

Cabinet

19 January 2022

**Transport Asset Management Plan -
Annual Update**

Ordinary Decision



Report of Corporate Management Team

**Alan Patrickson, Corporate Director of Neighbourhoods and
Climate Change**

**Councillor John Shuttleworth, Cabinet Portfolio Holder for Rural
Communities and Highways**

Electoral division(s) affected:

Countywide.

Purpose of the Report

- 1 To provide Cabinet with an annual update on the 2020-2021 Transport Asset Management Plan (TAMP).

Executive summary

- 2 The adopted highway is the Council's largest and highest value asset. The TAMP sets out the long-term plan for managing the highway asset so that the condition is maximised for the available budget. The report highlights the substantial investment by the Council and Central Government, through the Local Transport Plan, which has contributed to the reduction in the maintenance backlog over the past year.
- 3 The TAMP details the Council's performance in respect of highway asset management benchmarked against other local authorities.
- 4 This report provides a framework for potential new investment in highways to address asset condition and make improvements to the existing network.

Recommendations

5 Cabinet is recommended to:

- (a) approve the annual update report;
- (b) note the substantial investment in programmed capital maintenance and the ongoing work to maximise funding going forward; and
- (c) note the priorities and investment strategy highlighted by the TAMP.

Background

- 6 The adopted highway network is the Council's largest and highest value asset. Across the county it includes 3,803 kilometres (2363 miles) of carriageway, 3572 kilometres (2219 miles) of footways, 487 road bridges and 82,423 street lighting columns. It is used every day by nearly all County Durham residents and businesses together with many visitors. The highway network is therefore fundamental to economic and social activity in County Durham.
- 7 The asset is of course in a continual process of change. Not only is the infrastructure ageing, bringing with it demands for maintenance and capital improvement, but the inventory also grows with new developments. With finite resources, it is vital to ensure that investment is well directed to ensure a safe, serviceable, and sustainable highway network. This approach helps maximise the condition of the highway for the available budget delivering the right treatment at the right time to maximise longevity of the network.
- 8 A TAMP is a key tool in delivering this. It provides an opportunity to systematically understand the condition of the highway asset, and to establish policy and priorities regarding investment. It applies a whole life cost approach and considers the asset in the long term as part of an effective asset management approach.
- 9 The TAMP for Durham County Council has been developed to achieve the following best practice standards:
 - British Standard BS ISO 55001:2014 Asset Management. The Council was the first council in the UK to achieve this accreditation in 2015 and has consistently achieved this standard to date;
 - The Chartered Institute of Public Finance & Accountancy (CIPFA) - Code of Practice on Transport Infrastructure Assets; and
 - Highways Maintenance Efficiency Programme (HMEP) - Highway Infrastructure Asset Management Guidance Document.
- 10 Throughout the country there are more demands on highways than there are resources to maintain and improve them. Indeed, the Annual Local Authority Road Maintenance (ALARM) Survey 2020 estimates the backlog for England and Wales at £10.24 billion for carriageways and footways. Having a TAMP does however put the Council in a good position for establishing a clear case for investment, particularly from the Department for Transport.

Key Findings of the TAMP

- 11 The TAMP is set out in full in Appendix 2 and 3. It is divided into two separate sections;
 - (a) Section one being the policy which set out the principles of the TAMP; and
 - (b) Section two being an annual update report.

Condition

- 12 The condition of A, B and C principal roads have improved in recent years and are better than the national average. This reflects that the Council has prioritised budgets at maintaining the principal road network which have the highest vehicle usage.
- 13 The unclassified network however remains at a lower standard overall, and lower than the national average, with 22.5% of the network requiring maintenance.
- 14 Footways also remain at a lower level of overall condition with 22.5% classified as being in need of maintenance. Many of the footways visually inspected are rural links that have typically become overgrown with vegetation over time impacting their functionality as an accessible footway. This is in addition to urban footways that have been in decline and in need of repair and maintenance.
- 15 Structures are generally in 'good to fair' condition and the backlog has now stabilised after increasing in recent years due to updated and more accurate condition surveys. However, it is recognised that as a result of these surveys further investment will be required to maintain structures in the future.
- 16 Although the Public Rights of Way network is not routinely inspected and isn't given a condition rating, there are 3,524 kilometres (2190 miles) of public footpaths, public bridleways, public and restricted byways used by residents and tourists. The network is an important element of the transport asset and require significant ongoing maintenance and repair.

