

Report to Cabinet

16 November 2022

Subject:	Highway Infrastructure Funding to mitigate the decline in Highway Infrastructure Condition
Cabinet Member:	Councillor Zahoor Ahmed, Cabinet Member Environment
Director:	Alice Davey, Director Borough Economy
Key Decision:	Yes, affects all wards and includes significant investment proposals
Contact Officer:	Robin Weare, Assistant Director, Highways robin_weare@sandwell.gov.uk

1 Recommendations

- 1.1 That the Capital Programme for Borough Economy is increased by £3,146,520 for 2022/23 to fully fund the programme of work needed to stabilise the condition of highway infrastructure and mitigate the effects of the next severe winter taking into account inflation in 2022/23.
- 1.2 That a surplus of £1,000,000 of capital funding currently allocated to Friar Park from the Regeneration and Growth Capital Project Support Reserve be transferred to Borough Economy to offset the capital requirement recommended in 1.1
- 1.3 That the residual capital requirement for 2022/23, after the use of Friar Park Capital, of £2,146,520 is funded from Corporate Main Programme resources with any prudential borrowing finance charges addressed within the Medium Term Financial Plan.
- 1.4 That the Capital Programme for Borough Economy is increased by £5,435,880 for 2023/24 to stabilise the red risk condition of highway infrastructure, taking into account inflation and to mitigate the effects of the next severe winter in accordance with the Highway Infrastructure Asset Management Policy, Strategy and Plan.



- 1.5 That the capital requirement for 2023/24 of £5,435,880 is funded from Corporate Main Programme resources with any prudential borrowing finance charges addressed within the Medium Term Financial Plan.
- 1.6 That a further report to update Cabinet is submitted in September 2023 after the Highway Infrastructure condition is reviewed in summer 2023 to identify future budget requirements from 2024/25 onwards for the risk assessed replacement of red risk Highway Infrastructure when the inflation outlook has stabilised and when the effects of the 2022/23 winter have been determined.

2 Reasons for Recommendations

- 2.1 Recommendation 1.1 is the capital requirement of £3,146,520 in 2022/23 to fully fund the programme of work needed to stabilise the condition of highway infrastructure and mitigate the effects of the next severe winter taking into account inflation in 2022/23.

The highest priority pressures for Highway Infrastructure in 2022/23 are set out in the following table. The costs in the first column are the additional funding that is needed to offset the in-year effect of inflation, stabilise the escalation of red risk asset condition and mitigate the risks and financial impact of a severe winter. Pressures associated with Street Lighting condition are the subject of a separate report. The programmes for footways and vehicle restraint systems have been deferred to 2023/24.

AREA OF BUDGET PRESSURE (IN YEAR)		2022/23 Pressure £	2023/24 Pressure £	2024/25 Pressure £	2025/26 Pressure £
Annual funding needed to halt the further escalation in Red Risk Condition	Carriageways	730,000	1,272,000	1,550,000	1,750,000
	Preventative Maintenance	520,000	520,000	520,000	520,000
	Lighting	Separate Cabinet Report November 2022			
	Vehicle Restraint	Programme work to start 2023/24	140,000	140,000	140,000
	Signals		50,000	50,000	50,000
	Footways	515,000	1,400,000	1,400,000	1,400,000
	Bridges (£5m per 10 yrs)	500,000	500,000	500,000	500,000
SUB TOTALS		2,265,000	3,882,000	4,160,000	4,360,000
Inflation from April 2022/23		881,520	1,553,880	1,906,900	2,182,435
TOTALS		3,146,520	5,435,880	6,066,900	6,542,435





- 2.2 Recommendation 1.2 mitigates the request for capital funding in 1.1 through the transfer from Regeneration and Growth to Borough Economy of a surplus of £1,000,000 of capital programme funding currently allocated to Friar Park.
- 2.3 Recommendation 1.3 provides for the residual capital requirement in 2022/23 after mitigation with the friar Park Funding transfer.
- 2.4 Recommendation 1.4 is the capital requirement of £5,435,880 in 2023/24 to stabilise the red risk condition of highway infrastructure, taking into account inflation and mitigate the effects of the next severe winter in accordance with the Highway Infrastructure Asset Management Policy, Strategy and Plan.




The individual pressures for Highway Infrastructure in 2023/24 are set out in the appropriate column in the previous table. Pressures associated with Street Lighting condition are the subject of a separate report.

