



Highway Asset Management Plan (HAMP) 2017 to 2032 Annual Information Report November 2023



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1. INTRODUCTION

In September 2017, Cabinet adopted an updated Highway Asset Management Plan 2017 - 2032 (HAMP). This sets out the Authority's approach to maintaining the highways for which the Authority is responsible over a 15 year period and responds to the Elected Mayor and Cabinet's policy direction which included providing a greater emphasis on footways to help support walking and other means of active travel. It also responds to feedback from residents which has consistently told the Authority that the maintenance of roads and footpaths is a top priority. This is reflected in the Our North Tyneside Plan including a commitment to invest additional capital funding in repairing roads and pavements. A well-maintained highway network is vital for supporting the local economy and general wellbeing of the Borough.

Much has been achieved over the lifetime of the HAMP and around £95m has been invested in maintenance and improvement works. Continued investment in specialist ICT highway asset management systems has enabled the gathering of accurate inventory and condition data which allows resources to be targeted in the most effective way. Other innovation includes systems to identify the best treatment options to maximise the life of the asset and get best value for money. The following has been achieved over the lifetime of the HAMP:

- 178.27 km of road renewed and 92.45km of footways improved.
- 56 bridges repaired.
- 295 footway improvement schemes completed.
- 19 major highway projects delivered.

This latest HAMP Annual Information report shows that within the last 12 months:

- The highway network is in a serviceable condition, but recent surveys have shown that future maintenance will be challenging. This is due to a combination of factors which will be explained in the report.
- The maintenance challenge has been exacerbated over the last 2 years by the sudden increase in construction costs due to the inflation crisis and the legacy impacts of the war in Ukraine. The cost of surfacing material is now more stable but is nevertheless much higher than it was 12 months ago. As such, as the Authority looks ahead, it will need to align its core maintenance funding with external investment and targeted interventions where they will have the maximum impact.
- Performance in relation to day to day maintenance is good with KPIs being met.
- Highway asset work programmes have been completed successfully.
- A number of service improvements have been developed since the last report including further improvements to the gully service and a feasibility study around introducing a coring regime to better control the quality of utility reinstatements.
- Over the last 12 months the Authority has completed numerous footway improvements in line with the Mayor's priorities. In addition to the Authority's regular footway improvement programme, £150K of additional housing footway improvements have been delivered annually over the last few years.



 The North Tyneside and Capita Technical Partnership has been supporting the Authority's carbon reduction efforts. New initiatives have included trials of a low carbon material for road resurfacing which delivers a considerable carbon saving.

2. THE IMPORTANCE OF HIGHWAY INFRASTRUCTURE

The national highway network comprises the strategic network of motorways and trunk roads and both major and minor local roads. It totals some 235,000 miles and includes assets such as carriageways, footways, cycle-tracks, structures, highway lighting, street furniture, traffic management systems and similar highway infrastructure.

Almost every resident, worker and visitor within North Tyneside uses the highway network in some way on a daily basis, whether as a pedestrian; as a cyclist or motorcyclist, as a car, bus or commercial vehicle driver or passenger, or in other diverse ways such as mobility scooter users etc. The network is used by a range of people including, young and old, disabled persons and by groups such as cyclists and equestrian users. The highway network therefore needs to perform in different ways for different users and social groups each with their own needs and priorities.

A particular driver for the development of the HAMP is the Infrastructure Code of Practice which promotes the use of best asset management practices and the effective management of risk.

The local highway network is the responsibility of the Authority, which acts as the Highway Authority. It is the largest, most valuable and most visible infrastructure asset for which the Authority is responsible. Well maintained and accessible highway infrastructure is vital and fundamental to the economic, social and environmental wellbeing of the communities of North Tyneside. The aim to maintain a good highway network is important to delivering the 'Our North Tyneside' Council Plan and the Mayor and Cabinet's commitment to building a better North Tyneside.

The Authority's highway network is 899.15km in length and comprises of:

Principal Roads – 105.18km
Classified B Roads – 37.75km
Classified C Roads – 34.29km
Unclassified Roads – 684.73km
Back Lanes – 37.2km

Within the highway network the Authority is also responsible for the following major asset groups:

Drainage - 35,336 gullies

All highway and infrastructure services are currently delivered by Capita under the North Tyneside Technical Services Partnership.



