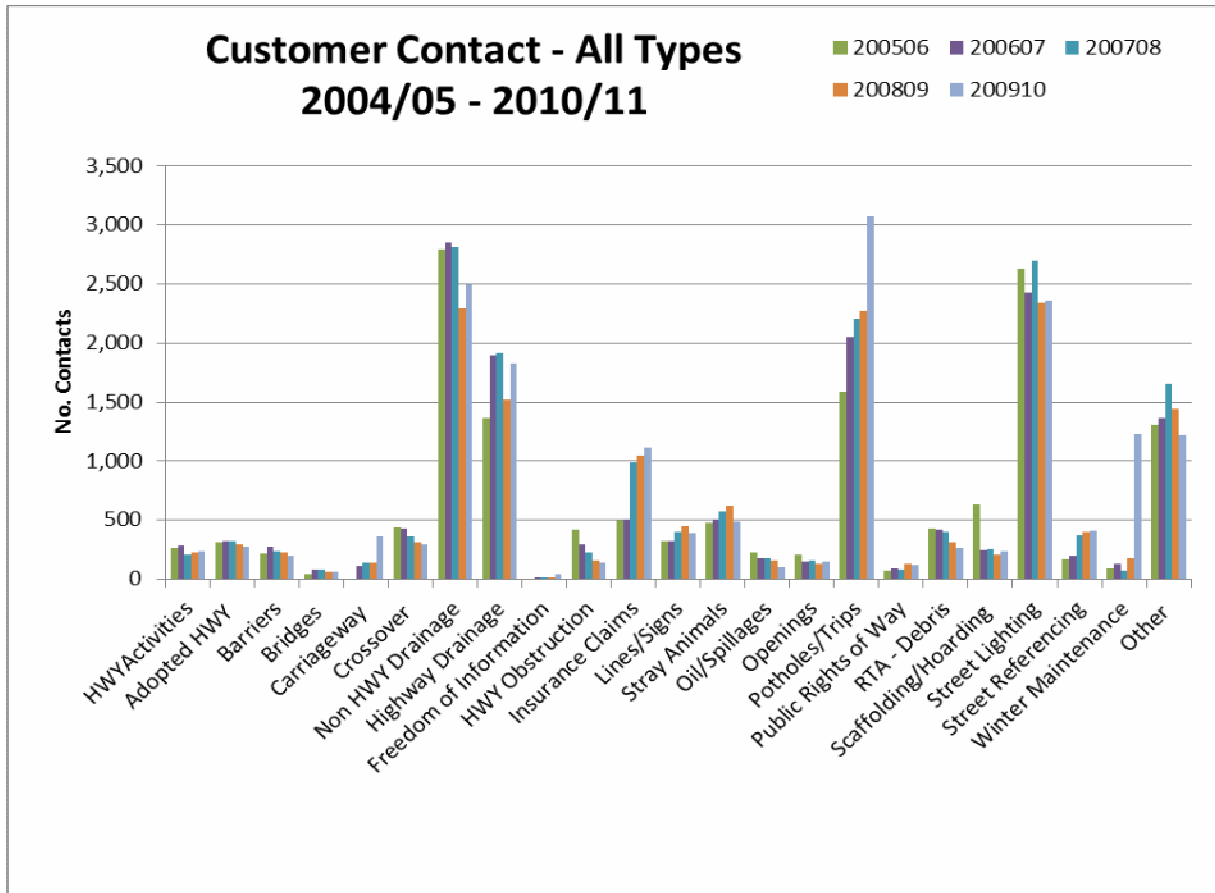


Figure 3.4: C2C Output for Highway Service

“Other” includes community alarms, weather warnings, general correspondence, and out of hour’s calls passed onto other service areas.

A significant amount of customer contact is generated in respect of drainage, potholes and trips and street lighting. The number of contacts regarding potholes and trips has increased markedly over the last 4 years.

In addition to the figures illustrated above, the Council processes over 10,000 RASWA notices per annum (notices for organisation wishing to undertake works on the highway) and more than 5,000 applications for skips and containers.

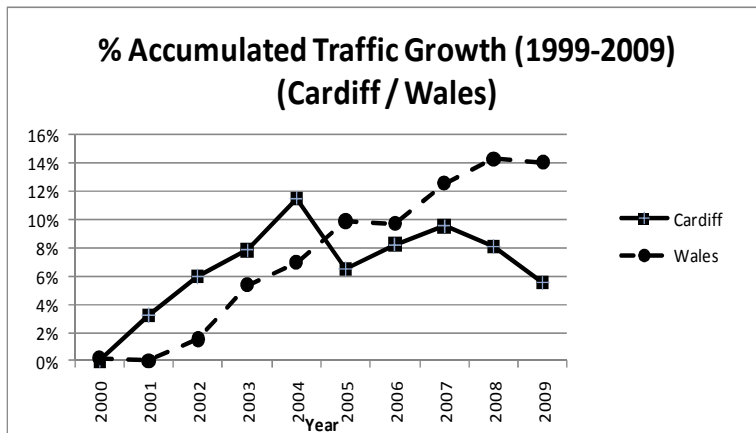
### 3. Future Demands

#### 3.1 Asset Growth

New assets continue to be added creating an additional need for maintenance and management. The asset is growing marginally year on year due to the adoption of additional

roads into the network and through improvement activities such as the development of traffic safety schemes and bus lanes etc. Over the last 6 years the asset has grown by 2.1km (0.2%).

### 3.2 Traffic Growth and Composition



Traffic on the network has grown over the last 10 years as illustrated here.

Traffic growth has meant that a number of roads are now carrying levels of traffic that they were not designed to carry. This creates an increasing need for maintenance.

Figure 4.1: % Accumulated Traffic Growth (1999-2009)

<http://www.dft.gov.uk/pgr/statistics/datatablespublications/roads/traffic/annual-volm/tra8903.xls>

In addition to growth in traffic volumes some specific routes, for example Rover Way, have experienced very significant growth in use by heavy vehicles accelerating the rate of deterioration. It is proposed that future updates of this plan will illustrate these routes separately and identify the plans that should be made to ensure that they can be maintained in a serviceable state.

### 3.3 Utility Activity

The network experiences a high level of statutory undertaker /utility company activity. Over the last three years approx. 40,000 utility sites have been opened across the authority. The openings typically involve trenching underground services under the carriageway, footway or verge and can have an adverse effect on the structural and surface condition of the assets affected, even when the utility has reinstated the surface to the required standard.

Whilst data is held on the openings it is not in a format currently that allows ready identification of the number and size of openings on each section of the asset. It is thus difficult to confirm whether asset condition has deteriorated significantly due to the extent of openings and whether consideration of this affect should influence future programming and investment strategies. It is believed from observation, reinstatement concerns that the level of utility activity is an influence upon the condition of the road network and in particular upon customer perception.

### 3.4 Climate Change

Recent years has seen an increased number of more extreme weather events. The result has been an increased incidence and severity of surface water ponding and flooding. Drainage related customer contacts as shown in section 3 are significant (> 1,500 pa) and are increasing. Future updates of this plan will provide detail on how these risks are being addressed and what actions are required in terms of the maintenance of highway drainage assets in particular.

As a result of the Flood & Water Management Act 2010, Cardiff Council is identified as a Lead Local Flood Authority. This means the Council must produce a Local Flood Management Strategy in 2012/13. The outcomes of this strategy will input into the preparation of the life Cycle Plans which will be prepared for this HAMP.

#### **4. Investment Strategies**

The production of Lifecycle Plans for each major asset groups will provide management information that is necessary to develop investment strategies for each group. An outline investment strategy for the carriageway and footway assets is enclosed in Appendices C and D respectively. Additional Appendices will be added to this HAMP (Appendices E onwards) as the various Life Cycle Plans and associated investment strategies are prepared.

#### **5. Levels of Service**

The production of Lifecycle Plans for each major asset groups will provide management information that is necessary to develop levels of service for each group. This information will be included in the relevant Life Cycle Plan for each asset group.



## 6. Financial Summary

### 6.1 Asset Valuation

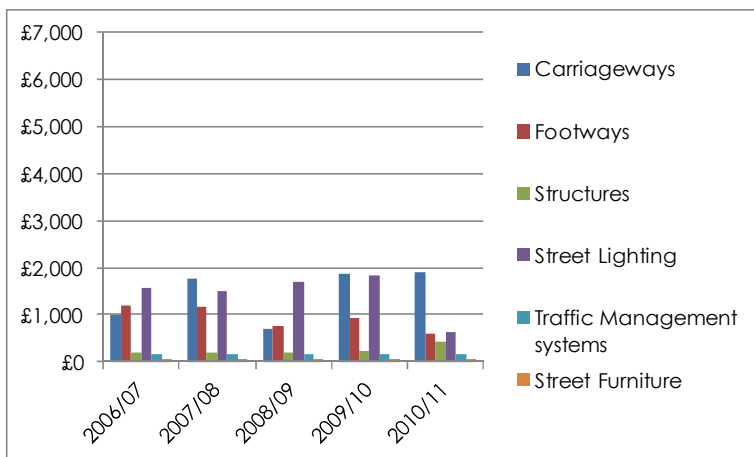
As at September 2011 the highway asset in Cardiff Council is valued as follows:

Cardiff Council Highway Asset Valuation (Estimated) as at: September 2011			
Asset Type	Gross Replacement Cost (GRC) (£000's)	Depreciated Replacement Cost (DRC) (£000's)	Annualised Depreciation (AD)
Carriageways	£1,201,898	£1,108,080	Not currently available*
Footways & Cycleways	£230,530	£135,975	
Structures	£1,173,983	Not currently available*	
Street Lighting	£42,404	£23,253	
Traffic Signals	£25,000	Not currently available*	
Street Furniture	£36,184	£17,684	
<b>Total</b>	<b>£2,709,999</b>	<b>£ 1,284,992</b>	

(\*NB full highway asset valuation (first dry-run) not required until 2011/12 financial year)

Future updates of this plan will include a prediction of the affect on the value of the asset of the investment planned.

### 6.2 Historical Expenditure



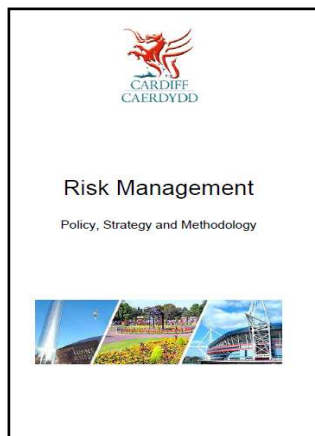
Costs shown in £000's

The historical expenditure invested in the highway asset over the last five years is shown by asset type.

## 7. Risk Management

### 7.1 Corporate Risk Management Strategy

Managing risk is an integral part of the management of the highway asset. All activities from the identification and repair of defects to the prioritisation of maintenance and the establishment of budgets have risks associated with them.



The application of risk management to all of the council's activities is an objective of the council, documented in "Cardiff Council's Risk Management - Policy, Strategy and Methodology".

The general risk management process adopted by CC in this document is based on the risk management cycle of:

- Risk Identification
- Risk Analysis
- Risk Control
- Risk Monitoring

### 7.2 Highway Asset Risk Management (HARMM)

To implement the council's risk management methodology across its highway asset, the Highways Maintenance Service is developing a set of procedures contained in a highway asset risk management manual (HARMM). Hazard identification and control is a key procedure included in the HARMM. This lead to the creation of a set of asset specific hazard registers, which are still in a draft development stage and require further review and eventually adoption by the council.

## **8. Asset Management Planning**

Asset management planning for highways in Cardiff will comprise the following:

### **8.1 Lifecycle Plans**

As discussed earlier, a Lifecycle Plan (LCP) will be created for each major asset group documenting how the asset group is managed. Appendix A shows the contents required for each LCP. As identified earlier, LCP's for each of the major highway assets will be developed in 2012/13. It should be noted that this approach is followed in order to embed asset management principles into the day to day management of the service.

### **8.2 Annual Status Reports**

In order to document progress and understand HAMP developments an annual status report will be prepared for each asset group. The report will detail what has been spent on the asset in the preceding year and what it has achieved. Where targets have been set statistics will be provided detailing actual performance against the targets for the year. The reports will include a suite of performance indicators developed by the County Surveyors Society (Wales) (CSS).

### **8.3 Investment Options Report**

The status reports, together with other relevant data, will be used to update predictions of long term condition. They will be used to present the options available for the future to inform decisions on how much should be invested should be made in each asset type and what service standards can be afforded. The investment options report will be available to assist with the annual budget setting process.

### **8.4 Investment Strategies and Annual Programmes of Works**

When the Council approves each annual budget for the year, the investment strategies in the HAMP will be updated. Programmes of works are developed to support the strategies and subsequently delivered.

## 8.5 Improving Value for Money

An improvement action programme will be compiled each year identifying where improvements to practices could enable better value to be delivered. Each will be supported with a business case.

## 8.6 Developing Asset Management Capability

The asset management plan alone will not deliver the benefits possible from improved highway asset management. To realise these benefits a combination of data, processes, skills, resources, finance and information systems are required. Collectively these are the Council's capability in the application of highway asset management as a practice. As discussed in 8.1 above, the development of Life Cycle Plans will provide a key component that will embed Asset Management Principles as business as usual within the service.

As part of a national project organised by CSS Wales, to aid councils to develop and improve their asset management planning capabilities a practice assessment was undertaken (in early 2011). The results show that the Council has strong practices and capabilities in some areas but there is a need to improve asset data, utilisation of asset management systems, ICT data management systems, mobile technology and financial cost recording, analysis and reporting.

The practice assessment results have been used to inform the specific improvement actions included in the improvement action plan included in the appendices. The delivery of these actions is an essential component of this plan.

## 9. Management & Control of the Plan

### 9.1 Review and Update

It is anticipated that the review and updating cycles for each part of the plan will be as follows:

- a. This HAMP will cover the period 2012 – 2015. The initial plan will be updated annually for the first 3 years after which the plans will be developed to an extent that the updating frequency may be reviewed and potential extended to a 3 year cycle.
- b. The Appendices which will hold the major asset lifecycle plans will be “living” documents. They will be updated as their contents demand them to be changed. This will typically be annually, quarterly or monthly. Updating will be linked to the management processes introduced to manage the implementation of the plan.
- c. Improvement Action / Implementation Plan: it is anticipated that the implementation plan will have a duration that mirrors the implementation plan i.e. it will contain proposals that will target the embedding of highway asset management practice within Cardiff Council. The requirements of the Improvement Plan are set out in Appendix B.

## Appendix A: Lifecycle Plan Contents

Lifecycle plans are living documents, updated as information is gathered and analysed for each asset group. A fully populated LCP will contain the following information:

Section	Answers	Contains
The Asset	What assets do the council own?	<ul style="list-style-type: none"> <li>Inventory details (type size, etc.)</li> <li>Asset growth statistics</li> </ul>
Service Expectations	What is each asset group required to do?	<ul style="list-style-type: none"> <li>Customer expectations</li> <li>Council objectives</li> <li>Safety considerations,</li> <li>Specific user requirements</li> <li>Environmental, Network availability and Amenity considerations</li> </ul>
Management Practices	How is this asset group managed?	<ul style="list-style-type: none"> <li>Policies</li> <li>Inspection / Condition Assessment</li> <li>Standards for Reactive; Routine; Cyclic and Planned Maintenance</li> <li>Details for Asset Acquisition / Disposal</li> </ul>
Investment	How much should be and is spent on this asset group?	<ul style="list-style-type: none"> <li>Historical Investment and output</li> <li>Forecast Financial Needs</li> <li>Valuation: GRC, DRC &amp; ADC</li> </ul>
Works Programme	How are works programmed for this asset group?	<ul style="list-style-type: none"> <li>Existing forward works programmes (FWP) and coordination</li> <li>Option appraisal / treatment selection at a project and budget cat level</li> </ul>
Risk	What are the risks associated with this asset group?	<ul style="list-style-type: none"> <li>Risk identification, assessment, recording and reporting</li> <li>Summary of Major asset risks</li> </ul>
Works and Service Delivery	How are works delivered or procured on this asset group?	
Performance Measurement	How is the performance of this asset group measured and managed?	<ul style="list-style-type: none"> <li>Performance indicators</li> <li>Current performance figures</li> <li>Target performance figures</li> </ul>
Strategies	What strategies are there for the future management of this asset group?	
Service Improvement actions	What would improve the council's management of this asset group?	<ul style="list-style-type: none"> <li>Asset specific improvement actions</li> </ul>

## Appendix B: - Improvement Action Plan

An Improvement Action Plan (IAP) has been created to support this plan and is summarised below:

HAMP Section	IAP Ref	Improvement Action	Target Date	Responsibility
Future Demands	1.0	Better recording of utility openings requested, specifically; location (geo ref); asset affected and extent of works	Ongoing	City Management SA
	1.1	Inspection and Enforcement of utility and contracted works opening reinstatements for all works to improve control and standards reducing demand long term	April 2012	Asset Owner
AM Planning	2.1	<b>Data;</b> Collection of footway condition, (& other supporting) data and confirmation of surface type. Asset owners must utilise and develop recent "Yotta" asset survey data	April 2013	AG & Asset Owners
	2.2	<b>People:</b> Asset Owners and teams to embrace asset management principles through the lifecycle planning process	Ongoing complete by April 2013	Asset Owners
	2.3	<b>Process;</b> Current weakness are financial management: <ul style="list-style-type: none"> <li>- Funding allocation between asset groups</li> <li>- Financial option appraisal</li> <li>- Prediction of long term funding needs</li> </ul>	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners
	2.4	<b>Information Systems:</b> Under-utilisation of the council's AM systems for works prioritisation and financial reporting. Some current limitations in Mayrise software which must be addressed and developed	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners
	2.5	<b>Financial Practices:</b> <ul style="list-style-type: none"> <li>- Cost recording/reporting at an asset level</li> <li>- Analysis undertaken of historical cost by work categories/types</li> <li>- Unit costs being benchmarked against peer authorities</li> </ul>	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners
Levels of Service	3	Review and update asset performance indicator list and define service standards and targets for all main asset groups	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners

<b>Finance</b>	<b>4</b>	Complete full DRC asset valuation for key highway assets during 2011/12	April 2013	AG & Asset Owners
<b>Risk</b>	<b>5</b>	Review, update and adopt asset hazard registers through HARMM. Highlight and report on key asset risks	Follows completion of Life Cycle Plans	AG
<b>Asset Investment Options Report</b>	<b>6</b>	Improve the recording and analysis of highway defects and reactive maintenance costs, specifically in regard to location (geo ref) and asset(s) affected.  Similarly for 3 <sup>rd</sup> party claims and cost data	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners
<b>C/way LCP</b>	<b>7.1</b>	Development of the carriageway LCP	Ongoing Complete by April 2013	Asset Owners
<b>F/way LCP</b>	<b>7.2</b>	Development of the footway LCP	Ongoing Complete by April 2013	Asset Owners
<b>Lighting LCP</b>	<b>7.3</b>	Development of the street lighting LCP	Ongoing Complete by April 2013	Asset Owners
<b>Structures LCP</b>	<b>7.4</b>	Development of the structures LCP	Ongoing Complete by April 2013	Asset Owners
<b>Street Furniture LCP</b>	<b>7.5</b>	Development of the street furniture LCP	Ongoing Complete by April 2013	Asset Owners
<b>Traffic Signs and Road Markings LCP</b>	<b>7.6</b>	Development of the street traffic signs and road markings LCP	Ongoing Complete by April 2013	Asset Owners
<b>Drainage LCP</b>	<b>7.7</b>	Development of the drainage LCP	Ongoing Complete by April 2013	Asset Owners
<b>Rights of Way LCP</b>	<b>7.8</b>	Update and integration of the rights of way LCP into the HAMP	Ongoing Complete by April 2013	Asset Owners



## Appendix C: - Carriageway Proposals (to be replaced with Carriageway Lifecycle Plan in future)

A revised approach to the identification of priority carriageway schemes for investment has been developed for the 2012/13 carriageway reconstruction programme. It has been based on the following principles:

### The Survey Process

The selection of areas of carriageway to be included in the capital reconstruction programme for 2012-13 is based on the following survey methods:

- o Annual Engineering Inspection (AEI)
- o Detailed Visual Inspection (DVI)
- o SCANNER survey

### Generating a Priority List

As discussed above the survey data from both DVI and SCANNER are input into the MARCHpms system and the resulting processed data forms the basis of the capital reconstruction priority list. However, other considerations are taken into account in the final preparation of the list, these include:

- o Observations from the Council's safety inspectors
- o Public considerations including complaints and requests
- o Member considerations – it is anticipated that members will be asked to put forward 5 streets that they or their constituents consider to be in poor repair and should be included in the DVI survey annually. These streets will be surveyed and inform the decision making process. However, inclusion in the priority list will still be based on overall rank order of condition.
- o Skid resistance information (with consideration of accident data)
- o Cycle network considerations

The above further inform the selection process which will generate the priority list. However, before completion, the areas identified for reconstruction will undergo an inspection by maintenance engineers to ensure the list is consistent and robust.

## Carriageway and Footway Total Investment Options

### Carriageway & Footway Combined Model (16.02.12)

The model is predicated on WG delivering funding to deliver short-term highways gains

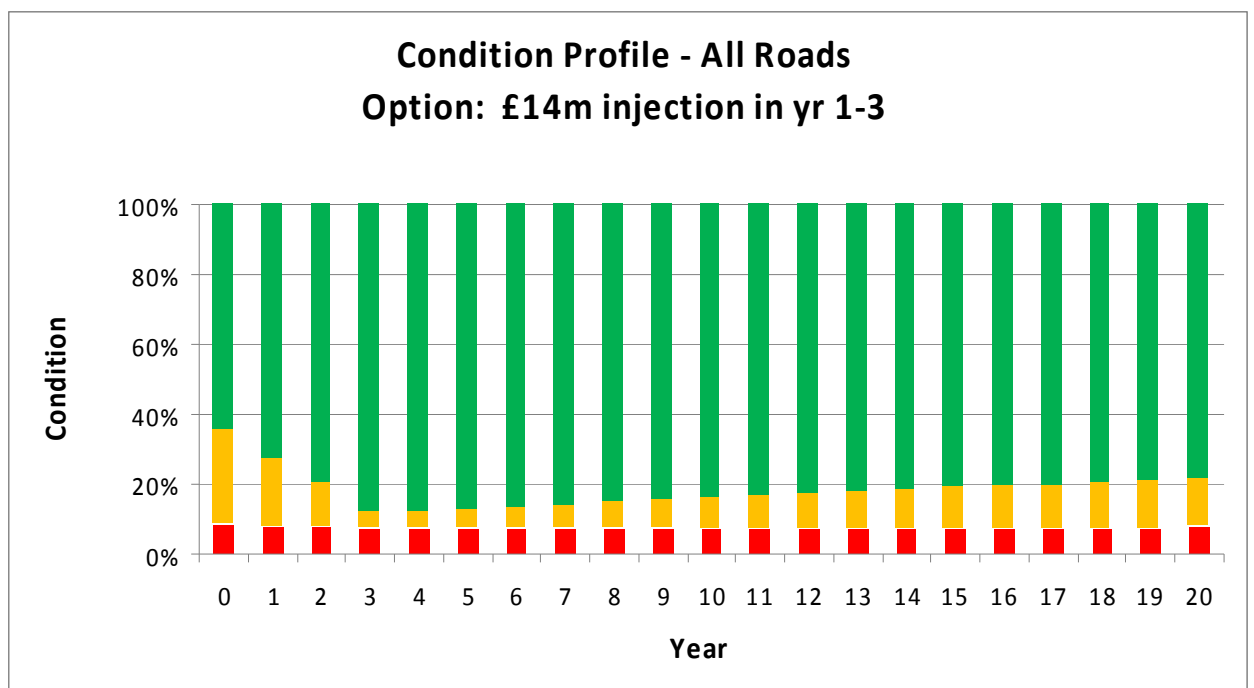
	2012/13	2013/14	2014/15	2015/16	2016/17
	£000	£000	£000	£000	£000
revenue base	2990	2990	2990	2990	2990
1 insurance assumed	250	250	250	250	250
2 environmental improvements	100	100	100	100	100
2 capital base	1260	1260	1260	1260	1260
Total base	4600	4600	4600	4600	4600
highways steady state	1200	1200	1200	1200	1200
footways steady state	1100	1100	1100	1100	1100
3 steady state target	6900	6900	6900	6900	6900
4 additional capital				750	750
5 extra revenue 12/13	400	400	400	400	400
5 extra revenue 13/14		450	450	450	450
5 extra revenue 14/15			400	400	400
5 extra revenue 15/16				200	200
5 extra revenue 16/17					100
investment	400	850	1250	2200	2300
resources available (total base + investment)	5000	5450	5850	6800	6900
6 WG Supported borrowing	4000	5000	5000		
7 Total Investment	9000	10450	10850	6800	6900

(Draft Subject  
to approval)

(Draft  
Subject  
to approval)

## Predicted Carriageway Condition

The graph below illustrates how the condition of the carriageway is predicted to change following the investment strategy identified above **without** the additional funding required to achieve a 'steady state' condition. The red areas indicate the estimated percentage of highways in worst condition with yellow showing the estimated percentage of highways requiring some maintenance. However, **with** the additional funding (£662k) provided to maintain a steady state from year 4 onwards, instead of the amount of carriageway requiring maintenance rising (i.e. the areas of red and yellow), it is predicted the levels as shown for year 3 will be maintained.



## Carriageway Levels of Service

This information will be fully populated in future revisions following the development of the lifecycle plans in 2012/13.

Carriageways		Actual 2010/11	Target 2011/12
Completion of Cat 1 defects within specified response time: - A Roads : 24 hours - B & C Roads : 24 hours - U Roads : 24 hours		<b>95.36%</b>	<b>95%</b>
Completion of Cat 2 defects within specified response time of 21 days:		<b>48.13%</b>	<b>75%</b>
Measured Condition			
Principal - A Class Roads	Red	<b>9.18%</b>	TBA
	Amber	TBA	TBA
Non Principal B Class Roads	Red	<b>14.98%</b>	TBA
	Amber	TBA	TBA
Non Principal C Class Roads	Red	<b>14.98%</b>	TBA
	Amber	TBA	TBA
Unclassified Roads	Red	NA	TBA
	Amber	NA	TBA

## Appendix D: -Footway Proposals (to be replaced with Footway Lifecycle Plan in future)

It is proposed that a revised approach to the identification of priority footway schemes for investment, will be developed during 2012/13 in order to inform the 2013/14 footway reconstruction programme. It will be based on the principles already adopted for the generation of the carriageway programme. i.e. a coarse evaluation of condition will be undertaken on the entire footway network in order to identify those areas in the poorest condition that will receive a more time consuming detailed inspection from which a investment priority list can be generated.