- 2.5 Recommendation 1.5 provides for the capital requirement in 2023/24 after mitigation with unspent capital from the existing Council Capital Programme.
- 2.6 Recommendation 1.6 is to report back to cabinet with an update on Highway Infrastructure Asset Management pressures in the September 2023 to identify future budget requirements from 2024/25 onwards for the risk assessed future stabilisation of red risk Highway Infrastructure when the inflation outlook can be better assessed and when the effects of the 2022/23 winter have been determined.

3 How does this deliver objectives of the Corporate Plan?

	Best start in life for children and young people: Good, well maintained highway infrastructure will encourage more walking and cycling increasing wellbeing, improving road safety and promoting cleaner air quality.
	People live well and age well: The Highway environment plays an important role in the life of the community, particularly the positive opportunities that they can bring from social inclusion and interaction.



	Good quality Highways infrastructure will make our communities feel safe, more protected and confident in their homes and neighbourhoods.
	Well maintained highways bring increased economic and physical activity and reduces wear and tear and accident damage.
	<p>Highways are the arteries of Sandwell communities. They connect residents to employment, education, local services and indeed the wider world. They enable economic growth, social mobility and are vital in ensuring good health outcomes.</p> <p>The recent Enventure survey was conducted to gain insight from residents to support Sandwell Council in the development of the budget proposals and future spending priorities. The survey found that “Maintaining Roads and Pavements” was selected as important by high proportions of respondents in both the representative survey (72%) and the online survey (79%).</p>

4 Context and Key Issues

Cabinet approved a Highway Infrastructure Asset Management Plan in 2018 based on a risk assessed lifecycle planning approach with a greater emphasis on preventative maintenance in response to the sea change code of practice; *Well Managed Highway Infrastructure* published in 2016. The Department for Transport's Incentive Fund promotes the robust approach to Highway Asset Management on which the code is based and through which Highway Authorities in England are required to annually demonstrate their adoption of certain asset management principles in order to receive a significant element of their ordinary grant funding. Highway Infrastructure includes £2.2 billion of assets on the Sandwell road network for which the Local Highway Authority is responsible as summarised in paragraph 4.8

The risk assessed programme of renewal to stabilise red risk conditions in accordance with approved HIAMP policy and strategy generates the costs in the table shown in paragraph 2.1.

The recent Enventure survey was conducted to gain insight from residents to support Sandwell Council in the development of the budget proposals and future



spending priorities. The survey found that “Maintaining Roads and Pavements” was selected as important by high proportions of respondents in both the representative survey (72%) and the online survey (79%).

Asset Management and Lifecycle Planning

- 4.1 The Highway Infrastructure Asset Management Lifecycle Plan sets out the framework for investment in, management of and the operation of highway the highway network to meet legal obligations and high public expectations for safe, reliable and accessible travel within the wider objectives of strategy set out in the West Midlands Local Transport Plan.
- 4.2 Asset Management is about managing and maintaining and operating carriageways, footways, street lighting, structures, traffic signals, drainage and street furniture through long term planning and optimal allocation of resources in order to manage risk for a defined service performance.
- 4.3 A Highway Asset Management Plan (HAMP) was first prepared for the period 2010-13. On 14 November 2014 Cabinet approved a preventative approach to carriageway maintenance based on the information and options set out in the ‘Status and Options Report for Carriageway Maintenance April 2014. This approach optimises the use of low-cost preventative treatments (such as surface dressing and micro asphalt) to prolong service life before roads deteriorate to a condition where significantly more expensive resurfacing or reconstruction is required.
- 4.4 The 2014 HAMP assumed capital investment in planned carriageway maintenance works would be maintained broadly at the levels current in 2014/15 and the mix and timing of preventative, renewal and reconstruction treatment would be optimised over a 20 year lifecycle analysis predicting controlled depreciation in the asset value.
- 4.5 On 21 February 2018 Cabinet approved the Highway Infrastructure Asset Management Plan (HIAMP) defining the Council’s policies, strategy and plans for the future maintenance of the highway network. This was aligned to the “Well Managed Highway Infrastructure – A Code of Practice (October 2016) and continued with the 20-year asset management lifecycle approach with an initial funding period up to 2021.
- 4.6 The Council has a statutory duty of care to users and the community to; maintain the highway in a condition fit for purpose, as far as is reasonably



practicable. The duty is not absolute but decisions must be taken on reasonable grounds with due care and regard to relevant considerations set out in best practice guidance such as “Well Managed Highway Infrastructure – A Code of Practice (October 2016)