17 The key issues are:

- unclassified roads: the condition continues to deteriorate due to severe weather episodes and limited investment. They have slightly declined over the past year and are worse than the national average. Concentrating efforts on unclassified roads to achieve a better than national average condition score requires additional investment while maintaining the condition scores of the classified network. Given that this asset is used daily by residents as they go about their everyday lives, and represents a high proportion of the overall network, this is perhaps where a longer-term investment strategy needs to be applied to improve the overall condition of this asset condition;
- footways: a high proportion require resurfacing to bring their condition into a satisfactory rating. There has been an improvement over the past 5 years and the on-going programme of resurfacing works is in place to continue with this improvement. Given that footways are fundamental to accessing communities, leisure, retail and tourism, additional investment will be required to bring the condition of footways above the national average;
- street lighting columns: a significant number of columns have reached the end of their service life. There is an on-going column replacement programme in place funded through additional DCC capital investment;
- the Public Rights of Way network integrates into coastal heritage paths, railway and countryside paths, the National Cycle Network and are an asset that contributes to the visitor economy and the health and wellbeing of the public. Their condition deteriorates rapidly with use, and there are over 350 annual reports from members of the public associated with the overall condition of the surface, signage, bridges and gates across the network that require repair and maintenance. Usage across the network has increased across the last two years as more people have been enjoying and making use of local amenities. Additional investment would be required to improve the overall condition and support tourism policies and contribute to the Strategic Walking and Cycling Delivery Plan and other physical and mental health related policies.

Maintenance Backlog

18 The maintenance backlog is the value of maintenance required to bring the entire highway asset up to good condition. Good condition represents where the maintenance backlog will be zero with no defects.

This is an ideal theoretical target which is not realistic in practice and therefore nearly every Highway Authority has a significant maintenance backlog.

19 The maintenance backlog as at 2020-2021 is summarised as follows:

Maintenance Backlog									
	2012	2013	2014	2015	2016	2017	2018	2019	2020
Carriageways	67.5	67.7	66.8	59.2	57.3	52.8	52.7	51.6	52.3
Footways	48.1	48.4	47.0	47.7	47.5	44.8	40.5	35.1	34.9
Street Lighting	24.8	25.6	23.3	23.5	22.1	19.2	17.1	17.2	17.2
Structures	9.9	9.9	9.9	22.4	36.0	42.0	40.6	40.6*	38.8*
Traffic Management	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
Kerbing	18.1	18.2	20.2	18.4	18.5	18.5	18.5	18.5	18.4
Drainage	5.4	5.4	5.8	5.6	5.6	5.6	5.6	5.6	5.6
Road Markings	0.8	0.8	0.5	0.9	0.9	0.9	0.9	0.9	0.9
Street Furniture	2.3	2.5	2.4	2.4	2.8	2.8	2.8	2.1	2.1
Total (£M)	178.0	179.6	177.0	181.1	191.7	187.6	179.7	172.6	171.2

*Projected

20 As can be seen from the above, the overall maintenance backlog in relation to carriageways, footways and street lighting has reduced since 2012.

21 The Council's maintenance backlog is broadly in line with other councils on average taking into account the size of the highway network. However, this still represents a challenge to achieve better than national average condition of assets and to maintain a downward backlog figure.

22 The completion of the ALARM (Annual Local Authority Road Maintenance Survey) details the performance of Councils across the country in addressing highway maintenance. The annual average carriageway backlog as detailed in the ALARM survey per LA is £85.4 million compared to Durham's carriageway backlog of £78.5 million. This is against a total highways backlog of £171.2 million for all our highway assets.

Investment Levels – Council and Department for Transport Funding

23 Despite unprecedented reductions in Government funding since 2010, the Council has protected and continued to prioritise investment in programmed capital maintenance. Indeed, funding has steadily risen - the Council's contribution to programmed capital maintenance in 2010/11 was £0.7 million, however, this has increased to £10.43 million

in 2020-2021 and included contributions towards highway maintenance, drainage, streetlighting, and unadopted streets.

24 The DfT provides the majority of the funding for programmed capital maintenance. In 2019/20 this is £12.2 million and in 2020/21 this increased to £24 million owing to the Challenge Fund award for New Elvet Bridge and additional Pothole Funding. This funding is not ring-fenced but the Council has always allocated it fully to highway maintenance and every opportunity is taken to secure additional funding. Central Government funding consists of 4 elements awarded during 2020-2021:

- (a) Local Transport Plan;
- (b) Challenge Fund – allocation for New Elvet Bridge;
- (c) Incentive Fund, and
- (d) Pothole Fund.