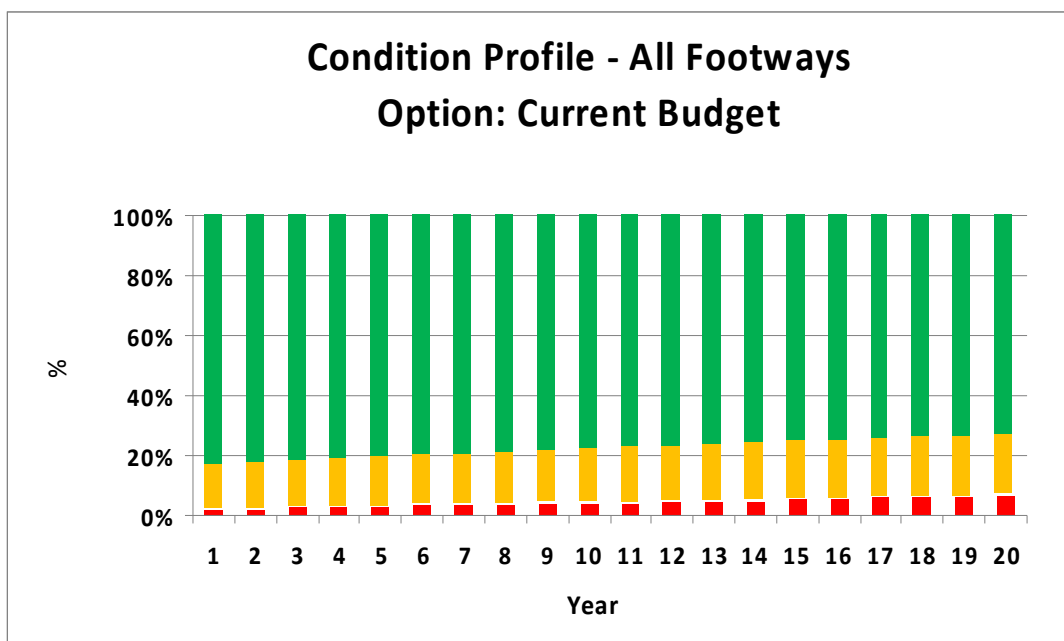
The current process of scheme identification relies on local knowledge, engineering judgement and records from footway safety inspections and the associated repair work.

### Proposed Footway Investment

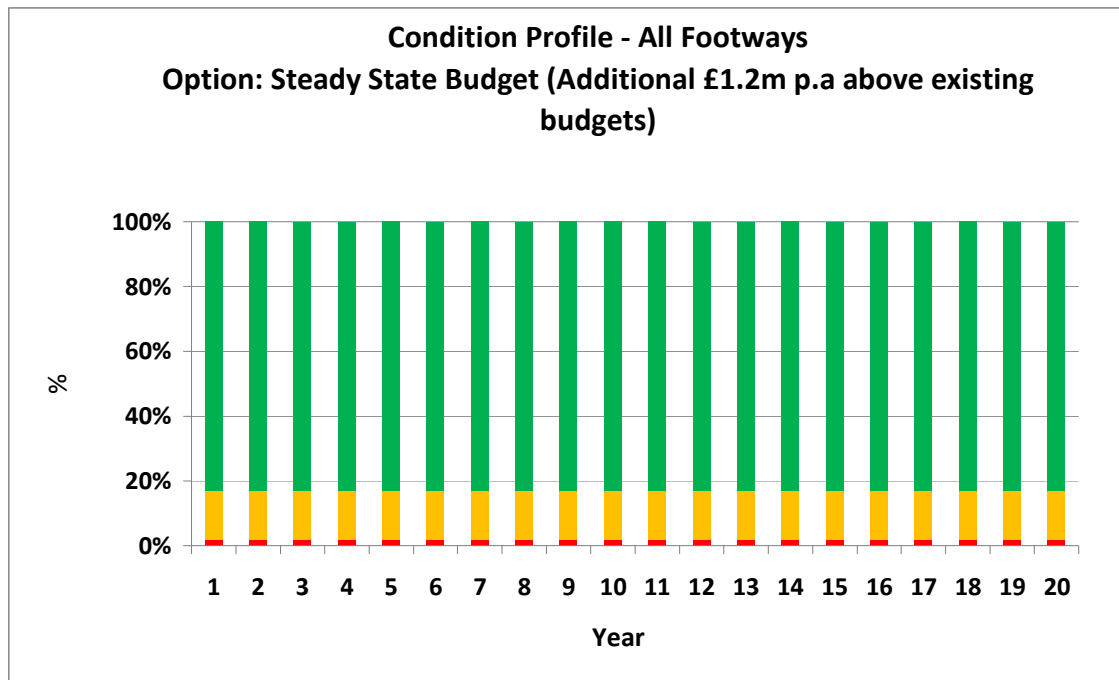
The funding for investment in the footway is included within Appendix C. The apportionment between highway and footway investment needs to be confirmed.

### Predicted Footway Condition

The graph below illustrates how the condition of the Footway will steadily deteriorate if existing funding levels are maintained. The red areas indicate the estimated percentage of highways in worst condition with yellow showing the estimated percentage of highways requiring some maintenance.



The graph below illustrates how the condition of the carriageway will react to a steady state maintenance regime. It can be seen, as expected, the condition of all 3 bands remains the same neither improving nor deteriorating. The value of this additional investment is estimated at £1.2m .



### Footway Levels of Service

This information will be fully populated in future revisions following the development of the lifecycle plans in 2012/13.

Footways		Actual 2010/11	Target 2011/12
Completion of Cat 1 defects within specified response time:		97.27%	95%
Completion of Cat 2 defects within specified response time of 21 days		48.13%	75%
Footway Measured Condition	Red	NA	NA
	Amber	NA	NA

## **Appendix E onwards: -**

**(To contain Lifecycle Plans for all major asset groups that will be developed in 2012/13)**

These asset groups include:

- Street lighting
- Highway Structures
- Street Furniture
- Traffic Signs and Road markings
- Drainage
- Public Rights of Way

Mae'r dudalen hon yn wag yn fwriadol



## APPENDIX 1B

**DRAFT – v0.23**

Cardiff Council

# HAMP-3

Highway Asset Management Plan  
2023-2026



DRAFT

## Contents

	<b>Document Control .....</b>	<b>4</b>
1.	<b>Foreword .....</b>	<b>5</b>
2.	<b>Introduction .....</b>	<b>7</b>
3.	<b>Overview of the Highway Asset .....</b>	<b>20</b>
4.	<b>Financial Summary .....</b>	<b>25</b>
5.	<b>Management of Carriageways .....</b>	<b>41</b>
6.	<b>Management of Drainage .....</b>	<b>56</b>
7.	<b>Management of Footways .....</b>	<b>60</b>
8.	<b>Management of Street Furniture &amp; Road Markings .....</b>	<b>64</b>
9.	<b>Management of Street Lighting .....</b>	<b>67</b>
10.	<b>Management of Structures .....</b>	<b>70</b>
11.	<b>Management of Intelligent Transport Systems .....</b>	<b>72</b>
12.	<b>Benchmarking .....</b>	<b>76</b>
13.	<b>Risks to the Plan .....</b>	<b>79</b>

## Document Control

<b>Version Number</b>	DRAFT – v0.22
<b>Date</b>	18 <sup>th</sup> May 2023
<b>Council Approval Level</b>	Cabinet Meeting
<b>Next Update Due</b>	2026

Revision	Status	Description	Date	Author	Approved
0.15	DRAFT	General Amendments	16.12.22	A.G.	G.B.
0.16	DRAFT	General Amendments	21.12.22	A.G.	-
0.17	DRAFT	General Amendments	10.02.23	A.G.	G.B.
0.18	DRAFT	Submitted to Corp. Finance for Comment	21.02.23	A.G.	-
0.19	DRAFT	General Amendments	01.03.23	A.G.	-
0.20	DRAFT	Management of Drainage Info Updated	27.03.23	A.G.	G.B.
0.21	DRAFT	Management of Street Lighting & ITS Info Updated	29.03.23	A.G.	G.B.
0.22	DRAFT	Submitted with Cabinet Report for Advice	03.04.23	A.G.	G.B.
0.23	DRAFT	General Amendments	17.04.23	A.G.	-

## 1. Foreword

This is Cardiff Council's third Highway Asset Management Plan (HAMP) and sets out the council's plans for the management of the Carriageway, Drainage, Footway, Intelligent Transport Systems, Street Furniture & Road Markings, Street Lighting and Structures Highway Assets. It has been produced in accordance with national guidance and recommended good practices.

It is widely recognised that the application of modern asset management practices can enable improved value for money. In these challenging times it is essential that the council embraces these methods and strives to ensure that every penny spent is invested as wisely as possible. This plan forms an important part of the council's commitment to apply good asset management to highway infrastructure.

The plan recognises the views of road users and residents and in particular the importance that is placed upon our Highway Assets. It is essential that an appropriate level of investment is put into the highway asset to maintain and ultimately improve one of the main principles of the council, that of the economic wellbeing of the locality and future generations.

**REQUIRES INPUT / APPROVAL FROM CLLR De'Ath**

*Councillor Signature*

**Councillor Dan De'Ath**

Cabinet Member for Transport & Strategic Planning



## 1.1 Executive Summary

This HAMP sets out the council's proposals for the management of and investment in the Carriageway, Drainage, Footway, Street Furniture & Road Markings, Street Lighting, Intelligent Transport Systems and Structures Highway Assets and is designed to ensure that highways funding is used in the most efficient and cost-effective way.

Cardiff Council has a successful record of managing the highly complex highway asset. Recent years have presented significant challenges in terms of maintaining a multibillion-pound asset in the context of, significantly constrained Capital and Revenue budgets, the covid lockdown and recovery, and rising costs. Nonetheless, the Council has a track record of not just maintaining the asset but also delivering significant innovation, such as the ongoing LED Street lighting rollout and delivering Wales's first Carbon Neutral road surfacing scheme on 1.2km of the A470 Northern Avenue in 2022. In this context, the aim of this strategy is to develop a foundation for taking forward a robust risk-based approach to highway asset management that also begins to address in a meaningful way the wider issues of climate emergency, economic growth, and transport sustainability.

This plan is based upon the choices made by the Council in terms of the level of investment in the highway asset, what that investment will be directed at and the service standards that the users can expect. The highway asset has a replacement cost with a modern equivalent estimated at approximately **£2.37bn** (see section 4.2 based on pre inflationary values) is the Council's most valuable financial asset and comprises of:

- Carriageways
- Drainage
- Footways
- Street furniture (bollards, traffic signs, barriers etc.) and Road Markings
- Street lighting
- Structures
- Intelligent Transport Systems (traffic signals etc.)

The purpose of the HAMP is to:

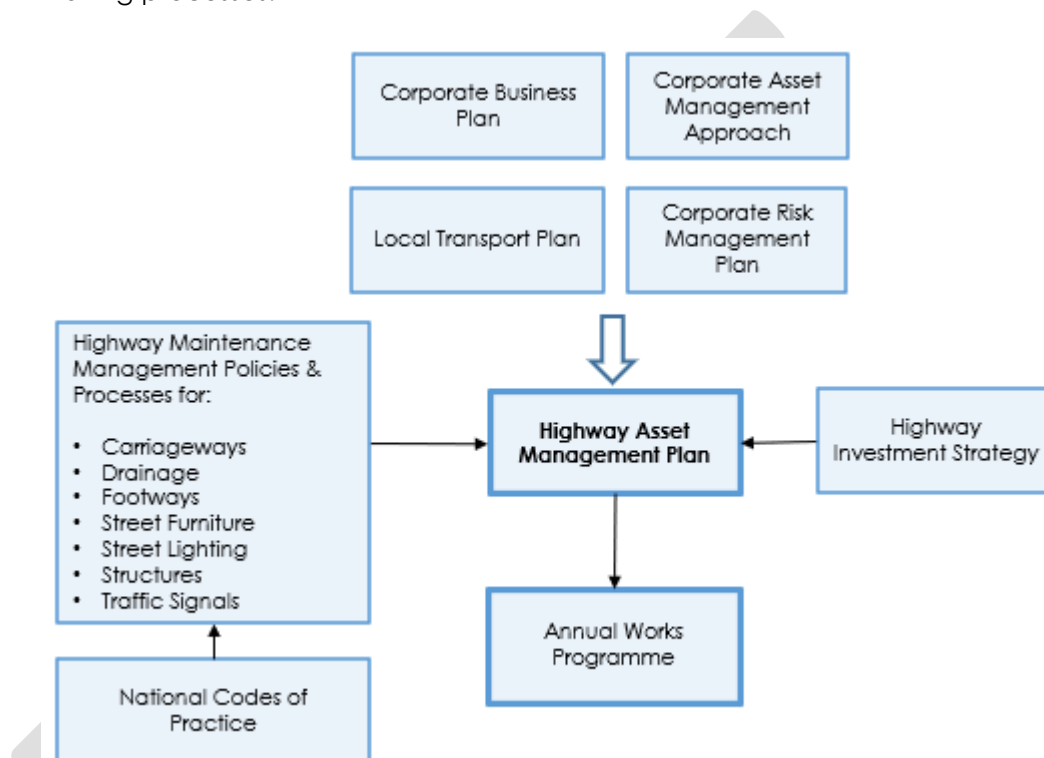
- **Formalise strategies for investment in Highway asset groups.**
- **Define service standards.**
- **Improve how the Highway asset is managed.**
- **Ensure the most efficient service is delivered within available resources.**

## 2. Introduction

The HAMP links to many Council processes and corporate aspirations along with national legislation, it seeks to respond to both adopting a risk-based approach to maintenance management.

### 2.1 HAMP's Relationship to Other Council Processes

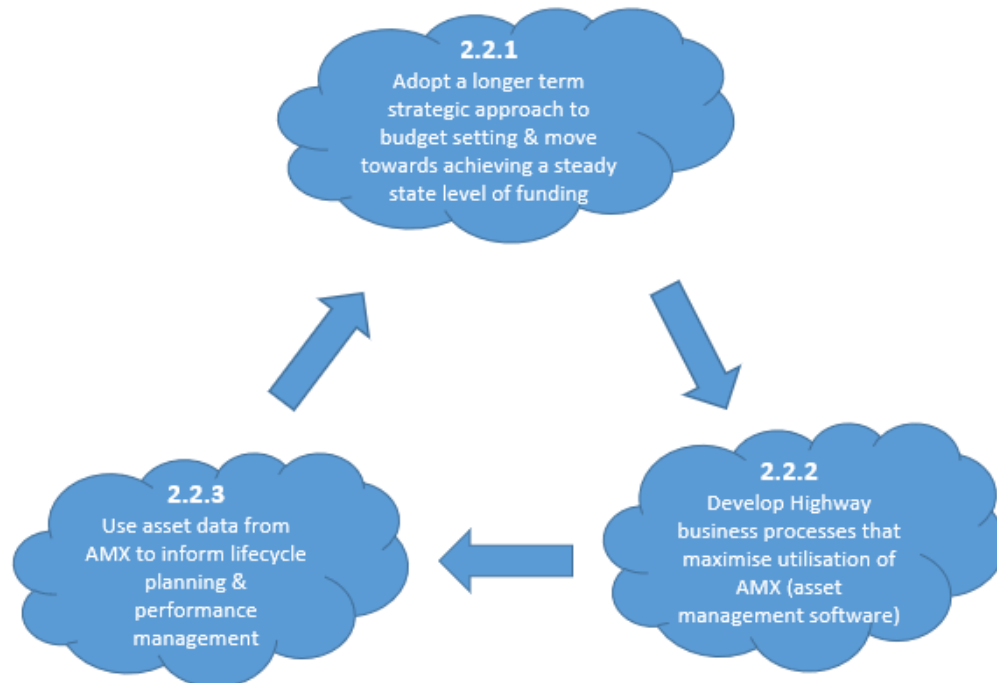
The diagram below shows how this HAMP relates to other Council plans and decision-making processes.



National Codes of practice and legislation inform highway management policies which in turn define investment strategies, **the actual level of investment is dependent on corporate budget settlements**. These processes support longer term HAMP decision making and forward works programmes which all inform the annual works programme.

### 2.2 Business Principle Aspirations of the HAMP

For the HAMP purposes stated above in 1.1 to be achieved key business principles are being developed to maximise its effectiveness and enhance service delivery:



### 2.2.1 Adopt a longer-term strategic approach to budget setting and move towards achieving a steady state level of funding.

Traditionally Highway Maintenance budgets have been set annually often based on previous or historic values that creates a short-term reactive approach to management and improvement. Adopting long term funding for maintenance will allow the service to maximise whole life cost and planning benefits that are associated with this type of financial commitment. However, it must be understood that if funding levels are insufficient to address backlogs and slow deterioration no amount of long-term planning will alleviate this underlying problem.

**Steady State** is a level of funding that maintains an asset in its current condition, neither improving nor deteriorating from an overall perspective. Maintenance funding below steady state will result in an ongoing deteriorating condition and consequent increasing maintenance backlog over time, the speed and level of deterioration is dependent on how far investment is below steady state. Consideration must also be given to the levels of revenue investment that will be required to undertake reactive repairs to the asset. The lower the investment level and poorer the condition of the asset the higher the revenue demands to repair the increasing quantities of reactive safety defects. Calculations for the steady state values of highway assets are shown in section 4.3 (background info shown in section 2.5).



**Important Note:** Please refer to section 4.3 to understand how the recent (2021-23) cost of living increase has affected the investment values contained in this strategy.

### **2.2.2 Develop highway business processes that maximise utilisation of AMX (Asset management software)**

At every opportunity AMX will be used to manage routine business processes so data can be shared, analysed and reported to improve efficiency, the following activities are currently managed by AMX:

- Highway safety inspections, end to end process management from inspection to repair
- Highway condition inspections
- Data collection, storage and management for highway “child” assets
- Delivery of highway capital improvement programme. Including financial management, site supervision and post construction quality inspections (development ongoing)
- Management of public rights of ways including condition, asset renewal and project delivery
- Manage the interface with the Council App for customer defect reporting on highway assets

### **2.2.3 Use asset data from AMX to inform lifecycle planning & performance management**

As AMX becomes more embedded in the delivery of routine highway business processes the available financial, condition, performance and asset data will be used to provide more informed decision making. This will support lifecycle planning and the ability to show how investment strategies realise expected service standards and performance, over time generating more efficient allocation of resources and service delivery.

## **2.3 Requirements of Government Legislation**

There are two key pieces of national legislation that should be considered for the HAMP. It is important to remember that any level of funding less than steady state will result in, to greater or lesser extent depending on investment, a managed decline of the condition of the highway asset (see section 2.2.1).

Section 41 of the **Highways Act 1980** imposes a legal duty of maintenance on highway authorities (The Council) in respect of those highways that are maintainable at the public expense.

The **Well-being of Future Generations (Wales) Act 2015** is an Act of the National Assembly for Wales to make provision requiring public bodies to do things in pursuit of the economic, social, environmental and cultural well-being of Wales in a way that accords with the sustainable development principle; to require public bodies to report on such action; to establish a Commissioner for Future Generations to advise and assist public bodies in doing things in accordance with this Act; to establish public services boards in local authority areas; to make provision requiring those boards to plan and take action in pursuit of economic, social, environmental and cultural well-being in their area; and for connected purposes.

Of particular relevance to this HAMP is part 2, section 5 of the Act:

***Well-being of Future Generations (Wales) Act 2015***

***Part 2 – Improved Well-being***

***Section 5 - The sustainable development principle***

*(1) In this Act, any reference to a public body doing something “in accordance with the sustainable development principle” means that the body must act in a manner which seeks to ensure that the **needs of the present are met without compromising the ability of future generations to meet their own needs.***

*(2) In order to act in that manner, a public body must take account of the following things—*

*(a) the **importance of balancing short term needs with the need to safeguard the ability to meet long term needs, especially where things done to meet short term needs may have detrimental long term effect;***

## **2.4 HAMP Links to the Council’s Corporate Aspirations**

In this plan we will be exploring the opportunity to focus on aligning the HAMP with the wider corporate priorities found in Stronger, Fairer, Greener (SFG) vision for Cardiff Council. The SFG document states: “A greener city which, through our One Planet Cardiff programme takes a lead on responding to the climate emergency, which

celebrates and nurtures biodiversity, with high-quality open spaces within easy reach for rest and play which are connected by convenient, accessible, safe sustainable transport options". In this regard the HAMP will seek to align and integrate to wider corporate strategies and will seek to:

- Align the strategy with – where possible - developing a low carbon response to Highway maintenance
- Maximise the integration of sustainable mode use on the Highway.
- Regard the Highways within the wider context of creating high quality public realm, based on placemaking, greening, accessibility, and design quality – supporting wider economic approach to city and local centre regeneration.

2.4.1 This HAMP will apply the following objectives from the Corporate SFG document, it will enhance the experience of pedestrians, cyclists and motorists and encourage economic growth by making it easier and safer to use the highway network.

- Play a leading role in the Capital Region, including developing strategic economic development, transport and planning strategies, as well as governance and delivery arrangements that support Cardiff's role as the economic, cultural and leisure centre of the region.
- Deliver the 'One Planet Cardiff' response to the climate emergency, accelerating the transition to net zero by putting sustainable development at the heart of everything we do as a Council.
- Continue to deliver an extensive programme of localised improvements to our roads and footways to remove defects such as potholes.
- Adopt the principles of a 15-minute city approach, focusing on sustainability, placemaking, and the density of development that this vision requires.
- Integrate great design, placemaking, greening and sustainability principles into all proposals for development and public spaces.
- City centre recovery

2.4.2 The delivery of innovative, cost-effective risk-based maintenance within allocated budgets underpins the aspirations above and implementation of the following transformative approaches:

- i. **Placemaking** is a multi-faceted approach to the planning, design and management of public spaces. Placemaking capitalises on a local community's assets, inspiration, and potential, with the intention of creating public spaces that improve urban vitality and promote people's health, happiness, and well-being. The Council's highway infrastructure links and often maintains these community assets creating a cohesive unit of greater value for the community.
- ii. **Low Carbon:** The Council has already utilised highly innovative approach to low carbon asphalt. We will develop further opportunities for low carbon approaches to materials, systems, and working practices.
- iii. **Sustainable Transport:** Traditionally the highway has been designed to maximise the efficiency of car and vehicle movements. This innovative approach that this plan will adopt seeks to develop the highway in a manner that also supports the usage of other transport modes in a more balanced manner, including walking, cycling, as well as tackling wider accessibility issues.
- iv. **Greening** promotes the concept of healthy streets. Urban greening helps to make streets part of a public realm network that is designed more for people than for vehicles. Greening of Cardiff's streets, buildings and other public spaces does more than change the look of these places. Roofs and walls covered in plants, street trees and small pocket parks in between buildings help combat climate change and make the city a better place to live, work and invest. The **HAMP** manages the interface between existing highway infrastructure (for example, SuDS planting described below and future biodiversity and amenity opportunities relating to flood risk management) and these new and emerging green infrastructure initiatives including the Councils Coed Caerdydd project.
- v. **Sustainable Drainage Systems (SuDS)** have been developed to imitate the natural drainage process and provide the community with green spaces promoting diverse wildlife and wellbeing. Traditional drainage systems can increase the risk of flooding and pose a serious risk of contamination, SuDS can help maintain water quality and limit the total amount of water leaving a site. An excellent example of where Cardiff has implemented SuDS is the Greener Grangetown project providing an exemplar of SuDS design. This HAMP outlines the design and maintenance of Cardiff's SuDS undertaken by the Councils highway drainage teams.

- vi. The concept of the **15-minute city** seeks to improve liveability and develop more sustainable, local communities by planning for residents to be able to access most of the facilities they need on a daily basis within a 15–20-minute walk, cycle or bus ride from their home. Again, this HAMP will manage the interface between existing highway infrastructure and these new and emerging initiatives.
- vii. **City Centre and Local Centre Public Realm** enhancements and maintenance in these more focal economic and social areas with very high levels of footfall and usage provides a particular challenge. Furthermore, due to their prominence there is more attention to any defects. Managing these key environments often requires more attention and resources. However, the extent of support provided needs to be understood as a part of a wider assessment of budgets and priorities. In this regard, it is proposed that we identify a ringfenced sum within the budget to tackle these issues in a balanced yet prioritised manner (see section 4.5).

## 2.5 Reporting the HAMP Corporately

The Highway Asset Investment Strategy (see section 4.3) illustrates different levels of asset investment and its outcomes was endorsed by the Council's Environmental Scrutiny Committee on 9th September 2014 and again on 17<sup>th</sup> May 2016. The committee recommended adoption of a steady state investment profile for the highway asset. The reason for this recommendation is that this proves to be the best long term economic solution whilst enabling the network to support other corporate priorities such as economic growth in the city.

It is recognised that current financial pressures may make this unachievable at the present time. To make the investment more affordable a “phased approach” to increasing Capital and Revenue investment could be adopted. This would mean investment could be increased annually over an agreed period to reach required Capital steady state and Revenue level.

This HAMP-3 was presented to the Councils Cabinet on **Thursday 18<sup>th</sup> May 2023**.