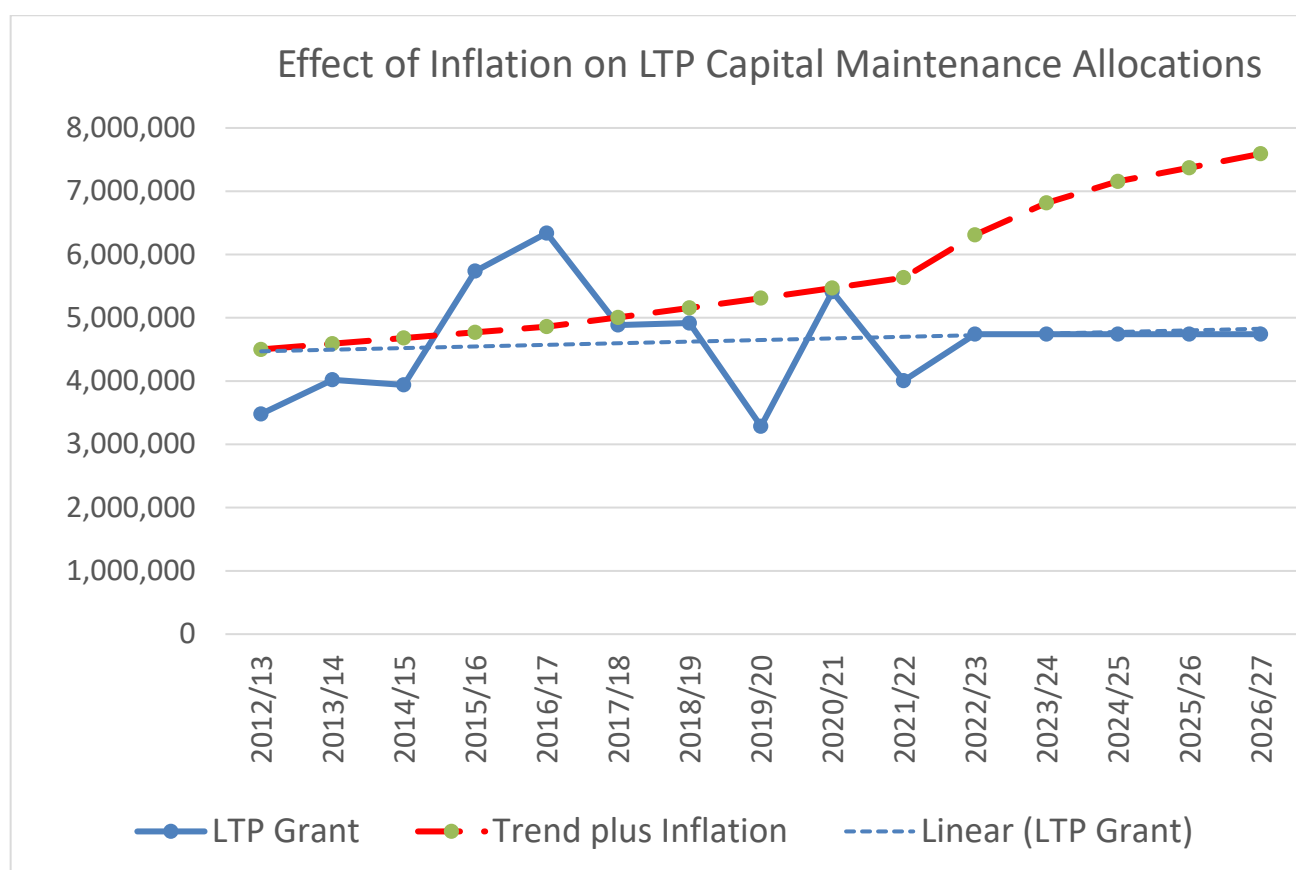
- 4.7 A key aspect of the HIAMP is the development of strategic lifecycle plans for each critical infrastructure asset, including;
- 880km of carriageways, of which 75% are unclassified roads
 - 1,440km footways and cycleways,
 - 35,000 street/lights, illuminated signs, traffic signals
 - 450 bridges and structures,
 - 3500km drainage & culverts including 40,000 gullies & connections
 - A wide range of other street furniture
- 4.8 Since the approval of the 2014 HAMP based on 20-year lifecycle management approach both capital and revenue allocations have been reduced and eroded by inflation and budget reductions. As a consequence, the backlog of red risk infrastructure is increasing as shown in the table in 2.1 and as described the Risk Section, within Alternative Options. An example the deterioration of carriageway condition for unclassified roads is also shown graphically in section 5.
- 4.9 It is not considered affordable or realistic to fund the renewal of the whole of the current highway infrastructure backlog that is in red risk condition. Instead the risk assessed HIAMP seeks to arrest and stabilise the escalation of red and amber risk condition.
- 4.10 It is recommended that the principles of the current HIAMP are continued based on a risk management approach through condition assessment to stabilise highway infrastructure condition at current levels.

