



To: All Members and Officers of the
Prosperous Staffordshire Select Committee.

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Date: 14 June 2019

Dear Sir/Madam,

Prosperous Staffordshire Select Committee - Thursday, 20th June, 2019

I have recently forwarded to you a copy of the agenda for the next meeting of the Prosperous Staffordshire Select Committee.

I am now able to enclose, for consideration at next Thursday, 20th June, 2019 meeting of the Prosperous Staffordshire Select Committee, the following reports that were unavailable when the agenda was published.

5. **Highways Infrastructure Asset Management Policy and Strategy (Pages 1 - 70)**

Report of the Cabinet Member for Highways and Transport

John Tradewell
Director of Corporate Services

Enc

Local Members' Interest
N/A

Prosperous Staffordshire Select Committee – 20th June 2019

Highways Infrastructure Asset Management Policy and Strategy

Recommendations

- a. That the Prosperous Staffordshire Select Committee considers and comments on the Highway Infrastructure Asset Management Policy and Strategy for Staffordshire which has been developed to fit within the context of the national code of practice for highways, Well Managed Highway Infrastructure and the available budget.
- b. That the Prosperous Staffordshire Select Committee considers the above in its wider context including for example the current and predicted condition of the asset, financial resources, customer demand and public satisfaction.

Report of Councillor Helen Fisher, Cabinet Member for Highways and Transport

Summary

What is the Select Committee being asked to do and why?

1. Staffordshire County Council is responsible for a highway asset valued at over £7.5 billion providing benefit to all as stakeholders. The highway network is the largest and most visible asset for which the County Council is responsible. The way it is managed and maintained has a direct impact on the County Council's ability to deliver the vision of 'a connected Staffordshire, where everyone has opportunity to prosper, be healthy and happy'.
2. In recent years the investment in highway infrastructure and its performance has been increasingly under the spotlight. The current financial challenges and increased public demands and expectations have meant the management of our highway assets has never been more important to ensure we achieve our outcomes.
3. The Highway Asset Management Strategy and Highway Asset Management Policy will ensure that the Council as Highway Authority continues to meet its statutory duties under the Highways Act 1980. They take into account the ongoing financial pressures on the Authority, supporting delivery of the Council's MTFS - and also the opportunities for the Council to take advantage of additional funding available from the DfT.
4. Prosperous Staffordshire Select Committee is recommended to consider and comment on the Highway Infrastructure Asset Management Policy and Strategy; and the comments of the Select Committee will be reported to the Cabinet at the August 2019 meeting for them to take into account in their consideration of this matter.

Report

Background

5. In December 2016, the Committee considered the previous version of the Highway Infrastructure Asset Management Policy and Strategy prior to it being approved by Cabinet in January 2017. The Committee resolved that:
 - a. the Highway Infrastructure Asset Management Policy and Strategy be endorsed;
 - b. the content of the Policy and Strategy of the Highway Infrastructure Asset Management Plan be noted; and
 - c. the Cabinet Member for Highways and Transport write to the Secretary of State for Transport to lobby for more funding to protect the highways asset in Staffordshire.
6. Staffordshire's road network has a replacement value of around £7.5 billion. To maintain the carriageway alone requires around £41.7m worth of renewal or replacement each year to keep it in a static condition. The road network is made up of:
 - a. Over 3,800 miles of carriageways, which includes lay-bys, bus lanes etc.
 - b. Over 2,800 miles of footway and cycleways. Footways can be adjacent to the carriageway or remote from the carriageway. Cycleways may be constructed off-carriageway or shared with footways or carriageways.
 - c. Over 1,200 road bridges and footbridges plus numerous smaller structures, culverts, sign gantries, embankments, retaining walls and subways. There are also several thousand structures on the public rights of way network.
 - d. Over 100,000 lighting columns, lit road signs, traffic signals and other roadside equipment including cabling, ducts, feeder pillars, subway lighting and electronic information boards.
 - e. Over 180,000 gullies and an unquantified length of highway drainage systems which includes gullies and linear drainage channels, pipework, manholes, outfalls, land drainage ditches and watercourses, roadside ditches and grips.
 - f. All road markings on the public highways. These become worn over time because of traffic and weather.
 - g. Approx. 2.5 million square metres of grass verges/soft landscaped areas and trees.
 - h. Street furniture, which includes bollards, cycle stands etc.
 - i. Non-illuminated signs, warning, regulatory and local direction/information posts, and information boards.
 - j. Traffic calming features such as speed humps, tables and chicanes.

What are the HIAM Policy and Strategy?

7. The Highway Infrastructure Asset Management Policy and Strategy are part of a suite of non-statutory documents that set out the County Council's strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure that meets the needs of businesses and all stakeholders using the network. The format and content are based on national guidance, linking optimum allocation and resources to achieve the council's strategic ambitions. For a connected Staffordshire, the HIAMP will help all those involved in delivering highway services, including senior decision makers, asset managers, service providers and practitioners.

8. In 2011 the Audit Commission published 'Going the Distance', an analysis of highway authorities' future approach to the maintenance of local roads set against declining budgets. This highlighted the case for developing asset management and the need to balance short-term repair pressures with the objective of long-term sustainability of the asset and emphasised the point that pressure to tackle 'worst first' could detract from more cost effective, preventative interventions.
9. In May 2013 the Highways Maintenance Efficiency Programme (HMEP), commissioned by the Department for Transport (DfT), published a 'Highway Infrastructure Asset Management Guidance' document, endorsed by the UK Roads Liaison Group, which recommended a formal approach to managing all highway and transport assets. This made a number of recommendations, including the fundamental requirement to adopt a Highway Asset Management Policy setting out the authority's strategic objectives regarding asset management, and to introduce a strategy that would support the delivery of those objectives.
10. HMEP has since published various additional guidance documents and tools which promote the development of life-cycle planning for all key highway assets, a process which considers the relationship between future treatment options, asset condition and cost through the development of lifecycle models.
11. A new Code of Practice for highway maintenance was also published in October 2016 titled 'Well Managed Highway Infrastructure'. This sets out the principle of applying a locally appropriate risk-based approach to the inspection, prioritisation and treatment of the highway network. Such an approach requires an improved understanding of all key assets, including their importance to customers, levels of use, strategic importance, acceptable service levels, current conditions, how they deteriorate, how they respond to treatments and the associated treatment costs.
12. The updated Highway Infrastructure Asset Management Policy document and Highway Asset Management Strategy (a link to the policy and strategy are below) have been developed to ensure that the County Council follows an approach to asset management that is in accordance with the recommendations of the HMEP guidance document and the new Code of Practice for highway maintenance. These documents would replace the current Highway Maintenance Policy and Strategy and the Street Lighting Policy and Strategy documents, which are based on the old Code of Practice. The proposed Highway Asset Management Policy and the Highway Asset Management Strategy documents differ from the current Highway Maintenance Policy and Strategy by:
 - a. Prioritising high risk repairs when responding to highway defects;
 - b. Focussing on planned maintenance work to help slow down the deterioration of roads;
 - c. Preventative work will be carried out on a 'risk based' approach and determined on how roads are 'categorised' in a new classification of highways;
 - d. Introducing a targeted approach to service delivery, which will help improve service levels.
13. To support the Highway Asset Management Policy and Highway Asset Management Strategy it will also be necessary to revise and update current operational practice and

Link to a copy of the draft HIAM Policy – Appendix A [HIAM Policy.docx](#)

Link to a copy of the draft HIAM Strategy – Appendix B [HIAM Strategy.docx](#)

procedures including the development of a new Highway Infrastructure Asset Management Plan (HIAMP) that will direct the delivery of the policy and principles set out in the Policy and the Strategy.

Funding for HIAMP delivery

14. In 2014 the DfT published 'Gearing up for Efficient Highway Delivery and Funding', which set the scene for the introduction of the Government's Incentive Fund. This Fund is intended to incentivise and reward highway authorities that demonstrate a commitment to the ongoing development of an asset management approach to service delivery.
15. Fund allocations were made annually for five years from 2016/17, based upon an assessment and a possible external audit of the Authority's ongoing commitment to applying the recommendations of various aspects of HMEP guidance.
16. The assessment places highway authorities into one of three bands, depending upon the level of progress towards implementing the recommendations of HMEP. The Council is currently assessed itself to be at the highest level, Band 3.
17. An increasing differential is applied annually to the amounts allocated across the bands. The likely grant due to the County Council, depending upon the assessed level, is shown in Table 22 below. With a strong commitment to developing its approach to asset management, it is realistic to expect the Authority will continue to the highest level, Band 3, potentially securing a further £3.36m million for each year over the final three years of the Fund.
18. The Highway Asset Management Policy and the Highway Asset Management Strategy have been developed to ensure that the Council's approach to asset management incorporates the recommendations of HMEP guidance which contribute to the Incentive Fund assessment and therefore support the objective of maintaining Band 3.
19. It is a specific requirement of the Incentive Fund Band 3 that the County Council has published and implemented an up-to-date Highway Asset Management Policy and Strategy. In this context 'implementation' means that they have been used to inform the development of operational procedures (i.e. the Authority's HIAMP) and future year programmes (i.e. in this case for 2019/20 onwards). Therefore, the Committee is now being asked to consider and comment to on the Highway Asset Management Policy and Highway Asset Management Strategy, so they can inform the development of the HIAMP, leading to a review of operational practices across the Authority's highway maintenance functions.

HIAMP Funding Profile

Capital Maintenance

20. Capital maintenance expenditure is used to add to the value of a fixed asset. Highway works eligible for capital funding include activities that:
 - a. extend the life of an asset, such as reconstructive resurfacing or preventative treatment schemes
 - b. enable the construction of improved infrastructure, including the acquisition of land

- c. replace an existing feature with an enhanced structure, such as drainage renewal schemes
22. The Department for Transport (DfT) provides a capital grant to support HIAMP delivery. Table 22 below shows the level of this grant funding from 2015/16 to 2020/21. This includes the basic highway maintenance formula funding and incentivised element and assumes that the County Council remains a level 3 assessment as a highway authority.
23. Being able to demonstrate the implementation of the national Code of Practice, Well Managed Highway Infrastructure is a key part of the assessment process for the incentive element of the funding as described in paragraphs 18 and 19 above.

	Examples of Schemes Funded	2015/16 (£000s)	2016/17 (£000s)	2017/18 (£000s)	2018/19 (£000s)	2019/20 (£000s)	2020/21 (£000s)
Highway Maintenance Capital Funding Formula	Footway and carriageway maintenance, bridges and other structures maintenance	20,076	18,405	17,848	16,154	16,154	16,154
Incentivised Funding Element of the above							
	Level 1		1,114	1,671	3,365	3,365	3,365
	Level 2		1,114	1,504	2,355	1,682	1,009
	Level 3		1,003	1,003	1,009	336	NIL
Total for Level 3 Authority		20,076	19,519	19,519	19,519	19,519	19,519
SCC Top Slice 5% Additional Top Slice		1003.8	920.25	892.4	807.7	807.7	807.7
Capital budget - footway and carriageway, bridges and other structures		19,072	18,599	18,627	18,711	18,211	18,711

Table 22 (above) – DfT Highway Maintenance Capital Funding Formula and Incentive Fund Grant

24. The above has been supplemented by additional County Council investment which has been £5m in the current and previous two years, additional one-off funding from DfT such as the pothole action fund and third-party contributions from developers and others.
25. Capital grant funding from DfT is not ring fenced and it is at the Council's discretion how much it chooses to invest in highway infrastructure asset management provision. Currently 5% per annum is top sliced from the roads and bridges allocation to contribute to corporate capital projects. For 2019/20 an additional £500k is being top sliced to aid the MTFS savings. This is shown in Table 22 above.