**INSERT TEXT DESCRIBING CABINET COMMENTS**

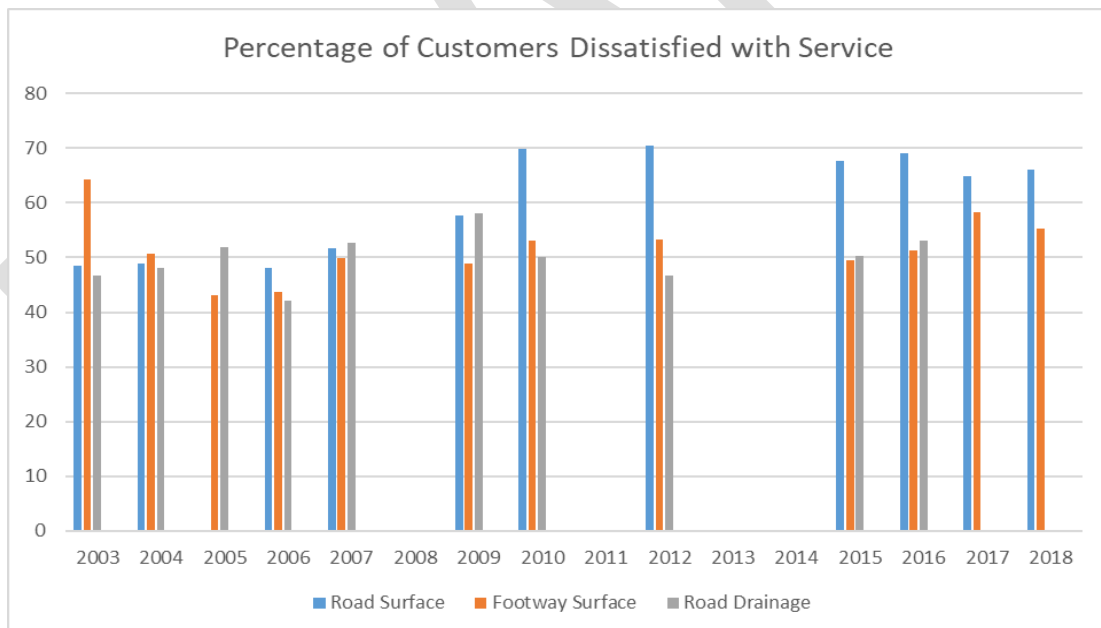
## 2.6 Assets not Covered in this HAMP

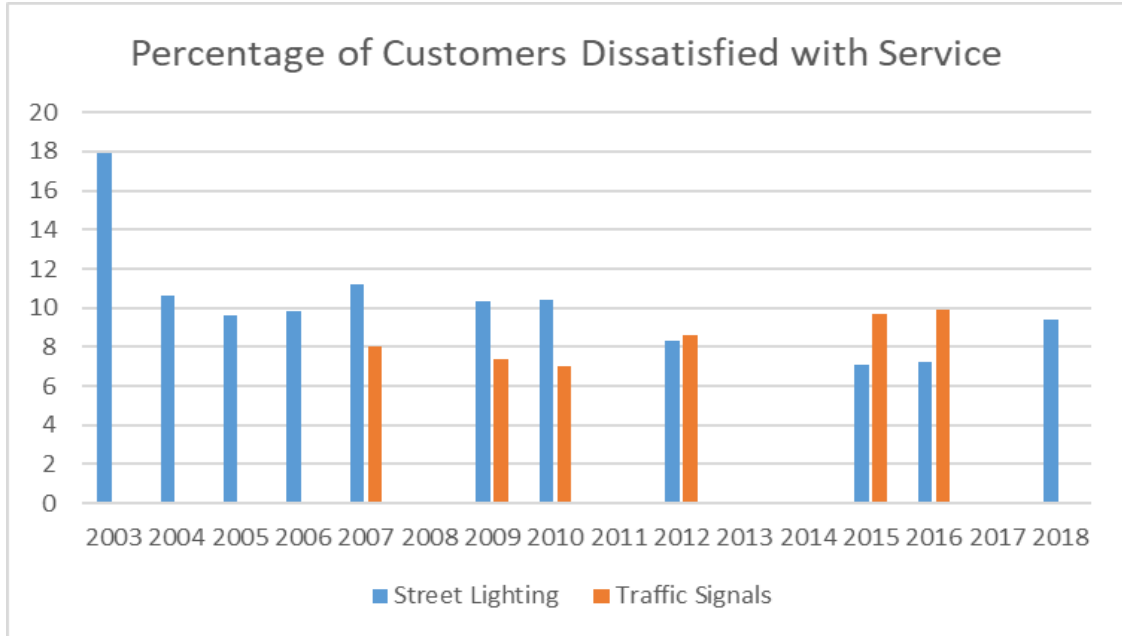
Some related assets that the Highways department maintain are managed elsewhere or out of scope of this HAMP:

- Pay and display car parks
- Footpaths managed by the Councils Housing team
- Bus shelters
- Vegetation and trees
- Land
- Public Rights of Way

## 2.7 Customer Satisfaction

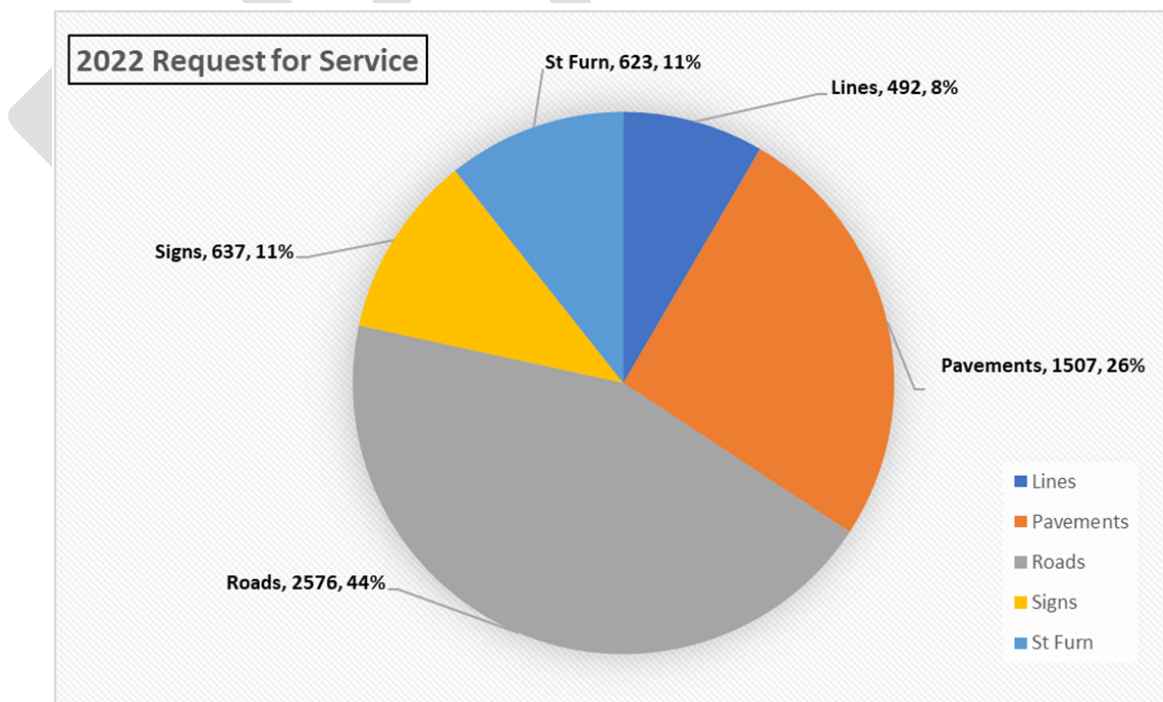
The Council has undertaken public satisfaction surveys which provide valuable insight into their opinions. The graph below shows the percentage of customers that are either fairly or very dissatisfied with the listed highway asset (COVID has prevented compilation of meaningful data for more recent years):

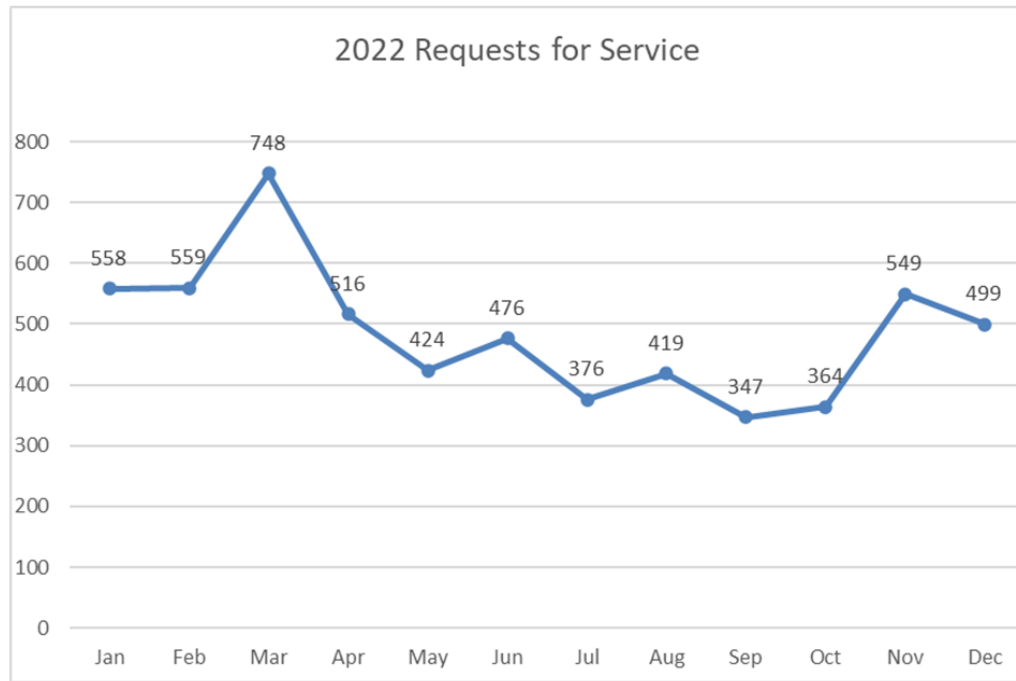




### 2.7.1 Customer Demand

AMX records customer contacts regarding carriageways, footways, street furniture and road markings, the charts below show contact statistics for requests for service in 2022. There were over 5,800 annual requests, which on average equates to approx. 480 per month and over 110 per week. There are seasonal peaks between January and April because of the effects of winter weather on carriageway condition.





## 2.8 Increase in Demand

### 2.8.1 Asset Growth

The highway asset grows each year due to the adoption and construction of new sections of highway often resulting from private developments. This will also include the introduction of new Council promoted schemes on the existing network such as high-status city centre public realm improvements, upgraded junctions, new traffic management such as raised tables and speed humps, segregated cycle lanes etc. This ongoing continual increase in the quantity of highway assets will require future maintenance as they age and deteriorate, placing a continually increasing demand on maintenance budgets.

For example, over the 10-year period 2012-22 the carriageway length has increased by 26.5km and over 1,700 new street lighting columns have been erected.

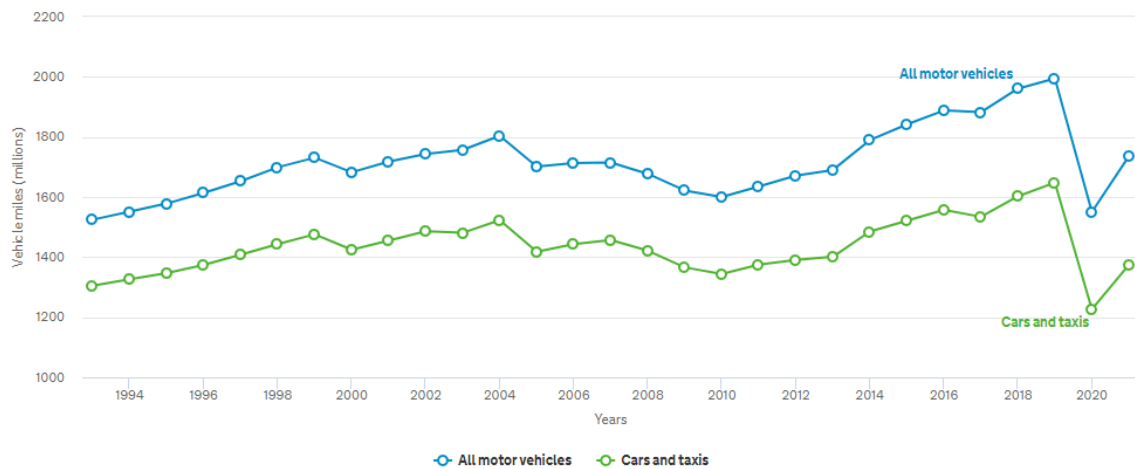


## 2.8.2 Traffic Growth

The graph below (source DFT) illustrates a steady growth in traffic volume placing increasing pressure on the Highway network and accelerating deterioration in carriageway condition with HGV's and buses causing disproportionate wear on road surfaces. Some of the main arterial routes into the city have in the region of 80,000 vehicles per day with a proportion of heavy goods vehicles of approximately 6%.

### Annual traffic by vehicle type in Cardiff

Traffic in Great Britain from 1993 to 2021 by vehicle type in vehicle miles (millions)



*"Whilst historically significant, the long-term trends can be misleading in most cases due to the extraordinary circumstances observed as a result of the coronavirus pandemic. Vehicle miles travelled in Great Britain have had year-on-year growth in each year between 2011 and 2019. Following a sharp decline in 2020, traffic levels for 2021 have increased on the previous year but still remain lower than the 2011 levels. Therefore, to say traffic has fallen over the last decade would misconstrue, as the overall decrease is entirely due to the decline in traffic levels observed in the 2020-2021 estimates".* Source DFT

Many of the council's roads have evolved over time and were not designed to accommodate these increased volumes of traffic and therefore tend to exhibit accelerated deterioration thus placing a greater demand on maintenance budgets.

## 2.8.3 Environmental Conditions

Changing environmental conditions also place increased pressure on maintenance budgets.

Increased frequency of more extreme weather can have direct and indirect impact on road condition. Water can be one of the most damaging elements to an asphalt

surface. Moisture damage decreases strength and durability of asphalt, weakening the bond between the bitumen and the aggregate, thus speeding up deterioration forming potholes and cracking. When cracks form it allows water to seep under the surface, which is damaging to the base beneath. Extended exposure to these defects can have significant detrimental effects to the structure and foundation of the road. Changes in temperature (both high and low temperatures) and rainfall patterns can interact where wider temperature variation promotes cracking, compounding the effects of increased rainfall and damage caused by traffic (especially HGV's).

This cycle of climatic events places an increased burden on existing maintenance budgets. If such extreme events occur during the period of this HAMP and increased damage or deterioration is experienced, it may be necessary to divert existing budgets and revise service standards that are affordable unless additional funding can be secured.

Wherever possible highway teams are adopting modern materials, technologies, and maintenance techniques to minimise the negative effects of climate change on the highway asset. Also, pushing suppliers and contractors to continually develop new approaches and alternative opportunities.

#### **2.8.4 Carbon Reduction**

The Council's One Planet carbon reduction policies play an important role in the delivery of the Highway Maintenance service. The service endeavours to adopt effective working practices to promote carbon reduction and help the Council achieve its target of Cardiff become a carbon neutral city by 2030.

For example, warm mix asphalts are used wherever possible replacing traditional hot mixes and carriageway arisings (the removed existing asphalt surface) from resurfacing schemes are recycled by the contractor for future use. Also, utilising a new maintenance contract, arisings from routine repairs and maintenance will be recycled or reused wherever possible.

Preventative cold applied surface treatments are frequently used on carriageways and footways wherever appropriate.

Wales's first carbon neutral highway surfacing scheme utilising recycled steel slag in place of virgin quarried stone aggregate was delivered on 1.2km of the A470 Northern Avenue in 2022 with support of One Planet funding.

- 13,000m<sup>2</sup> of surfacing
- First Net Zero Carbon Emissions scheme in Wales
- Cost approx. £500k - One Planet Cardiff contributed £200k

At the time of preparation of this report the Highways teams were awaiting a response from the One Planet steering group for the funding of another innovative carbon reduction trial. This latest trial is taking the model used on the A470 described above a step further seeking to create genuinely Carbon Zero surfacing materials, without offsetting, using Biochar to sequester Carbon to form a carbon sink and Lignin (a natural plant material) as a bitumen replacement.

The service has had an ongoing programme of replacing existing street lighting units with modern efficient LED units across the entire network. As a result of the efficiencies associated with LED's and its reduced energy consumption, it will contribute favourably towards the Councils carbon reduction targets.

- Strategic Network – 16,500 LED units
- Residential Network – 23,500 LED units
- Over £1.2m energy savings/annum
- Thousands of Tonnes of carbon emission reduction

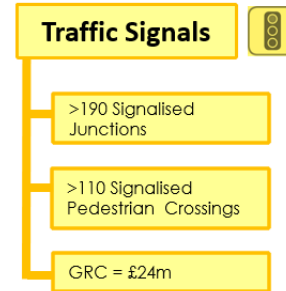
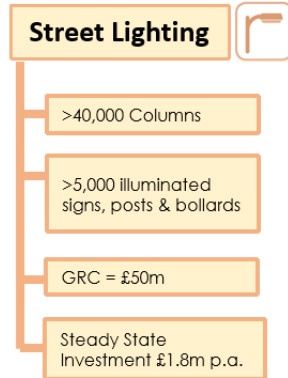
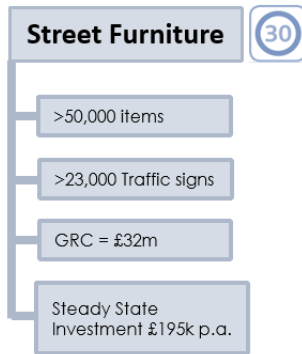
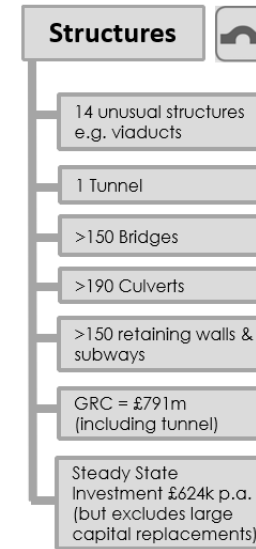
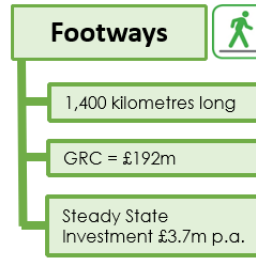
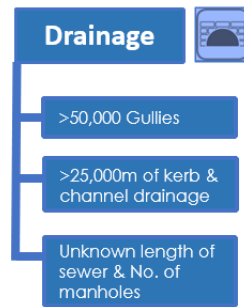
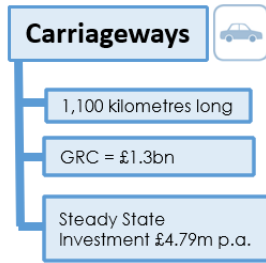
The Highway teams will continue to seek innovative carbon reduction initiatives as technology and operational opportunities emerge. In addition, the engineers work closely with the County Surveyors Society all Wales HAMP project which is looking to develop models and approaches to assist Highway Authorities implement and measure Carbon reduction solutions.

It should be noted there is a general consensus in the construction industry that the adoption of new low carbon engineering opportunities may be more costly than traditional repairs, treatments and approaches.

### 3. Overview of the Asset

The figures below provide an overview of important relevant highway asset data:

Tudalen 100



**Description of Terms:**

**kilometre** – measurement of length, 1000 metres or approx. 0.62 miles

**Column** – street light

**GRC** – Gross Replacement Cost, the cost of replacing an existing asset with a modern equivalent

**p.a.** – per-annum / every year

**Viaduct** – a long bridge-like structure, typically a series of arches carrying a road

**Gullies** – iron gratings usually at the edge of a road that provide drainage during rainy weather

**Steady State** – Achieving a level of investment that maintains condition at its current level (see section 5)

**Signalised junction** – junction or crossing with traffic lights

### 3.1 Assets Data

This plan is based upon currently available inventory data for Highway assets. The coverage and quality of inventory data varies by asset, local estimates and sample surveys are used where actual data is missing. An overview of the availability of data is shown on the tables below. A key to the terms used are shown in Table 3.1.4.

<b>Table 3.1.1 – Asset Data</b>						
Asset Group	Data Category	Data Confidence		Data Format		
		Extent of Data	Basis	Hard Copy %	Electronic %	System Used
Carriageway	Inventory	Good	Actual	0%	100%	AMX/ PMS/RoadAI
	Condition	Complete	Actual	0%	100%	AMX/PMS/ RoadAI
	Inspection	Complete	Actual	0%	100%	AMX / RoadAI
	Financial	Complete	Actual	0%	100%	AMX / SAP
Drainage	Inventory	Good	Actual	25%	75%	AMX/WincanVX
	Condition	Limited	Actual	25%	75%	AMX/WincanVX
	Inspection	Limited	Actual	25%	75%	AMX/WincanVX
	Financial	Complete	Actual	0%	100%	AMX / SAP
Footways	Inventory	Limited	Actual	0%	100%	AMX
	Condition	Limited	Actual	0%	100%	AMX
	Inspection	Complete	Actual	0%	100%	AMX
	Financial	Complete	Actual	0%	100%	AMX / SAP

**Table 3.1.2 - Asset data continued**

Asset Group	Data Category	Data Confidence		Data Format		
		Extent of Data	Basis	Hard Copy %	Electronic %	System Used
Street Furniture & Rd Markings	Inventory	Limited	Actual	0%	100%	AMX / RoadAI
	Condition	Limited	Actual	0%	100%	AMX / RoadAI
	Inspection	Complete	Actual	0%	100%	AMX / RoadAI
	Financial	Complete	Actual	0%	100%	AMX / SAP
Street Lighting	Inventory	Complete	Actual	0%	100%	Mayrise/CityTouch
	Condition	Limited	Actual	0%	100%	Mayrise/CityTouch
	Inspection	Good	Actual	0%	100%	Mayrise/CityTouch
	Financial	Complete	Actual	0%	100%	Mayrise / SAP
Illuminated Signs & Bollards	Inventory	Complete	Actual	0%	100%	Mayrise
	Condition	Limited	Actual	0%	100%	Mayrise
	Inspection	Good	Actual	0%	100%	Mayrise
	Financial	Complete	Actual	0%	100%	Mayrise / SAP

**Table 3.1.3 - Asset data continued**

Asset Group	Data Category	Data Confidence		Data Format		
		Extent of Data	Basis	Hard Copy %	Electronic %	System Used
Intelligent Transport Systems	Inventory	Complete	Actual	0%	100%	Imtrac/Inview/Mayrise/UTC
	Condition	Good	Actual	0%	100%	Imtrac/Inview/Mayrise/UTC
	Inspection	Complete	Actual	0%	100%	Imtrac/Inview/Mayrise/UTC
	Financial	Complete	Actual	0%	100%	SAP
Structures	Inventory	Complete	Actual	0%	100%	AMX
	Condition	Complete	Actual	0%	100%	AMX
	Inspection	Complete	Actual	0%	100%	AMX
	Financial	Complete	Actual	0%	100%	AMX / SAP

Tudalen 103

**Table 3.1.4 – Key to Asset Data Tables 3.1.1 to 3.1.3**

		Description
Data Category	Inventory	Includes lengths, widths, location, materials and general supporting information
	Condition	Provides a condition rating of the asset
	Inspection	Records details and dates of periodic inspections
	Financial	Day to day financial management of works programmes and works order
Data Format	Hard Copy	The % of data held that is stored and managed using manual paper processes
	Electronic	The % of data held that is stored and managed electronically
	System Used	The name of the electronic system used to store and manage the asset data
Data Confidence	Extent of Data	The extent of coverage of asset data being used (as a proportion of the whole), being: <ul style="list-style-type: none"> <li>○ Nil</li> <li>○ Limited</li> <li>○ Good</li> <li>○ Complete</li> </ul>
	Basis	The basis of knowledge for the asset data used, being: <ul style="list-style-type: none"> <li>○ Actual (surveyed data)</li> <li>○ Sample (surveyed data on a proportion of the asset often prorated to give network wide data)</li> <li>○ Default Value (value based on actual data from another legitimate source)</li> <li>○ Local Engineers Estimate</li> </ul>



## 4. Financial Summary

The investment strategies and service standards discussed in later sections are based on the predicted funding levels shown in the table below.

Asset	Funding source	Annual Funding - £k				Capital Funding Required to Achieve Steady State - £k	
		Current	Estimated			Pre 2021-22 <sup>2</sup>	Post 2021-22 <sup>2</sup>
		2022-23	2023-24	2024-25	2025-26		
Carriageways	capital	3,477 <sup>1</sup>	3,350 <sup>1</sup>	3,350 <sup>1</sup>	3,376 <sup>1</sup>	3,075 <sup>1</sup>	4,797 <sup>1</sup>
Drainage	capital	41	30	230	180	160	250
Footway	capital	1,885	880	595	595	2,360	3,681
Street Lighting	capital	2,771	1,000	1,070	270	1,200	1,872
Structures	capital	611	924	1,100	1,100	400	624
Traffic Signals	capital	801	330	630	630	not available	not available

1 – Refer to Section 5.3 and Table 5d to see relationship between Capital investment strategy, Steady State and future condition predictions for carriageways.