The Authority is also responsible for a range of bridges and structures as shown below:

Bridges and other Structures	2022	2023
Road Bridges	46	46
Retaining Walls	73	73
Footbridges (inc PROW)	46	46
Bridleway Underbridge	1	1
Bridleway Overbridge	1	1
Culvert	41	41
Subway	25	25
Tunnel	1	1
Underpass	1	1
Total	235	235

Within the highway network there is also street lighting. However, the Authority does not manage this as part of the HAMP and the lighting assets are managed separately through a Private Finance Initiative (PFI) contract. As such, street lighting information is not included in this report.



3. CURRENT MAINTENANCE PRIORITIES

3.1. HIGHWAY MAINTENANCE

At the start of the first HAMP, around 11 years ago, the maintenance of the strategic road network (main classified roads) was given a high priority. These are the roads that carry the vast majority of local and through traffic. The prioritisation was based on the condition of the network at the time and feedback received from residents via customer engagement. As a result, the condition of the main roads improved allowing more resources to be targeted towards estate roads. We are now at a point where main roads require maintenance again and there has been a shift back to more investment in the strategic network. In 2023/24, 48% of the budget will be spent on the classified road network compared to 52% on estate roads which is an increase in main road investment compared to the previous year.

More recently there has also been additional investment in footways after further customer feedback was received and the issue became a Mayoral priority. Whilst the strategic highway network remains important, ongoing additional Authority funding has gradually allowed more resources to be allocated to dealing with the condition of residential roads. We will therefore continue to work with Central Government and funding bodies to attract and secure investment into the network.

In line with current Mayoral priorities, the Authority has also continued to focus on improving the condition of its footways and during the 2023/24 year it will have spent around £1.64 million on footways. A programme of improvement works has been implemented, focusing on key urban routes and residential areas where older flagged constructed footways, which are susceptible to damage, are replaced with lower maintenance bituminous construction.

3.2. BRIDGES AND INFRASTRUCTURE

This area of work is undertaken mainly using Local Transport Plan (LTP) funding. Maintenance priorities for major work for the next 5 years are set out in a forward plan which is supported by a range of framework documents including Highway Structures – Risk-based Principal Inspections. At present the work can be accommodated provided future LTP allocations remain relatively constant. However, a number of structures have been identified which will require attention within the next 5 years. We will continue to monitor these and will work with partners to identify additional funding if this is available.

Day to day reactive repairs are undertaken using a revenue budget which is managed by the Authority's technical partner, Capita. The current programme is focussed and prioritised on locations and schemes which have been identified as requiring general maintenance work or have been identified as requiring work in the next 12 – 18 months following statutory general and principal condition inspections of the Authority's bridges and other infrastructure assets. These inspections are critical in ensuring that the Authority's bridge stock remains in a safe and usable condition.



4. SUMMARY OF WORK UNDERTAKEN DURING THE LAST 12 MONTHS

During the last quarter of the previous 2022/23 financial year, the highway maintenance schemes for the current 2023/24 financial year were finalised in accordance with the Authority's works prioritisation procedures. The following is a summary of the work that has been done to date and what will be achieved by the end of the current financial year.

4.1. CARRIAGEWAY IMPROVEMENT WORKS

In order to achieve better value for money the Authority has continued to use alternative maintenance products. These treatments are in the following treatment groups:

- Structural Maintenance where renewal of the road is required because the underlying layers have failed and require replacement.
- Preventative Maintenance where the surface of the road has started to show signs of age and requires this maintenance technique to prolong its life, return a safe running surface and prevent water ingress which is a major cause of deterioration.

By the end of this financial year the Authority will have completed the following works:

Road and Footpath Work Undertaken in North Tyneside in 2020/21 (and comparison with previous years)

Treatment Group	Area Covered in 20/21	Area Covered in 21/22	Area Covered in 22/23	Area Covered in 23/24
Preventative	41,831m ²	42,665 m ²	42,647 m ²	47,167 m ²
Maintenance	(3.96 miles)	(3.91 miles)	(3.93 miles)	(4.85 miles)
Structural	62,154m ²	68,141 m ²	70,357 m ²	75,357 m ²
Maintenance	(5.25 miles)	(6.24 miles)	(5.68 miles)	(6.51 miles)
Patching Sites	47 No.	72 No.	67 No.	36 No.
Footway Improvement Schemes	50 No.	11 No.	13 No.	15 No.

By the end of the financial year all structural, preventative and footway maintenance schemes will have been completed in accordance with the approved programme. The list of road resurfacing schemes for the 2023/24 year can be viewed at the following link:

https://my.northtyneside.gov.uk/category/749/road-resurfacing



4.2. DRAINAGE WORKS

The Authority has two gully wagon which operate across the borough carrying out gully maintenance and dealing with reported flooding problems on the highway. The Authority operates its gully services with the support of an ICT system called Gully Smart. This provides real time data on the level of silt in gullies and allows them to be cleaned on a 'need' basis.