Gross Highway Maintenance Budgets

26. Revenue expenditure on roads and bridges maintenance has reduced from around £11.6m in 2010-11 to £6.8m in 2018-19. Some of the previous revenue expenditure has now been capitalised which has reduced the capital funding available for other works such as preventative and structural maintenance schemes. Capital expenditure on maintenance works has reduced during the same period from £34.0m to £28.8m with the latter now including works previously met from revenue, with a consequent impact

on funding for structural and preventative maintenance of roads and bridges. Table 26 below shows the total highway maintenance budgets including additional funding.

<u>Highway Maintenance Budgets</u>										
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	£m									
<u>Revenue (Gross expenditure)</u>										
Street Lighting & Signals	11.116	11.393	11.941	12.051	12.028	12.231	12.359	12.770	13.299	14.193
Winter Maintenance	2.825	2.827	2.636	2.638	2.694	2.523	2.510	2.400	2.990	2.908
Other Roads and Bridges Maintenance	11.591	11.709	11.792	12.425	11.914	9.285	8.688	8.536	7.451	6.793
	25.532	25.929	26.369	27.114	26.636	24.039	23.557	23.706	23.740	23.894
<u>Capital (by funding source)</u>										
Local Transport Capital Block Funding	20.702	20.672	20.277	19.842	20.745	22.497	22.033	22.095	22.160	21.634
Other DfT funding	1.776	4.958		2.936	7.151		1.069	7.535	8.063	11.124
Revenue Contribution	6.308	4.640								
SCC Borrowing	10.000	11.500	12.869	9.582	1.594	0.035		5.000	5.000	5.000
Developer and other Funding	10.321	8.272	11.472	10.406	9.496	5.900	15.446	10.010	7.750	36.627
	49.107	50.042	44.618	42.766	38.986	28.432	38.548	44.640	42.973	74.385
Capital & Revenue	74.639	75.971	70.987	69.880	65.622	52.471	62.105	68.346	66.713	98.279
<u>Capital (by type)</u>										
Maintenance	34.046	37.797	30.427	36.618	34.054	19.964	20.074	31.657	29.800	28.856
Improvements (incl Developer Schemes)	14.664	12.146	13.581	6.053	3.623	6.473	11.825	8.093	11.173	13.888
Major Schemes	0.397	0.099	0.610	0.095	1.309	1.995	6.649	4.890	2.000	31.641
	49.107	50.042	44.618	42.766	38.986	28.432	38.548	44.640	42.973	74.385

Table 26 (above) – Overall Highway Maintenance Budgets

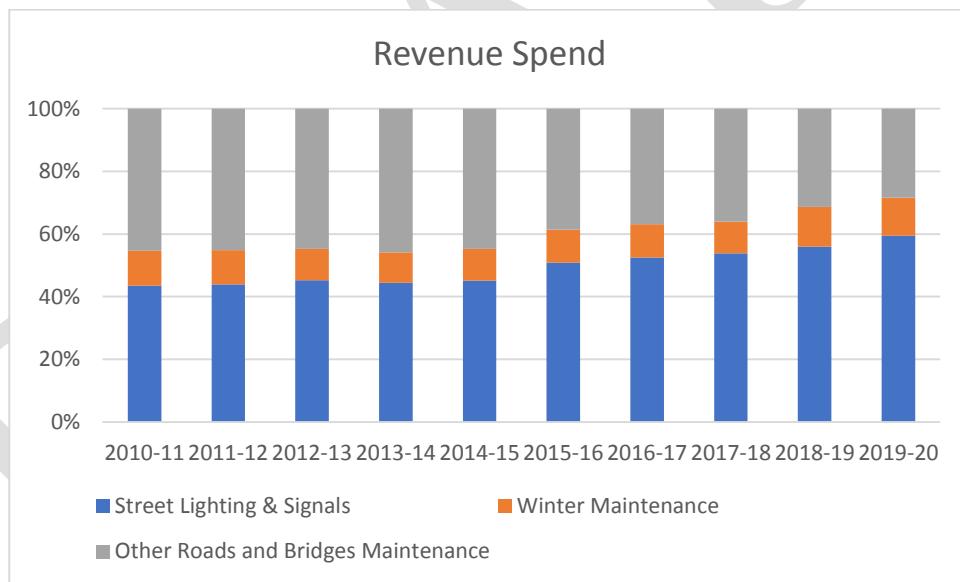


Chart 26a (above) – Percentage revenue spend on services from Table 26

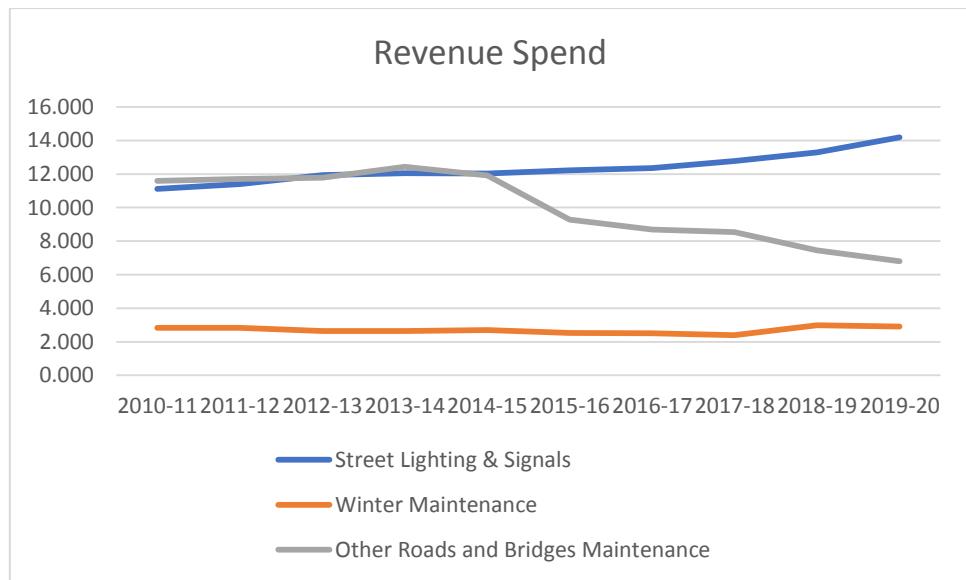


Chart 26b – Revenue spend by year on services from Table 26

Revenue (routine) maintenance

27. Revenue expenditure covers day to day expenditure, such as works to maintain the value of a fixed asset. The overall revenue funding for the highway and infrastructure area is approximately £25.3m in 2019/20 annum and is used as follows:
- PFI net £11.9m, this is after PFI grant of £1.5m, there is also a revenue budget for traffic signals and street lighting works £0.6m
 - £8.4m maintenance operations (includes £3m winter maintenance, £2.6m carriageway/footway repairs, £1.1m gullies cleansing, £1.3m grass cutting and weed spraying, £0.37m depot maintenance and operation).
 - £0.6m bridges (includes drainage, parapets, safety fencing)
 - £1.5m School Crossing Patrols
 - £2.3m staffing and other areas

Well Managed Highway Infrastructure – A Code of practice

28. The highway service is in the process of transitioning to a new way of managing their highway assets to bring current working practices in line with the latest national guidance document Well Managed Highway Infrastructure - A code of practice (WMHI CoP) that was published in October 2016. The document recommended that all local Highway Authority's adopt a risk-based approach to managing their highway assets and provides guidance through 36 key recommendations.
29. The authority previously adopted a risk-based approach to the management of its key assets in the late 2000's and the highway service has undertaken a review and prioritisation of the recommendations whilst it updates key documents such as the Highway Infrastructure Asset Management Policy, Strategy and associated documents. There will continue to be a transition period whilst these recommendations are being implemented which is expected to continue to October 2020. During this period the

County Council will continue to manage its highway assets in a robust, risk-based approach following current asset management procedures until these are replaced by new documentation.

30. The review of the HIAMP Policy and Strategy form the initial part of this process.

Risk Management

31. The HIAMP supports the Council's responsibilities as highway authority in meeting the requirements of the Highways Act 1980, particularly section 41 which defines a statutory duty to maintain the highway and section 58, which provides a defence against claims, provided that the authority can demonstrate that it is applying a standard of inspection and maintenance appropriate to the character of the highway. Insurable risks identified in the proposals will be fully considered.
32. The new Government Code of Practice for highway maintenance ('Well Managed Highway Infrastructure') sets out the principle of applying a locally appropriate risk-based approach to the inspection, prioritisation and treatment of the highway network. This new approach will ensure that those areas with the greatest risk will be given priority. The HIAMP sets out the key actions required and types of risk to be considered when applying a risk-based approach.

Road (carriageway) condition and defects

33. The condition of roads (carriageways) is generally assessed based on condition surveys carried out using vehicle-based equipment which drive the network at the same speed as the traffic and are known as SCANNER (Surface Condition Assessment for the National Network of Roads) surveys. Carriageway asset modelling is carried out using this data to understand overall condition, to inform the development of future works programmes and to consider what the condition of the network will look like under different investment scenarios. The asset modelling system is developed using national standards known as UK Pavement Management Systems (UKPMS).
34. The latest set of condition indicators for road condition (carriageway) relate to surveys carried out on the network in 2018. The condition survey results are categorised as 'red', 'amber' and 'green'. Roads classified as red are described as "should have been considered for maintenance" and are often beyond repair using preventative maintenance techniques such as surface dressing and more likely to require resurfacing or reconstruction. Roads requiring major maintenance i.e. structural maintenance will continue to deteriorate and lead to an increasing number of safety defects that places additional demands on the reactive maintenance service.
35. The actual performance for the percentage of roads requiring the immediate planning for major maintenance (Red) are 'A' roads = 2.8% (2017/18 = 2.7%), 'B' roads = 3.9% (2017/18 = 3.6%), 'C' roads 9% (2017/18 = 9.4%) and 'U' roads = 11.8% (2017/18 = 10.8%).
36. The performance for the percentage of roads where future maintenance should be considered (Amber) are 'A' roads = 24.6% (2017/18 = 23.5%), 'B' roads = 25% (2017/18 = 24.1%), 'C' roads 32.8% (2017/18 = 33.6%) and 'U' roads = 35.8% (2017/18 = 35.1%).

37. Charts 37a to 37d below show how the condition of the network from carriageway condition surveys from 2010 onwards. The five-year period from 2009/10 to 2013-14 saw an additional investment of £50m primarily in carriageway resurfacing and maintenance.