2 - Refer to section 4.3 for description of post 2021-22 increase in steady state funding requirements

#### 4.1 Historic Expenditure

Tudalen 106

		<b>Historic Annual Funding (Expenditure) - £000's</b>									
<b>Asset</b>	<b>Works</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
<b>Carriageways</b>	Council - capital	1,118	823	399	2,602	2,076	530	2,878	2,077	3,838	2,724
	External grant/ contributions - capital	3,714	3,163	3,759	1,031	0	2,571	1,725	1,723	1,535	1,715
	Council - revenue	713	1,482	418	570	730	1,301	658	1,336	660	555
	External grant/ contributions - revenue (capital - DRF)	0	0	0	0	100	0	0	0	0	0
	Staff Resource for both Cway & Fway)	614	652	1,355	1,615	1,538	1,457	1,535	1,672	1,688	1,586
	<b>total C/ways</b>	<b>6,159</b>	<b>6,120</b>	<b>5,931</b>	<b>5,819</b>	<b>4,444</b>	<b>5,859</b>	<b>6,796</b>	<b>6,809</b>	<b>7,721</b>	<b>6,580</b>

Tudalen 107

		Historic Annual Funding (Expenditure) - £000's									
Asset	Works	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Footways	Council - capital	611	510	646	85	488	362	805	961	674	988
	External grant/ contributions - capital	0	0	0	409	90	0	0	0	192	0
	Council - revenue	839	971	95	183	202	424	402	433	528	809
	External grant/ contributions - revenue (capital - DRF)	326	0	0	0	0	0	0	0	0	0
	<b>total F/ways</b>	<b>1,777</b>	<b>1,480</b>	<b>741</b>	<b>677</b>	<b>780</b>	<b>786</b>	<b>1,207</b>	<b>1,393</b>	<b>1,394</b>	<b>1,796</b>

		Historic Annual Funding (Expenditure) - £000's									
Asset	Works	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Drainage	Council - capital	0	18	306	64	15	9	158	167	37	12
	External grant/ contributions - capital	122	199	1,034	199	0	27	31	463	652	939
	Council - revenue	292	502	157	156	182	172	124	226	258	145
	External grant/ contributions - revenue	0	0	0	0	253	217	74	97	349	240
	Staff Resource	756	247	514	426	189	138	89	171	195	268
	<b>total Drainage</b>	<b>1,170</b>	<b>967</b>	<b>2,012</b>	<b>845</b>	<b>639</b>	<b>563</b>	<b>476</b>	<b>1,124</b>	<b>1,491</b>	<b>1,604</b>

Tudalen 108

		Historic Annual Funding (Expenditure) - £000's									
Asset	Works	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Street Lighting	External grant/ contributions - capital	0	0	0	0	0	0	0	0	0	0
	Council - revenue*	2,900	3,015	2,735	2,797	2,376	2,440	2,214	2,397	2,590	2,280
	Energy - revenue	2,366	2,442	2,551	2,328	2,147	1,879	1,399	1,576	1,688	1,513
	External grant/ contributions - revenue	0	0	0	0	0	0	0	0	0	0
	Staff Resource	277	128	528	575	516	441	480	506	546	573
	<b>total S/L excl*</b>	<b>3,151</b>	<b>2,583</b>	<b>3,321</b>	<b>4,194</b>	<b>4,519</b>	<b>6,028</b>	<b>2,782</b>	<b>2,312</b>	<b>2,329</b>	<b>4,426</b>

		Historic Annual Funding (Expenditure) - £000's									
Asset	Works	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Structures	Council - capital	71	80	1,296	258	429	99	1,328	631	553	2,881
	External grant/ contributions - capital	0	0	0	698	16	0	0	0	0	0
	Council - revenue	1,673	1,610	848	805	681	679	682	720	712	703
	External grant/ contributions - revenue	0	0	0	0	0	0	0	0	0	0
	Staff Resource	179	209	161	221	236	224	232	279	244	270
	<b>total Structures</b>		<b>1,923</b>	<b>1,899</b>	<b>2,305</b>	<b>1,982</b>	<b>1,361</b>	<b>1,002</b>	<b>2,241</b>	<b>1,630</b>	<b>1,509</b>

		Historic Annual Funding (Expenditure) - £000's									
Asset	Works	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Intelligent Transport Systems	Council - capital	374	403	283	375	523	656	844	239	172	145
	Council - revenue	1,816	1,410	1,139	1,009	780	1,131	961	993	1,120	1,059
	External grant/ contributions - revenue (DRF)	220	0	0	0	150	150	150	0	0	0
	Staff Resource	360	338	947	879	928	905	940	972	968	959
	<b>total Traffic Sig</b>		<b>2,770</b>	<b>2,151</b>	<b>2,369</b>	<b>2,262</b>	<b>2,381</b>	<b>2,842</b>	<b>2,895</b>	<b>2,204</b>	<b>2,259</b>

		Historic Annual Funding (Expenditure) - £000's									
Asset	Works	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Vehicle Safety Fence	Council - capital	0	26	93	53	0	0	36	0	348	21
	Council - revenue	0	0	0	0	0	0	0	0	0	0
	<b>total VSF</b>	<b>0</b>	<b>26</b>	<b>93</b>	<b>53</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>348</b>	<b>21</b>
Winter & Emergency Service	Council - revenue	543	384	420	387	316	310	379	377	452	440
	External grant/ contributions - revenue	0	0	0	0	0	172	0	0	0	0
	Staff Resource	192	179	112	10	205	115	139	154	113	154
	<b>total W&amp;E service</b>	<b>735</b>	<b>563</b>	<b>532</b>	<b>397</b>	<b>521</b>	<b>597</b>	<b>518</b>	<b>531</b>	<b>565</b>	<b>594</b>
	<b>total</b>	<b>17,684</b>	<b>15,789</b>	<b>17,302</b>	<b>16,229</b>	<b>14,647</b>	<b>17,678</b>	<b>16,952</b>	<b>16,004</b>	<b>17,615</b>	<b>21,039</b>

Tudalen 110

Guide to WG Grant Funding:

Local Government Borrowing Initiative (LGBI) – 2012/13 to 2014/15

Road Refurbishment Grant- 2018/19

Highway Refurbishment Grant – 2018/19 to 2020/21

## 4.2 Asset Valuation

The valuation provides the council with a replacement cost of the highway asset with a modern equivalent currently estimated at approximately **£2.37bn** (based on pre-inflationary costs). The calculation has been achieved by utilising specialist tools generated by the **All Wales County Surveyors Society Wales HAMP project** and undertaken in accordance with the methods set out in the **CIPFA Transport Asset Infrastructure Code**. The valuation reports:

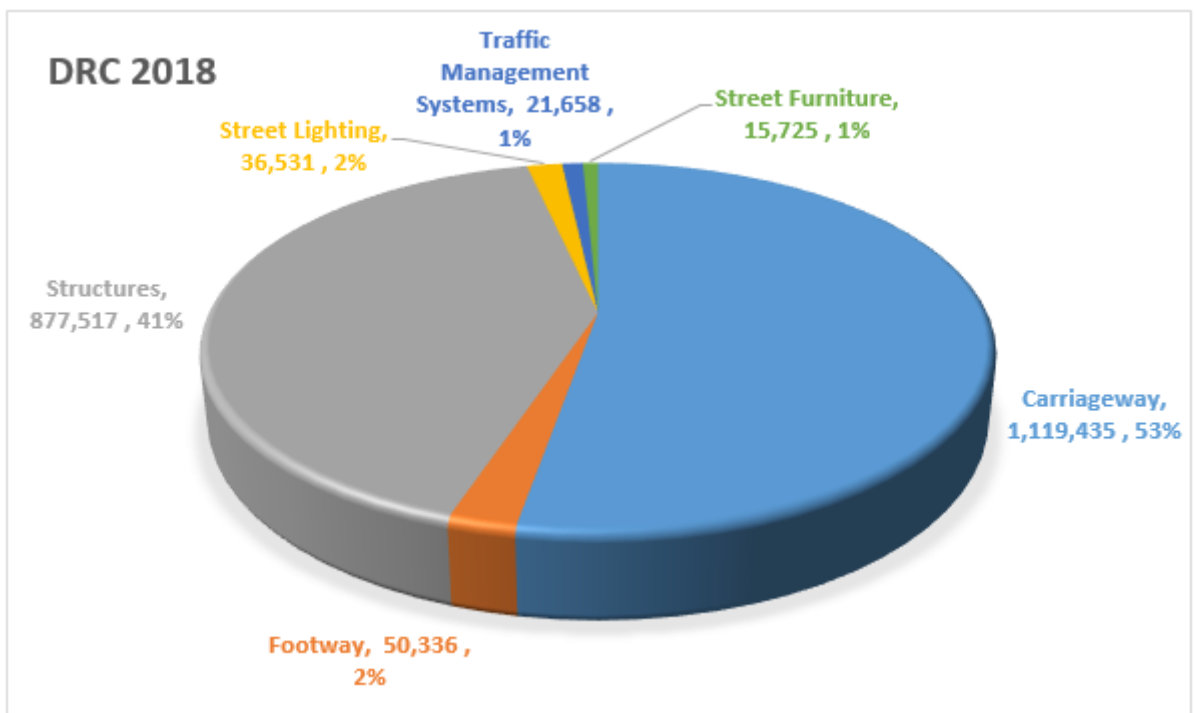
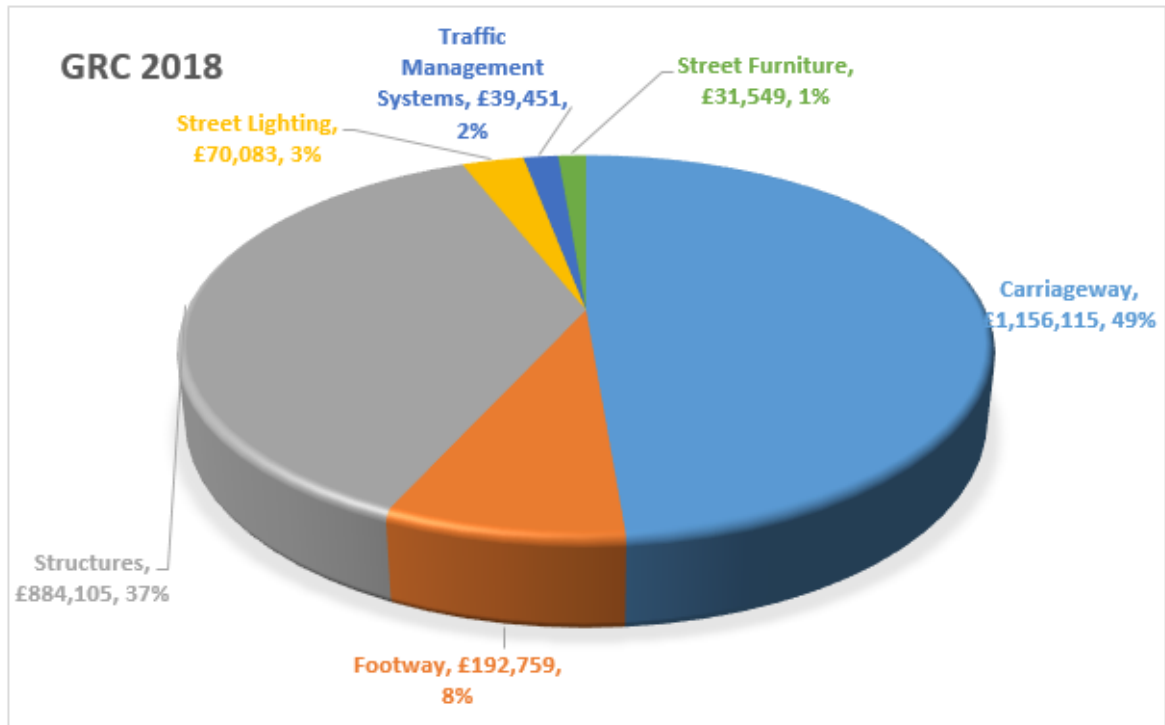
- Gross Replacement Cost (GRC), this is an estimated value of replacing the existing asset with a new equivalent
- Depreciated Replacement Cost (DRC), this is the estimated current monetary value of the asset and accounts for the cost of physical deterioration (i.e deteriorated condition from an as-new condition)

The table below shows the Whole of Government Accounts highway asset valuation as calculated in September 2019.

<b>Asset</b>	<b>Gross Replacement Cost (GRC) £'000</b>	<b>Depreciated Replacement Cost (DRC) £'000</b>
Carriageways <sup>1</sup>	1,156,115	1,119,435
Footway	192,759	50,336
Street Lighting	70,083	36,531
Street Furniture	31,549	15,725
Structures	884,105	877,517
Traffic Management	39,451	21,658
<b>Total<sup>2</sup></b>	<b>2,374,062</b>	<b>2,121,203</b>

<sup>1</sup> - Carriageway GRC includes consideration for drainage

<sup>2</sup> - Total excludes value for land (Land GRC=£2,737,148,000)





### 4.3 Achieving Steady State Investment & the Cost of Living Increase 2021 - 2023

The Steady State calculations contained in the Asset Investment Strategy were undertaken in 2016. Annual inflation and its effects on increasing the cost of goods and services during the period 2016 to 2023 should be noted.

Steady State is a level of funding that maintains an asset in its current condition, neither improving nor deteriorating from an overall perspective. Maintenance funding below steady state will result in an ongoing deteriorating condition and consequent increasing maintenance backlog over time, the speed and level of deterioration is dependent on how far investment is below steady state.

A rapid increase in energy costs, particularly the wholesale price of gas, has been a key driver of the recent increases in inflation, compounded by supply chain stresses, increased prices for commodities and transportation. The cost of living has been increasing across the UK since early 2021. The annual rate of inflation reached 11.1% in October 2022, a 41-year high, before easing to 10.7% in November 2022. High inflation affects the affordability of goods and services.

This rapid increase of inflation is causing additional pressures in the area of highway and footway maintenance, especially around surfacing and surface treatments. This will be the first area that will show deterioration – structures, street lighting and drainage improvements will lag in terms of deterioration, albeit the cost of schemes will increase, so the risks of failed elements will increase over time.

Likewise, the costs relating to localised small-scale repairs such as patching, street furniture, tackling damaged paving, road markings renewal, signage and minor highway improvements has also increased in similar levels, so the volume of works completed will reduce. This unfortunately will promote deterioration further – moving early repairs to more expensive later treatments as we have not been able to provide the appropriate intervention in a timely manner.

The table below shows how construction costs (illustrated by cost per square metre) have increased over the period 2021-2023. They are based on completed scheme costs delivered by carriageway and footway capital improvement programmes with the treatments listed in the left-hand column. The average cost increase is **circa 56%**.

Carriageway m2 rate				
Financial Year	2020-2021	2021-2022	2022-2023	% difference 2021-2023
Reconstruction	£115	£130	£185	61%
Strengthening	£30	£35	£45	50%
Resurface inlay/overlay	£17	£22	£27	59%
Micro Asphalt	£9	£11	£13	45%
Footway m2 rate				
Financial Year	2020-2021	2021-2022	2022-2023	% difference 2021-2023
Reconstruction	£75	£85	£125	66%
Renew surface course	£42	£50	£65	55%
FW Micro Asphalt	£7	£9	£11	57%

The table below is an extract from the Highway Asset Investment Strategy (2016) which shows the calculated steady state investment required for the main highway asset groups. Based on the 56% increases in actual carriageway and footway construction costs shown above, and the steady state calculation below from 2016, it could be logical to assume that the 56% increase demonstrated above could be considered representative across all highway assets. Therefore, we could assume the overall steady state figure could have increased by £4.09m (56% increase on £7.3m) to an annual steady state investment of **£11.41m in 2022-23**.

Overview of Investment Options						
Asset Group	2015/16 Revenue Budget (£,000)	2015/16 Capital Budget (£,000)	Future Capital Investment Option Costs (2016)			Adjusted Steady State Value for 2023
			Managed Decline (£,000)	Steady State (£,000)	Enhanced (£,000)	
Carriageways	£450	£850	£850	£3,075	£5,175	£4,797
Footways	£790	£595	£470	£2,360	£3,810	£3,681
Drainage	£400	0	0	£160	£160	£250
Street Furniture	£33	0	0	£125	£125	£195
Street Lighting	£585	£270	£300	£1,200	£1,200	£1,872
Structures	£320	£500	£0	£400	£400	£624
<b>Total</b>	<b>£2,578</b>	<b>£2,215</b>	<b>£1,620</b>	<b>£7,320</b>	<b>£10,870</b>	<b>£11,419</b>

The table below demonstrates the gap between current and estimated future funding and the requirements to reach steady state.

Gaps Between Steady State, Current and Estimated Future Funding								
Asset	Funding source	Annual Funding - £k			Steady State Requirement (11,419 total)	Current 2023-24 Funding Gap between current funding & Steady State	Funding Gap between 2024-25 funding & Steady State	Funding Gap between 2025-26 funding & Steady State
		Current	Estimated					
		2023-24	2024-25	2025-26				
Carriageways	capital	3,350 (+2,000 additional funding)	3,350	3,376	<b>4,797</b>	-553	1,447	1,421
Drainage	capital	30	230	180	<b>250</b>	220	20	70
Footway	capital	880	595	595	<b>3,876<sup>1</sup></b>	2,996	3,281	3,281
Street Lighting	capital	1,000	1,070	270	<b>1,872</b>	872	802	1,602
Structures	capital	924	1,100	1,100	<b>624</b>	-300	-476	-476
<b>Total Gap between Annual Funding &amp; Steady State</b>						<b>3,235</b>	<b>5,074</b>	<b>5,898</b>

1 – Footway funding includes £195k for Street Furniture

2- Future Steady State funding requirements will be subject to industry inflationary & other increase



This Page is Intentionally Blank

DRAFT

It is important to note that the steady state levels of investment shown relate to Capital investment only. However, maintenance functions and cyclic activities financed through revenue budgets are experiencing equivalent pressures and have been frequently subject to historic budgetary reductions implemented to achieve annual cost savings.

It is recognised that current financial pressures may make reaching steady state funding unachievable at the present time. To make the investment more affordable a "phased approach" to increasing Capital and Revenue investment could be adopted. This would mean investment could be increased annually over an agreed period to reach required Capital steady state and Revenue level.

#### **4.4 Revenue Pressures on Maintenance Budgets**

There are strict financial rules on what the Council's Capital budgets can be spent on and there are many Highways Maintenance functions, repairs and replacements that can only be funded via Revenue budgets. Whilst we can demonstrate the effects of Capital funding on the condition of highway assets by its proximity to the steady state calculation, it is more difficult to achieve when considering the effect of Revenue investment. The reduction of Revenue budgets will often result in a reduction in service provision or an increase in maintenance backlog, both of which will have some detrimental effect on the short-, medium- and long-term condition of highway assets. Some of the key areas of Revenue pressure for Highway Maintenance functions are described below and later in this document.

The Council's Highway Safety Inspection Policy Part C:001 and the associated inspection and repair regime, is designed, utilising a risk-based approach to maintain the highway network to an approved safe level and forms the basis of the Council's strategy for managing highway liability and risk. Utilising Section 58(1) of the Highways Act 1980 in the defence of 3rd party personal injury and property claims.

In accordance with the Highway Safety Inspection Policy, suitably qualified Safety Inspectors undertake cyclic inspections of the entire highway network identifying safety related defects and categorise them for an appropriate repair utilising the AMX asset management system. For the Council to have a successful defence against any 3<sup>rd</sup> party insurance claims we must demonstrate we've undertaken the safety inspection

and completed any identified repairs in accordance with the defect investigatory levels and timescales of the Policy.

The Council has a robust safety inspection regime achieving an excellent 3<sup>rd</sup> party claim repudiation rate of 88%. In 2022 approximately 93% of critical defects were repaired within the required timescale. Over 25,000 safety and maintenance defects were picked up by Inspectors of which approximately 30% were unable to be repaired due to insufficient resources. The definition of these defects is shown below.

<b>Highway Safety Inspection Defect Definitions</b>		
<b>Critical Defect</b>	<b>Safety Defect</b>	<b>Maintenance Defect</b>
A situation where the inspecting officer considers the risk to safety high enough to require immediate action. Requiring an immediate response to make the site safe	Defects that pose an imminent risk of injury to road users,  Requiring a response as soon as possible to remove a potential risk of injury to users	Defects that warrant treatment to prevent them deteriorating into a safety defect prior to the next scheduled inspection,  Requiring a response to prevent them becoming a safety defect

The result of defects remaining untreated is their possible accelerated deterioration into more serious defects. To further improve efficiency, resources and processes are being upgraded for the management of performance and prioritisation of work. In addition, a new maintenance contract will be let in the new 2023-24 financial year, which will develop more efficient working practices and a more robust legal defence.

Any defects not repaired as required pose a risk to the Council's 3<sup>rd</sup> party insurance defence. It is important to appreciate the level of financial risk associated with 3<sup>rd</sup> party insurance claims. Claims can be categorised into two main groups, property damage and personal injury. Property/vehicle damage claims (e.g., damage to a car wheel resulting from carriageway potholes) are generally of lower cost, in the region of £60 to £300. However, personal injury claims can range from several hundred pounds to millions of pounds, depending on the situation and injury sustained by the claimant. The average cost of a personal injury claim is approximately £15k. It should be noted that most higher value claims arise from footways because of claimed trips and falls.

## 4.5 Enhanced Public Realm

Improvements in the public realm can provide significant enhancements to users as described in Section 2.4 above. It is recognised that some **Focal Areas** of the city such as the City Centre, Local Centres and the Bay experience significantly higher volumes of pedestrians, cyclists and public transport. Resulting in, higher levels of servicing activity, being driven on by loading vehicles, higher access of services by utilities, as well as general wear and tear.

Due to the prestige nature of these focal areas, they generally have higher quality materials and bespoke infrastructure which places a disproportionate demand on maintenance budgets due to their significantly higher replacement costs over those of routine materials. e.g., the maintenance of prestige granite paving in the city centre when compared to a paved concrete or asphalt footway on a residential street or the replacement of a damaged bespoke designed hardwood bench in the city centre over an "off the shelf" bench adjacent to the general highway.

Currently these focal areas are inspected and maintained in accordance with the Council's approved Highway Safety Inspection Policy – Part C:001. This policy was based on guidance developed by the County Surveyors Society Wales "All Wales" HAMP project embracing the National Highways Code of Practice (Well Managed Highway Infrastructure 2016) principle of adopting a risk-based approach to Highway Maintenance. As stated in section 4.4, the inspection and maintenance practices implemented by this Policy forms the basis of the Council's management of highway liability and risk.

The prestige maintenance expectation in these focal areas demands a higher "serviceability standard" than the safety/risk-based approach described above. This higher serviceability standard will undertake repairs that would not trigger a safety repair but improve the aesthetics and maintain the overall appearance of these areas. For example, re-painting bollards and lampposts, early repair interventions to footway and carriageway surfaces and street furniture, re-grouting of paving joints etc. However, dedicated Capital and Revenue budgets must be made available beyond existing highway maintenance improvement budgets. The level of serviceability improvements that can be delivered will be dependent on the additional budgets that can be made available.

Cyclic safety inspections would continue in these areas as specified in the Safety Inspection Policy to ensure statutory requirements are met and an appropriate claims defence is maintained.

The HAMP seeks to adopt a level of investment that supports the delivery of high-quality materials and maintenance within the City's prestige focal areas whilst continuing to provide an effective risk-based maintenance and management approach to the rest of the highway network.

#### **4.6 Unforeseen Demand and Invest to Save Opportunities**

The service has robust condition assessment and works prioritisation processes to implement an effective improvement programme within varying levels of financial settlement. However, unexpected demands or invest to save opportunities do arise that require investment, in some instances these demands, or opportunities can be met by adjusting existing financial priorities but sometimes costs are too high and pressure bids may need to be considered.

DRAFT



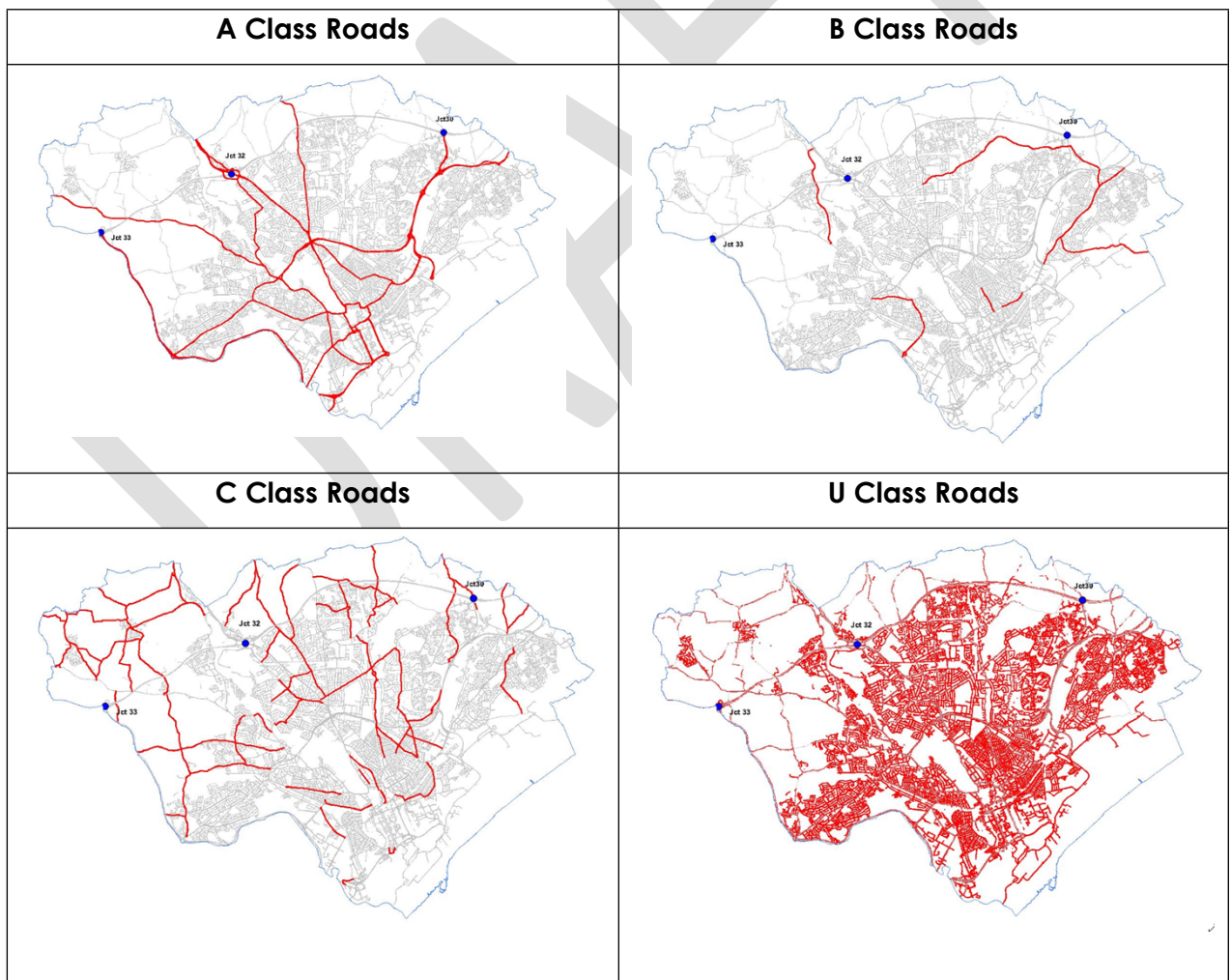
## 5. Management of Carriageways

### 5.1 Carriageway Lengths

The table below shows Cardiff's carriageway network lengths

Road Classification	Urban (km) i.e. <40mph	Rural (km) i.e. >40mph	Total (km)	% of Total Length
A	52.2	33.8	<b>86</b>	8%
B	20.3	5.2	<b>25.5</b>	2%
C	75.6	36.4	<b>112</b>	10%
U	865	10.9	<b>875.9</b>	80%
Sub Total	1013.1	86.3	<b>1099.4km</b>	

The figure below shows the extents of each classification of road



Examples of DFT Road Classifications	
<b>A</b> class roads	A4232 Ely Link, A48 Eastern Ave, A4119 Llantrisant Rd
<b>B</b> class roads	B4267 Leckwith Rd, B4562 Ty-Glas Rd, B4488 Llandaf Rd
<b>C</b> class roads	Rhiwbina Hill, Cherry Orchard Rd, Excalibur Drive
<b>U</b> class roads	Residential housing estate or industrial estate

## 5.2 Carriageways Service Standards

Carriageway service standards reflect the funding levels in the carriageway asset. It defines the standards that users can expect from the carriageway assets during the plan period.

The table below shows the agreed carriageway condition targets by road class and safety inspection and repair targets.

<b>Carriageway Targets</b>				
	Road Class			
	<b>A</b>	<b>B</b>	<b>C</b>	<b>U</b>
Target that RED condition shall be kept below	5%	7%	7%	10%
Percentage of Cat 1 safety defects made safe within response times			95%	
Percentage of safety inspections completed on time			85%	

### **Current Carriageway Service Standard**

The current long term 20-year carriageway service standard is

**Managed Decline**

The forecast values in Table 5a below have been calculated using the CSS HAMP carriageway condition prediction model based on long term funding levels as specified in table 5d. This table should be read in conjunction with Table 5c.

A graphical representation of these condition profiles is shown in section 5.4 and 5.5.