All gullies on high-speed roads such as the A1058 Coast Road are routinely cleaned twice per year.

Each year a boroughwide programme of capital drainage improvements is developed based on information gathered during cleansing operations. This work typically involves CCTV surveys, localised drainage pipe repairs, jetting of drainage runs, replacing defective gully pots etc. By the end of the current 2023/24 year, around £190k of this type of work will have been completed.

4.3. BRIDGES AND INFRASTRUCTURE

Below is a summary of the bridge/highway structures maintenance inspections for the 2023/24 year:

A total of 27 Principal Inspections will be carried out in 2023/24.

Structure Type	2022/23	2023/24
Footbridges	1	3
Underbridges	5	3
Overbridge	0	0
Culverts	3	8
Subways	1	0
Tunnels	0	0
Retaining Wall	5	14
Total	15	28

A total of 44 General Inspections will be carried out in 2023/24

Structure Type	2022/23	2023/24
Footbridges	1	2
Underbridges	2	9
Overbridge	0	0
Culverts	3	8
Subways	8	10
Tunnel	0	1
Retaining Wall	7	14
Total	22	44



The following bridges work has also been carried out in within the last 12 months.

- Refurbishment and strengthening of Harrow Street pedestrian bridge at Shiremoor.
- Options study for maintenance work at Forest Hall bridge
- Structural assessment of the road bridge at West Allotment
- Around £100k of minor subway and bridges improvements on various structures across the borough

It was intended to demolish Borough Road pedestrian bridge in summer 2023. However, a public inquiry held in February 2023 ruled that the public right of way over the bridge could not be extinguished and therefore the bridge will need to remain as a highway asset. An updated condition assessment has been commissioned and this will inform future maintenance options for the bridge. A further update will be given in the next annual information report.



5. INVESTMENT IN THE HIGHWAY ASSET

The following table provides a summary of the budgets that have been allocated to highway and bridges in 23/24 and a comparison with the previous financial years:

Budget	Budget Type	Type of Work	2021/22	2022/23	2023/24
Service Budgets	Revenue	Day to day reactive minor repairs (e.g. potholes), gully cleansing, traffic management, sign repairs and road marking renewal	£1,114,000	£1,114,000	£1,114,000
Housing Revenue Account	Revenue	Housing footway improvement schemes	£150,000	£150,000	£150,000
Local Transport Plan Maintenance Block	Capital Grant	Road resurfacing, planned footway schemes, drainage repairs, dropped kerb programme, bridges schemes, bridge design work	£1,253,000	£1,253,000	£1,253,000
Additional Highway Maintenance	Authority Capital	Additional road resurfacing and footway schemes	£2,000,000	£2,000,000	£2,000,000
DfT Highway Maintenance Incentive Fund	Capital Grant	Additional road resurfacing and footway schemes	£313,000	£313,000	£313,000
DfT Pothole Fund allocation	Capital Grant	Additional road resurfacing and work to prevent potholes forming in the future	£1,253,000	£1,253,000	£1,253,000
DfT additional funding	Capital Grant	Additional road resurfacing and footway schemes			£501,000
		Total Investment	£6,083,000	£6,083,000	£6,584,000



6. PERFORMANCE

As part of the Technical Services Partnership between the Authority and Capita, a suite of performance indicators is used, monitoring aspects of the Partner's performance in relation to the management and condition of the network. These indicators have been in place since November 2012 and are reviewed on an annual basis. The tables below outline recent data in accordance with the performance indicator methodology.

With reference to the condition of the main classified roads, independent condition surveys are undertaken, and the data is used to calculate a performance indicator figure (Road Condition Indicator (RCI)). The results for recent years are shown in the table below (note: a lower figure is better).

KPI/PI Reference	Performance Indicator	Target	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
ENG 1.4 (RCI)	Percentage of A class roads that should be considered for structural maintenance	5%	2%	2%	2%	2%	3%	6%
ENG 1.5 (RCI)	Percentage of B and C class roads that should be considered for structural maintenance	5%	2%	2%	2%	2%	3%	4%
Not an indicator	Percentage of unclassified (residential) roads that should be considered for structural maintenance	N/A	6%	4%	4%	5%	6%	9%

The above figures illustrate the percentage of structural maintenance required to improve the road network. It can be seen that, there has been a significant increase in maintenance need and the A class roads are no longer on target. This indicates that there is still an ongoing need for sustained investment in the highway network. Further investigation will now be carried out into the reasons for the increase. Generally, there remains a high level of confidence that the network is being maintained in the most efficient way, however, this will require ongoing monitoring as:

- Levels of funding have not significantly changed over the years.
- The amount of improvement work that can be done now is less each year due to inflation.