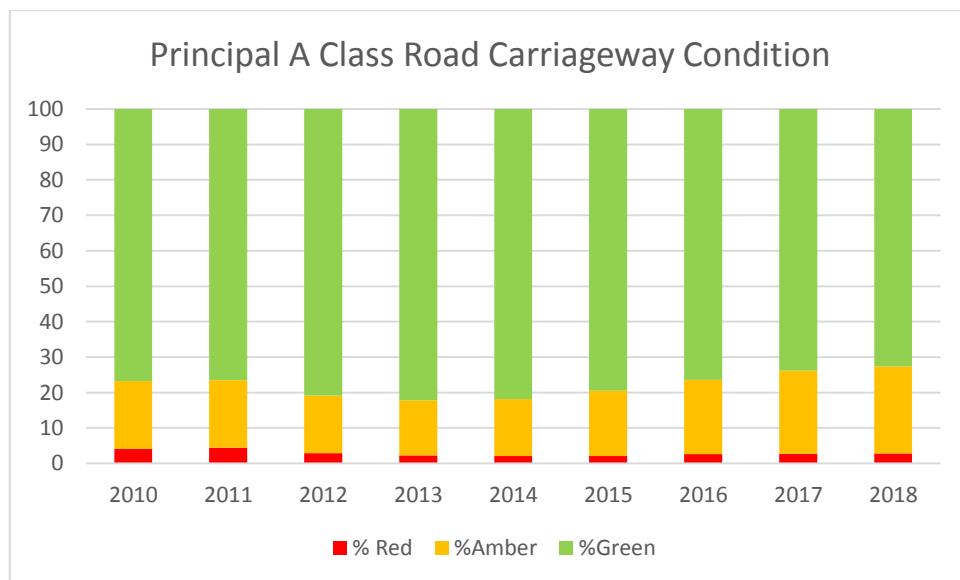


Chart 37a (above) – A Class Road Carriageway Condition

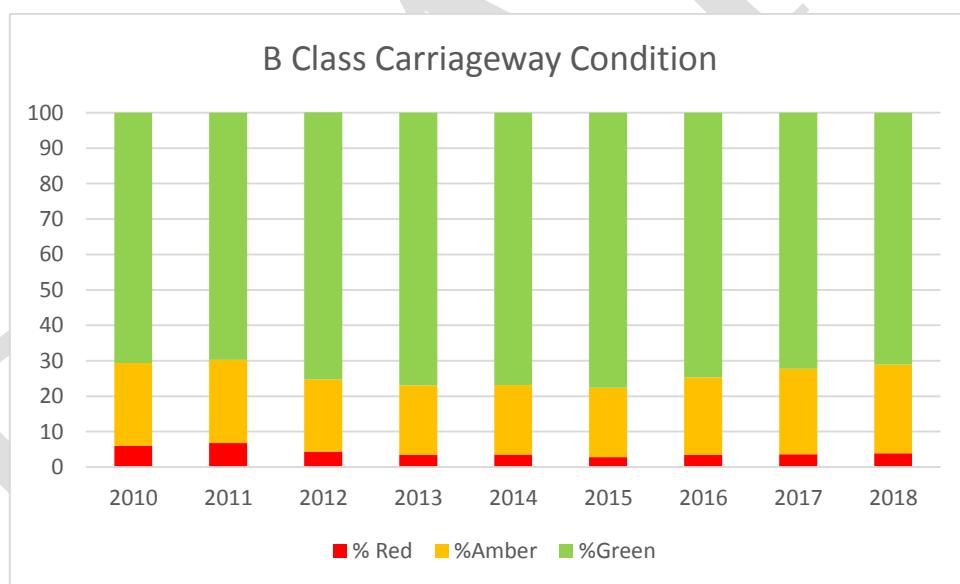


Chart 37b (above) – B Class Road Carriageway Condition

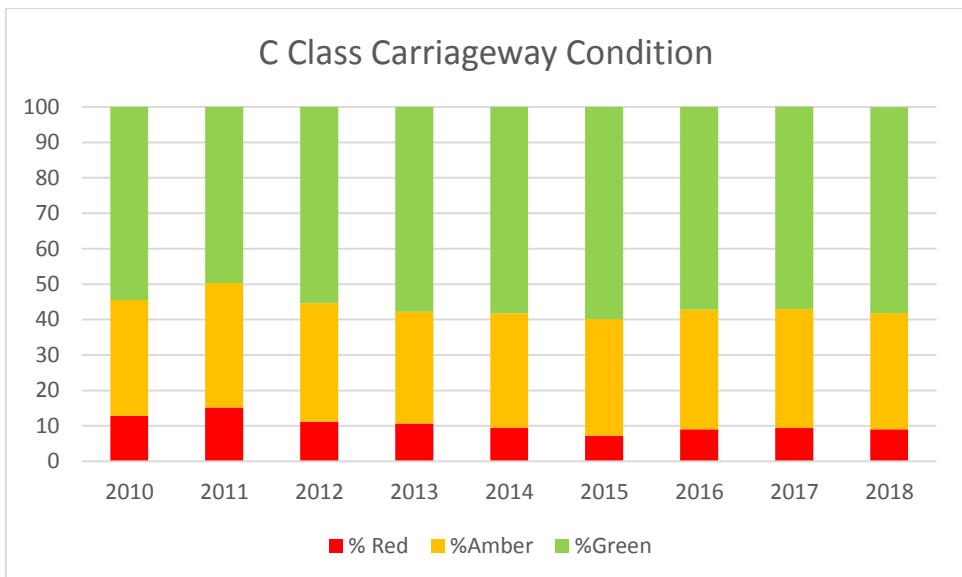


Chart 37c (above) – C Class Road Carriageway Condition

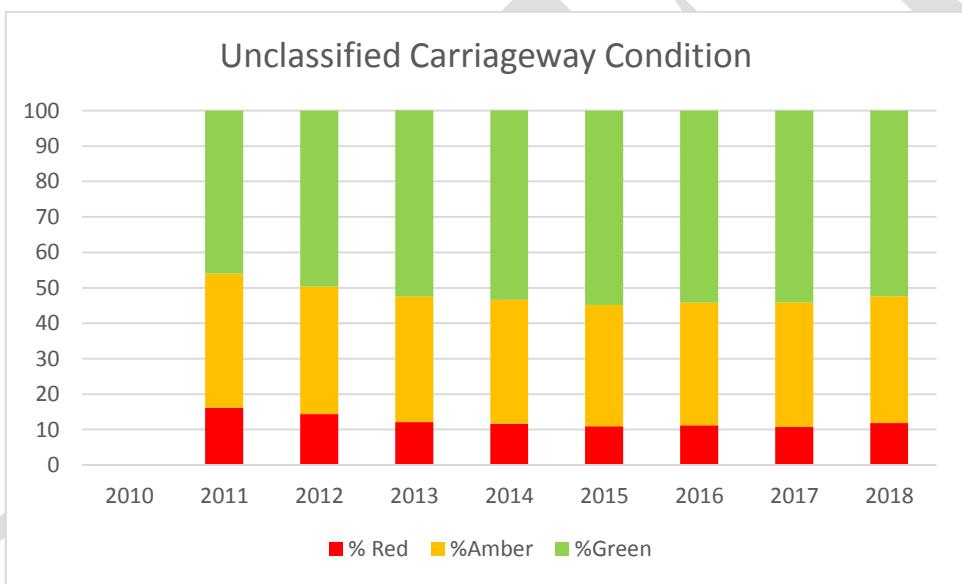


Chart 37d (above) – Unclassified Road Carriageway Condition

38. In April 2019, Yotta were employed to carry out a carriageway asset modelling exercise using their Horizons software package. Horizons is analysis software designed to produce works programs based on asset condition surveys and previously completed works information with two future budget strategies for carriageway maintenance based on £10.75M annual budget (no annual inflation) or, £15M annual budget (no annual inflation). A copy of the report is provided at Appendix D – Carriageway Asset Modelling.
39. The analysis showed that with the two budget strategies modelled, the network condition would continue to decline, and neither would be sufficient to reduce the maintenance backlog.
40. To achieve the current condition targets of 2.1% for A class roads, 4.6% for B/C class roads and 12.2% for unclassified roads would require a one-off investment of £74.6m

with an average ongoing investment of circa. £41.7m to maintain carriageway condition at these levels.

41. Preventative maintenance strategies offer the best value for money (reference All Parliamentary Select Committee Findings from Nov 2014) and generally target roads that have not yet reached 'red' condition. The preventative maintenance programme is therefore prioritised, including innovative semi-structural treatments to protect and enhance the resilience built in to the highway network in recent years where additional investment has been provided.
42. The number of carriageway defects from 2010 onwards has generally changed in line with the condition of the carriageway as determined through carriageway condition surveys described above. Chart 42 below shows the number of carriageway defects identified in each calendar year from 2010 onwards. Roads requiring structural maintenance will continue to deteriorate and lead to an increasing number of safety defects. Roads that are approaching the point at which preventative treatment is required (amber condition) are also likely to become less resilient during periods of wet or cold weather.

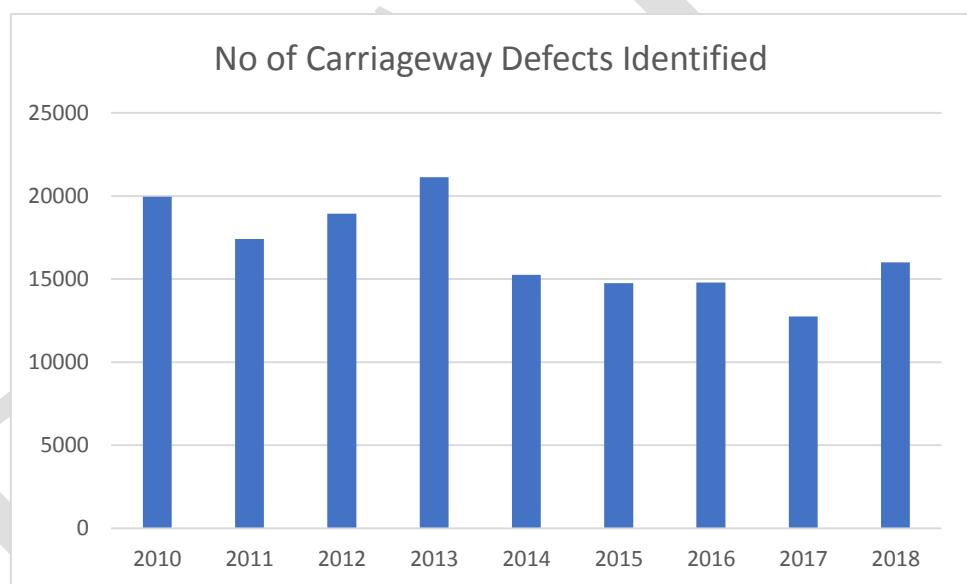


Chart 42 (above) – No. of carriageway defects identified.

Structures

43. The County Council is responsible for over 1,200 bridges, structures and culverts. These include bridges, sign gantries, culverts, embankments, retaining walls and subways. The 2018 valuation for the gross replacement cost of this asset calculated using a national model developed jointly by partners including DfT, CIPFA, and the UK Bridges Board is £1.3 billion with a yearly depreciation of £14m.
44. Excluding additional funding secured for St. Peters Bridge and Burton Bridge through the DfT Challenge Fund for 2017/18 and 2018/19, current spending on structures is on

average £2.3m per year. Table 44 and Chart 44 below show the historic and predicted (predicted*) future spend on structures including both capital and revenue. At £2.3m total investment per annum, this is significantly below the rate of yearly depreciation of £14m.