The additional funding awarded through the Pothole Fund has been used towards delivery of capital maintenance schemes that benefit the long-term condition of the network.

25 The Council has achieved the maximum Band 3 efficiency rating under the DfT's Incentive Fund which was introduced in 2016. Durham was one of only two highway authorities to achieve this maximum efficiency rating out of 119 participating highway authorities in England in 2016 and has maintained the maximum Band 3 efficiency rating in 2020/21. This rating will help ensure the Council maximises funding from the DfT's Incentive Fund going forward.

26 The TAMP measures the current and projected condition of the highway asset for a given level of investment in programmed capital maintenance. A range of investment levels (condition or budget led) are provided to allow stakeholders to select the most appropriate investment level to meet their objectives.

27 The key investment levels are summarised below:

Investment Level – Programmed Capital Maintenance	1 April 2017 Prices (£ millions)		
	One Off Capital Cost	Annual Average Capital Cost	Annual Average Capital Cost (Once Backlog Cleared)
Projected Budget	N/A	£17.8	N/A
Steady State Condition	N/A	£20.8	N/A
Eliminate highway maintenance backlog over 1 year then maintain at steady state condition	£171.2	N/A	£20.3
Eliminate highway maintenance backlog over 30 years then maintain at steady state condition	N/A	£27.9	£20.3

- 28 The Projected Budget is an indicative annualised figure of the expected budget and the actual budget may be greater or less depending upon DfT and Council funding. The total budget for programmed capital maintenance in 2019/20 was £21.0 million.
- 29 The steady state condition investment level is where the budget is set to keep the current condition constant after allowing for annual average deterioration. The steady state condition investment level is calculated using nationally accredited lifecycle planning models which are based on current condition projected forward for average annual deterioration over a period of 30 years.
- 30 In the short term, the annual movements in the maintenance backlog are affected by inflation, increased material costs, annual variations in deterioration due to the severity of the weather, cycle for collecting condition data which is up to 6 years and the accuracy of the nationally accredited deterioration model when applied to County Durham. Therefore, the annual movements in the maintenance backlog in paragraph 16 do not necessarily reconcile to the investment levels above.
- 31 Current investment levels, including those over the last few years and those projected over the next few years are allowing the maintenance backlog to be broadly stable, and indeed condition improvements across several highway categories through a process of prioritisation. This will however get more challenging in the longer term, as the asset ages further. The financial climate at this time may be better or worse, but there will be a continued strong case for investment.

- 32 Any investment in the highway network, and the collation of inspection data, will have a positive impact on the Council's ability to robustly defend highway claims. Given that a number of claims are recorded on the unclassified network, any proposed investment in this asset will contribute to a reduction in claims.
- 33 Durham County Council has an excellent repudiation rate based on our ability to defend highway claims. In an audit undertaken by our insurers, they reaffirmed the Council's ability to defend claims, the policies, procedures, and systems in place to monitor, record and repair our network as being "in the top 10%" of Councils they insure.
- 34 Given the Council's repudiation rate of between 90-95%, against a national average, as identified by CIPFA, as 82%, this confirm that our highway assets are managed effectively. Any investment in highway infrastructure will sustain and enhance these levels.

Complementary Work to the TAMP

- 35 The Council has led the development and implementation of the North East Highways Alliance which was formally established in September 2013. This is a forum for collaborative working for all 12 north east councils. The North East Highways Alliance has delivered a number of initiatives that are helping all councils involved, including Durham, maximise efficiencies in highways through sharing resources, collaborative procurement and knowledge sharing.
- 36 This partnership working together with on-going collaborative working of our in-house Highway Services team with our supply chain of competitively procured external sub-contractors has led to the Council being one of the first in the UK to be awarded British Standard BS11000 – Collaborative Business Relationships. This again will assist in maximising funding from the DfT.
- 37 In addition to the TAMP the Council has a Highway Maintenance Plan (HMP) which sets out the Council's service levels for inspections, reactive maintenance and routine maintenance in accordance with national codes of practice. This includes the highway safety inspection regime which helps ensure that the adopted highway throughout the county is maintained in a safe condition as far as reasonably practicable.

Innovation in Highways

Plastic and Crumb Rubber Surfacing

- 38 In 2019 Durham County Council declared a climate emergency with a pledge to reduce carbon emissions from our operations by 80% by

2030, and to take necessary action to make County Durham carbon neutral by 2050.