- The number of highways assets increases each year as new estates are adopted.
- Recent world events have had a sharp and adverse impact of the cost of construction work. Prices have stabilised this year compared to last year but remain significantly higher than before February 2022.

The other performance indicators within the Highways Service relevant to this report are detailed in the following tables:

CATEGORY 1 KPI's							
KPI/PI	KPI/PI Bartamana la diagtar		Average performance over the last 12 months.				
Reference	Performance Indicator	Target	October 2021 – September 2022	October 2022 – September 2023			
ENG 1.3	Roads and Pavements – Percentage of pothole and footpath enquiries inspected within 3 working days	80%	97.33%	98.46			

CATEGORY 2 KPI's								
KPI/PI	Performance Indicator	Target	Average performance over the last 12 months.					
Reference	renormance mulcator	Target	October 2021 – September 2022	October 2022 – September 2023				
ENG 2.1	Roads and Pavements – Percentage of routine street care safety inspections carried out on time	95%	99.86%	99.80%				
ENG 2.2	Roads and pavements - Percentage of CAT 1 highway defects that were compliant within 24 hours	98%	100%	100%				
ENG 2.3	Roads and Pavements - Percentage of CAT 2 highway defects that were made compliant within 10 working days	98%	98.69%	99.61%				
ENG 2.4	Roads and Pavements – Permit scheme compliance of Capita workforce	90%	90.56%	91.51%				
ENG 2.5	Roads and pavements - Quality of maintenance repairs	93%	86.70%	97.14%				

The above figures demonstrate that the Technical Services Partnership is generally achieving and exceeding, in a number of instances, its agreed prescribed performance targets with regard to undertaking the Authority's statutory maintenance duties and undertaking repairs in a safe and timely manner, reducing the risk of any harm occurring to users of the highway network.



7. VALUE OF THE HIGHWAY ASSET

Under the Whole of Government Accounting (WGA) procedure, all local authorities are required to submit an annual detailed valuation of their highways and infrastructure assets. Each year, independent condition surveys of roads, footways and structures are necessary to assess their condition. Depreciated Replacement Costs are used for measurement purposes and are disclosed as a separate class of asset on the Authority's Balance Sheet. For asset management, Gross Replacement Cost (GRC) and the Annual Depreciation are the key drivers.

Gross Replacement Cost (GRC) is the estimated cost of replacing an asset or property with the same quality of construction and operational utility. For carriageways it is replacement of the top 100mm. The most recent GRC values for North Tyneside area are shown in the table below:

Asset Type	2019/20 Valuation	2020/21 Valuation	2021/22 Valuation	2022/23 Valuation
Roads	£1,205 million	£1,165 million	£1,165 million	£1,165 million
Footways and Cycleways	£221 million	£206 million	£206 million	£206 million
Bridges	£469 million	£469 million	£469 million	£469 million

As of **September 2023**, the total value of highway assets equates to £1,840,000,000.

The previous GRC changes were due to changes in unit rates and inventory and does not reflect changes in condition, just the gross cost in replacing the asset. There is no change between 20/21, 21/22 and 22/23 due to no changes in the assets recorded. However, the GRC is expected to increase substantially in future valuations due to the expected increase in unit rates if/when the nationally supplied rates are reviewed. The Authority will wait until The Chartered Institute of Public Finance and Accountancy make a recommendation regarding unit rates.



8. CONDITION OF HIGHWAY NETWORK

The Authority uses a specialist computer system, XA©, to model the condition of roads and footpaths under different funding scenarios.

The service standards developed for the Authority's infrastructure assets are 'good', 'early life', 'mid-life' and 'late life'.

Good

These are roads and footpaths which are coloured green on the condition maps and reflects that the asset is in as new condition, no or very small amounts of minor defects have been identified in the annual condition surveys. These assets do not require any maintenance, but they are monitored through safety inspections to ensure the Authority maintains its duty of care under section 41 of the Highways Act 1980.