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21*	2021/22*	2022/23*	2023/24*	2024/25*	2025/26*
£m													*predicted				
Capital	3.0	5.0	3.6	1.6	1.6	1.6	1.3	1.4	1.3	1.3	1.8	1.3	1.3	1.3	1.3	1.3	1.3
Revenue	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	0.6	1.0	1.0	1.0	1.0	1.0	1.0
Challenge Fund	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5							
Total £m	3.9	5.9	4.5	2.5	2.5	2.5	2.3	2.4	4.8	4.8	2.4	2.3	2.3	2.3	2.3	2.3	2.3
Total £m excl. Challenge Fund	3.9	5.9	4.5	2.5	2.5	2.5	2.3	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3

Table 44 (above) – Capital and Revenue Budgets for Structures £m

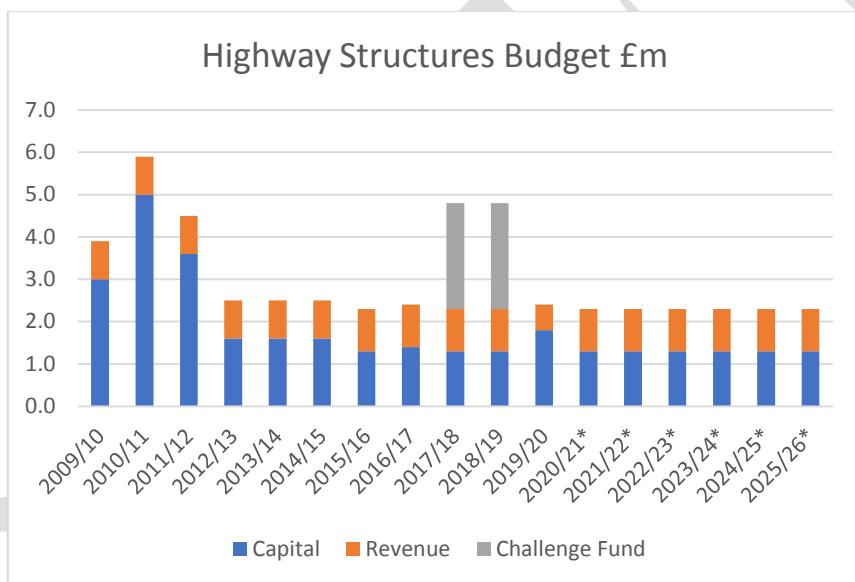


Chart 44 (above) – Capital and Revenue Budgets for Structures £m

45. The condition of bridges 5m or more in length is calculated annually based on inspections to generate a condition score for each individual bridge and overall the Bridge Stock Condition Index (BSCI). The BSCI is scored out of 100 and for structures in Staffordshire this score is shown below in Table 45 and Chart 45. In 2009/10 the average BSCI average score was 87.8, by 2025/26, based on current spend levels at 2019/20 the average score is predicted to reduce to 73.5. The average score is based on overall condition, the critical score is based on key structural such as main beams, columns and piers and is predicted to decline from 74.6 in 2019/20 to 67.2 in 2025/26.

£m	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20*	2020/21*	2021/22*	2022/23*	2023/24*	2024/25*	2025/26*
BCIS (ave)	87.8	87.7	87.3	87.2	86.7	86.6	86.3	86.4	85.0	84.4	83.0	81.5	80.7	79.4	78.1	75.8	73.5
BCIS (crit)	78.8	78.3	77.4	77.3	76.5	73.3	75.9	75.9	75.7	75.3	74.6	73.7	72.3	71.6	70.7	69.4	67.2

Table 45 (above) – Bridge Stock Condition Indicators

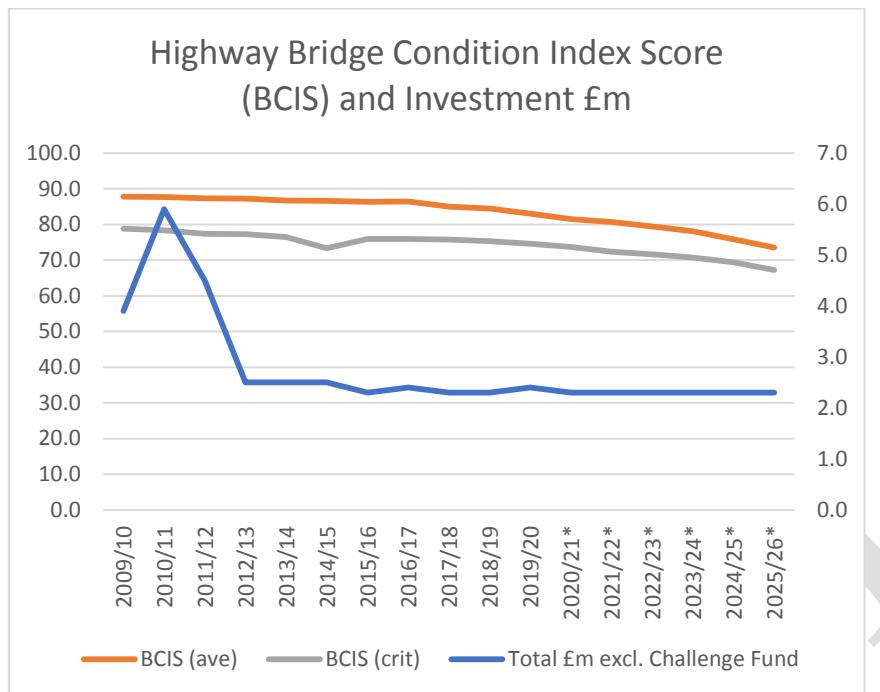


Chart 45 (above) – Bridge Condition Index Score and Budget £m

46. The rate of structures deterioration is accelerating year on year and future high levels of investment and risk management will be required should annual budgets remain static. As the condition of the bridge stock reduces, the likelihood of needing to impose restrictions on use, for example via structural weight restrictions or, one-way traffic increases with a consequential impact on traffic, congestion and delay.
47. For example, the strengthening work that was carried out to St Peter's Bridge, Burton upon Trent in 2017/18 which was funded through the DfT Challenge Fund has enabled HGVs to continue to access the town into the future. Chetwynd Bridge on the A513 to the east of the National Memorial Arboretum between the A38 and Tamworth has recently required the installation of one-way traffic, controlled by traffic signals due to its condition. A replacement structure is estimated to cost more than £10m.

Customer

48. Since the introduction of the highways hotline, originally known as CLARENCE in the mid-2000's, the highway service area has recorded the number of enquiries being received by the service to the contact team via telephone, email or online reporting.
49. In 2018, a total of over 47,700 enquiries were recorded. Each enquiry can consist of multiple contacts by different customers. The use of the system has been expanded to include additional types of enquiry during this period and a like for like comparison of those enquiry types including highway operations, network management and claims shows that the volume has risen by 149% from around 28,000 in the 2010 calendar year to 41,800 in the 2018 calendar year. Chart 49 below shows the number of enquires recorded by type during this period.

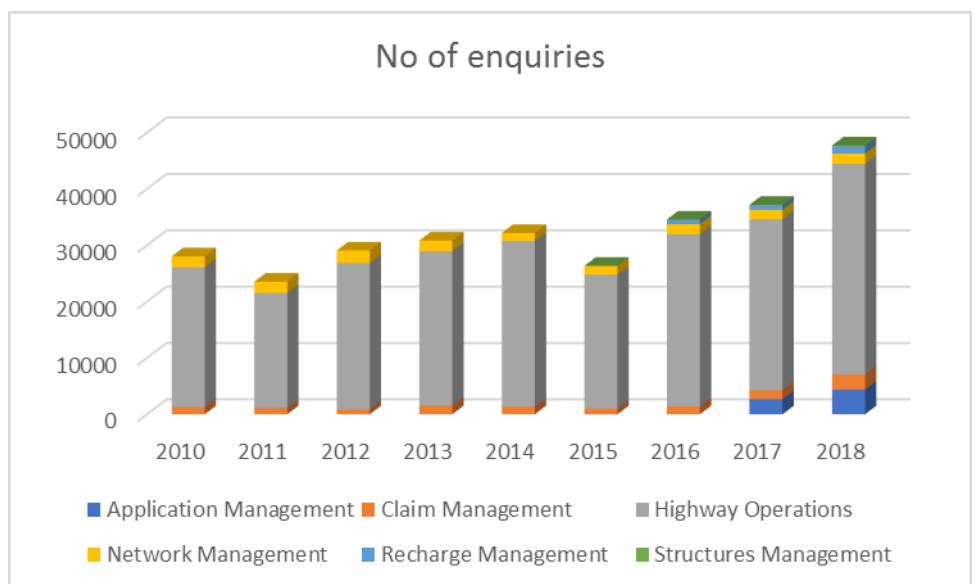


Chart 49 – No of enquiries recorded through contact centre

50. The highway service operates a comprehensive routine inspection regime and all roads on the 3,800-mile public highway network are inspected monthly, quarterly or annually depending on their road classification.
51. Over 1,200 miles of highway are inspected each month. Major routes that form the strategic network across the county are driven monthly. Service roads that carry significant numbers of heavy commercial vehicles are driven every three months and the more residential and rural areas are inspected annually. Footways in busy urban areas are walked monthly, whereas footways on cul-de-sacs and rural roads are inspected annually.
52. In addition to routine inspections, the Council has a small team of Reactive Inspectors who operate from four highway depots around the county and investigate publicly generated reports of problems on the highway. For example, in 2018, between January and March, we received an average of over 4,800 reports a month compared to an average of 2,500 reports a month during 2017. When publicly generated report volumes are high, the Inspectors response times will unfortunately increase as they work through the backlog of enquiries.
53. The average response time from enquiry to inspection for each Division from 2015 to 2018 is provided in Appendix C.

Claims

54. The HIAMP supports the Council's responsibilities as highway authority in meeting the requirements of the Highways Act 1980, particularly section 41 which defines a statutory duty to maintain the highway and section 58, which provides a defence against claims, provided that the authority can demonstrate that it is applying a standard of inspection and maintenance appropriate to the character of the highway. Insurable risks identified in the proposals will be fully considered.

55. The number of highway claims received by the authority has increased over recent years in line with the decline in the overall condition of the network and the increase in number of defects. In 2012, 894 claims were received and by 2018 this had increased to 2683. The repudiation rate, i.e. the number of claims successfully defended has also changed during this period as shown below. The repudiation rate for more recent years will change as outstanding claims are dealt with and should only be taken as an indication of the position at the date of the report. There has however generally been a downward trend from 2012 onwards as the number of claims has increased.