Existing external capital are not sufficient to stabilise the escalating decline of highway infrastructure condition or fund the significant inflation in contract prices. The £4.741m City Region Sustainable Settlement (CRSTS) Maintenance grant from the Department for Transport is currently the only funding available for the renewal of high-risk life expired infrastructure. This year the DfT capital grant was fixed for 5 years at the average level that has been provided over the last 5 years. Consequently, no allowance for inflation will be made over a 10 year period as shown by the graph in 4.12.



- 4.11 The office for National Statistics is reporting increases in Construction Output Prices of around 12% for non-housing infrastructure and maintenance. Analysis of highway contract prices indicate similar annual increases. This inflation is partly driven by increases of 20% in bituminous road surfacing, 40% in transport costs and 60% in steel prices.

The profile of CRSTS grant funding from the DfT for the planned replacement of life expired infrastructure is shown in the following chart. The solid blue line shows the variation in grant funding over the last 5 years due to variable amounts of challenge funding and incentive funding allocated to the Council. The LTP maintenance block allocation was fixed at £4.741m this year for 5 years. The dotted blue line trend shows that variable funding settlements are not allowing for inflation. The dashed red line shows the effect of inflation that is escalating the funding gap.



- 4.12 Council revenue budgets for supplies and services only provide for the operation of the highway network and reactive repairs. Historically there has been no Council Capital provision for the planned replacement of high-risk life expired infrastructure.