Early Life

These are roads and footpaths which are coloured **yellow** on the condition maps and reflects that the asset has minor defects in small quantities which have been identified in the annual condition surveys. These assets do not require any planned maintenance, but they are monitored through safety inspections to ensure the Authority maintains its duty of care under section41 of the Highways Act 1980.

Mid Life

These are roads and footpaths which are coloured amber on the condition maps and reflects that the asset has large quantities of minor defects and small quantities of major defects which have been identified in the annual condition surveys. These assets require planned preventative maintenance techniques to prolong the life and deliver acceptable service levels. They are monitored through safety inspections to ensure the Authority maintains its duty of care under section 41 of the Highways Act 1980.

Late Life

These are roads and footpaths which are coloured red on the condition maps and reflects that the asset has large quantities of major defects which have been identified in the annual condition surveys. These assets require planned structural (major) maintenance. They are monitored through safety inspections to ensure the Authority maintains its duty of care under section 41 of the Highways Act 1980.



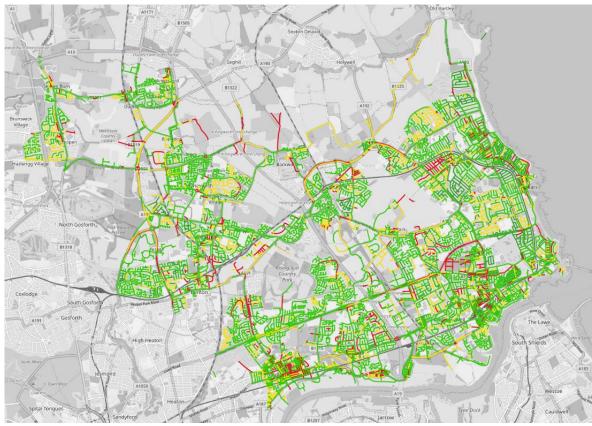
The Authority uses a specialist company, XAIS Asset Management Ltd, to undertake detailed condition surveys of carriageways.

A major improvement introduced in 2022 saw the introduction of 360-degree video surveys and artificial intelligence to help better understand the condition of the highway asset. We are continuing to use this technology to help better understand the condition of the highway asset. Further details are given in Section 11.2 of this report.

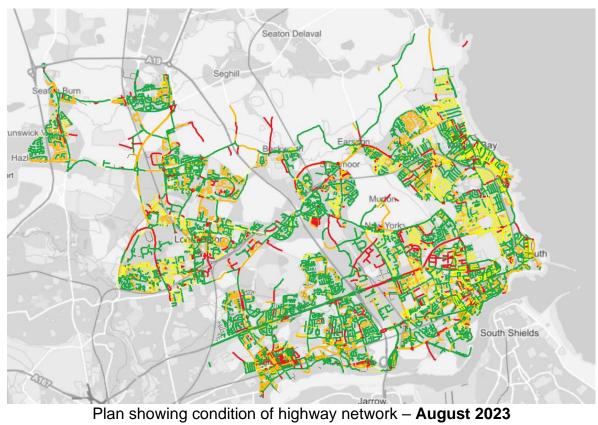
8.1. CURRENT CONDITION OF THE ROAD NETWORK

The following plans illustrate the current condition of the whole of the road network compared to a year ago. As a result of the continued investment and the application of asset management principles, the percentage of red routes has remained relatively steady. The authorities additional £2m investment has made a significant contribution to maintaining the Network. However, the number of yellow and amber roads has increased considerably. This indicates that consideration should now be given to additional investment in the network in order to avoid further decline.



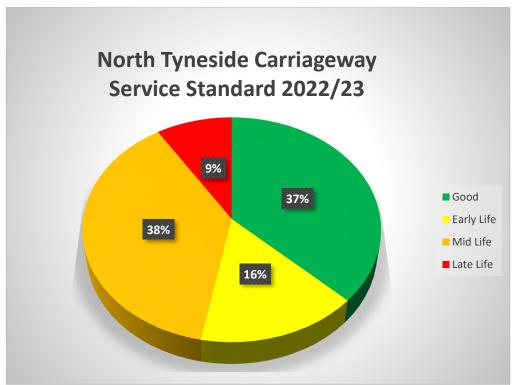


Plan showing condition of highway network – August 2022

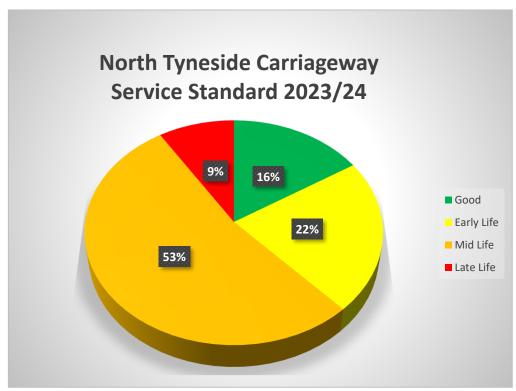




The pie chart below demonstrates that under current funding arrangements, 16% of the road asset is good. However, 84% of the network requires some form of maintenance.