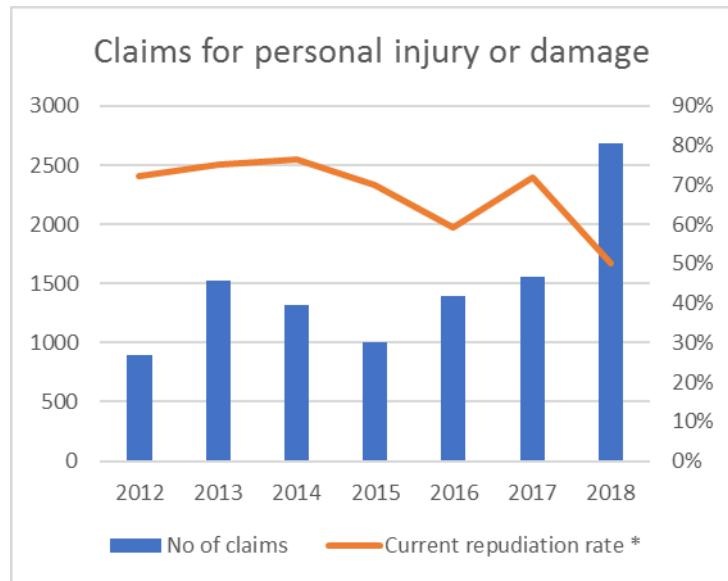


Chart 55 – Insurance Claims for personal injury and damage and current repudiation rate

National Highways and Transportation (NHT) Public Satisfaction Survey

56. The National Highways and The National Highways and Transportation (NHT) Public Satisfaction Survey collects public perspectives on, and satisfaction with, Highway and Transport Services in Local Authority areas. Staffordshire County Council has taken part in the survey since it first started in 2008 with one hundred and thirteen Authorities taking part in the survey in 2018.
57. The survey is a unique, standardised, collaboration between Highway Authorities across the UK enabling comparison, knowledge sharing, and the potential to improve efficiencies by the sharing of good practice.
58. The NHT Public Satisfaction Survey is now in its eleventh year and the eight-page postal survey was sent to 3,300 Staffordshire households in June/July 2018. This year's response rates nationally again showed a record response rate of 25.3%. In Staffordshire, 973 households returned the survey giving a response rate of 29.48%; up from 27.76% in 2017 demonstrating good levels of engagement for this type of postal survey.
59. The survey is grouped into six key themes, accessibility, public transport, walking and cycling, tackling congestion, road safety and highway maintenance. Each of the themes consists of a number of questions (Benchmarking Indicators, BI's) which are either used as standalone Key Benchmarking Indicators (KBI) or, are combined to form a KBI.

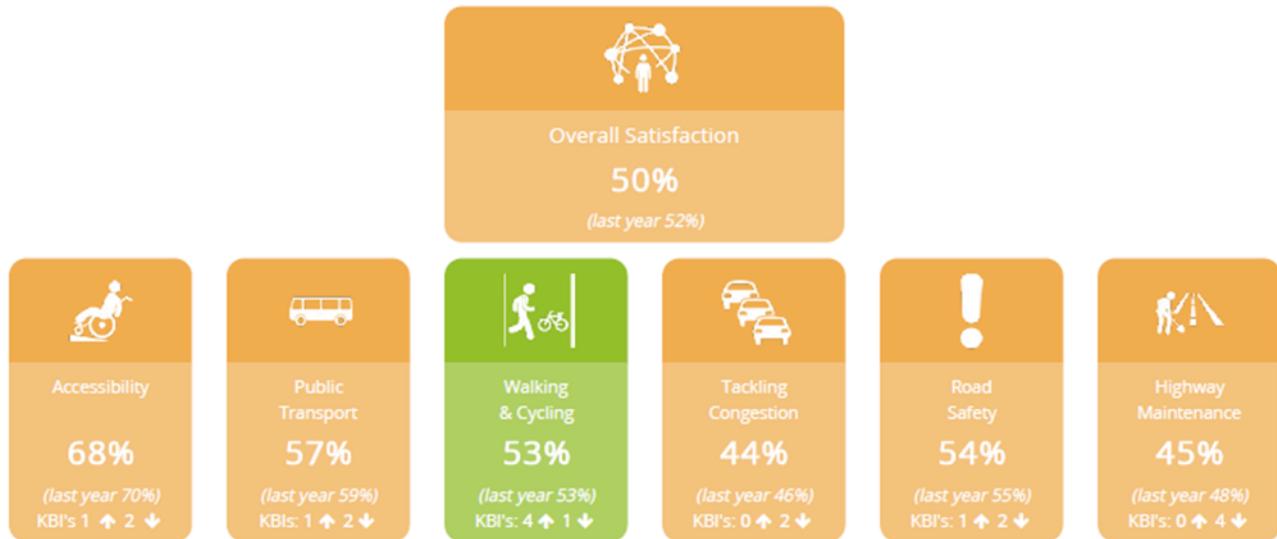
60. Of the one hundred and five Authorities that took part in the Survey both this year and last year, the overall trend in public satisfaction is down. 58% of all KBI results are down this year and 14% of those reductions are by more than 4 percentage points which is generally considered to represent statistically relevant change in levels of satisfaction for the number of questionnaires returned.
61. More Authorities have seen their results reduce for 16 of the 26 Survey KBI's and there are only six KBI's where more satisfaction scores have increased than reduced. Overall satisfaction scores with highways and transportation issues (KBI 01 and KBI 02) are down, with nearly 80% of the Authorities seeing their results fall this year. The largest downward movement is in KBI 23 Condition of Highways results, where 85% of the authorities saw their result drop by more than 4% and only 3 Authorities saw their scores increase. The other KBI's where a high proportion of Authorities experienced falls were KBI 11 Pavement & Footpath and KBI 24 Highway Maintenance.

The NHT national results in 2018

62. Of the one hundred and five Authorities that took part in the Survey both this year and last year, the overall trend in public satisfaction is down. 58% of all KBI results are down this year and 14% of those reductions are by more than 4 percentage points which is generally considered to represent statistically relevant change in levels of satisfaction for the number of questionnaires returned.
63. More Authorities have seen their results reduce for 16 of the 26 Survey KBI's and there are only six KBI's where more satisfaction scores have increased than reduced. Overall satisfaction scores with highways and transportation issues (KBI 01 and KBI 02) are down, with nearly 80% of the Authorities seeing their results fall this year. The largest downward movement is in KBI 23 Condition of Highways results, where 85% of the authorities saw their result drop by more than 4% and only 3 Authorities saw their scores increase. The other KBI's where a high proportion of Authorities experienced falls were KBI 11 Pavement & Footpath and KBI 24 Highway Maintenance.
64. The KBIs with highest proportion of authorities showing improved satisfaction were in Road Safety, KBI 21 & 22, Public Transport Information KBI 08.

Staffordshire County Council NHT results in 2018

65. The Overall Summary for Staffordshire County Council shows there to be a decline in levels of satisfaction across all but one of the key themes. The graphic below shows the summary with further details for each of the six themes provided in Appendix E.



Top KBI increases

Key Benchmark Indicator	% Change
KBI 04 - Ease of Access (disabilities)	4
KBI 21 - Road safety environment	2
KBI 13 - Cycle routes and facilities	1

Top KBI falls

Key Benchmark Indicator	% Change
KBI 05 - Ease of Access (no car)	-9
KBI 23 - Condition of highways	-9
KBI 06 - Local bus services	-4

Survey Numbers

Sample Size: 3,300
Responses: 973
Response Rate: 29%

66. Of the six themes, the highway maintenance, and tackling congestion aspects are particularly relevant to the services that are delivered through the Infrastructure Plus partnership. Overall Performance in these two themes has fallen in 2018 when compared to 2017. Tackling congestion is down from 46% to 44%, Highway maintenance is down from 48% to 45%.

67. Year on Year satisfaction for the KBI's in Staffordshire is shown in Table 67 below expressed as a percentage.

Name	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
01. General KBI											
KBI 01 - Overall (local)	55	56	57	57	57	55	54	54	54	52	50
KBI 02 - Overall (national)	55	56	57	57	57	55	54	54	54	53	50
02. Accessibility KBI											
KBI 03 - Ease of Access (all)	77	78	78	79	78	79	76	79	76	76	75
KBI 04 - Ease of Access (disabilities)	70	74	69	74	71	74	67	74	66	60	64
KBI 05 - Ease of Access (no car)	75	74	79	71	73	73	58	72	69	74	65
03. Public Transport KBI											
KBI 06 - Local bus services	52	59	59	61	59	60	58	63	60	57	53
KBI 07 - Local bus services (BVPI 104)	47	51	60	54	52	57	55	59	56		
KBI 08 - Public transport info (BVPI 103)	36	36	38	39	40	39	34	49	44		
KBI 09 - Taxi/minicab services	64	64	66	65	67	66	64	64	65	65	65

Name	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
KBI 10 - Community Transport	53	53	57	56	56	57	55	55	54	56	54
04. Walking/ Cycling KBI											
KBI 11 - Pavements & Footpaths	59	59	60	60	58	57	57	56	55	54	52
KBI 12 - Pavements & Footpaths (aspects)	56	56	58	58	57	57	55	59	59	57	57
KBI 13 - Cycle routes and facilities	51	51	55	54	52	50	53	51	51	50	51
KBI 14 - Cycle routes and facilities (aspects)	45	45	51	50	50	50	47	52	55	49	49
KBI 15 - Rights of Way	60	61	56	59	59	58	57	59	59	56	56
KBI 16 - Rights of Way (aspects)	53	51	52	51	53	54	48	51	54		
05. Tackling Congestion KBI											
KBI 17 - Traffic levels & congestion	48	50	51	50	51	48	48	43	47	45	41
KBI 18 - Management of roadworks	45	47	50	50	52	50	49	51	49	48	47
KBI 19 - Traffic management	50	52	52	54	55	53	52	55	55		
06. Road Safety KBI											
KBI 20 - Road safety locally	60	60	60	63	63	59	58	56	58	56	53
KBI 21 - Road safety environment	52	56	56	56	56	55	52	57	57	55	57
KBI 22 - Road safety education	47	52	55	53	54	51	49	53	54	54	51
07. Highway Maintenance/ Enforcement KBI											
KBI 23 - Condition of highways	44	44	38	36	39	31	32	31	29	28	19
KBI 24 - Highway maintenance	54	53	52	51	51	50	49	53	51	50	48
KBI 25 - Street lighting	71	69	71	71	71	72	69	70	69	68	67
KBI 26 - Highway enforcement/obstructions	49	48	52	54	51	49	46	49	48	47	46

Table 67 (above) – Year on Year Satisfaction - KBI's

68. Looking deeper at the KBI's and Benchmarking Indicators (BI's) that form part of the tackling congestion theme when compared to all County Councils shows that satisfaction with a number of measures are significantly below average (four per cent or more) including TCBI 01 Advanced warning of roadworks, TCBI 02 Efforts to reduce delays to traffic, TCBI 03 Time taken to complete roadworks, TCBI 07 The management of roadworks overall. Table 68 below shows the year on year satisfaction for the Tackling Congestion BI's.

Name	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
04. Tackling Congestion BI											

Name	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TCBI 01-Advanced warning of roadworks	57	57	60	58	61	60	59	61	57	57	57
TCBI 02-Efforts to reduce delays to traffic	45	48	53	51	50	49	50	50	48	49	46
TCBI 03-Time taken to complete roadworks	36	39	42	42	45	41	42	43	42	41	40
TCBI 04-Signposting of road diversions	51	52	54	55	58	58	53	57	56	55	54
TCBI 05-Helplines to find out about roadworks	39	38	43	43	48	45	44	47	43	44	43
TCBI 06-Efforts to minimise nuisance to residents	44	45	48	51	50	49	49	52	49	48	48
TCBI 07 The management of roadworks overall								49	46	43	43

Table 68 – Year on Year Satisfaction for Tackling Congestion BI's

69. Similarly, looking at the KBI's and BI's for highway maintenance when compared to all County Councils shows that satisfaction with a number of measures are significantly below average (four per cent or more) including HMBI 01 Condition of road surfaces, HMBI 02 Cleanliness of roads, HMBI 07 Speed of repair to damaged roads/pavements, HMBI 08 Quality of repair to damaged roads/Pavement, HMBI 13 Deals with Potholes and damaged roads, HMBI 17 Undertakes cold weather gritting. Table 69 shows the year on year satisfaction for the Highway Maintenance BI's.