**Table 5a – Actual & Forecast Carriageway Condition Service Standards**

	Measure	2021/22 Actual	2031 Forecast	2041 Forecast
<b>Condition</b>	% of A class carriageway that are in an overall poor condition (red)	2.8%	6.05%	21.85%
	% of B class carriageway that are in an overall poor condition (red)	3.3%	6.89%	21.07%
	% of C class carriageway that are in an overall poor condition (red)	4.6%	10.89%	25.26%
	% of U class carriageway that are in an overall poor condition (red)	1.5%	11.21%	27.06%
	% of U class carriageway that are in an overall poor condition (red & amber 1)	7.9%	42.01%	55.91%

**Table 5b (i) - Historic Carriageway Levels of Service**

	Measure	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
<b>Safety</b>	Percentage of Cat 1 defects made safe within response times	96%	96%	96%	92%	97%	93%
	% of safety inspections completed on time	99.62%	99.84%	99.72%	82%	87.42%	99.60%
<b>Condition</b>	% of A class carriageway that are in an overall poor condition (red)	3.7%	3.4%	3.7%	3.5%	3.3%	2.6%
	% of B class carriageway that are in an overall poor condition (red)	6.5%	6.1%	5.6%	4.7%	5.6%	4.1%
	% of C class carriageway that are in an overall poor condition (red)	6.6%	6.9%	6.0%	5.8%	5.6%	4.5%
	% of U class carriageway that are in an overall poor condition (red & Amber 1)	n/a	n/a	n/a	10%	7.7%	9.8%

**Table 5b (ii) - Historic Carriageway Levels of Service**

	Measure	2010/11	2011/12	2012/13	2013/14	2014/15
<b>Safety</b>	Percentage of Cat 1 defects made safe within response times	n/a	n/a	n/a	n/a	86%
	% of safety inspections completed on time	80.68%	90.56%	98.49%	99.48%	99.58%
<b>Condition</b>	% of A class carriageway that are in an overall poor condition (red)	9.2%	6.9%	7.0%	4.0%	4.3%
	% of B class carriageway that are in an overall poor condition (red)	15.0%	9.6%	8.4%	8.2%	7.4%
	% of C class carriageway that are in an overall poor condition (red)	10.1%	11.4%	12.8%	10.1%	9.3%
	% of U class carriageway that are in an overall poor condition (red & Amber 1)	n/a	n/a	n/a	n/a	n/a

Utilising WG all Wales KPI's for classified road condition a benchmarking analysis has been undertaken to compare how Cardiff's classified road condition compares with other Welsh Local Authorities, see Tables in section 12 of this HAMP document. These KPI's only apply to the classified A, B and C class roads and are not undertaken on the U class (unclassified) network.

It must be noted that historically classified roads (20% of the network) attract a disproportionate amount of funding compared to unclassified roads (80% of the network). This funding allocation adopts a risk-based approach based on the classified network carrying significantly higher levels of traffic, often at higher speeds, than unclassified roads. As can be seen from Tables in Section 12 Cardiff's classified A, B and C class carriageway network conditions compare favourably against all Wales

averages. However, it should be noted an effect of this risk-based approach and the availability of maintenance budgets means classified roads are kept in a better condition than the unclassified roads. Unfortunately, the majority of residents will live adjacent to the unclassified network in residential areas and might not fully appreciate the increased investment in classified roads that they may use infrequently.

In late 2022 the Council introduced a vehicle mounted video data collection exercise utilising RoadAI technology commissioned to collect carriageway condition. The road Condition data generated by RoadAI can identify lengths of highway that are in various stages of deterioration feeding into the programming of improvement works. This survey is repeatable and will be undertaken on a cyclic basis, building an ongoing record of the changing condition of the carriageway network. At the time of preparation of this report, the RoadAI carriageway data was being processed and evaluated by the Highways Asset Team and a U class condition indicator will be developed from this data. Prior to this new RoadAI survey being implemented the condition of the unclassified network was measured via visual inspections undertaken by highway Safety Inspectors whilst carrying out their cyclic inspection of the highway network.

As previously discussed, the highway's teams adopt a risk-based approach to the development of highway improvement schemes and repairs. A number of innovative machine-based and manual survey techniques inform this process, for example:

- Vaisala RoadAI video survey (as discussed above)
- SCANNER machine-based laser condition survey of the classified A, B and C class carriageways.
- SCRIM skid resistance machine survey
- Manual pendulum test skid resistance surveys (localised areas)
- Cyclic safety inspections managed from inspection to repair via the AMX asset management system.
- Core tests and trial holes.
- Chemical analysis to identify existing tar-bound surfacing.
- Engineers site inspections.

### 5.3 Carriageway Investment Strategy

The carriageway investment strategy has been developed to maximise a whole life cost approach to maintenance management, to facilitate this a number of different carriageway improvement programmes are delivered on an annual basis as shown in Table 5c below.

Table 5c - Carriageway Treatment Strategies		
Category		Description
Preventative – <b>Surface Treatments</b>	<b>Surface Dressing</b>	High volume and our most cost effective treatment essential to maximise whole life cost of the road. This is only suitable where deterioration is not too advanced.
	<b>Micro Asphalt</b>	High volume and our second most cost effective treatment, essential to maximise whole life cost of the road where dressing is unsuitable due to poorer condition and a more robust solution is required
<b>Resurfacing</b>		The customers preferred choice of treatment used when the condition is too bad for a preventative option and generally replaces the top surface of asphalt of approx. 40mm
<b>Strengthening</b>	<b>Structural Inlay</b>	Replacing upper 2 surfaces of carriageway that has reached the end of its life, thicknesses of approx. 100mm.
	<b>Reconstruction</b>	Replacing carriageway that has reached the end of its life, thicknesses approx. 450mm and greater. Failure to undertake this repair may result in road closures
<b>Routine and reactive localised repairs</b>		Patching, localised carriageway improvements and repair of identified defects to current investigation and response times as defined in Policy Part C:001 Highway Safety Inspections. <b>This investment is not included in the long term condition prediction modelling in table 5d.</b>

As described in Section 2.2.1 and Section 4.3 the estimated level of steady state funding for the carriageway asset is **£4.8m per annum** (previously £3.075m per annum before recent cost of living increases). Steady State is a level of funding that maintains an asset in its current condition, neither improving nor deteriorating from an overall perspective. Maintenance funding below steady state will result in an ongoing deteriorating condition and consequent increasing maintenance backlog over time, the speed and level of deterioration is dependent on how far investment is below steady state.

The strategy illustrated in Table 5d below shows the capital investment levels used in the CSS prediction tools to generate the service standards shown on table 5a using the treatment options described in table 5c. It uses agreed budgets up to 2022/23 and **forecasts / estimated budgets** for the extended period to year 20. The specialist prediction tools were developed through the CSS Wales HAMP project are utilised to help predict deterioration over the 20 year period (see section 5.4).

<b>Table 5d - Carriageway Capital Investment Strategy Profile (Table 5c Treatments Only)</b>										
Treatment	Actual Capital Spend					Estimated (indicative) Capital Spend				
	2018/19 £000's	2019/20 £000's	2020/21 £000's	2021/22 £000's	2022/23 £000's	2023/24 £000's	2024/25 £000's	2025/26 £000's	2026/27 £000's	2027/42 £000's
Surface Treatments	815	750	1,002	829	642	500	500	500	500	646
Resurfacing	1,629	1,450	2,225	1,522	1,376	1,313	1,313	1,328	1,313	1,313
Strengthening/ Recon	960	38	611	441	391	537	537	548	537	391
<b>Sub Total 1</b>	<b>3,404</b>	<b>2,239</b>	<b>3,838</b>	<b>2,791</b>	<b>2,409</b>	<b>2,350</b>	<b>2,350</b>	<b>2,376</b>	<b>2,350</b>	<b>2,350</b>
Other Capital expenditure 2	1,200	1,562	1,534	1,648	1,068	1,000	1,000	1,000	1,000	1,000
<b>Total Capital expenditure</b>	<b>4,604</b>	<b>3,800</b>	<b>5,373</b>	<b>4,439</b>	<b>3,477</b>	<b>3,350</b>	<b>3,350</b>	<b>3,376</b>	<b>3,350</b>	<b>3,350</b>
Revenue expenditure	2,193	3,009	2,348	2,141						
<b>Total Annual Investment</b>	<b>6,796</b>	<b>6,809</b>	<b>7,721</b>	<b>6,580</b>	<b>3,477</b>	<b>3,350</b>	<b>3,350</b>	<b>3,376</b>	<b>3,350</b>	<b>3,350</b>

Sub Total<sup>1</sup> – this is the capital investment value modelled in the condition profile graphs in section 5.4

Other capital expenditure<sup>2</sup> – capital costs that are not modelled as part of the works programmes shown in section 5.4 such as localised highway improvement works and localised permanent patching (>50m<sup>2</sup>), legal fees, staff costs etc.

Whilst every effort is made to follow the investment strategy described above the actual allocation of funds between improvement programmes is dependent on a number of factors which can change on an annual basis e.g. actual overall budget settlements (increase or decrease), unexpected issues arising, political manifesto etc. These factors combined with the scheme selection process define the specific annual programmes of work.

### 5.3.1 Overview of Works Delivery

Highway improvement works are generally delivered through two main mechanisms:

- Localised improvement works – smaller reactive repairs to the carriageway or footway arising from cyclic highway safety inspections and Councillor/customer requests and complaints, and
- Larger scale capital works – schemes usually providing improvements to the whole or majority of the carriageway or footway.

#### Localised Improvement Works

Highway safety inspections are undertaken on the entire carriageway and footway network to identify defects that are likely to cause a danger or inconvenience to users. The inspection process follows a well-established format based on the UK highway code of practice "Well Managed Highway Infrastructure" and the County Surveyors Society Wales Risk Based Approach to highway safety inspections, this also forms the basis of the Councils defence against third party highway insurance claims which has proved to be very robust when the Council is challenged in court by those seeking compensation for personal injury or property claims and forms a key aspect of the Councils management of liability and risk.

These cyclic inspection frequencies are based on the network hierarchy of the street and the defect repair response times on the severity of the defect, both criteria are defined by the Highway Maintenance Safety Inspections Policy. Response times for undertaking repairs range in duration from next working day to next available work programme, these priorities relate directly to the severity of the defect and its location i.e. the more severe the defect and busy the location the sooner it will be programmed for repair, those defects that pose the lowest risk may be placed in the next programme of works category that will be prioritised based



on availability of budget and/or efficiency of delivery. Councillor and customer requests for service and complaints relating to localised highway improvements will also be inspected and prioritised using this process.

### **Larger Scale Capital Works**

These works usually involve replacing the entire footway or carriageway with new material or protecting the existing with an impermeable weatherproof overlay, treatments include reconstruction, strengthening, resurfacing and preventative such as micro asphalt. These schemes are prioritised based on an evaluation of condition, usage and need with information coming from network surveys (machine based & visual as listed above), site inspections, safety inspector feedback and Councillor and customer requests and complaints. The data is collated and reviewed to form a draft priority list, final checks are made on each location identified on the list to determine the section that should be considered for treatment. The priority list is then finalised, taking into account the budget available for that treatment programme. Contracts for these works are let throughout the year and the available budget will define the overall number of schemes delivered, local members and residents will be notified of any proposed works. The decision to undertake maintenance schemes considers a balance between immediate need and the best long term solution for the network, for example the use of preventative surfacing within the suite of treatment options enables us to make the best use of the limited resources. However, it sometimes causes confusion when people see us working on roads or footways that appear to be in better condition than some others.

As stated above the works evaluation and delivery processes allow for local member and customer involvement by highlighting locations of concern and passing them onto the Highway Maintenance team for consideration via C2C (the Councils call centre) the Council App or Halo member portal.

### **5.3.2 Unforeseen Demand and Invest to Save Opportunities for Carriageways**

As discussed above the service has robust condition assessment and scheme prioritisation processes to implement an effective improvement programme within varying levels of financial settlement. However, unexpected demands or invest to save opportunities do arise that require investment, in some instances these demands, or opportunities can be met by adjusting existing financial priorities but sometimes

costs are too high and pressure bids may need to be considered. Two examples of this are described below.

**Carriageway Reconstruction.**

Whilst some allowance is made to include this treatment in annual programmes of work the high cost of these schemes demands a disproportionate amount of the annual budget which would result in a significant reduction of remaining available funding for resurfacing and preventative schemes. Unfortunately, in addition to expected ongoing deterioration the carriageway network is experiencing particular challenges with its concrete roads that were treated with a crack and seat maintenance technique between 1998 and 2007, this treatment has in some locations come to the end of its life failing quite rapidly resulting in very poor condition roads where the only remaining maintenance option is reconstruction.

**Carriageway Asphalt Preservation.**

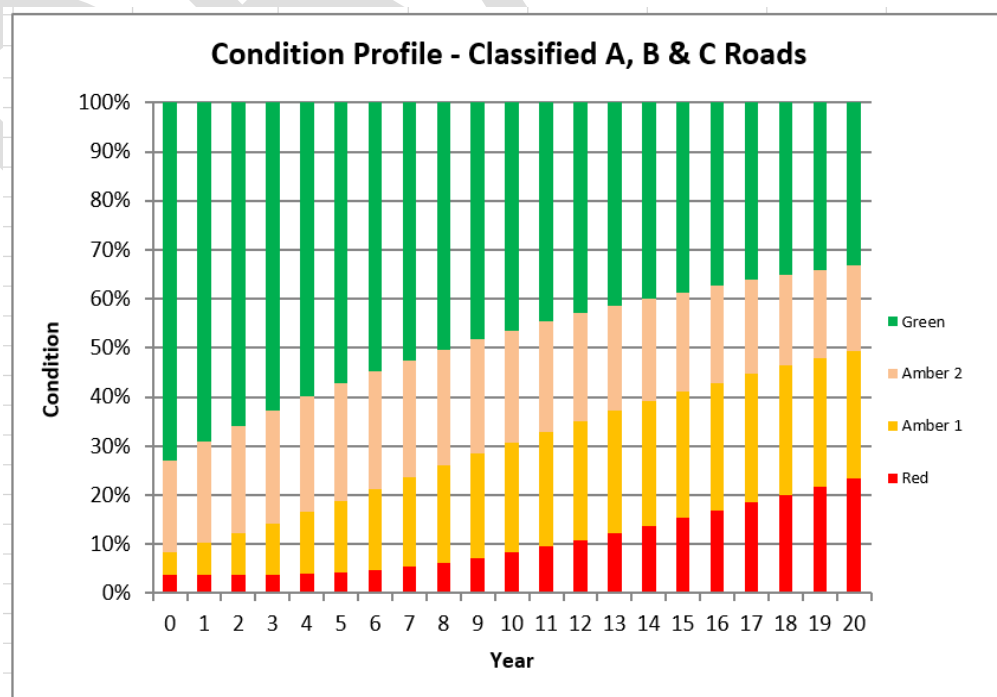
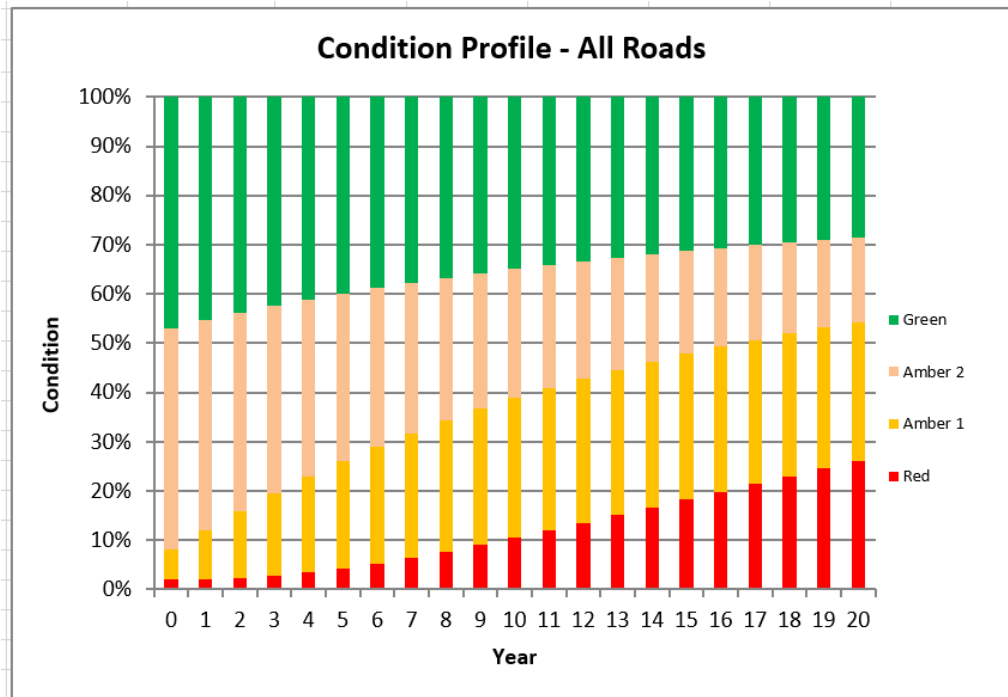
An example where an invest to save opportunity can't be afforded from existing budgets is carriageway asphalt preservation. Over time as the asphalt of a road surface ages micro cracks form allowing water and oxygen to penetrate accelerating the rate of deterioration by weakening the aggregate-bitumen bond. The asphalt preservation treatment is a spray-applied solution of petroleum bitumen and can penetrate up to 30mm on aged asphalt surfaces sealing microcracks and reducing ingress of water, oxygen, salts and contaminants, strengthening the binder-aggregate adhesion and reducing binder oxidation. This reduces aggregate loss and slows the formation of potholes, centre joint failure and other related defects therefore extending the life of the existing road surface.

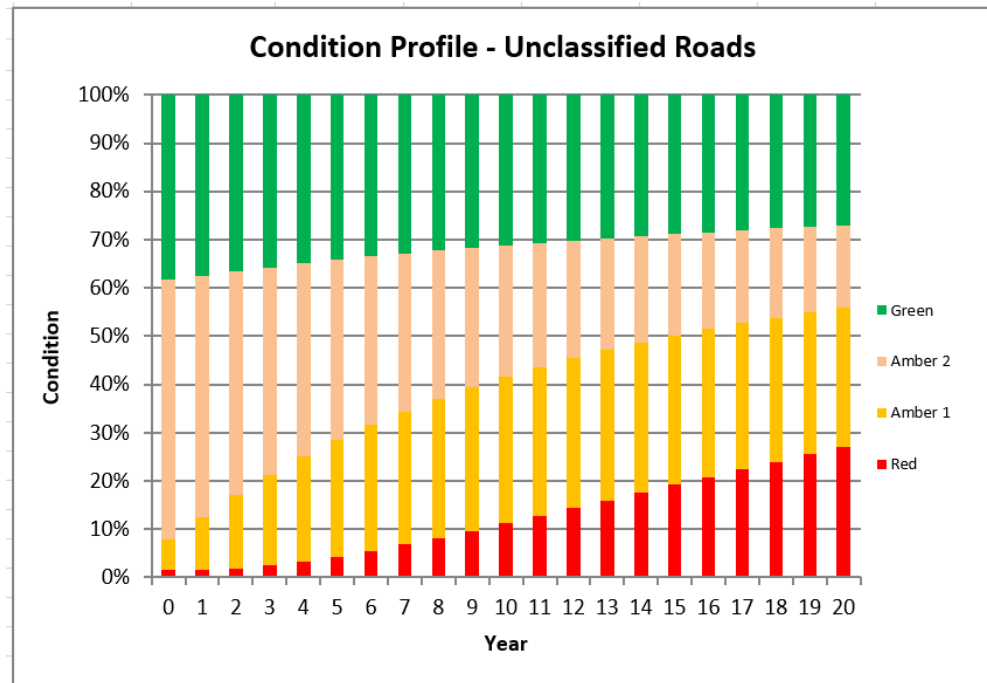
Early intervention when the road surface is in a reasonable condition (green and light amber roads) is essential for an asphalt preservation, the ideal time to treat the road is 2 years before the asphalt surface is expected to show visible surface defects. The asphalt preservation treatment is expected to extend the life of the carriageway surface course before it starts to exhibit defects by 5 years per treatment and can be treated at least 3 times, this maintains and holds the carriageway surface condition which provides a very low component of whole life cycle cost compared to other maintenance treatments and provides significant carbon reduction opportunities and up to 30,000m<sup>2</sup> can be laid in one shift. The approximate cost of Asphalt Preservation is £3.25m<sup>2</sup> compared to £25m<sup>2</sup> for conventional 40mm asphalt inlay.

The proposal to undertake a cyclic preservation treatment program to 70km of the strategic carriageway network on a 5-year recurring basis at a cost of approximately £350k per annum. The roads treated include A4232, A4234, A48 and A470 which form the key arterial routes into the city. Over the last 5 years these elements of the strategic network have received significant resurfacing investment due to their extremely high traffic volumes and the associated accelerated deterioration this produces. Applying an Asphalt preservation will protect this investment and enhance the life of these important routes during the treatment cycle (expected to be 15 years (i.e. 3no x 5 year cycles)).

### 5.4 Long Term Carriageway Condition Prediction

Utilising the CSS Wales carriageway condition prediction tools, the graphs below illustrate how the condition of the carriageway network is expected to change over a 20 year period based on the investment strategy shown in Table 5d.





#### Description of Carriageway Condition Profile Graphs (above):

There are a number of key features that this graph illustrates:

- The x-axis annotated YEAR illustrates the 20 year profile period with year 0 being 2021/22.
- The y-axis annotated CONDITION illustrates the overall spread of condition of the carriageway in a particular year. The red, amber and green colour coding is as described below and illustrates the proportion of a particular condition type (from good (green) to very poor (red)).
- The decreasing proportion of green and light amber illustrates the **reducing quantity of good & reasonable condition carriageway** over the 20 year period.
- The increasing proportion of red and dark amber illustrates the **increasing quantity of poor condition carriageway** over the 20 year period.

## 5.5 The Cost of Long-Term Carriageway Deterioration

Based on the levels of investment shown in Table 5d, the tables below quantify the progressive deterioration in carriageway condition and illustrate the cost of returning carriageways in the two worst condition (Red and Amber 1) to the current condition (Table 5.5.1).

Table. 5.5.1 – Current Carriageway Condition							
% of Roads in a <b>Red</b> Condition <b>Current Year</b>	Road Class	% of Roads	Length of Network	% of Roads in a <b>Amber 1</b> Condition <b>Current Year</b>	Road Class	% of Roads	Length of Network
	A	2.8%	2.40km		A	4.08%	3.51km
	B	3.3%	0.84km		B	5.1%	1.30km
	C	4.6%	5.15km		C	5.18%	5.80km
	U	1.5%	13.13km		U	6.4%	56.05km
<b>RED Total</b>			<b>21.52km</b>	<b>AMBER 1 total</b>			<b>66.66km</b>

Table. 5.5.2 – Cost to Return Year 10 Condition to Current									
% of Roads in a <b>Red</b> Condition <b>Year 10</b>	Road Class	% of Roads	Length of Network	Cost to Improve to Current Condition	% of Roads in a <b>Amber 1</b> Condition <b>YEAR 10</b>	Road Class	% of Roads	Length of Network	Cost to Improve to Current Condition
	A	6.05%	5.20km	£1.84m – (2.8km)		A	22.86%	19.65km	£4.44m - (16.14km)
	B	6.89%	1.75km	£465k – (0.91km)		B	24.48%	6.24km	£1.05m - (5.12km)
	C	10.89%	12.19km	£3.59m – (7.04km)		C	21.41%	23.97km	£3.89m - (18.17km)
	U	11.21%	98.18km	£37.2m – (85.05km)		U	30.37%	266.01km	£38.54m (209.96km)
<b>RED Totals</b>			<b>117km</b>	<b>£43.1m</b>	<b>AMBER 1 Totals</b>			<b>315km</b>	<b>£47.9m</b>

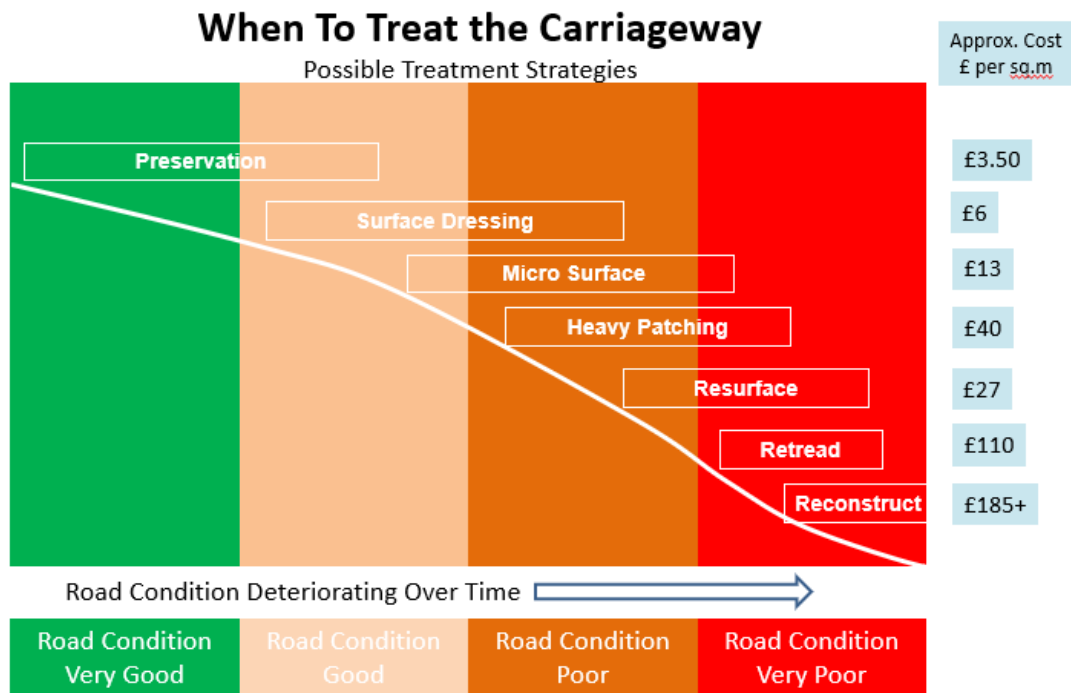
**Table. 5.5.3 – Cost to Return Year 20 Condition to Current**

% of Roads in a <b>Red</b> Condition <b>YEAR 20</b>	Road Class	% of Roads	Length of Network	Cost to Improve to Current Condition	% of Roads in a <b>Amber 1</b> Condition <b>YEAR 20</b>	Road Class	% of Roads	Length of Network	Cost to Improve to Current Condition
	A	21.85%	18.79km	£10.7m – (16.39km)		A	26.03%	22.38km	£5.19m - (18.87km)
B	21.07%	5.37km	£2.31m - (4.53km)	B	30.61%	7.81km	£1.39m - (6.51km)		
C	25.26%	28.29km	£11.8m – (23.14km)	C	25.21%	28.23km	£4.8m - (22.43km)		
U	27.06%	237.01km	£98m – (223.88km)	U	28.85%	252.69km	£36.1m - (196.64km)		
<b>RED Totals</b>			<b>289km</b>	<b>£122.9m</b>	<b>AMBER 1 Totals</b>			<b>311km</b>	<b>£47.5m</b>

Tudalen 134

## 5.6 When to use Carriageway Treatments

The figure below illustrates the relationship between carriageway treatment types, their approximate cost and the correct time of intervention based on the condition of the road. It can be seen that as condition deteriorates the cost of an appropriate treatment increases.