Service Standard – Carriageway 2022



<u>Current Service Standard – Carriageway</u>



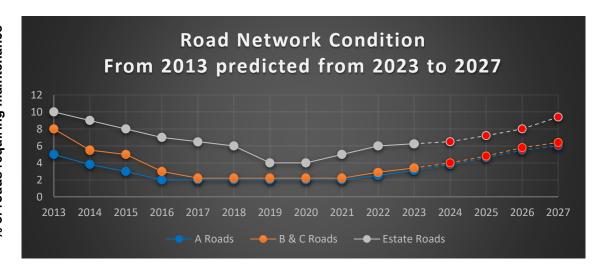
The key to achieving best use of resources to ensure that the majority of the road asset in good condition is to target early and mid-life roads with preventative maintenance treatments to prolong their life. By carrying out preventative cost-effective surface treatments the Authority will stop further deterioration and keep mid-life roads from moving into the red band at which point maintenance work is far more expensive. To ensure the Authority targets its early and mid-life roads it gathers annual condition survey data and inputs this into XA© system which allows the identification of the roads in early and mid-life state. It is this information which the Authority uses to inform its forward works programme for improvement works on the highway.

It can be seen from the charts above, whilst the proportion of red roads is staying similar, the number of amber roads is increasing considerably. The sections requiring immediate preventative maintenance has risen from 38% to 53%.

As the above chart shows, 9% of the borough's roads are in late life condition where structural resurfacing should be considered. This is the same as last year. However, there has been a significant increase in the proportion of green and yellow roads turning to amber. In summary, it appears that despite managing the network in the most effective way, we are now starting to see a decline in the condition of roads as per the condition forecasting set out in the next section.

8.2 FORECAST CONDITION OF THE ROAD NETWORK

The XA© system can accurately predict future highway condition under different funding scenarios. Given the concerns around early indications that the network is facing challenges around funding, the Authority has undertaken a condition modelling exercise to determine how the network will look in 4 years time if current investment levels remain unchanged. The modelling assumes an ideal asset management system is being applied and does not factor in potential unexpected events such as abnormally severe winters. The graph below shows that under current investment conditions, there will be a sustained increase in the percentage of roads requiring maintenance across all road types.



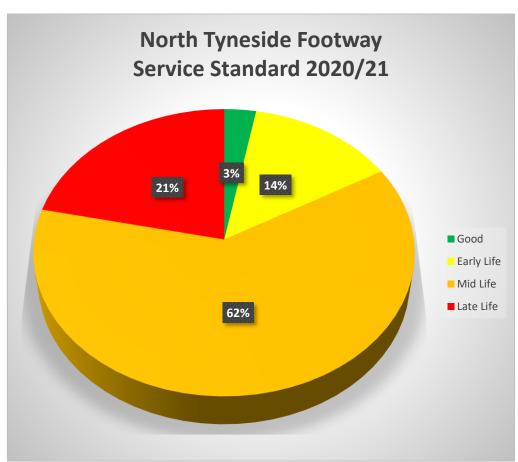


8.3 CURRENT CONDITION OF THE FOOTWAY NETWORK

Investing in our footways is a Mayoral commitment included within the Mayor's manifesto. It is therefore a priority to ensure footways are invested in. A Footway Network Survey (FNS) was completed in 2020 on 100% of the footway network and the condition is presented in the pie chart below. The DfT recommendation is to undertake a detailed condition survey of the footway network every 4 years. Therefore, it is the intention to re-survey the footway network next financial year to assess the effect of the additional investment in footways since it became a Mayoral priority. Footways are still routinely inspected at least twice per year in estate areas in between detailed condition surveys.

At the time of the last survey, the quality of the footway asset was a concern, with 83% of the footway network requiring maintenance. This may improve once the survey is refreshed and the impact of additional investment is known.

As with roads, the data is held in XA© and is used to identify future footway schemes in line with the Authority's asset management principles.