Name	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
06. Highways Maintenance BI											
HMBI 01-Condition of road surfaces	47	45	37	34	37	31	31	34	29	30	20
HMBI 02-Cleanliness of roads	57	59	56	56	59	54	55	61	56	56	52
HMBI 03-Condition of road markings	62	62	58	58	59	58	56	60	59	58	53
HMBI 04-Condition and cleanliness of road signs	61	61	58	60	61	59	60	60	60	59	56
HMBI 05-Provision of street Lighting						70	66	71	69	68	67
HMBI 06-Speed of repair to street lights	64	61	62	62	63	65	61	64	63	62	62
HMBI 07-Speed of repair to roads/pavements	37	36	29	27	29	23	24	26	23	22	16
HMBI 08-Quality of repair to roads/pavements				35	36	30	32	34	31	27	26
HMBI 09-Maintenance of highway verges/trees/shrub	49	47	51	53	47	47	43	53	53	50	49
HMBI 10-Weed killing on pavements and roads	48	47	51	52	50	48	46	53	52	50	47

Name	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
HMBI 11-Provision of Drains						52	48	54	50	54	52
HMBI 12-Keeping drains clear and working	48	47	53	55	49	46	45	51	45	49	47
HMBI 13- Deals with Potholes and damaged roads						35	31	29	30	27	18
HMBI 14-Deals with obstructions on pavements	47	49	50	51	45	41	40	43	41	41	40
HMBI 15-Keeps roads clear of obstructions	57	59	61	61	61	60	57	60	58	58	57
HMBI 17-Undertakes cold weather gritting	69	59	52	51	56	56	57	58	58	59	54
HMBI 18-Provides information on Gritting						42	42	42	43	42	42
HMBI 19-Cuts back overgrown hedges	50	45	50	53	50	44	41	47	47	43	44
HMBI 20-Deals with mud on the road	49	45	53	53	52	49	47	50	50	47	48
HMBI 22-Deals with flooding on roads and pavements							42	47	44	45	44

Table 69 – Year on year satisfaction with Highway Maintenance BI's

70. The DfT Incentive Fund Self-Assessment process requires a level 3 authority to be undertaking a survey at least annually, maximise the value of customer and public feedback, to track feedback from previous surveys and use this information to measure, benchmark and diagnose performance including the development of an action plan, “lessons learnt” captured and shared.
71. The Infrastructure Plus Strategic Partnership Board considered the results of the 2018 survey at its meeting in February 2019 and has requested that the Customer Satisfaction Outcome Group considers the results of the survey in more depth including development of an improved communication and marketing plan for 2019/20 for highways focused on the two key themes of highway maintenance and tackling congestion.
72. The survey asks respondents whether from what they know or have heard the Council is doing more to repair local roads. In Staffordshire around 82% believed that either less was being done or it was about the same. Only 6% believed that more was being done. The 2018 survey was carried out in June/July 2018 following the initial period of £5m funding. The Infrastructure Plus Customer Satisfaction Outcome Group, which includes elected members as part of the group, has been asked to further consider the results of the survey in more depth including consideration of an improved communication plan for highways.

Link to Strategic Plan – Be able to access more good jobs and feel the benefits of economic growth, be healthier and more independent, feel safer, happier and more supported in and by their community.

Link to Other Overview and Scrutiny Activity –

The Prosperous Staffordshire Select Committee is also considering a report on the performance of the Infrastructure Plus Strategic Partnership at its meeting on 20th June 2019.

Community Impact – To be prepared for Cabinet

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E-Mail Address: david.walters@staffordshire.gov.uk

List of Appendices:

Appendix A - HIAM Policy

Appendix B - HIAM Strategy

Appendix C – Average response time Enquiry to Inspected

Appendix D – Carriageway Asset Modelling

Appendix E – NHT 2018 Executive Summary Performance this year vs last year

Background Papers

National Guidance, HMEP Asset Management Guidance

<http://www.highwayefficiency.org.uk/efficiency-resources/asset-management/highway-infrastructure-asset-management-guidance.html>

Well Managed Highway Infrastructure

<http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=4F93BA10-D3B0-4222-827A8C48401B26AC>

Roads Funding Information Pack: November 2018

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/757950/roads-funding-information-pack.pdf



Highway Infrastructure Asset Management Policy

May 2019

Highway Infrastructure Asset Management Policy

Staffordshire County Council is responsible for a highway network and associated infrastructure. It enables the county to prosper and achieve its objectives. The highway network is the largest and most visible asset for which the County Council is responsible and is valued at over £7 billion. The way it is managed and maintained has a direct impact on the County Council's ability to deliver the vision of 'a connected Staffordshire, where everyone has opportunity to prosper, be healthy and happy'.

The County Council recognise the important role that the highway network plays in keeping people and places connected. Keeping the highway network in a good condition is important to support economic growth and a good quality of life for residents, visitors and business.

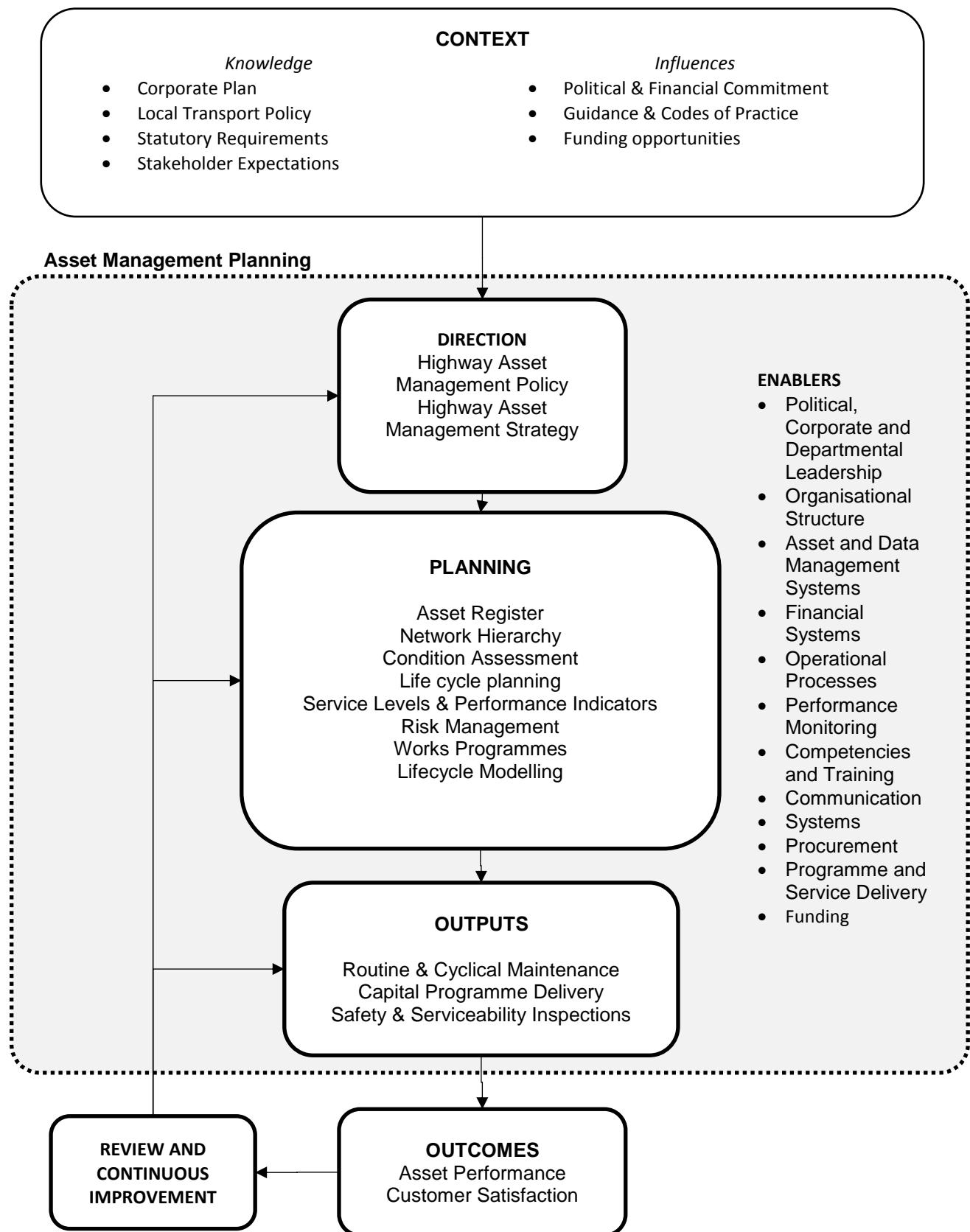
In difficult and challenging times, managing the work to get the required outcomes with increased demand and greater prioritisation of local authority funding has never been more important. The County Council is committed to making the best use of its resources and an asset management approach should be taken with regards to highway maintenance activities, having regard to the available revenue budget, current and projected financial pressures and stakeholder needs.

The Highway Infrastructure Asset Management Policy and Strategy have been developed to help support these challenges. The policy is designed to drive continuous improvement in the way the highway network is maintained to ensure it continues to be safe, serviceable and sustainable.

The Highway Asset Management Framework

The County Council continues to review its approach to highway asset management in the light of the Highway Management Efficiency Programme (HMEP) guidance and as a result has developed a Highway Asset Management Framework which brings together the core elements of asset management. This framework places our approach in context, identifying the enablers that support asset management and the elements of asset management planning and delivery that contribute to our asset management approach.