The pictures below illustrate how the range of **poor and very poor condition** roads can differ.



## 5.7 Revenue Pressures on Carriageway Maintenance

Refer to section 4.4 for details of the current revenue pressures on the carriageway asset.

## 6. Management of Drainage

The Drainage asset comprises of a number of asset groups, including:

- Gullies
- Manholes
- Piped network
- Pumping Station
- Sustainable Drainage Assets
- Flood Defences
- Disused Spoil Tips

### 6.1 Drainage Service Standards

Cardiff Council are responsible for the management and maintenance of approximately 100,000 highway gullies, and an engineer's estimate of 1,000 manhole chambers and 100km of carrier pipe. The highways operational team operate on a reactive basis, responding to reports by members of the public, key stakeholders, and elected members.

A gully scheduling project is underway with phase 1 complete identifying capacity under current resources with phase 2 due to begin mid to late 2023.

#### 6.1.1 Pumping Stations

The flood and coastal risk management team inspect and maintain a number of groundwater and foul pumping stations on behalf of other departments within the council. Monthly inspections are undertaken, and associated reports provided to the asset owner. Any remedial works are undertaken and managed with the prior agreement with the asset owner. The number of pumping stations and related information is detailed in the table below.



Ownership of Pumping Stations		
Category	Number	Asset Owner
Foul Pumping Station	4	Housing
Foul Pumping Station	1	Strategic Estates
Foul Pumping Station	3	Harbour Authority
Groundwater Pumping Station	8	Harbour Authority
Groundwater Pumping Station	3	Waste
Groundwater Pumping Station	6	Highway Structures (Subways)
Total	25	

### 6.1.2 Sustainable Drainage Systems (SuDS)

Due to the enactment of Schedule 3 of The Flood and Water Management Act 2010 by The Welsh Government on the 7<sup>th</sup> January 2019, Cardiff Council has a mandatory duty to adopt sustainable drainage assets of which 2 or more properties connect.

To gain SAB (SuDS Approval Body) approval a maintenance and inspection plan is required and once approved this plan is then utilised to ensure regular inspections are undertaken. Any remedial works will be arranged and undertaken as required.

At present due to the relative infancy of the legislation no assets have currently been adopted by Cardiff Council however the adopted asset number is expected to grow significantly during this HAMP period. However, the following Council implemented highway improvement schemes have incorporated SuDS; Greener Grangetown, Wood Street, Tudor Street, Senghennyd Road and Cowbridge Road East.

### 6.1.3 Flood Defence

There are currently many flood defences across the city with Cardiff Council having the responsibility for inspection and maintenance of assets such as flood embankments, attenuation basins, flood barriers and debris screens with associated telemetry.

The flood defence assets are inspected annually utilising the industry accepted T98 asset condition scoring method. Currently there is one member of the Flood and coastal risk management team that is a T98 accredited inspector however another member of the team is undertaking the accreditation during the 2023 / 2024 financial year.

#### 6.1.4 Maintenance of Debris Screens on Watercourses

There are approximately 100 watercourse debris screens across the city that Cardiff Council highways operations team maintain. The highways operational teams attend the screens to ensure they are clear before any forecasted inclement weather and out of hours during storms events. 8 of these screens have flow monitoring telemetry installed due to the high risk of internal flooding should they become blocked. The locations are detailed below.

Ward	Number
Llanishen	1
Pentyrch	1
Rhiwbina	4
Whitchurch & Tongwynlais	2

#### 6.1.5 Disused Coal Spoil Tips

A recent joint project undertaken by The Welsh Government & The Coal Authority has determined a large number of uncharted disused coal spoil tips are present throughout Wales. The coal tips are awarded a risk rating between A (least risk) to D (Highest Risk) and inspections are undertaken accordingly. The information regarding the coal tips under Cardiff Council's responsibility is detailed in the table below:

Coal Tip Category	Number	Inspection Frequency
A	1	Once every 2 years
B	8	Once a year
C	0 (1)	Once a month (on behalf of PCC)
D	1	Once a month

## 6.2 Drainage Investment Strategies

Investment strategies for the highway drainage are developed on a reactive basis responding to highway inspections, resident and elected members reports. However, where the demand for remedial works exceed the annual budgets, specific financial requests will be made.

The investment strategy for SuDS asset will be to utilise the Commuted Sums Payments paid by developers during the adoption process.

The flood risk revenue grant offered by The Welsh Government annually is utilised in part for investment in flood defence assets such as telemetry and debris screens.

## 6.3 Revenue Pressures on Drainage Assets

The removal of detritus from the highway channels (gutter) and cleansing of drainage gullies allows the free flow of rainwater off the highway into the drainage system to prevent flooding. The removal of rainwater from the highway also helps to maximise the life of the asphalt carriageway.

Water can be one of the most damaging elements to an asphalt surface. Moisture damage decreases strength and durability of asphalt, weakening the bond between the bitumen and the aggregate, thus speeding up deterioration forming potholes and cracking. When cracks form it allows water to seep under the surface, which is damaging to the base beneath. Extended exposure to these defects can have significant detrimental effects to the structure and foundation of the road.

It is very difficult to quantify the direct damage to the carriageway caused by the effects of standing water because of blocked drains and channels. However, reductions in revenue investment for cyclic gully emptying and street sweeping functions, and their consequent reduced frequency, can be attributed to accelerated carriageway deterioration as described above.

As flood defence assets advance along their design life inspection and maintenance is undertaken using Revenue budgets. These assets are critical for the protection of a large number of residential and commercial properties from a range of flood risk sources.

## 7. Management of Footways

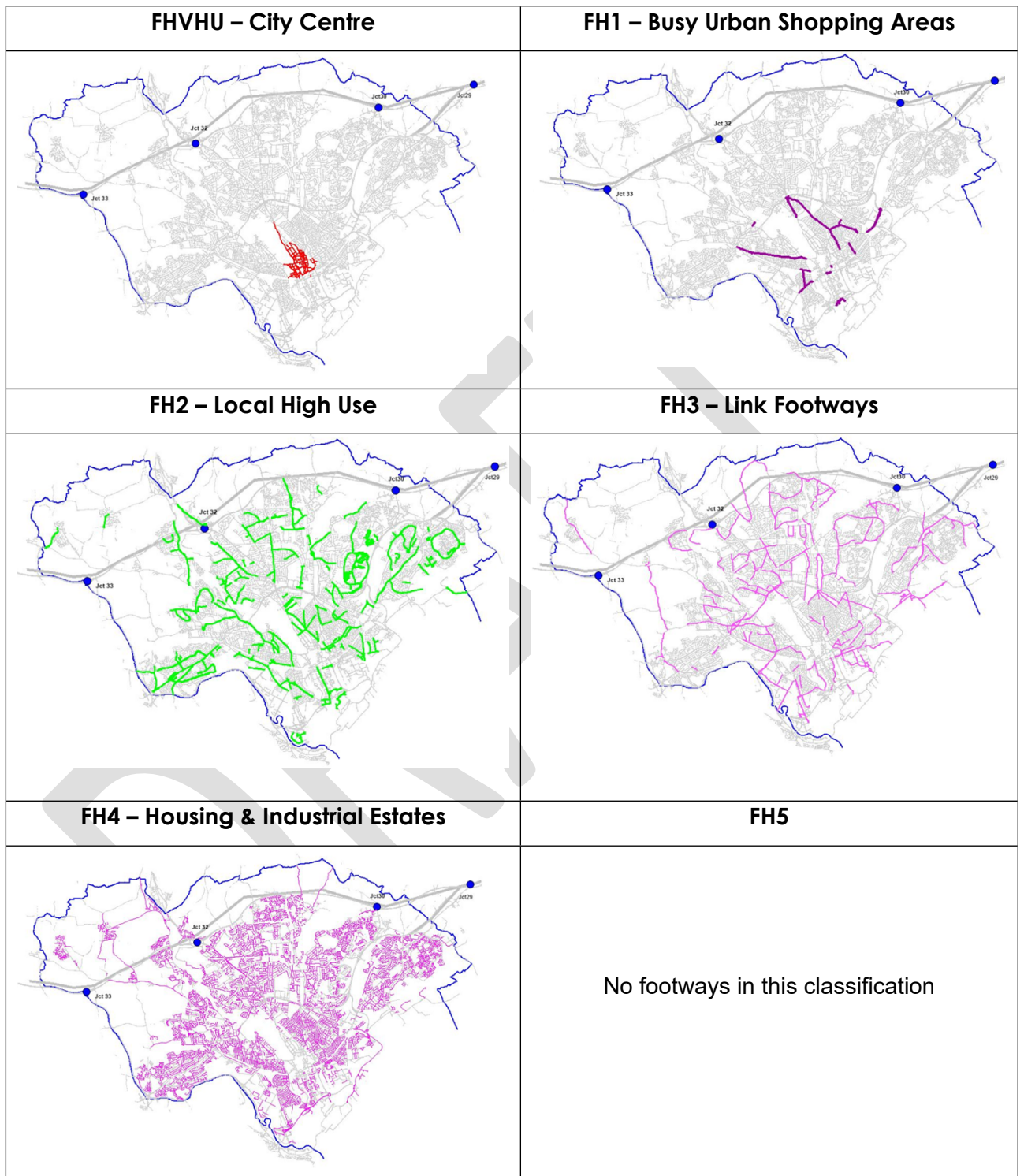
### 7.1 Footway Lengths

The table below shows Cardiff's footway network lengths

Footway Hierarchy	Length (km)	% of Total Length
FHVHU	26	2%
FH1	25	2%
FH2	209	15%
FH3	205	14%
FH4	958	67%
FH5	0	0
<b>Total</b>	<b>1423km</b>	

Footway Hierarchy	Description
<b>FHVHU</b>	Very Heavily Used - busy areas of the city centre e.g. Queen St, Hayes, St Mary St, John St
<b>FH1</b>	Busy urban shopping & business areas e.g. Albany Rd, City Rd, Cowbridge Rd
<b>FH2</b>	Footways outside busy public buildings such as train/bus stations, hospitals, schools and colleges or small parade of shops etc. that generate significantly higher levels of use than the adjacent footways.
<b>FH3</b>	Footways that link housing estates and industrial estates to other centres/routes
<b>FH4</b>	All other footways including footways in housing areas where footfall levels are expected to be medium or low.
<b>FH5</b>	The little used rural footways where usage is expected to be below 100 pedestrians per day.

The figure below shows the extents of each classification of footway



## 7.2 Footway Service Standards

The table below shows the service standards that users can expect from the footway assets during the plan period.

Footway Service Standards						
	Measure	2017/18	2018/19	2019/20	2020/21	Target
Safety	Percentage of Cat 1 defects made safe within response times	96%	92%	97%	93%	95%
	% of safety inspections completed on time	99.72%	82%	87.42%	99.60%	85%

## 7.3 Footway Condition Surveys

At time of preparation of this document, current footway network condition data is unavailable. Plans are underway to implement a network wide condition survey undertaken by Highway Safety Inspectors at the same time as their cyclic inspections. A FNS (footway network survey) condition survey was undertaken in 2012; however, its age makes it unsuitable for use with the footway condition forecasting software (similar to that used for carriageways).

## 7.4 Footway Investment Strategies

Footway investment strategies have been developed to maximise the whole life cost approach to footway maintenance management, to facilitate this a number of separate footway improvement programmes are delivered on an annual basis (see categories below).

Category	Description
Routine and Reactive Localised Repair	Repair of identified defects or to current inspection and response requirements as defined in Policy Part C:001 Highway Safety Inspections
Planned Maintenance Preventative surface treatment – <b>Micro Asphalt</b>	High volume and our most cost-effective footway treatment essential to maximise whole life cost but only suitable where deterioration is not too advanced.
Planned Maintenance Corrective – <b>Resurfacing &amp; Reconstruction</b>	Often the only suitable footway treatment. May include the wholesale replacement of the footway including its foundation, replacement of existing deteriorated macadam or replacing broken and dangerous slabs with more resilient asphalt, kerbs will also often need replacing.

As described in Section 2.2.1 and Section 4.3 the estimated level of steady state funding for the footway asset is **£3.7m per annum** (previously £2.4m per annum before recent cost of living increases). Steady State is a level of funding that maintains an asset in its current condition, neither improving nor deteriorating from an overall perspective. Maintenance funding below steady state will result in an ongoing deteriorating condition and consequent increasing maintenance backlog over time, the speed and level of deterioration is dependent on how far investment is below steady state.

Treatment	Actual Capital Spend					Estimated (indicative) Capital Spend				
	2018/19 £000's	2019/20 £000's	2020/21 £000's	2021/22 £000's	2022/23 £000's	2023/24 £000's	2024/25 £000's	2025/26 £000's	2026/27 £000's	2027/42 £000's
Preventative - Micro Asphalt	291	58	4	0	643	223	129	129	129	129
Corrective - Resurfacing & Reconstruction	238	693	260	453	401	457	266	266	266	266
<b>Sub Total</b>	<b>529</b>	<b>751</b>	<b>264</b>	<b>453</b>	<b>1044</b>	<b>680</b>	<b>395</b>	<b>395</b>	<b>395</b>	<b>395</b>
Other Capital expenditure 1	275	210	602	534	841	200	200	200	200	200
<b>Total Capital expenditure</b>	<b>805</b>	<b>961</b>	<b>866</b>	<b>988</b>	<b>1,885</b>	<b>880</b>	<b>595</b>	<b>595</b>	<b>595</b>	<b>595</b>
Revenue expenditure	402	433	528	809						
<b>Total Annual Investment</b>	<b>1,207</b>	<b>1,393</b>	<b>1,394</b>	<b>1,796</b>	<b>1,885</b>	<b>880</b>	<b>595</b>	<b>595</b>	<b>595</b>	<b>595</b>

Other capital expenditure<sup>1</sup> – *capital costs that would not be modelled as part of a Steady State works calculation, includes localised footway improvement works and localised permanent patching (>20m<sup>2</sup>), legal fees, staff costs etc.*

## 7.5 Revenue Pressures on Footway Maintenance

Refer to section 4.4 for details of the current revenue pressures on the footway asset.

## 8. Management of Street Furniture & Road Markings

The general street furniture and road marking asset comprises of a number of asset groups, including:

- Bollards
- Pedestrian guardrail
- Seats
- Road markings
- Traffic signs & street nameplates

### 8.1 Street Furniture & Road Markings Service Standards

Street Furniture & Road Markings Standards						
	Measure	2017/18	2018/19	2019/20	2020/21	Target
Safety	Percentage of Cat 1 defects made safe within response times	96%	92%	97%	93%	95%
	% of safety inspections completed on time	99.72%	82%	87.42%	99.60%	85%

Safety defects for street furniture and road markings are managed through routine cyclic highway safety inspections. Due to the size and complexity of these asset groups only a limited inventory is currently available and detailed service standards have not been calculated or defined. The implementation and development of AMX has provided the functionality to collect, manage and update "child assets". It is proposed that this asset information is collected over time whilst undertaking routine maintenance activities and as described below utilising the new RoadAI video survey which was undertaken in late 2022 which will continue to develop a more robust dataset on which future informed decision making can be made.

### 8.2 Investment Strategies

Investment strategies for the street furniture and road marking assets are generally developed on a reactive basis responding to identified defects from safety inspections or customer requests.



However, programmes of planned maintenance are developed on a needs basis to address identified issues, in some cases specific financial requests are made where demand exceed in year budgets. It is anticipated that as understanding of the asset is enhanced following increased data collection (including RoadAI) targeted programmes of improvement will be identified and evaluated. Again, specific Capital and Revenue bids for increased funding may be considered where programmes cannot be accommodated within routine budgets.

### 8.3 Revenue Pressures on Street Furniture and Road Markings

A significant proportion of road marking, traffic sign and street furniture (bollards, pedestrian guardrail, benches, fences etc) repair and replacement is undertaken using Revenue budgets, other than those replaced as part of wholesale capital highway improvement schemes.

The Council depends on signing and lining for the efficient control and movement of traffic, for enforcement of traffic regulations and, most importantly, as an aid to road safety. Traffic signs and road markings are placed by the Council, through the powers provided by the Road Traffic Regulation Act 1984, to provide warnings, information and details of restrictions to road users.

#### 8.3.1 Road Markings

While faded road markings are not illegal in a definite black-and-white sense, the legislation of the Road Traffic Act 1988 outlines that roads must be safe for users. Therefore, if an accident were to occur due to the lack of road markings, or the inadequate quality of them, then the responsibility may well lie with the Council. An incident caused as a direct result of road marking quality could therefore be a violation of the law. In addition, missing, faded or incorrect road markings make parking restrictions unenforceable.

The recent RoadAI video survey of the highway network has identified that over 300km of the surveyed road markings were in the <25% condition value. At the time of preparation of this report, the RoadAI road marking data was being processed and evaluated by the Highways Asset Team. This data will enable us to establish a maintenance backlog and make more informed bids for planned improvement programmes.

### 8.3.2 Traffic Signs

Restrictions are legally unenforceable if the signs are missing, incorrect, wrongly orientated or obscured. Again, the legislation of the Road Traffic Act 1988 outlines that roads must be safe for users as described above.

Sign cleaning is undertaken following Councillor or customer request or where inspections have identified badly obscured signs. However, due to restricted Revenue budgets, a cyclic sign cleaning programme is unaffordable.

The replacement of faded, missing or damaged street nameplates is a good example of a continual demand on revenue maintenance budgets. During the three-year period 2020-2023 400 nameplates were replaced on approximately 200 streets at a cost of circa £60k. However, a backlog of 690 nameplates remains at an approx. replacement cost of £103k, at current investment rates this backlog will take more than 5 years to replace. (That is, if no more defective units were added to the backlog).

The recent RoadAI video survey has identified 23,800 traffic signs on the road network. At present the software is unable to automatically categorise sign condition. However, desk top analysis can be undertaken, and condition recorded against each asset. At the time of preparation of this report, the RoadAI traffic sign data was being processed and evaluated by the Highways Asset Team. This data will enable us to establish a maintenance backlog and make more informed bids for planned improvement programmes.

## 9. Management of Street Lighting

The Street lighting asset comprises of the following main asset groups:

- 39,054 Lighting Columns
- 4,093 Illuminated Signs
- 522 Illuminated Bollards
- 642 Zebra crossing belisha beacons
- 56 School crossing patrol flashing units

The management of Cardiff Councils Street Lighting asset provides a continuous inspection process which identifies defects that are recorded and managed utilising the Mayrise asset management system. Electrical Inspections and non-destructive structural inspections are undertaken on a cyclic basis with lens cleaning of lamps being undertaken at the same time as the electrical test.

### 9.1 Street Lighting Service Standards

The Council or its contractor carries out reactive maintenance on the street lighting asset generally resulting from the following incidents, the timescales for rectifying these damaged or missing assets follows a risk-based approach:

- Third party accident damage
- Identified failures from inspections, customer complaints and Central Management System.
- Vandalism

Average Time Taken to Restore Lanterns to Full Working Order							
Fault Performance	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Average time (in days) taken to restore lanterns to full working order (authority or electricity supplier problem)	6.47	6.56	6.66	3.71	3.85	4.49	3.0
Average time (in days) for authority to restore lanterns to full working order from report (excluding electricity supplier fault)	6	6.2	5.2	2.95	5.67	7.2	7.5

Requests for additional street lighting will generally consider the following criteria, with each request being dealt with on its individual merit:

- The reason for the request
- Consequence of the proposed change
- The impact of change on the existing lighting layout
- The future servicing of the unit
- The impact of the proposal on neighbours, communities, and other stakeholders
- Road safety issues
- Environmental issues

## 9.2 Street Lighting Investment Strategies

The three main principles underpinning the Street lighting investment strategy are energy use, price reduction and carbon reduction. Thus, supporting the current ongoing implementation of LED units described below.

The Council has had an ongoing programme of replacing existing lighting units with modern efficient LED units across the entire network. Due to the efficiencies associated with LED and its reduced energy consumption it will contribute towards the Councils carbon reduction targets, it is now the product of choice and conversely the production of traditional lighting has reduced. The LED street lighting programme directly supports the corporate One Planet Cardiff objectives by improving the sustainability of the city both financially and environmentally, by reducing the operation energy requirements for lighting and associated CO2 emissions. Furthermore, the LED street lighting technology adopts Smart City approaches to managing infrastructure by the introduction of a Central Management System.

Aluminium columns are also now extensively used due to their increased life expectancy over traditional galvanised steel columns.

## 9.3 Revenue Pressures on Street Lighting

Ongoing price increases (and fluctuating costs) for street lighting energy places a particular demand on Council Revenue funding. Many repairs to street lighting apparatus such as replacement of failed electrical components, upgrade of equipment and replacement of damaged units can only be funded by Revenue and limited

budgets to undertake these repairs reduces the resilience of the Street Lighting asset. Limited Revenue funding cause particular problems in resolving issues with defective illuminated signs and keep left bollards, all of which play a key role in the safe use of the highway network.

The manufacture of Fluorescent tubes used in illuminated signs is decreasing in line with new legislation and decreasing requirements within other industries which will require existing signs to be either replaced with an LED equivalent or de-illuminated if regulations permit. Whilst this increases initial pressures on budgets, longer term savings will be possible with reduced energy and maintenance costs along with CO2 reductions.

DRAFT

## 10. Management of Structures

Cardiff Council's Highways Structures Asset consists of:

- 1 Tunnel
- >150 Bridges
- >190 Culverts
- >150 retaining walls and subways

The management of Cardiff Council's 504 highway structures entails a continuous inspection process that identifies defects that are recorded on the AMX system. General Inspections are carried out every 2 years and Principal Inspection carried out every 6 years. A Principal Inspection is a close examination of a Structure requiring careful planning and liaison with third parties e.g., Network Rail and Transport for Wales for rail bridges. Special Inspections are undertaken when further investigation of the condition of a structure is required or following impact from a vehicle traffic collision. In addition, Structural Assessments are carried out to review the bridge vehicle loading capacity to ensure the structure is fit for purpose to enable Abnormal Loads notifications to be validated within the prescribed time scales.

### 10.1 Structures Service Standards

The service level standard for highway structures is determined by inspections in accordance with the Code of Practice for the "Management of Highway Structures".

The table below shows Bridge Condition Indicators (BCI) of the bridge stock for the last five years, based upon the outcome of inspections completed. While the Average Condition indicator (BCI(av)) is fairly steady, the Critical Condition indicator (BCI(Crit)) for the significant elements of the bridge structure is declining.

In 2022 the Average Condition is 85.31 is classed as Good. The Critical condition is 66.38 classed as fair.

Financial Year	2018	2019	2020	2021	2022
BCI (Av.)	87.5	86.96	85.96	85.64	85.31
BCI (Crit.)	73.1	70.51	67.42	66.41	66.38

## 10.2 Structures Investment Strategies

The investment strategy adopts a risk-based approach and is determined by the outcome of Principal Inspections, Structural Assessments and upgrading substandard structures. Prioritisation is based on the demand to ensure structures are 'safe for users and 'fit for purpose'. Intervention with appropriate investment can improve the longevity of a structure to achieve the desired 120-year design, minimising the risk of more substantial costs in the future.

Interim measures may be implemented if the condition of a structure has deteriorated to a poor level or following a Structural Assessment determining that a structure has become substandard. This may require a weight restriction to be imposed, or existing restrictions lowered until funding is available to strengthen the structure to the appropriate current requirements.

Subject to appropriate funding levels, Capital Investment plans and Life Cycle Planning for the Council's Bridge Stock, will reduce the need for repetitive and expensive reactive maintenance from the revenue budget.

## 10.3 Revenue Pressures on Structures Assets

Painting structures is an essential and cost-effective maintenance strategy to protect the integrity of steelwork and help achieve their design lives of 120 years. Painting prevents corrosion and the subsequent structural deterioration of metal components minimising expensive repairs to strengthen or replace corroded elements. The elements of a structure that benefit from painting are steel beams under the bridge deck, parapets (the fences on the edge of the structure) and complete footbridges.

Modern paintwork systems used on highway structures have a lifecycle of between 20 to 25 years, a significant improvement over older systems lasting from 12 and 15 years, thus extending new treatment cycles but limiting protection of older painted elements. It should be noted that access arrangements for carrying out painting can increase the cost of a scheme significantly, along with the legislative requirements of Railway companies and Natural Resources Wales over rivers.

The current revenue budget available for the maintenance of all Highway Structures is £130k, which is fully allocated to completing essential safety works and minor repairs. There is an estimated current backlog of £900k for painting Highway Structures that have significant steelwork components. Based on current inspection data the painting of structural steelwork comprises approximately 25% of a £4m maintenance backlog.

## 11. Management of Intelligent Transport Systems (ITS)

Cardiff Council's Intelligent Transport Systems Asset consists of:

- 182 signalised junctions
- 122 pedestrian crossings
- 18 Automatic rising bollards sites
- 9 Manual lift Assist rising bollard sites.
- 360 CCTV Cameras
- Dynamic signing systems, including:
  - 41 Variable message signs (VMS) LED signs
  - 22 Car Park Management LED Signs
  - 94 Rotating plank signs (RPS)
- North Road Lane Control System
- Real time bus information System including 390 shelter displays.
- 29 Speed & 18 Red Light Cameras Housings
- Fibreoptic and Copper cable communication system

The Council depends on signing and signalling for the efficient control and movement of traffic, for enforcement of traffic regulations and, most importantly, as an aid to road safety. Traffic signs are placed by the Council, through the powers provided by the Road Traffic Regulation Act 1984, to provide warnings, information and details of restrictions to road users. Traffic signals are a key tool in managing traffic. They are provided for a number of reasons – to manage flows and delays between main and side roads, to provide safe crossing places, and to reduce conflicts. They achieve this by separating conflicting traffic in time, and sometimes space, safely, efficiently and effectively. Note that the term “traffic” includes all road users: pedestrians, pedal cycles (which are vehicles), equestrians, public service vehicles, and motor vehicles.