Footway Service Standard as of 2020/21 (last survey year)



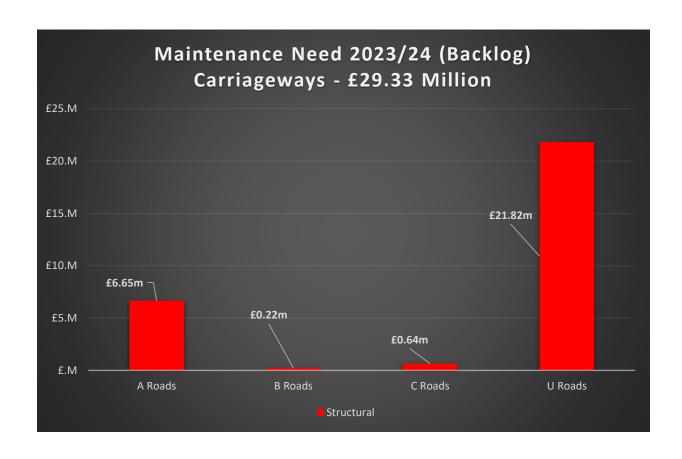
9 HIGHWAY MAINTENANCE BACKLOG

The XA© system can also be used to calculate the current backlog of highway repairs i.e., the one-time theoretical investment required to turn all red roads back to green condition. However, it is important to note that the backlog calculation only considers roads that are already structurally defective (red) and does not include amber roads that require preventative maintenance to avoid them slipping form amber into red.

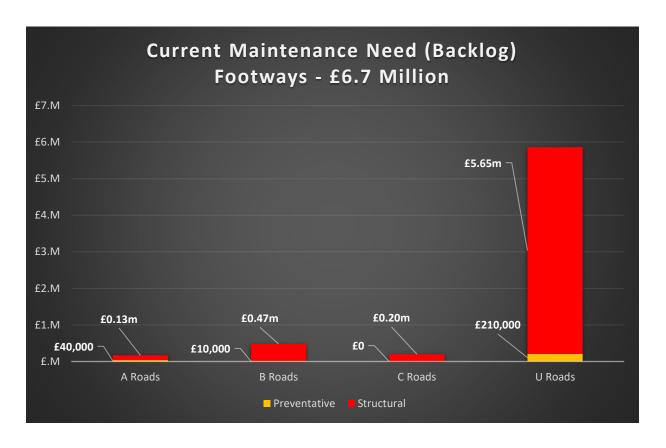
In the 2022 report, the estimated cost for the structural carriageway maintenance backlog was around £27 million which was similar to previous years.

The 2023 backlog figure has been calculated and the figure has increased to £29.33M. This is illustrated in the following tables. Again, it is important to note that this figure would be <u>significantly higher</u> if the cost of undertaking preventative maintenance was factored in.

The maintenance backlog figure for footways is currently £6.7m, compared with £6m in 2022.



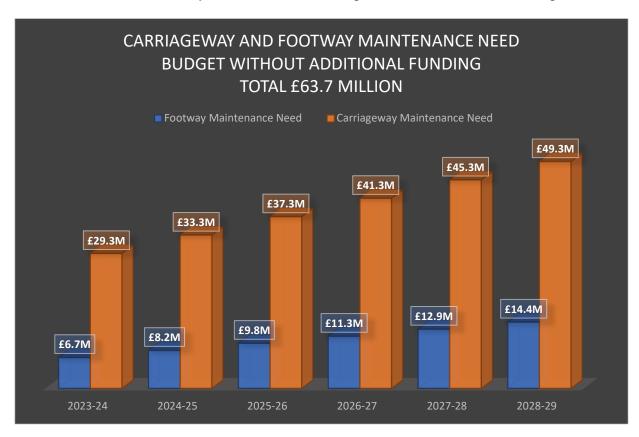






9.1 STATE OF THE NETWORK - PREDICTED

Deterioration will always occur in infrastructure assets, and the aim of effective asset management is to target investment to slow the rate of deterioration or keep it in check. The following tables have been produced by the XA system and show predicted backlog increases over the next 5 years if current funding conditions remain unchanged.





10 CUSTOMER ENGAGEMENT

The Highways Service utilises a range of customer engagement methods including the Annual Residents' Survey.

As planned and outlined in last year's HAMP, more in-depth engagement was undertaken with residents in 2023 to better understand their priorities and how they would like resources spent.

Focus groups were held at the council's offices on Cobalt Business Park on 1 & 2 February. They were attended by members of the public from the Authority's Residents' Panel.

Attendees were asked to give their views on planned works that can be undertaken on roads and footpaths. As well as providing feedback on the types of treatments, they were also asked what type of locations they felt should be prioritised. Feedback received, e.g. the preference to prioritise main roads serving residential areas, has been taken into account as the road resurfacing programme has been refined.