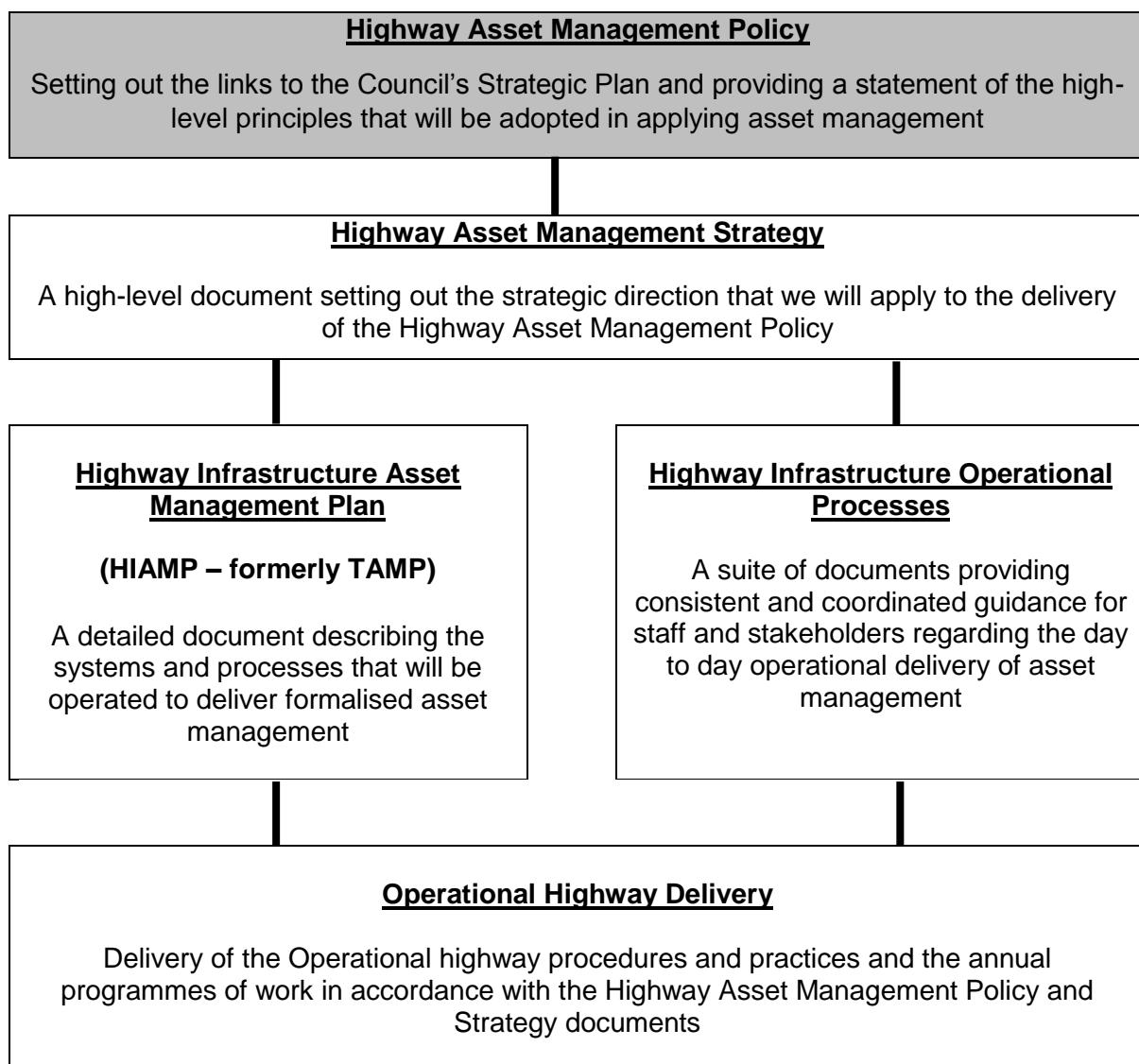
Asset Management Framework



The Document Framework

This policy and the associated Highway Asset Management Strategy document have been developed in accordance with the best practice principles set out in the Highway Maintenance Efficiency Programme (HMEP), Highway Infrastructure Asset Management Guidance Document (May 2013) and the new Code of Practice “Well-managed Highway Infrastructure” (October 2016)

The diagram below shows the framework within which these documents will combine to steer the development of a new Highways Infrastructure Asset Management Plan (HIAMP) to replace the current Transport Asset Management Plan (TAMP) and a suite of Operational Highway Processes which in turn will guide the delivery of asset management strategy across the network.



This policy and its key supporting principles which define the broad objectives and the overarching structure and direction that the County Council will adopt in managing the condition of the county highway network. It will allow better informed decisions to be made about the investment choices required to effectively maintain the whole network, both in the short and the long-term and directly supports the strategic aims and it aligns the County Council's approach to managing network condition with the principles set out in the national Code of Practice "Well-Managed Highway Infrastructure" and supports its statutory duty to maintain the highway through compliance with section 41 of the Highways Act (1980).

How this Policy Supports the County Council's Strategic Aims

The information provided in this policy will inform us to make more proactive decisions to ensure that the standard of highway assets meets the needs of our customers both now and just as importantly for the next generation. The policy supports the three commissioning priorities that relate to highways through the following:

Feel safer, happier and more supported in their community

Staffordshire County Council and its supply chain partners will continue to make Staffordshire a great place to live through the implementation of the HIAMP, implementing asset management principles to deliver a safe network, increased efficiency and lead innovation in highway maintenance. We will continue our drive to reduce the impact of highway operations on the environment and communities, primarily through the utilisations of recycled materials and reducing energy consumption.

Be able to access more good jobs and feel the benefits of economic growth

Through the delivery of the HIAMP we will implement asset management best practice to optimise highway investment nurturing the right transport conditions for business growth. Through innovation in network management we will reduce the negative impact of highway works on travelling stakeholders; hence helping to improve business efficiency.

Be healthier and more independent

The continuing implementation of preventive principles will further embed resilience into the highway network, helping to deal with unforeseen events. Community self-help groups will be further developed to increase community resilience in times of extreme weather.

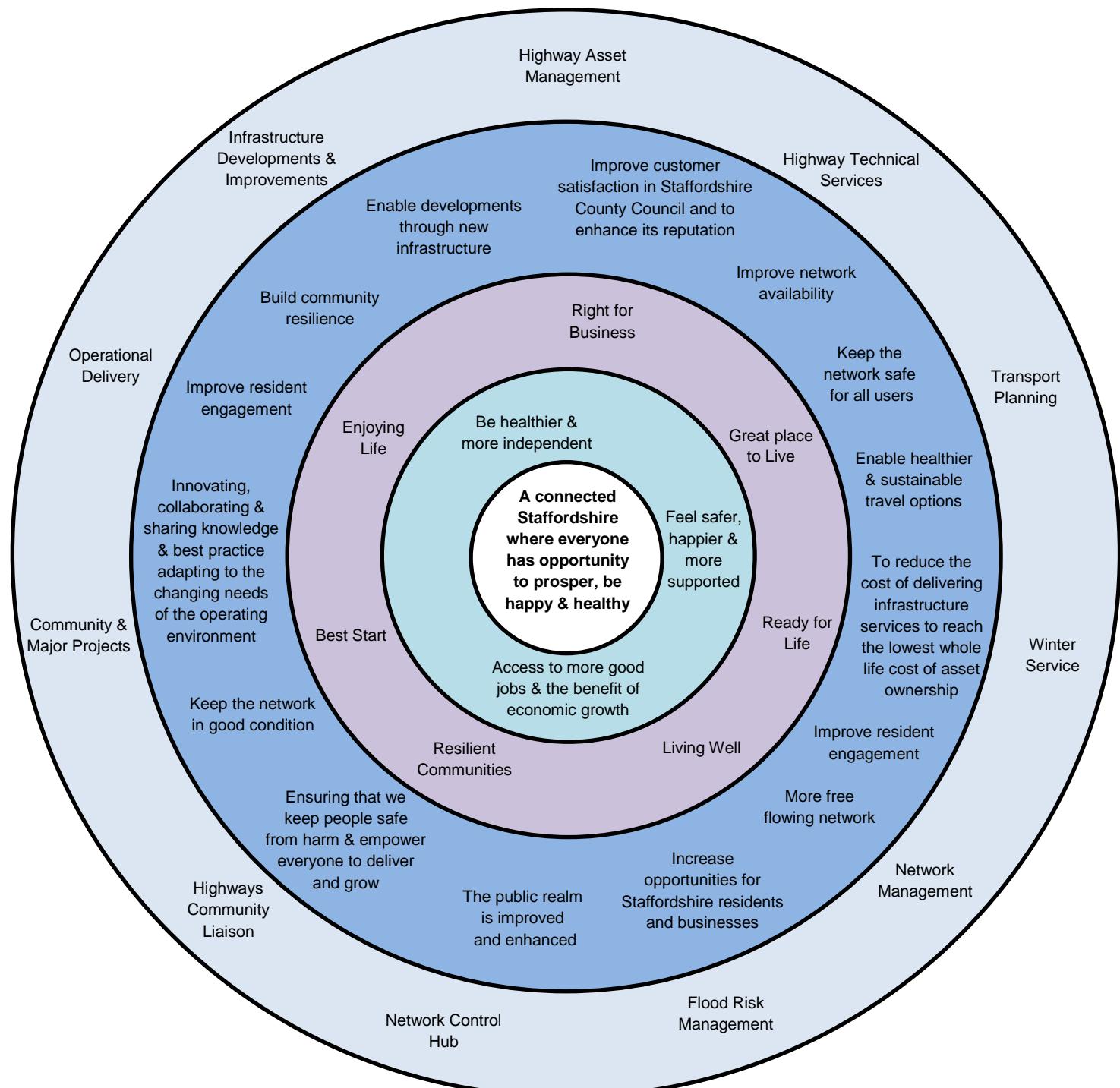
HIAMP Enablement

The HIAMP is enabled through a number of models which include the innovative Infrastructure+ Strategic Highway Partnership (I+), Highway Lighting Staffordshire Public Finance Initiative (PFI) and internal service delivery mechanisms. Figure 1 describes how the various service areas link to the corporate vision.

Policy Review

This policy is closely aligned to other developing policy documents, particularly the Network Management Plan. It will require regular review and sense-checking while these documents are in development.

Thereafter it will be reviewed at least every three years or earlier if there are significant changes in national policy or guidance that affects asset management.



**Staffordshire County
Council Vision**



**Staffordshire County Council
Commissioning Priorities**



Service Areas



**Staffordshire County Council
Population Outcomes**



**Infrastructure Plus
Outcomes**



Figure 1 – Vision, Priority and Outcome Linkages



Highway Infrastructure Asset Management Strategy

May 2019

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1 Introduction

Staffordshire County Council has an extensive highway asset valued at over £7 billion providing benefit to all as stakeholders. The highway maintainable at public expense is the largest and most visible community asset for which the county council is responsible. The way it is managed and maintained has a direct impact on the county councils ability to deliver on its priority and other outcomes. Residents, businesses and visitors all depend upon a good reliable service from our highway network to sustain our economic growth and transportation needs.

This Highway Infrastructure Asset Management Strategy details how the highway asset is managed to ensure the priority outcomes are achieved, taking into account finance and the current asset condition, differing stakeholder needs, localised priorities and the benefits they provide.

Whilst Highways England are responsible for the management of motorways and trunk roads in Staffordshire, the County Council is responsible for 6060km of carriageway, 4168km of footway, 1391 highway structures and an array of other network infrastructure. In managing the highway network the County Council works with the other managing parties to plan a joined up approach that enables a seamless service to stakeholders throughout the county.

Staffordshire County Council is committed to an asset management approach encompassing the outcome benefits of a whole cost lifecycle approach, ensuring the most efficient and effective use of the available highway budget and demonstrating the case for additional funding where this is appropriate. The continued use of innovative treatments alongside tried and tested maintenance materials will ensure the appropriate treatment is utilised at the right time.

Staffordshire County Council appreciates the difference and quality of the highway infrastructure and reliable journey times makes to residents, businesses and visitors to the county; it promotes jobs and growth supporting success for the future. The County Council can only achieve these priority outcomes with a well-managed, accessible highway network, regardless of how stakeholders choose to travel around the county.