### 11.1 Intelligent Transport System Service Standards

Response times for reactive maintenance on ITS assets are categorised as either urgent or non-urgent. Urgent faults will generally be classified as (but not limited to):

- Damage following an RTA,
- Asset not working,
- Assets displaying incorrect information,
- Power issues



- Assets damaged or in dangerous condition.

An annual site inspection is undertaken on the following assets checking components and equipment:

- Traffic Signals
- Automatic Rising Bollards
- Dynamic Signing Systems

Cyclic electrical testing is undertaken on all electrical installations. Specific cyclic maintenance and inspections are carried out on the moving components of Rotating Plank Signs and Automatic Rising Bollards.

Visual inspections are carried out as part of the periodic maintenance inspections and where structural issues are identified then a replacement is carried out or further structural tests are undertaken as required.

## 11.2 Intelligent Transport Systems Investment Strategies

The investment strategy for the ITS asset is generally developed on a reactive basis responding to identified defects from the maintenance contractor's periodic inspections, Urban Traffic Control real time faults and customer requests. The ITS asset is continually growing through the introduction of new schemes delivered by both developers and other Council teams. This growth in the ITS asset paces a continually increasing demand on maintenance budgets. ITS upgrades and replacements directly support the corporate One Planet Cardiff objectives by improving the sustainability of the city both financially and environmentally, by reducing the operation energy requirements and associated CO2 emissions.

## 11.3 Revenue Pressures on Intelligent Transport Systems

As with the Street Lighting asset ongoing price increases (and fluctuating costs) for energy places a particular demand on Council Revenue funding.

As stated above the latest ITS technology improves efficiency of the road network for all road users, providing better provision for pedestrians, cyclists and vulnerable road users as well as motor vehicles. Many repairs to ITS apparatus such as replacement of failed

components, upgrade of equipment and replacement of damaged units can only be funded by Revenue. Limited budgets to undertake these repairs reduces the resilience of the ITS asset.

Traffic signals have for many years been reliant on M32 Halogen capsule lamps and Cardiff like many other cities in the UK has a number of these legacy installations. The worldwide consumption of halogen lamps has however reduced significantly in recent years driven mainly by the advances in LED technology and as other major consumers of halogen lamps have transitioned, along with difficulties in obtaining raw materials, many manufacturers have ceased producing these products resulting in reduced availability and increased costs. These Halogen units are gradually being replaced with more efficient modern LED signal heads. However, these upgrades are not always as simple as replacing old halogen with new LED units, there are often compatibility issues with the existing signal controller that can significantly increase replacement costs. The advantages of using LED traffic lights are:

- Much greater energy efficiency which is good for the environment and produces a substantial reduction in the running costs of traffic signals.
- LED heads have a much longer lifetime between replacements, measured in years rather than months.
- Halogen signal heads suddenly fail at the end of their life, whereas the individual LEDs within each head will fail over a period of time, providing plenty of warning as to when to change the light - much safer than a sudden loss of a traffic signal aspect.
- Brighter illumination with better contrast against direct sunlight
- Reduction in CO2 from decreased energy and maintenance requirements

New installations benefit from the move towards the use of extra low voltage (ELV) equipment. Traffic signal sites have traditionally operated at the nominal mains voltage of 230v, operating traffic signal installations at a lower voltage of 48v offers several benefits:

- Reduces chances of an electric shock being received from an installation should a fault occur.
- When coupled with LED signal heads energy savings increase.

- Provides significant reductions in CO2 emissions due to lower power requirements, and reductions in raw material usage, resulting from the need for fewer street cables.

Additional pressures on ITS equipment include:

- The requirement to upgrade legacy obsolete analogue transmission equipment with digital IP
- The requirement to upgrade obsolete analogue CCTV cameras to digital HD.
- Obsolete components within LED VMS requiring complete sign renewal.
- Traffic Signal poles that require replacing due to age
- Traffic signal cabling and controllers that has been operated beyond its expected lifespan through carefully managed ongoing maintenance.

As described above limited Revenue funding places considerable pressure of the effective maintenance of the ITS asset.

DRAFT

## 12. Benchmarking

Benchmarking data is available in the form of the carriageway condition performance indicators for the A, B and C class roads referenced in Section 5.2. The tables below provide a comparison of Welsh Highway Authorities road condition between 2012 and 2022.

Council	THS/012a - A Roads - % in Red Condition										
	Length (km)	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Anglesey	145.20	3.40%	3.10%	3.69%	2.70%	2.30%	3.20%	2.90%	4.00%	4.60%	3.00%
Blaenau Gwent	44.62	7.20%	4.80%	3.60%	2.60%	2.30%	2.60%	2.60%			
Bridgend	104.00	5.70%	5.00%	5.24%	4.70%	5.20%	4.50%	4.00%			
Caerphilly	96.60	5.00%	5.40%	4.16%	4.50%	4.30%	4.60%	3.90%	4.10%	3.00%	3.20%
<b>Cardiff</b>	<b>152.00</b>	<b>7.00%</b>	<b>4.00%</b>	<b>4.29%</b>	<b>3.70%</b>	<b>4.10%</b>	<b>3.30%</b>	<b>3.50%</b>	<b>3.30%</b>	<b>2.60%</b>	<b>2.80%</b>
Carmarthenshire	249.10	6.60%	4.70%	4.34%	4.60%	4.30%	4.10%	5.20%	5.40%	4.10%	3.60%
Ceredigion	158.30	6.60%	5.90%	4.90%	5.12%	4.10%	4.20%	4.70%		3.20%	
Conwy	118.06	4.30%	2.60%	2.87%	2.90%	3.10%	3.50%	3.90%	4.30%	3.90%	
Denbighshire	139.80	5.60%	3.70%	3.51%	3.00%	2.70%	2.70%	3.40%	3.60%	3.50%	2.60%
Flintshire	152.00	2.20%	1.50%	1.23%	1.40%	1.50%	1.40%	1.70%	2.20%	2.10%	
Gwynedd	310.20	5.20%	4.40%	3.53%	3.10%	3.50%	3.20%	3.30%	3.50%	2.80%	2.60%
Merthyr Tydfil	27.62	5.30%	5.60%	3.47%	3.30%	3.20%	3.30%	3.60%	3.70%	2.70%	
Monmouthshire	59.00	4.20%	3.00%	2.56%	2.30%	2.10%	2.40%	2.70%	2.60%	2.70%	
Neath Port Talbot	140.19	7.90%	6.80%	5.87%	4.50%	4.10%	4.50%	5.30%	5.00%		
Newport	51.30	3.10%	3.30%	2.58%	2.20%	2.60%	2.60%	2.30%	2.70%	2.30%	2.10%
Pembrokeshire	160.30	5.70%	4.50%	4.94%	4.60%	5.40%	5.40%	4.80%	4.40%	3.90%	3.90%
Powys	238.20	4.70%	5.00%	3.35%	2.80%	3.60%	3.90%	3.90%	3.90%	3.40%	3.00%
Rhondda Cynon Taf	165.40	7.60%	8.10%	8.01%	7.20%	5.70%	5.20%	4.90%	4.70%	4.60%	3.70%
Swansea	102.30	3.70%	3.90%	3.18%	3.30%	3.20%	3.20%	4.10%	4.00%	3.10%	2.60%
Torfaen	26.00	2.30%	1.50%	1.18%	1.40%	1.70%	2.10%	2.50%			
Vale of Glamorgan	73.90	6.80%	6.00%	5.62%	5.90%	5.90%	6.54%	6.30%	6.00%	5.10%	
Wrexham	110.00	2.90%	2.80%	2.70%	2.30%	2.40%	2.40%	3.30%	3.80%	3.20%	3.50%
<b>Welsh Avg</b>		<b>5.14%</b>	<b>4.35%</b>	<b>3.86%</b>	<b>3.55%</b>	<b>3.51%</b>	<b>3.58%</b>	<b>3.76%</b>	<b>3.96%</b>	<b>3.38%</b>	<b>3.05%</b>

Tudalen 156

Tudalen 157

Council	THS/012b - B Roads - % in Red Condition										
	Length (km)	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Anglesey	122.50	7.50%	5.90%	5.11%	3.80%	3.20%	4.40%	3.80%	3.80%	3.80%	2.80%
Blaenau Gwent	17.95	8.10%	6.80%	5.48%	4.80%	5.10%	5.60%	5.60%			
Bridgend	30.90	7.70%	6.10%	4.84%	4.90%	3.30%	4.20%	3.90%			
Caerphilly	64.80	6.30%	4.80%	3.44%	4.10%	3.70%	3.60%	3.40%	3.30%	2.40%	2.20%
Cardiff	32.00	8.40%	8.20%	7.34%	6.50%	7.10%	5.60%	4.70%	5.60%	4.10%	3.30%
Carmarthenshire	331.50	7.70%	5.50%	3.61%	4.00%	3.50%	3.10%	4.20%	4.70%	3.40%	2.80%
Ceredigion	325.00	10.00%	7.70%	5.40%	5.17%	3.10%	3.00%	3.50%		2.00%	
Conwy	173.28	7.30%	6.50%	6.06%	4.30%	4.30%	4.30%	5.80%	5.90%	4.80%	
Denbighshire	133.70	9.30%	8.80%	7.71%	6.50%	5.80%	5.10%	4.70%	5.30%	5.00%	3.80%
Flintshire	78.00	2.80%	1.20%	1.34%	1.50%	1.30%	1.30%	1.40%	1.80%	1.90%	
Gwynedd	204.22	5.30%	4.70%	3.72%	3.40%	3.90%	3.80%	3.90%	3.90%	3.00%	2.50%
Merthyr Tydfil	12.13	11.80%	14.40%	10.83%	8.80%	8.60%	7.40%	6.20%	7.10%	7.20%	
Monmouthshire	151.00	6.10%	5.30%	5.30%	5.10%	4.30%	4.90%	4.70%	5.10%	5.20%	
Neath Port Talbot	63.42	6.70%	5.20%	4.04%	2.60%	2.40%	2.90%	2.90%	2.80%		
Newport	46.70	6.50%	6.00%	4.99%	4.00%	4.20%	4.40%	4.20%	5.00%	4.40%	3.10%
Pembrokeshire	240.90	6.90%	5.10%	4.97%	4.00%	4.40%	5.20%	5.60%	5.40%	4.10%	3.40%
Powys	604.10	9.40%	8.60%	5.98%	5.20%	5.50%	5.70%	5.30%	5.10%	4.50%	4.10%
Rhondda Cynon Taf	76.20	9.90%	8.40%	6.43%	7.10%	5.90%	6.20%	6.50%	6.20%	5.90%	4.80%
Swansea	101.60	5.70%	5.60%	4.04%	4.50%	5.00%	4.50%	5.10%	5.10%	4.20%	3.10%
Torfaen	17.00	6.20%	5.60%	5.60%	5.60%	4.20%	4.30%	4.80%			
Vale of Glamorgan	57.80	5.90%	4.80%	5.04%	4.70%	4.20%	4.96%	4.10%	5.10%	5.20%	
Wrexham	142.50	5.70%	4.60%	2.83%	2.70%	2.70%	2.40%	2.60%	2.90%	2.60%	3.00%
<b>Welsh Avg</b>		<b>7.33%</b>	<b>6.35%</b>	<b>5.19%</b>	<b>4.69%</b>	<b>4.35%</b>	<b>4.40%</b>	<b>4.40%</b>	<b>4.67%</b>	<b>4.09%</b>	<b>3.24%</b>

Tudalen 158

Council	THS/012c - C Roads - % in Red Condition										
	Length (km)	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Anglesey	360.90	17.60%	17.60%	15.80%	13.40%	10.10%	8.90%	8.70%	8.20%	8.50%	8.20%
Blaenau Gwent	55.25	17.70%	10.50%	9.44%	7.00%	6.40%	6.10%	5.50%			
Bridgend	108.10	11.80%	11.40%	12.78%	10.10%	8.90%	8.60%	8.00%			
Caerphilly	152.40	13.40%	12.80%	9.90%	9.20%	8.70%	7.30%	6.60%	6.00%	4.90%	4.70%
<b>Cardiff</b>	<b>106.00</b>	<b>12.80%</b>	<b>10.10%</b>	<b>9.29%</b>	<b>6.60%</b>	<b>6.90%</b>	<b>6.00%</b>	<b>5.80%</b>	<b>5.60%</b>	<b>4.50%</b>	<b>4.60%</b>
Carmarthenshire	1,271.50	21.80%	20.40%	15.56%	13.70%	11.60%	11.90%	12.50%	12.50%	12.00%	11.70%
Ceredigion	840.60	22.60%	21.60%	21.90%	21.02%	19.10%	19.40%	17.30%		14.70%	
Conwy	485.86	13.80%	17.10%	16.95%	15.30%	15.70%	14.04%	15.40%	15.50%	15.10%	
Denbighshire	521.60	13.90%	14.50%	12.95%	13.30%	10.50%	10.20%	8.20%	8.30%	7.60%	7.50%
Flintshire	262.00	8.00%	6.90%	7.25%	6.30%	5.00%	5.30%	5.80%	4.90%	5.30%	
Gwynedd	923.25	10.30%	14.70%	14.23%	15.80%	15.20%	14.10%	14.50%	14.20%	12.90%	11.00%
Merthyr Tydfil	34.77	8.40%	6.70%	5.93%	5.20%	5.20%	4.00%	4.10%	3.90%	3.30%	
Monmouthshire	459.00	9.90%	14.20%	13.41%	12.30%	8.00%	7.70%	7.30%	7.60%	7.70%	
Neath Port Talbot	53.08	9.60%	8.20%	7.04%	5.90%	5.40%	5.30%	5.30%	5.70%		
Newport	142.40	11.00%	10.70%	10.63%	7.00%	6.90%	7.10%	6.90%	7.40%	6.40%	5.90%
Pembrokeshire	979.60	15.60%	14.90%	10.80%	7.50%	7.70%	7.20%	8.90%	9.40%	8.50%	7.60%
Powys	2,102.00	26.00%	26.70%	27.09%	25.10%	24.40%	23.00%	21.60%	22.00%	19.60%	17.90%
Rhondda Cynon Taf	123.50	13.90%	13.60%	13.28%	11.60%	10.20%	6.20%	3.00%	3.50%	3.40%	2.30%
Swansea	127.90	10.40%	10.10%	7.10%	7.30%	6.80%	6.70%	6.90%	7.00%	6.20%	5.20%
Torfaen	85.00	9.10%	8.70%	7.58%	7.00%	6.00%	5.30%	5.10%			
Vale of Glamorgan	311.30	16.20%	15.10%	13.91%	12.30%	11.20%	10.47%	9.70%	10.30%	8.10%	
Wrexham	370.50	21.00%	24.00%	21.55%	19.70%	18.50%	16.30%	16.20%	19.00%	18.90%	19.70%
<b>Welsh Avg</b>		<b>14.31%</b>	<b>14.11%</b>	<b>12.93%</b>	<b>11.48%</b>	<b>10.38%</b>	<b>9.60%</b>	<b>9.24%</b>	<b>9.50%</b>	<b>9.31%</b>	<b>8.86%</b>

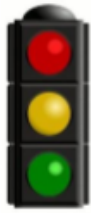
### 13. Risks to the Plan

Using the Councils corporate risk matrix, the risks that could prevent service standards being achieved are:

Ref	Risk Description	Inherent Risk			Current Control	Residual Risk		
		Likelihood	Impact	Priority		Likelihood	Impact	Priority
1	Available budgets have been assumed as shown in the financial section 4. However, external pressures could result in reduced funding in highway assets	C	3	MED	Target service standards will be revised to suit the reduced funding levels	D	4	LOW
2	Duration of investment levels are sustained for the period assumed. However, external pressures could result in reduced funding in highway assets.	C	3	MED	Target service standards will be revised to suit the reduced funding levels	D	4	LOW
3	Levels of defect and deterioration are based on current data which is limited for some assets. Asset deterioration could be more rapid than predicted and the investment required to meet targets is insufficient	C	4	LOW	Budgets and predictions will be revised and this plan updated	D	4	LOW
4	Levels of asset deterioration are based on routine predicted levels. However, unexpected catastrophic asset failure beyond routine funding levels could occur e.g. structural failure of bridge carriageway on principle network	C	2	MED	In year pressure bids made to cover costs of replacement to supplement existing funding levels	C	3	MED
5	Adverse weather could create higher levels of defects and deterioration than have been allowed for	C	3	MED	Budgets and predictions will be revised and this plan updated if abnormally harsh winters occur	D	4	LOW

Tudalen 159

## Risk Matrix and Definitions



<b>High Priority</b>	<b>Red</b> - Significant management action, control, evaluation or improvements required with continued proactive monitoring.
<b>Medium Priority</b>	<b>Red / Amber</b> - Seek cost effective management action, control, evaluation or improvements with continued proactive monitoring.
<b>Medium Priority</b>	<b>Amber / Green</b> - Seek cost effective control improvements if possible and/or monitor and review regularly.
<b>Low Priority</b>	<b>Green</b> - Seek control improvements if possible and/or monitor and review.

		IMPACT				
		1	2	3	4	
LIKELIHOOD	A	A1	A2	A3	A4	<b>Likelihood:</b> A. Very Likely B. Likely C. Possible D. Unlikely E. Very Unlikely  <b>Impact:</b> 1. Major 2. Significant 3. Moderate 4. Minor
	B	B1	B2	B3	B4	
	C	C1	C2	C3	C4	
	D	D1	D2	D3	D4	
	E	E1	E2	E3	E4	

The 'LIKELIHOOD' table below provides a framework by which you can use to score the likelihood of your risk occurring giving a score of A being very likely to E being very unlikely.

Description	Probability	Criteria
A. Very Likely	75% + chance of occurrence	<ul style="list-style-type: none"> <li>Expected to occur in most circumstances</li> <li>Circumstances and near misses frequently encountered (e.g. daily / weekly / monthly / quarterly)</li> </ul>
B. Likely	50% - 74% chance of occurrence	<ul style="list-style-type: none"> <li>Will probably occur in most circumstances</li> <li>Circumstances frequently encountered</li> <li>Near misses regularly encountered (e.g. once or twice a year)</li> </ul>
C. Possible	30% - 49% chance of occurrence	<ul style="list-style-type: none"> <li>Not likely to occur but a distinct possibility</li> <li>Circumstances regularly encountered</li> <li>Near misses occasionally experienced (e.g. every 1 - 3 years)</li> </ul>
D. Unlikely	10% - 29% chance of occurrence	<ul style="list-style-type: none"> <li>Not expected to happen but there is the potential</li> <li>Circumstances occasionally encountered</li> <li>Any near misses are infrequent (e.g. 3 years +)</li> </ul>
E. Very Unlikely	Less than 10% chance of occurrence	<ul style="list-style-type: none"> <li>May only happen in exceptional circumstances</li> <li>Has rarely / never happened before.</li> </ul>



The 'IMPACT' table:

Description	1 - Major	2 - Significant	3 - Moderate	4 - Minor
<b>Implications for Service and / or Achievement of Key Targets / Objectives</b>	Major loss of service, including several important areas of service and / or protracted period  Service Disruption 5+ Days  Major impact on achievement of several key targets / objectives	Complete loss of an important service for a short period  Significant effect to services in one or more areas for a period of weeks  Service Disruption 3-5 Days  Significant impact on achievement of a key target / objective or some impact on several	Moderate effect to an important service for a short period  Adverse effect to services in one or more areas for a period of weeks  Service Disruption 2-3 Days  Moderate impact on achievement of one or more targets / objectives	Brief disruption of service  Minor effect to non-crucial service  Service Disruption 1 Day  Minor impact on achievement of targets and objectives
<b>Reputation</b>	Adverse and persistent national media coverage  Adverse central government response, involving (threat of) removal of delegated powers  Officer(s) and / or Members forced to resign	Adverse publicity in professional / municipal press, affecting perception / standing in professional / local government community  Adverse local publicity of a significant and persistent nature	Adverse local publicity / local public opinion  Statutory prosecution of a non-serious nature	Contained within Directorate  Complaint from individual / small group, of arguable merit
<b>Health &amp; Safety</b>	Fatality (ies)	Incidents reportable to the HSE (i.e. specified injuries to workers, over seven days lost from work accidents, specified non-fatal accidents to non-workers, specified occupational diseases / dangerous occurrences / gas incidents). Cases of other injury's (not reportable to HSE).	Minor injuries No time lost from work	No injuries but incident has occurred
<b>Failure to provide statutory duties / meet Legal Obligations</b>	Multiple Litigation	Litigation	Ombudsman	Individual claims
<b>Financial</b>	Corporate Budget realignment	Budget adjustment across Directorates	Contained within Directorate	Contained within Section / Team
<b>Implications for Partnership (e.g. objectives / deadlines)</b>	Complete failure / breakdown of partnership	Significant impact on partnership or most of expected benefits fail	Adverse effect on partnering arrangements	Minimal impact on partnership
<b>Implications for the Community or the Environment</b>	Extensive, long-term impact Major public health / environmental incident or loss of significant community facility	Long-term environmental or social impact such as a chronic and / or significant discharge of pollutant	Short-term, local environmental or social impact such as a major fire	No lasting detrimental effect on the environment or the community e.g. noise, fumes, dust etc.
<b>Stakeholders</b>	Stakeholders would be unable to pursue their rights and entitlement and may face life threatening consequences	Stakeholders would experience considerable difficulty in pursuing rights and entitlements	Some minor effects on ability of stakeholders to pursue rights and entitlements, e.g. other sources or avenues would be available to stakeholders	The interests of stakeholders would not be affected

Mae'r dudalen hon yn wag yn fwriadol

**CARDIFF COUNCIL  
CYNGOR CAERDYDD  
ENVIRONMENTAL SCRUTINY COMMITTEE**

**11 MAY 2023**

---

**PASSENGER TRANSPORT PROCUREMENT**

---

**Appendix A1 is not for publication as it contains exempt information of the description in paragraph(s) 14, 21 of Part(s) 4 and 5 of Schedule 12A of the Local Government Act 1972**

**Appendix A2 is not for publication as it contains exempt information of the description in paragraph 16 of Schedule 12A of the Local Government Act 1972**

**Purpose of Report**

1. To provide Members with the opportunity to consider the proposed Passenger Transport Procurement framework which outlines the process in relation to tendering and procuring a range of transport requirements for the Council including school transport needs, and seeks agreement to increase the value of the delegated authority in relation to contracts allocated via the Dynamic Procurement System (DPS) from £49m to £139m from 2018 – 2029, i.e., the contract period owing to a number of identified pressures.
2. The report also notes that all expenditure will continue to be within the agreed budgetary framework.

**Structure of the Report**

3. Attached to this report are:
  - **Appendix A** - Cabinet Report
    - Appendix A1 – EXEMPT financial information.
    - Appendix A2 – EXEMPT legal advice.

## **Background & Policy Context (Points 2 – 8)**

4. The Council has a statutory duty, Learner Travel (Wales) Measure 2008, to provide transport to school for primary school children who live 2 miles or more away from their school and for secondary school children if they live 3 miles away or further from the school.
5. In addition to this Section 2 of the 2008 Measure states we must also take into account a number of factors when assessing the need for transport and these included any disability, learning difficulty, looked after children, their age and the route to be travelled.
6. The current Dynamic Procurement System (DPS) allows flexible service delivery within the current delegated authority and has produced savings over the previous five years. However, the current delegated authority is not sufficient to safeguard continued service delivery.
7. The report is requesting a renewal and increase of the delegation to allow further activity using the current agreed process and system to meet statutory requirements.

## **Issues (Points 9 – 36)**

8. The issues raised in the Cabinet report fall under the following headings:
  - Dynamic Procurement System (DPS) (points 9 – 21)
  - Supplier Base (point 22 – 26)
  - A whole System Review (points 27 – 32)
  - Procurement Implications (points 33 – 36)
9. The DPS is a list of 'approved' suppliers that is permanently open for new operators/contractors to join, and is the best way to access the 'market' and makes sure the best is made of competition in terms of value for money.
10. It provides transport solutions to the Council as a whole but predominantly Education, Adult and Children's Services and Planning Transport & Environment and also 'taxi' accounts for various teams.
11. Contracts are tendered and awarded for specific groups/lots of services for 5-year periods, and at present circa 800 daily routes are provided by about 38 approved suppliers.

12. The delegated powers at present are not sufficient to cover the estimate value of contracts over the 5-year period to 2028/29. The report and appendix 1 outline a number of reasons for the projected increase in the costs of the contracts which include inflationary increases in transport in general and growing numbers of students requiring transport.
13. The report also notes the potential impact of the Welsh Government withdrawal of the Bus Emergency Scheme fund and the effect this may have on supported socially necessary bus services. Currently there are no further details from Welsh Government.
14. Automatic annual inflation increases are not given automatically, each supplier needs to apply for this each year, and Retail Price Indexes and Consumer Price Indexes are used to calculate any growth.
15. **Point 20** states explicitly that no additional funding is being requested and notes that if contracts go beyond current allocations reports will be submitted as required by budget setting and governance frameworks as appropriate.
16. It is also noted in **point 21** that the contract for the DPS runs out on 31<sup>st</sup> August 2025 and therefore an extension will be sought in good time to ensure continuity of service for contracts.
17. Point 22 highlights the unpredictability of the market currently due to higher costs lower passenger number.
18. Officers are working closely with the market to get a better understanding of the situation and are working to grow the supplier base.
19. Officers also work closely with colleagues in Commissioning and Procurement to look at alternative tender options, and at the moment the advice is that the DPS provides that best solution. It is also noted the other Councils are looking to establish similar systems.
20. **Point 26** notes the Councils duties in relation to the Equalities Act while making travel arrangements for adults and children with Additional Learning Needs or transport provisions.
21. **Points 27 – 32** describe the 'Whole System Review' process that is being undertaken as the level of spend and change being requested is significant.

22. These points also explore potential alternative solutions which include partnering with Community Transport Associations, development of an 'in-house' solution and more use of season tickets to support the bus network.
23. In terms of securing passenger transport services, the Dynamic Procurement System has been successful, and the Commissioning & Procurement team support is continued use, and will work collaboratively to ensure that all tendering process and documents are undertake electronically via PROACTIS the Councils e-procurement system.
24. The Commissioning & Procurement Team will also work with service areas to create and improve service specifications.
25. The tight timescales around awarding impending contracts, that will commence in September 2023, is noted and the need for further delegation of the additional £89.8m to allow the Council to meet its statutory duty.

#### **Local Member Consultation**

26. Point 37 notes that Member Consultation is not applicable in this instance

#### **Financial Implications**

27. **Points 41 - 45** sets out the approval that the report is requesting, i.e., raising the value of the contracts that are able to be awarded through the DPS framework from £49m to a total £138.8m, subject to available budgets.
28. Also noted are the pressures facing services which will impact on the cost of contracts however, the Directorate will continue to look for cost efficiencies/savings that can be made up until the current expiry of the DPS on 31<sup>st</sup> August 2025.
29. The report notes that Directorate wish to continue with the DPS methodology and during 2024 will submit the necessary reports to ensure continuity of service provision and awarding of contract before the authority on the current framework ends.