As part of 2023/24 road resurfacing programme, for the first time a QR code was included on letters to the public advising of forthcoming works. People were invited to scan the code once works were complete and give feedback on topics such as the quality of works, level of disruption and communications (or alternatively contact the Authority by email, telephone or post). Meanwhile, Capita's communications team also provided engagement support for selected road resurfacing schemes in the 2023/24 programme.

Finally, since March 2023, the Highways service has published a monthly dashboard on the council website that shows the team's performance for repairing roads and footpath defects. This is to increase transparency and is in addition to publishing the annual road and footpath improvement programmes on the website.

https://my.northtyneside.gov.uk/category/1689/roads-and-pavements-repairs-monthly-performance



11 FUTURE PLANS AND SERVICE IMPROVEMENTS

This section outlines plans for the next 12 months and new service improvements.

11.1 ACTION PLANS

The Technical Partnership is committed to continuous service improvement and a number of action plans are set out in the Partnership Annual Service Plan which can be viewed on request. A summary of the action plans that have been developed over the last 12 months is shown below:

- Transport strategy review to increase opportunities for safe walking and cycling, including providing a segregated cycleway at the coast.
- Cycle provision review to map the current cycle network and produce a report reviewing legislation and detailing the impact of enforcement.
- Streetworks service review to assess whether a targeted coring approach should be introduced.
- Gully cleansing service review to recognise the climate emergency by supporting the Council in reducing the Borough's overall carbon footprint and provide a clean, green, healthy, attractive, and safe environment.

11.2 IMPROVEMENTS TO TECHNICAL SURVEYS

As mentioned in Section 8, we continue to use new cutting-edge road condition surveys. 360-degree cameras capture data on all highway assets. Artificial intelligence technology is then applied to detect, measure and highlight defects and data is then uploaded and accessible in the Authority's XA© Asset Management System. This technology produces very accurate data across the whole network and enables much more precise projection modelling to forecast the future condition of the network.

11.3 SUPPORTING CARBON REDUCTION

The highways service is supporting the Authority's carbon reduction efforts and this is the subject of a specific action plan within the Technical Partnership Annual Service Plan. Trials have commenced using low temperature resurfacing materials in a number of streets across the Borough. These materials use less energy in the production and laying operations resulting in significantly lower carbon emissions compared to traditional hot laid materials. This year, two locations, in Arcot Avenue and Brenkley Avenue were surfaced using a reduced carbon surfacing material. The carbon reduction on these two schemes was approximately 4.73 tonnes, which is equivalent to 15,000 car miles. The performance of low temperature surfacing (compared to traditional) is currently uncertain across the industry so the performance of the new materials will be monitored and if deemed suitable, the new treatments will be rolled out more widely leading to further carbon savings.



12 CONCLUSIONS

The following conclusions can be drawn from this report:

- The highway network is the most valuable asset in the Authority's ownership
- The current total value of highway assets is £1.840 billion
- The successful implementation of the HAMP policy and investment strategy is demonstrating that, over the years, the adoption of asset management principles by the Authority has gradually improved the condition of the road network. However, the Authority is now at a point where improvement will be difficult to sustain without significant financial support from Central Government.
- Due to continued additional Authority investment over the years, the highway network is currently in a serviceable state, but its condition is forecast to decline.
 This is to be expected when taking into account inflation and recent ongoing world events having had a serious impact on the cost of highway maintenance.
- Consideration now needs to be given to increasing investment or changing maintenance priorities. Highway officers will hold further discussions with the Elected Mayor and Cabinet and the Senior Leadership team around what options might be available for managing the network in the most effective way and addressing any backlogs on road and footway maintenance.
- The Technical Services Partnership continues to be successful and is generally
 exceeding its Key Performance Indicator targets and through its Annual Service
 Plan is identifying innovative ways of working, service improvements and
 efficiencies which is evident in the report.
- Continued customer engagement is providing better intelligence on what the public want us to focus our highway maintenance efforts on. These include continuing our improvements of residential and strategic roads and footways and improving the gully cleaning service.
- Bridge maintenance is currently under control and can be managed within existing LTP budgets. However, there are some emerging future schemes which may place a future pressure on budgets. The retention of Borough Road bridge as a highway asset may become a contributing pressure. This will be better understood when the results of the updated condition assessment are received
- The Highways Service is supporting the Authority in its carbon reduction efforts.