4.13 National Benchmarking

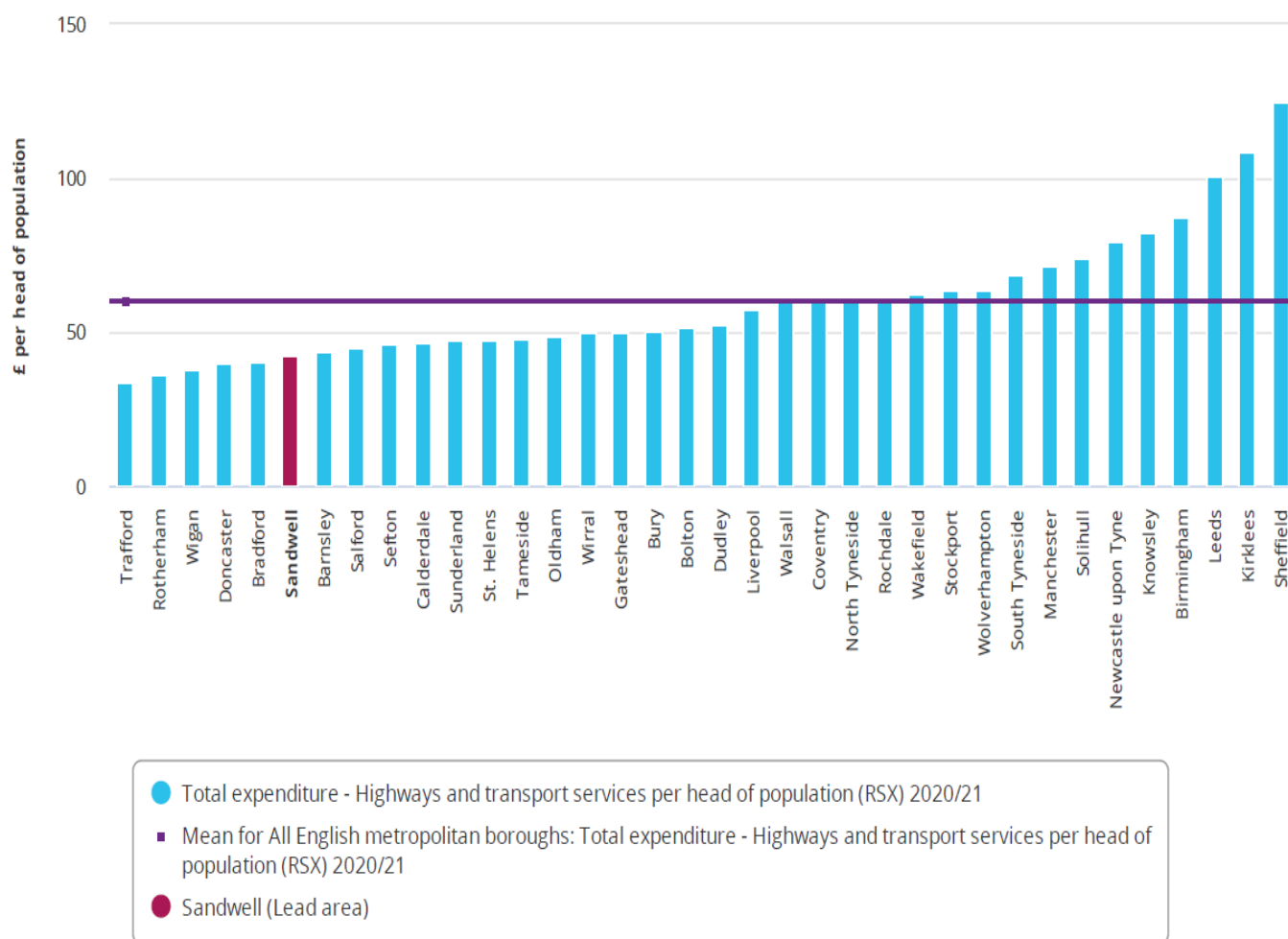


A number of independent national studies have confirmed that the Sandwell Highway Maintenance Services are delivered in a cost-effective way when compared to other authorities as follows.

Local Government Association Headline Report 2021/22

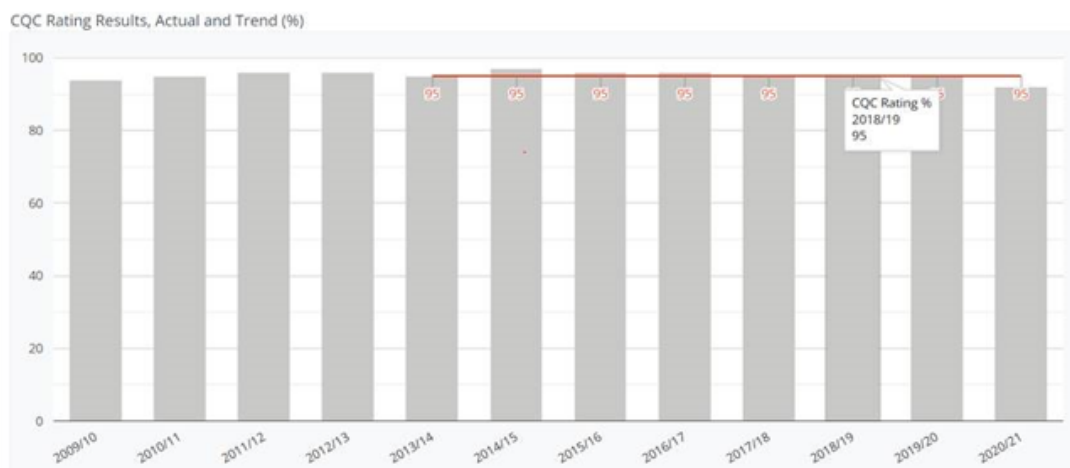
Highways and Transport Services

Total revenue expenditure on Highways and transport services per head of population (raw values)



National Highways and Transportation Customer Quality Cost Benchmarking

Over an eight year period Sandwell have been operating very close to our predicted minimum cost (95%).



National Highways and Transportation – Best Performers

Best performers and biggest improvers

The table below shows the three best performing authorities in each Group in this year's survey.

Group Name	First	Second	Third
West Midlands	Sandwell	Worcestershire	Telford
Metropolitan Borough	Sheffield	Sandwell	Walsall
Midland Highways Alliance +	Sandwell	Leicester	Worcestershire
West Midlands Highways Alliance (WMHA)	Sandwell	Walsall	Solihull

5 Alternative Options

Option 1 - Not Recommended

Provide no Council Capital to close the funding gap from 2022/23

- 5.1 An alternative would be to limit the repair of high-risk infrastructure to a value that matches the £4.741m CRSTS maintenance block grant. There would consequently be no Council capital provision available to fund the gap in the cost of replacement of high-risk life expired highway



infrastructure. The programme of urgent work in Appendix A for 2022/23 would not be completed and a similar urgent programme for 2023/24 would only 40% completed. This is not recommended because the red risk backlog is escalating. In addition, a severe winter could add £3m to £5m to these projections.