#### **HR Implications**

30. No HR implications are noted in **point 46**.

## Legal Implications

31. **Points 47 - 58** set out the legal requirements in relation to the that that council needs to take into consideration which include:
- **Public Contract Regulations 2015**, under which the DPS was established in 2018, however the financial cap previously agreed by Cabinet is approaching its maximum.
  - **Well- Being of Future Generations (Wales) Act 2015** and in particular **Part 2** – Improved Well-being, **Section 5** – the sustainable development principle i.e. ensuring have a negative long term impact.
  - And in general duties with regard to the **Equality Act 2010**, the, **Welsh Language Measure (Wales) 2011** and Welsh Language Standards.

## Property Implications

32. No property implications are noted in **point 94**

## RECOMMENDATIONS TO CABINET

33. Cabinet is recommended to:
- i. Approve subject to the future budget allocation an increase of the value of contracts to be allocated via the DPS from £49 million to a total value of £138.8 million. This revised amount will cover the value of all new contracts allocated until the expiry date of the contracts up to 31st August 2029.
  - ii. Delegate authorisation to the Director of Planning Transport and Environment in consultation with the Cabinet Portfolio Members and Directorate budget holders for Education, Childrens and Adults Service, to procure and deliver contracts subject to budget being available.
  - iii. Delegate authorisation to the Director of Planning Transport and Environment in consultation with the Cabinet Portfolio Members and Directorate Budget holders for Education, Childrens and Adults Service, to award single tender spot contracts outside of the Passenger Transport DPS up to £30m subject to budget being available for upcoming statutory Taxi Contracts. This amount covers the period that the contracts are potentially in place until 31st August 2029.

- iv. Note that if the budget requirement exceeds the current allocation available having considered the availability of external funding or in year efficiencies then this will need to be brought back to Cabinet for approval as part of the budget setting process.
- v. Note a further report will be brought to Cabinet once further changes take place in the wider funding context such as changes to BES etc. are understood.

## **WAY FORWARD**

- 34. Cllr Dan De'Ath, Cabinet Member for Transport & Strategic Planning and Andrew Gregory, Director of Planning Transport & Environment have been invited to make a statement and answer Member's questions. They have been asked to make a brief presentation followed by Member's questions.

## **Legal Implications**

The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters, there are no direct legal implications. However, legal implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any legal implications arising from those recommendations. All decisions taken by or on behalf of the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers on behalf of the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Scrutiny Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances.



## **Financial Implications**

The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters, there are no direct financial implications at this stage in relation to any of the work programme. However, financial implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any financial implications arising from those recommendations.

## **RECOMMENDATION**

The Committee is recommended to:

- i. Consider the information in this report, and the presentation and any further information presented at the meeting; and
- ii. Determine whether they would like to make any comments, observations or recommendations on this matter to Cabinet.

**DAVINA FIORE**

**Director of Governance & Legal Services**

**4<sup>th</sup> May 2023**

Mae'r dudalen hon yn wag yn fwriadol

**THIS REPORT MUST BE ACCOMPANIED BY THE  
REPORT AUTHORISATION FORM 4.C.214**

**CARDIFF COUNCIL  
CYNGOR CAERDYDD**

**CABINET MEETING:**

**18<sup>th</sup> May 2023**

---

**PASSENGER TRANSPORT PROCUREMENT**

**REPORT OF DIRECTOR (PLANNING, TRANSPORT AND  
ENVIRONMENT)**

**AGENDA ITEM:**

---

**PORTFOLIO: PLANNING, TRANSPORT AND ENVIRONMENT**

**1 Reason for this Report**

1. The reason for the report is to seek agreement to increase the value of delegation of the level of contracts to be allocated via the Dynamic Procurement System (DPS) from £49 million to a total value of £138.8 million for the full contract period from 2018-2029. An increase required as a result of a range of existing and new service pressures set out in the report. It is important to underline that all expenditure will remain within the agreed Council budgetary framework.

**Background**

2. Delivering an effective schools and passenger transport system is not just of crucial importance to some of the most disadvantaged in the community it is also a statutory duty.
3. In the current context of delivering an effective schools and wider corporate transport system the DPS approach to contract procurement has been a success. Over the five-year period, of these existing delegated powers it has both delivered significant savings but also more flexibility in terms of service delivery. Nonetheless, the current delegation has been fully utilised and as a result, a new delegation is urgently required to enable this continuity of service provision. It is important to highlight that this current report is seeking a renewal of the procurement delegation but is not requesting authority to spend outside existing budgets.
4. In this regard, this report is purely seeking an increase in the delegation of authority to enable the Council to undertake further procurement activity using the existing Passenger Transport DPS process that is already in place. Without this additional delegation authority, the Council will not be

able to procure replacement contracts required to meet our statutory obligations.

### **Policy Context**

5. The Council has a statutory requirement to provide Home to School Transport as per the Learner Travel (Wales) Measure 2008 and failure to put in place appropriate arrangements will mean the Council is unable to meet its statutory obligation.
6. Under section 3 of the Learner Travel (Wales) Measure 2008, Local Authorities in Wales must make transport arrangements (defined as the provision of transport or the payment of the whole, but not part, of a child's transport expenses) to facilitate the school attendance of children of compulsory school age who are ordinarily resident in the local authority's area. Free transport is to be provided to pupils who reside over the statutory walking distances from their nearest suitable school (2 miles for a primary school pupil and 3 miles for a secondary school pupil in Years 7 -11).
7. Further, section 2 of the 2008 Measure places a duty on Local Authorities to assess the learner travel needs of their area for the following academic year. In making an assessment a Local Authority must have regard to:
  - (a) the needs of learners who are disabled persons,
  - (b) the needs of learners with learning difficulties,
  - (c) the needs of learners who are children looked after, or formerly looked after, by a local authority,
  - (d) the age of learners, and
  - (e) the nature of the routes which learners could reasonably be expected to take to the relevant places where they receive education or training.
8. In addition, to the above we would need any decision to be made in the context of the Council's public sector equality duties under the Equality Act 2010 (including specific Welsh public sector duties). Pursuant to these legal duties, Councils must in making decisions have due regard to the need to (1) eliminate unlawful discrimination, (2) advance equality of opportunity and (3) foster good relations based on protected characteristics. The protected characteristics are age, gender reassignment, sex, race – including ethnic or national origin, colour or nationality, disability, pregnancy and maternity, marriage and civil partnership, sexual orientation, religion, or belief – including lack of belief.

### **Issues:**

#### **Dynamic Procurement System (DPS)**

9. Overall, the DPS is an approved list of suppliers that is constantly open to the market for new operators/contractors throughout the life of the DPS

framework. Contracts are tendered to the approved operators/contactors for each specific lot.

10. Passenger Transport contracts covering Council wide requirements are allocated via a DPS arrangement with approximately 38 external approved providers contracted to provide approximately 800 routes daily. The DPS enables new contractors to access the approved list of suppliers during the period that the DPS is in place, which allows the Council to ensure that the supplier base is as strong as possible and contracts rates are as competitive as possible and achieve best value.
11. The DPS covers all passenger transport contractual requirements across the whole Council. The main areas are Education, Adult and Children Services, and Planning Transport and Environment supported bus services. Contracts are also managed and procured for school trip transport, event park & ride, ad hoc transport requirement by various service areas, along with ad hoc taxi accounts for teams and schools across the whole Council.
12. The current DPS enables the Council to secure best value and is still the most effective route to market as it enables a competitive supplier base, even in these challenging times, as new contractors are able to enter the DPS at any time which ensures competition is maximised throughout the life of the DPS.
13. The estimated value of contracts for the life of the contracts required to be issued from the DPS is detailed in the table in Appendix 1
14. During the current 5-year period of delegated powers the average annual spend on passenger services has increased to approximately £15m per annum. In the coming, 5-yr period to 2029 the expectation is that there will be a rise in the level of spend, due to inflationary increases in transport generally, and all the changing and increased needs to educational users. In this period the current projection is that the estimated average spend will rise to £15.8m approximately.
15. A detailed breakdown of the estimated expenditure is included in Appendix 1.
16. As a result of this increase the scale of delegation will need to increase in line with these estimated projections. Authority is therefore being sought to increase the delegated authority by £89.8m during this period. Nonetheless, all spending will only occur within the agreed budgetary framework.
17. Included in the estimated £89.8m total are additional transport requirements that maybe required relating to the expansion of Additional Learning Needs (ALN) provision planned for 2024/25. Current indications are that an additional 200 ALN pupils may require transport which is estimated will cost an additional £1m per annum. The budget for this expansion in ALN transport has not been agreed and will form part of the annual budget setting process for the financial year 2024/25.

18. Also included in the estimated £89.8m are possible different transport delivery requirements depending on the different fallout implications of Welsh Governments withdrawal of the Emergency Bus Funding Scheme (BES). It is estimated that mainstream statutory school transports costs may increase by £500,000 per annum, but these costs are not known with any certainty at present. In addition, there may also be an increased required for more supported socially necessary public bus services, although it is anticipated that these services will be externally funded by Welsh Government. At present there are no details available around the amount of funding available or the process to apply for this funding.
19. The £89.8m figure also includes estimated costs for annual inflation increases on contracts, these increases are not automatically awarded, and suppliers have to apply for them on the anniversary of the individual contracts. Retail Price Indexes and Consumer Price Indexes are used to calculate the annual inflation rate increases that are paid on the anniversary of contracts. Each contractor has to apply annually for an increase, the increases are not normally awarded automatically unless in exceptional circumstances such as the Pandemic and Cost of Living crisis where contractors were on the brink of collapse. As part of the annual budget setting process additional budget requirements are requested to take into account of anticipated contracts inflation increase rate budget requirements.
20. This report is not asking for additional budget requirements and is purely seeking authority to enable the Council to go to market for the Passenger Transport contracts required over the next 2 years. If costs of these contracts exceed current budget allocations separate reports will be submitted in line with the Councils budget setting framework and governance process.
21. In addition, officers will apply separately for an extension to the existing DPS in 2024 so that a contract allocation process and the appropriate authority is in place before the existing DPS expires as at 31<sup>st</sup> August 2025.

### **Supplier Base Issues**

22. The current supplier base remains volatile due to the increases in operating costs along with challenging shortages of drivers and reduced passenger numbers using Private Hire coaches, reduced passenger numbers on public transport and reduced numbers of passengers using taxis.
23. Market sampling is also being undertaken to understand supply capacity and availability, along with market testing of contract rates to try to get a steer where contract rates are at currently (contractors attending the forums have been asked to provide quotes and availability/capacity on some average contract routes).
24. Officers are also currently undertaking market promotion events to try to attract more suppliers onto the existing DPS to increase the supplier base and competition. All companies within a 15mile radius of Cardiff are being contacted and invited to an operator forum to advise them of the contracts

that are available, what they need to do to become an approved supplier and where they can receive free support and advice to access the contracts.

25. Officers continually work with colleagues in procurement to review and consider different tender options. However, advice at present is that the current DPS contract allocation remains the best route to market as it continues to deliver the most competitive, effective and flexible approach for allocating individual contracts. Procurement Officers have confirmed that other Councils are moving to set up their own DPS systems as it's recognised as the most effective contract allocation process and system.
26. The procurement of these Passenger Transport services via the DPS will enable the Council to fulfil its general duties in respect of the Equalities Act, when making transport arrangements for children and adults with Additional Learning Needs or additional transport requirements.

### **A Whole System Review**

27. Given, the scale of the budgetary expenditure, delegations being sought, and cost increases, it is reasonable to be concerned about the efficiency and effectiveness of service delivery. In this regard, a major review of the system is being developed between Education (as lead client), PTE and Finance directorates. In addition to the review of funding delegations, this will involve a fundamental assessment of transport systems and service use, particular relating to the use of ALN.
28. Improved governance arrangements have already been put in place with the creation of The Education Transport Operational Group, which meets weekly and includes officers from the relevant service areas including Planning Transport & Environment, Education, Finance and Procurement. Children and Adult Services officers will be invited to the group on a monthly basis, to discuss and cover issues relating to their service areas. The group covers all operational issues, new contract awards, individual contract rate increases/decreases, contract closures, planned new provision proposals and general day to day issues (safeguarding, training proposals, walking route network changes implications etc). Contract rates and requirements are challenged at these meetings before being agreed or rejected.
29. In addition to these weekly operational meetings there are also monthly Strategic Education Transport Group meetings involving the Directors, Senior Directorate Officers, Senior Finance and Procurement Officers. These meetings look at long term provision requirements, strategies to reduce spending and opportunities to improve the quality of service and make it more efficient.
30. Officers are also exploring alternative delivery options if the current supplier base are unable to cover all the Council statutory contractual requirements. These include working with partner agencies such as the Community Transport Association to see if they can undertake some contracts, working with schools to see if they are interested in undertaking school contracts

utilising their own vehicles, or the Council providing vehicles for them and utilising their staff to undertake the contracts. Officers are also looking into setting up an internal fleet of vehicles and staff to undertake contracts as well as working with colleagues in neighbouring authorities on sharing resources to cover contracts. This option may increase costs due to cover staff required for sickness and holidays, along with replacement vehicles to cover breakdowns and maintenance requirements.

31. Officers continue to promote and target as many ALN pupils as possible who are suitable to undertake Independent Travel Training so that they are provided with a bus pass or train pass to travel to school rather than be transported to school via taxi or minibus. The scheme has been promoted in all schools to ensure staff are aware of the benefits of this training and the support available. However, the BES withdrawal may impact the number of pupils that will be able to be trained if bus service levels are reduced or withdrawn from areas of the city.
32. Officers are also exploring longer term options of moving more pupils onto season tickets rather than contracted vehicles which will help support the commercial bus service network across the City.

### **Procurement Implications**

33. The DPS to date has been successful and Commissioning and Procurement (C&P) recommend continuing with the approach for procuring any future passenger transport requirements.
34. The estimated value of the DPS for Passenger Transport Provision over its remaining lifetime including the further delegated spend of an additional £89.8 million would be £138.8 million. Therefore, the variation of the DPS value and award of subsequent call-off contracts under the DPS are subject to the terms laid down in the DPS and both the Public Contract Regulations 2015 and the Council's Contract Standing Rules and Procedures and Financial Regulations. The DPS tender process will be completely electronic and the documentation will be made available via the Council's e-Procurement system PROACTIS. All contracts awarded via the DPS will be in line with the DPS procedures including adverts being placed on the Council's e-Procurement system PROACTIS inviting all contractors appointed to the DPS under the relevant lots. C&P will work with the service area and Business Wales to ensure supplier engagement and ensure effective communication with the broad supplier community in understanding the Council's approach and look to create familiarity with the Council's e-Procurement system PROACTIS.
35. C&P will be working with the Service Area to develop refine requirements and specifications, we will provide advice to ensure any process is undertaken compliantly throughout the tender process when awarding contracts via the DPS. Due to time pressures in awarding the upcoming contracts, in addition to procurement support the service area will need to ensure that processes are robust and monitored closely to safeguard against routes not being placed and slippage in target dates.



36. If the further delegation of spend for an additional £89.8 million is not authorised allowing the Council to continue the procurement process via the DPS the Council will be outside its scope of the current DPS arrangement, in terms of exceeding the value of spend allowable under the original DPS award. This would leave the Council unable to provide its statutory duty leaving the Council open to legal challenges and increased costs.

### **Local Member Consultation**

37. Not applicable

### **Reasons for Recommendations**

38. To secure approval to delegate authority for the additional contract value against the Passenger Transport DPS for a further £89.8 million, to enable the Council to be fully compliant re. contract regulations and delegated authority. This will enable contracts to be allocated efficiently and as cost effectively as possible.

39. To enable the Council to implement replacement contracts to fulfil our statutory home to school transport obligations, in time for contracts to start in September 2023.

40. As the Director of Planning Transport & Environment is not the budget holder for the areas of contract spend that relate to Education, Children or Adult Services, they will also be consulted with along with the Directors and Cabinet Members for these Service areas for any contract spend relating to their areas.

### **Financial Implications**

41. This report seeks approval, subject to available budgets, for an increase in the value of contracts to be allocated via the DPS Framework from £49 million to a total value of £138.8 million and to approve the delegation to the Director of Planning, Transport and Environment in consultation with service area leads and Cabinet Portfolio members to award contracts within this revised total contract framework value. This approval would relate to all new contracts allocated during the remaining period of the existing Passenger Transport DPS Framework which expires on 31<sup>st</sup> August 2025.

42. The report sets out a number of pressures impacting on the Passenger Transport service including service expansion needs, inflationary and other cost increases, driver shortages and reduced passenger numbers. Decision makers should note that the amounts detailed within the report in terms of the overall forecast contract values are in excess of the available budget. It is essential that the Directorate continues to seek to deliver cost efficiencies over the remaining term of the current framework and to ensure that spend can be maintained within available budgets for Passenger Transport across the authority in these and any future contract arrangements.

43. Any financial and budgetary implications that arise as contracts are retendered and awarded must be clearly identified and form part of future budget setting processes as appropriate. The Directorate only have authority to spend when available budget is identified and confirmed.
44. The Directorate intend to continue with the DPS Framework approach for the procurement of Passenger Transport services as they consider this approach enhances competition between suppliers and consequently provides the Council with value for money.
45. It is intended that officers will apply separately for an extension to the existing Passenger Transport DPS Framework during 2024 so that a contract allocation process and the appropriate authority is in place before the existing framework expires.

### **Human Resource Implications**

46. No implications.

### **Legal Implications**

47. The Dynamic Purchasing System arrangement ('DPS') to secure the services required was set up in 2018.
48. A DPS is a procurement procedure that may be used for contracts for works, services and goods commonly available on the market. A DPS must be a fully electronic system, meaning only electronic means can be used to establish the system and to award contracts under it. The DPS is a two-stage process.
- I. First – In the initial setup stage, all suppliers who meet the selection criteria and are not excluded must be admitted to the DPS. The Council cannot impose any limit on the number of suppliers that may apply to join the DPS. It is noted that unlike framework agreements, suppliers can also apply to join the DPS at any point during its lifetime.
  - II. Second – Individual contracts are awarded during the second stage. In this second stage, the authority invites all suppliers on the DPS (or the relevant category within the DPS) to bid for the specific contract.
49. In setting up and administering the DPS, the procedure and requirements prescribed in the Public Contracts Regulations 2015 ('Regulations') must be followed. Legal Services are instructed that this was and is the case but that the financial cap previously approved by Cabinet for awarding contracts under the DPS is nearing its limit.
50. Cabinet must be satisfied that the proposal is within the Policy and Budget Framework, if it is not then the matter must be referred to the Council.

### **General Legal Advice**

### **Equalities**

51. The decision about these recommendations has to be made in the context of the Council's public sector equality duties. The Council also has to satisfy its public sector duties under the Equality Act 2010 (including specific Welsh public sector duties). Pursuant to these legal duties, Councils must in making decisions have due regard to the need to (1) eliminate unlawful discrimination, (2) advance equality of opportunity and (3) foster good relations on the basis of protected characteristics. The Protected characteristics are: age, gender reassignment, sex, race – including ethnic or national origin, colour or nationality, disability, pregnancy and maternity, marriage and civil partnership, sexual orientation, religion or belief – including lack of belief.

52. Social Services and Well Being (Wales) Act 2014 In considering this matter, the decision maker must have regard to the Council's duties pursuant to the Social Services and Well Being Act 2014. In brief the Act provides the legal framework for improving the well-being of people who need care and support and carers who need support and for transforming social services in Wales.

#### The Well-Being of Future Generations (Wales) Act 2015

53. The Well-Being of Future Generations (Wales) Act 2015 ("the Act") places a 'well-being duty' on public bodies aimed at achieving 7 national well-being goals for Wales – a Wales that is prosperous, resilient, healthier, more equal, has cohesive communities, a vibrant culture and thriving Welsh language, and is globally responsible.

54. In discharging its duties under the Act, the Council has set and published wellbeing objectives designed to maximise its contribution to achieving the national wellbeing goals. The wellbeing objectives are set out in Cardiff's Corporate Plan 2022-25

55. The wellbeing duty also requires the Council to act in accordance with 'sustainable development principle'. This principle requires the Council to act in a way which seeks to ensure that the needs of the present are met without comprising the ability of future generations to meet their own needs. Put simply, this means that Council decision makers must take account of the impact of their decisions on people living their lives in Wales in the future. In doing so, the Council must:

- I. Look to the long term.
- II. Focus on prevention by understanding the root causes of problems.
- III. Deliver an integrates approach to achieving the 7 national well-being goals.
- IV. Work in collaboration with others to find shared sustainable solutions
- V. Involve people from all sections of the community in the decisions which affect them.

56. The decision maker must be satisfied that the proposed decision accords with the principles above; and due regard must be given to the Statutory Guidance issued by the Welsh Ministers, which is accessible using the link

below: <http://gov.wales/topics/people-and-communities/people/future-generations-act/statutory-guidance/?lang=en>

57. The Council has to be mindful of the Welsh Language (Wales) Measure 2011 and the Welsh Language Standards when making any policy decisions and consider the impact upon the Welsh language, the report and Equality Impact Assessment deals with all these obligations. The Council has to consider the Well-being of Future Generations (Wales) Act 2015 and how this strategy may improve the social, economic, environmental and cultural well-being of Wales.
58. All decisions taken by or on behalf the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers of behalf of the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Council Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances

## Recommendations

59. Cabinet is recommended to:

- I. **Approve subject to the future budget allocation an increase of the value of contracts to be allocated via the DPS from £49 million to a total value of £138.8 million. This revised amount will cover the value of all new contracts allocated until the expiry date of the contracts up to 31<sup>st</sup> August 2029.**
- II. **Delegate authorisation to the Director of Planning Transport and Environment in consultation with the Cabinet Portfolio Members and Directorate budget holders for Education, Childrens and Adults Service, to procure and deliver contracts subject to budget being available.**
- III. **Delegate authorisation to the Director of Planning Transport and Environment in consultation with the Cabinet Portfolio Members and Directorate Budget holders for Education, Childrens and Adults Service, to award single tender spot contracts outside of the Passenger Transport DPS up to £30m subject to budget being available for upcoming statutory Taxi Contracts. This amount covers the period that the contracts are potentially in place until 31<sup>st</sup> August 2029.**
- IV. **Note that if the budget requirement exceeds the current allocation available having considered the availability of external funding or in year efficiencies then this will need to be brought back to Cabinet for approval as part of the budget setting process.**
- V. **Note a further report will be brought to Cabinet once further changes take place in the wider funding context such as changes to BES etc. are understood.**

**Andrew Gregory**  
**Director Planning Transport and Environment**  
26<sup>th</sup> April 2023

***The following appendices are attached:***

Appendix 1 Additional confidential financial information  
Appendix 2 Exempt Legal Implications

Mae'r dudalen hon yn wag yn fwriadol

Yn rhinwedd paragraff (au) 14, 21 Rhan (nau) 4 a 5 o Atodlen 12A  
o Ddeddf Llywodraeth Leol 1972.

Mae'r ddogfen yn gyfyngedig

Mae'r dudalen hon yn wag yn fwriadol



Yn rhinwedd paragraff (au) 14, 21 Rhan (nau) 4 a 5 o Atodlen 12A  
o Ddeddf Llywodraeth Leol 1972.

Mae'r ddogfen yn gyfyngedig

Mae'r dudalen hon yn wag yn fwriadol

CYNGOR CAERDYDD

CARDIFF COUNCIL

ENVIRONMENTAL SCRUTINY COMMITTEE

11 MAY 2023

---

**COMMITTEE BUSINESS**


---

**Purpose of Report**

1. This report seeks to provide the Committee with an update in relation to the recommendations made by the Committee since May 2022.

**Scrutiny Recommendations following Chairs Letters**

2. Since May 2022, the start of this administration the Committee has made 24 recommendations following Scrutiny Committee Meetings:

Directorate	RECOMMENDATIONS	
	Open	Closed
Planning Transport & Environment	2	16
Economic Development	0	6
<b>TOTAL</b>	<b>2 (8.3%)</b>	<b>22 (91.7%)</b>

3. Of the 22 closed recommendations:
  - 14 (64%) were Accepted
  - 7 (32%) were Partially accepted
  - 1 (4%) were Not Accepted
4. No Cabinet response has been received in relation to the two recommendations and additional requests made following the meeting held in April to discuss the permanent solution to Castle Street and Road User Payment options.

## **Replacement Local Development Plan (RLDP) Task Group**

5. The first meeting of the RLDP task group was held on 3 April 2023 to provide task group Members with baseline information about the timeline for the RLDP, the context in which it is being prepared, the work that has already taken place, the draft Preferred Strategy and the next steps. Members were also briefed on the scrutiny scoping process, the PICK process, and the need to focus on areas where scrutiny can have most impact.
6. A scoping meeting is being arranged for late June/ early July, where Members will be able to use the then-published draft Preferred Strategy to prioritise areas for scrutiny. Work will then take place in July and August to identify relevant good practice and external witnesses and to arrange meetings with witnesses.

## **Proposed Visit to Flatholm**

7. The chair has proposed joint scrutiny, with the Economy & Culture Scrutiny Committee. This would include a visit to Flatholm; officers have advised that it would be best to visit September onwards, after the seagulls' breeding season.
8. Given the limited capacity of the boats available to take visitors to Flatholm, there is space for two or three members of this Committee to be part of the visit. Members are requested to note that the boat used is a fast-rib, which is unsuitable for those with a bad back.
9. Ahead of the visit, preparatory work will be undertaken, including scoping terms of reference, gathering required information, and identifying and contacting external witnesses.
10. On the basis of the above, expressions of interest are sought from committee members who wish to be part of the visit and scrutiny of Flatholm.

## **Way Forward**

1. During the meeting, Members may wish to:
  - i. reflect on the recommendations/ correspondence update.
  - ii. note the updates provided on the task group.
  - iii. express an interest and/ or agree nominations for the Flatholm scrutiny.

## **Legal Implications**

11. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters, there are no direct legal implications. However, legal implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any legal implications arising from those recommendations. All decisions taken by or on behalf of the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers on behalf of the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Scrutiny Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances.

## **Financial Implications**

12. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters, there are no direct financial implications at this stage in relation to any of the work programme. However, financial implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any financial implications arising from those recommendations.

## **RECOMMENDATION**

13. The Committee is recommended to:

- i. Reflect on the update on recommendations / correspondence.
- ii. Note the updates provided on the task groups.
- iii. Agree nominations for the Flatholm scrutiny.

**Davina Fiore**

**Director of Governance & Legal Services**

**4th May 2023**