- 39 Many of the processes associated with general highway maintenance generate carbon and we are keen to minimise the impact that that construction has on the environment.
- 40 The Council has continued working with Rainton Construction in ensuring that plastic and rubber crumb is used in surfacing schemes throughout the county.
- 41 The Council continues to review opportunities for further improvement and innovation including the use of new materials, recycling of existing pavements, trialling emerging technologies and using alternative products in construction. All of which could bring about additional environmental benefits and carbon savings.
- 42 Using plastic and rubber crumb in roads reduces the amount of bitumen required in the binder. The benefits of this are:
- provide an outlet for single use plastic and rubber that would otherwise be sent to landfill or incinerated; and
 - reduces the amount of bitumen required which reduces fossil fuels and carbon emissions and thus contributing to arresting climate change.

Use of Artificial Intelligence – National Govtech Project

- 43 In 2019 Durham County Council and Blaenau Gwent Council jointly supported a central government Govtech Catalyst project aimed at using merging technologies to support highways asset management.
- 44 The use of Artificial Intelligence (AI) technology has been at the forefront of two projects using vehicle mounted cameras to monitor the condition of the highway and identify defects.
- 45 After 18 months of research and development, the project has provided a reliable, effective, and efficient data capture system of highway condition that could be used in the future to assist in service delivery.
- 46 Two companies (GPCA and Viapontika) have developed systems that could be used to assist in delivery and both Durham and Blaenau Gwent are assessing how best to take this project to forward.
- 47 Using AI and video technologies including depth analysis, reduces the need to use motor vehicles to assess and reassess network condition,

thus reducing the amount of emissions emitted by transport in the management of highway assets.

Conclusion

- 48 Like most highway authorities, the Council has a highways maintenance backlog and faces considerable challenges to maintain the condition of the highway network. However, the TAMP demonstrates that work is progressing well in helping to maximise the condition of the highway for the available budget.
- 49 The Council has been steadily increasing its own investment and has also been proactive in attracting considerable funding from DfT. This TAMP, together with the top efficiency rating, will ensure that it is well placed to maximise the much-needed funding from the DfT going forward.
- 50 It is accepted that to address the backlog, and in particular the unclassified network, whose condition is worse than the national average, additional resources will be required to address the rate of decline of this asset.
- 51 Footways would benefit from additional investment. As a high proportion of the network consists of rural linked footways linking settlements, additional resources will also be required to arrest the decline in this asset.
- 52 Public Rights of Way are an area where, during the Covid pandemic have been highlighted as requiring additional investment. However, many assets are under-resourced and rely on improvement grants and other external sources of funding.

Appendices

- Appendix 1: Implications
- Appendix 2: Transport Asset Management Plan - Section 1 – Policy.
- Appendix 3: Transport Asset Management Plan - Section 2 - Annual Update Report 2020.

Background papers

- British Standard BS ISO 55001:2014 Asset Management.
- The Chartered Institute of Public Finance & Accountancy (CIPFA) - Code of Practice on Transport Infrastructure Assets.

- Highways Maintenance Efficiency Programme (HMEP) - Highway Infrastructure Asset Management Guidance Document.

Other useful documents

- None.

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Appendix 1: Implications

Legal Implications

The Highways Act 1980 sets out the main duties of the Local Highway Authority in respect of highways maintenance. In particular, Section 41 imposes a duty to maintain the adopted highway at public expense. The Highways Act does not specify the level of maintenance although national Codes of Practice offer guidance in line with best practice.

Finance

The TAMP informs the capital bids for programmed capital maintenance. The TAMP also provides the methodology for prioritising the programmed capital maintenance budget.

Consultation

None.

Equality and Diversity / Public Sector Equality Duty

The public highway is maintained in a safe way for the benefit of all highway users.

Human Rights

None.

Crime and Disorder

Street lighting helps reduce the fear of crime.

Staffing

Highway maintenance is delivered by the Council's in-house provider, Highway Services, which is supported by an extensive supply chain of competitively procured external sub-contractors.

Accommodation

None.

Risk

The investment level in programmed capital maintenance directly affects the condition of the highway asset, maintenance backlog, number of defects, number of public liability claims and public satisfaction.

Procurement

Highway maintenance is delivered by the Council's in-house provider, Highway Services, which is supported by an extensive supply chain of competitively procured external sub-contractors.

Climate Change

Highway maintenance is delivered with carbon reduction in mind. The introduction of single use plastic and rubber crumb from tyres into the construction process reduces the need for fossil fuels and ultimately carbon emissions.

Appendix 2: Transport Asset Management Plan - Section 1 – Policy

See separate document attached.

Appendix 3: Transport Asset Management Plan - Section 2 - Annual Update Report 2020

See separate document attached.