RISKS

- 5.2 A key service risk relates to safety and liability claims arising from accident and injury due to the condition of the highway. The HIAMP sets out the Council's planned safety inspection regime for mitigating this risk including frequency of inspection, items for inspection, degree of deficiency and nature of response. Without additional Council capital funding the Local Highway Authority would be negligently choosing not to repair identified high risk defects on the highway network leaving road users exposed to safety risks. In recent years a large number of small claims against the Council have been settled with annual costs in the range £280,000 to £390,000.

However, the escalating red risk conditions would progressively increase the potential for a claim associated with a life changing injury or death. This has the potential to increase the financial liability of the Council as Highway Authority ten-fold into the millions. A successful civil action could potentially lead to a criminal investigation for negligence in the allocation of resources. The Council would incur significant reputational damage as a consequence. The current low probability of this risk can be maintained by using Council capital funding to mitigate the growing investment gap between CRSTS maintenance block budgets and the requirements of the HIAMP.

- 5.3 There are additional key service risks associated with reduced access to performance based external grant funding. The eligibility criteria vary for each new grant funding provision. The DfT are increasingly focussing on performance monitoring requirements, established by grant funding conditions, to establish an incentive mechanism that could influence eligibility for future grants.
- 5.4 Maintaining current budgets would also fail to maintain Highway Services revenue budgets in line with the increased costs of providing these statutory services to operate the highway network and provide a reactive response. This separate risk is being considered as part of the Medium term Financial Plan. Inflation is increasing costs as follows.



- Supplies and services revenue budget increase by ONS construction output inflation for non-housing maintenance, currently around 12%
- Energy revenue budgets increase in line with the purchasing cost through ESPO or similar contracts, currently around 80%
- Staff Salaries increase by the annual pay award, currently 7%
- All other revenue budgets increased by CPI inflation, currently 10%

5.5 A decision not to fund the budget gap with Council Capital would not only fail to meet the statutory duties of the Council as Local Highway and Traffic Authority but would also fail to stabilise the risk of asset failure. The consequence of the escalation of red risk condition could lead to asset failure as follows.

- Extensive carriageway damage following the winter, that would be more expensive to repair, escalating the red risk backlog further. The severe winter of 2017/18 caused an estimated £3m of additional damage to carriageways, however the DfT response was to increase grant funding by £1.4m for resurfacing work and the Council response was to provide £0.45m for the reactive repair of potholes. The unfunded deterioration of carriageways added to the future cost of repair with more expensive surfacing works as indicated in the following table.

Surfacing Type	Condition	Life in Years	£ per Sq M	£ per yr per Sq m
Surface Dressing	Amber	7	3	0.43
SD Tar Chippings		9	5	0.56
Micro Asphalt		10	10	1.00
Surface Course	Upper Amber	15	25	1.67
Surface/Base Course	RED	20	50	2.50
Full Reconstruction		25	80	3.20



- Extensive footway damage following the winter leading to more expensive repair escalating the backlog further. Condition surveys show that 77% of Sandwell's footways are functionally impaired or structurally unsound.
- Bridge failure and prolonged road closures, diversion and risk of accidents. This risk is mitigated by programmed bridge inspections however insufficient funding delays repairs. The recent externally funded bridge repair work at Scott Bridge illustrated that the extent of structural deterioration was significantly worse than had been observed and reported in bridge inspections. This led to prolonged temporary road closures and additional costs of more than £500,000. The implementation of the required work was made possible by the provision of DfT grant funding in the absence of Council capital funding. A failing bridge at Station Road, Old Hill also generated an unfunded pressure of £500,000 this financial year.
- Failure of crash barriers to restrain vehicles leading to avoidable road traffic casualties. Surveys have identified vehicle restraint systems that are significantly deficient in comparison to the modern standards appropriate for current vehicle weights and speeds. There is currently no capital provision for the £800,000 upgrade of vehicle restraint systems.
- Avoidable failure of traffic signals would breach the Network Management Duty under the Traffic Management Act 2004. There is currently no budget provision for the cyclical replacement of the steel columns supporting traffic signals and consequently condition surveys are needed to monitor the section loss at the base due to corrosion.
- Risk of lighting column collapse with property damage or traffic casualties. This risk is mitigated by programmed condition surveys. However, there are around 30,600 columns in the Borough and consequently condition surveys are phased over a 4 year cycle. Periodic lighting column collapses have occurred, the most recent in 2016, in the absence of a cyclical replacement programme for columns in red risk condition (estimated to be around 2% of the asset). A separate cabinet report seeks to address this risk.



5.6 The following chart illustrates the effect of maintaining current budgets and consequently undertaking less work because of the effects of inflation and other pressures. The lifecycle analysis for unclassified roads (mainly residential and distributor roads amounting to 75% of the network) indicates an escalating deterioration of red risk condition.

The light blue trend from 2009 to 2011 shows rapid deterioration of unclassified carriageway from 7% to 15% in red risk condition.

The darker blue trend from 2012 to 2019 shows the success of the greater reliance in the preventive maintenance approach of successive Highway Infrastructure Asset Management Plans. Red risk condition was stabilised at 15% for 7 years.

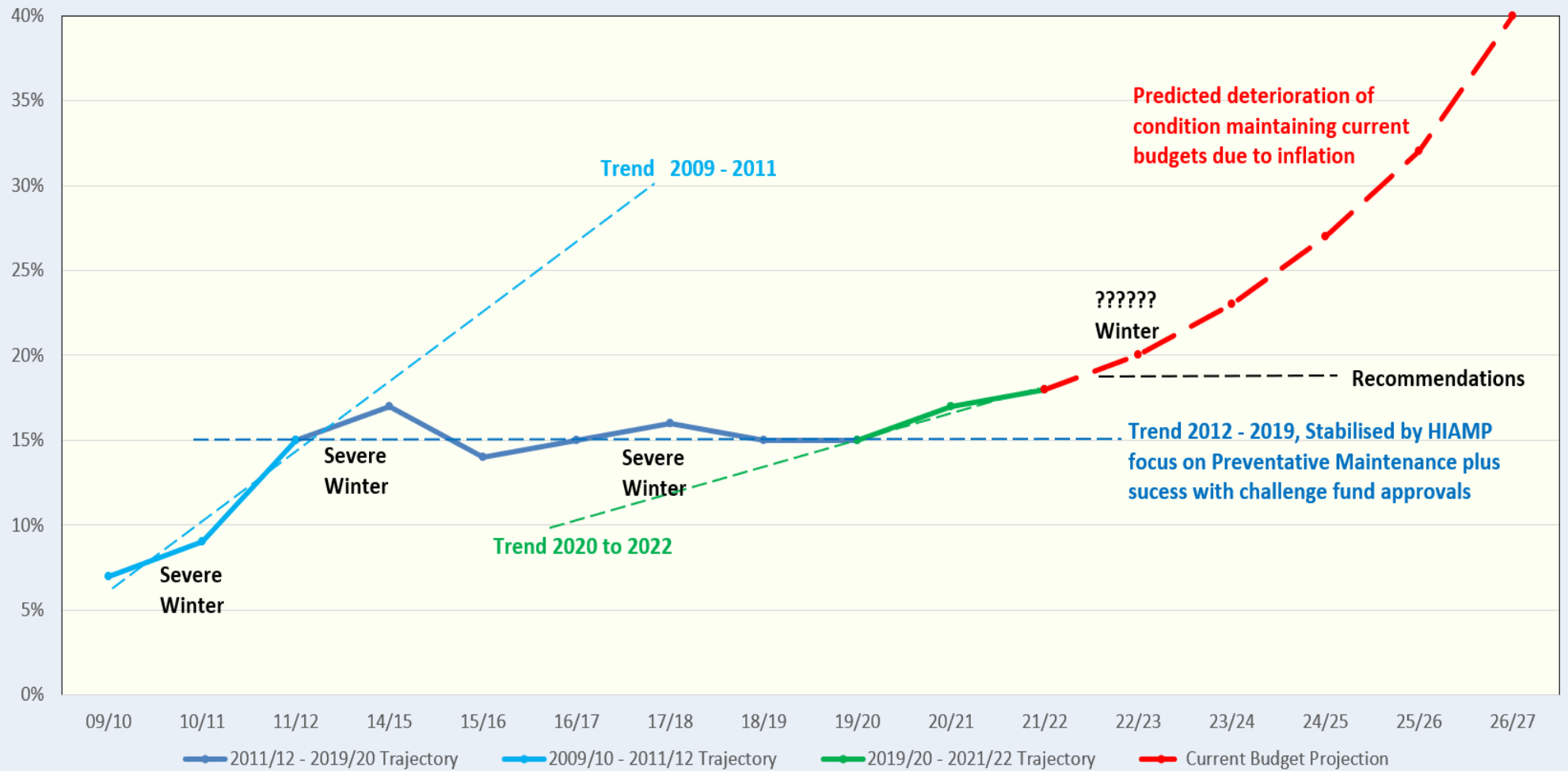
The green trend from 2020 to 2022 indicates the start of the escalating erosion of budgets in real terms as a consequence of capital grants not increasing with inflation. Red risk condition has deteriorated from 15% to 17% in 2 years. Another influence in this trend is the escalation in life expiry of the preventative maintenance that have been relied upon to a greater extent since 2012.

The red dashed line shows the projected escalating deterioration of red risk condition in the absence of capital funding to close the inflation gap.

The black line shows the effect of the recommended Council capital funding provision to stabilise the red risk condition at 19%.



Unclassified Road Condition Trends



6 Implications

Resources:	<p>This is straight forward repetitive work at many locations and will be managed by governance arrangements that have successfully delivered these programmes of work previously.</p> <p>Corporate procurement officers will assist Highway Services officers using existing collaborative West Midlands Maintenance Framework Contracts.</p> <p>The financial implications are set out in the recommendations</p>
Legal and Governance:	<p>The principal statutory duty imposed on local highway authorities to maintain the highway at public expense is set out in Section 41 of the Highways Act 1980.</p> <p>The Traffic Management Act 2004 imposes a network management duty on a council as the Local Traffic Authority to manage the authority's road network to facilitate as far as reasonably practicable the expeditious movement of traffic.</p> <p>Section 39 of the Road Traffic Act 1988 requires each Local Authority carry out studies into accidents arising out of the use of vehicles and in the light of those studies to take such measures as appear to the authority to be appropriate to prevent accidents, including the construction, improvement, maintenance or repair of roads for which they are responsible</p> <p>This proposal will support these statutory duties.</p>
Risk:	<p>The recommended Council Capital investment mitigates the risks of failing to meet the statutory duties of the Council as Local Highway Authority and Local traffic Authority as a consequence of the escalation of red risk condition.</p> <p>The alternative option in respect of a decision not to provide capital to gap fund the replacement of high</p>



	<p>risk life expired infrastructure is not recommended explained in the risk section 5.6 to 5.6 for the following reasons.</p> <ul style="list-style-type: none"> • Extensive carriageway damage following the winter > more expensive to repair escalating the backlog further • Risk of lighting column collapse > property damage, traffic casualties • Failure of crash barriers to restrain vehicles > road traffic casualties • Failure of traffic signals > Breach of Network Management Duty • Extensive footway damage following the winter > more expensive to repair escalating the backlog further • Bridge failure > prolonged road closures, diversion and risk of accidents • Escalation of claims for damages to property, for injury and the low probability but high impact of a criminal investigation for negligence. • Reduce success in securing performance related external grant funding • Reputational damage associated with the above, the associated public complaints and failure to achieve corporate objectives.
Equality:	<p>There are no specific equality issues regarding the proposals contained in this report. The requirements of the Equality Act 2010 are included in the Framework Agreement Documentation to draw attention to the detail of, and the need to comply with, the Act.</p>
Health and Wellbeing:	<p>The Highway environment plays an important role in the life of the community, particularly the positive opportunities that they can bring from social inclusion and interaction. Good highway infrastructure discourages criminal and anti-social activity, reducing the fear of crime, supporting the increased use of public</p>



	transport, delivery of carbon reduction savings and the associated benefits outlined in the Corporate Plan.
Social Value	<p>Highways are the arteries of our communities. They connect our residents to employment, education, local services and indeed the wider world. They enable economic growth, social mobility and are vital in ensuring good health outcomes.</p> <p>The recent Enventure survey was conducted to gain insight from residents to support Sandwell Council in the development of the budget proposals and future spending priorities. The survey found that “Maintaining Roads and Pavements” was selected as important by high proportions of respondents in both the representative survey (72%) and the online survey (79%).</p>

7. Appendices

Life expired highway infrastructure works programme for 2022/23.

8. Background Papers

2018 Highway Infrastructure Asset Management Policy and Strategy

Highway Asset Management Plan (HAMP) Cabinet Report 14 November 2014

Highway Infrastructure Asset Management Plan (HIAMP) Cabinet Report on 21 February 2018

“Well Managed Highway Infrastructure – A Code of Practice (October 2016