1.1 Overview

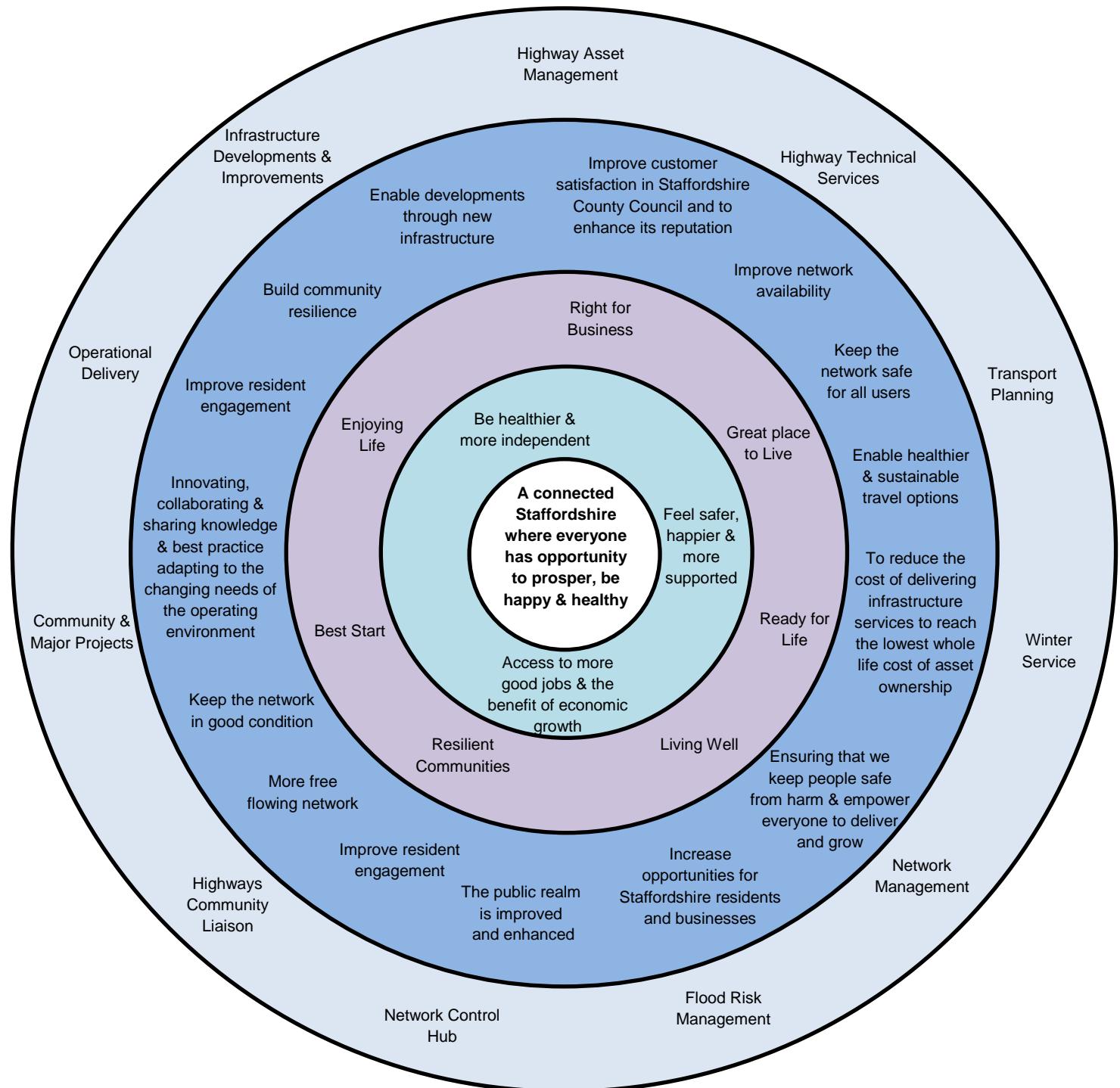
The Association of Directors of Environment, Planning and Transport (ADEPT) define asset management as:

"A strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highways infrastructure to meet the needs of current and future customers."

Adoption of asset management principles has long been recognised as an effective way in which to manage highway assets. The Department of Transport (DfT) is also promoting the use of asset management of highway assets as the most effective and efficient means of managing highway assets, through its funding mechanisms, such that only those that use asset management in a robust way will be able to obtain funds on an ongoing basis from the DfT capital highway maintenance 'Incentive Fund'. The purpose of this HIAM Strategy is to support the maintenance of the highway asset in the most effective and efficient manner to meet the corporate priority outcomes and the objectives that feed into these. The Vision, Priority and Outcome Linkages diagram shows the linkages through the objectives and outcomes.

Using an asset management-based approach will provide:

- An improved understanding of the extent and condition of the highway infrastructure
- A clear methodology for linking goals, aspirations and objectives with levels of service
- A sound approach for predicting the levels of funding required to deliver the desired levels of service at minimum cost over the assets' whole life
- A recognition of the potential impact of funding constraints
- Understanding risks and mitigating them
- A consistent approach which facilitates managing service user expectation
- Maximising funding opportunities and making best use of monies available
- Minimising lifecycle costs and reactive repair costs
- Alignment and coordination of existing initiatives, including competency development



 **Staffordshire County Council Vision**

 **Staffordshire County Council Commissioning Priorities**

 **Service Areas**

 **Staffordshire County Council Population Outcomes**

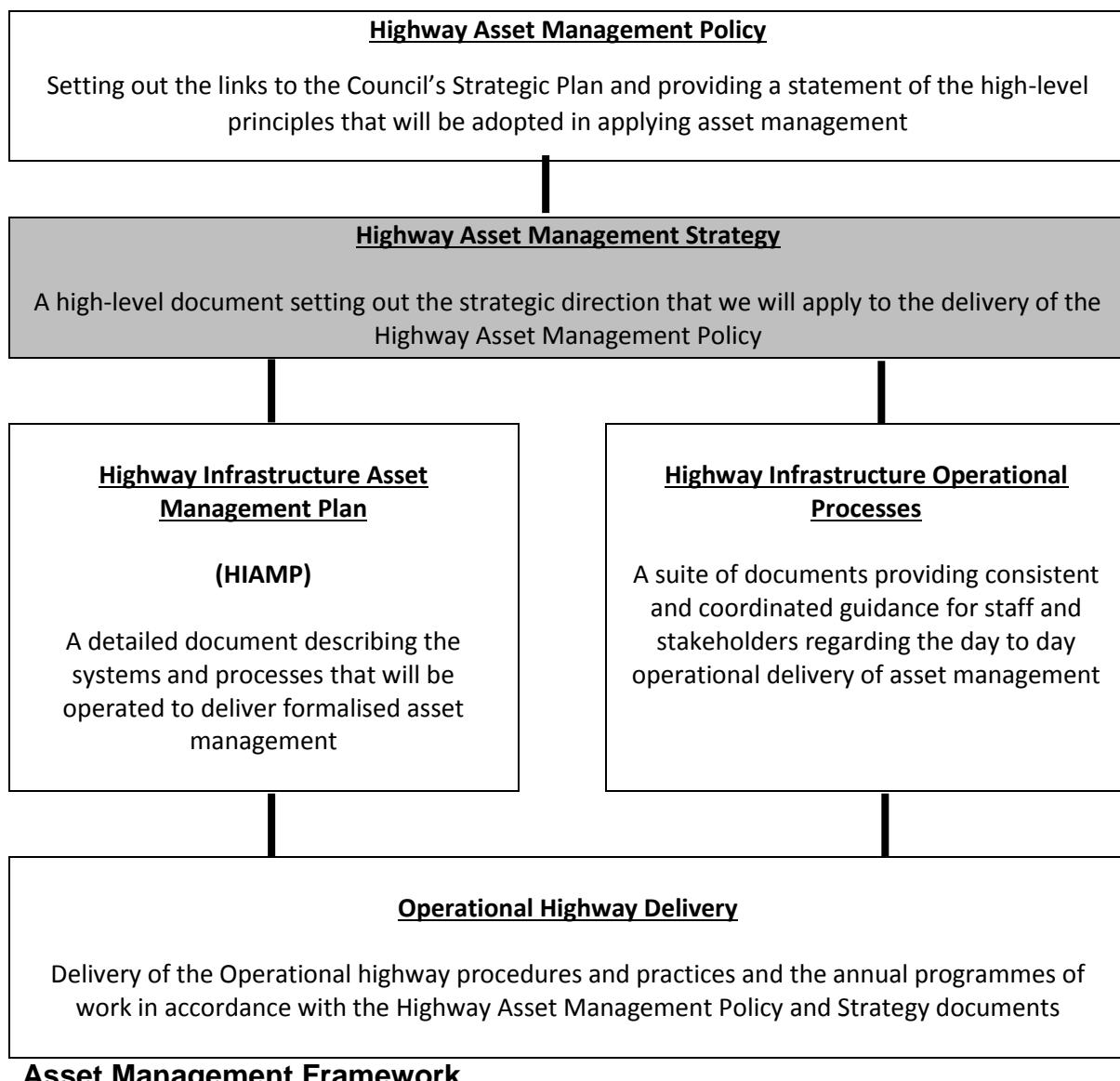
 **Infrastructure Plus Outcomes**

Vision, Priority and Outcome Linkages

1.2 Purpose

This document sets out the broad objectives and the strategic direction that the County Council will adopt in support of the policies and supporting principles set out in our Highway Asset Management Policy.

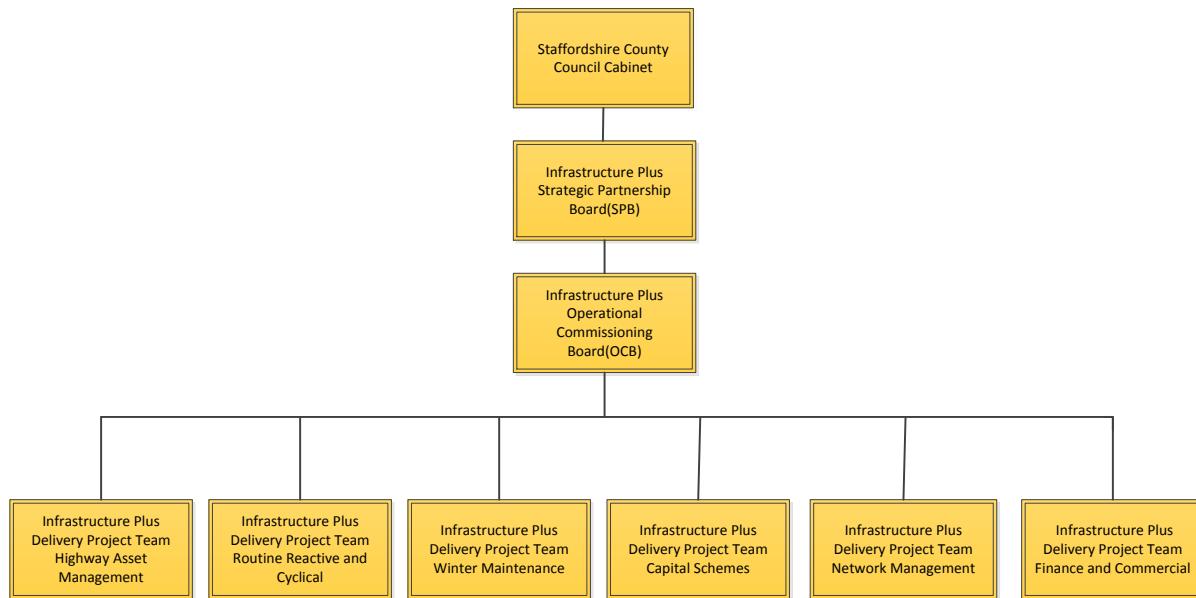
In conjunction with the Highway Asset Management Policy, it informs the Highway Infrastructure Asset Management Plan (HIAMP) which sets out how we will apply and operate our asset management principles to ensure that our highway network remains safe, serviceable and sustainable for the benefit of our stakeholders, taking account of available resources (see asset management framework diagram below).



1.3 Decision Making and Governance

The day to day implementation of asset management is undertaken by the Highway Asset Manager. Performance at this level is monitored by the Highway Asset Management DPT of the I+ governance structure.

The Infrastructure Plus Governance Structure diagram below illustrates the governance structure which is in place to drive and shape the partnership.



Infrastructure Plus Governance Structure

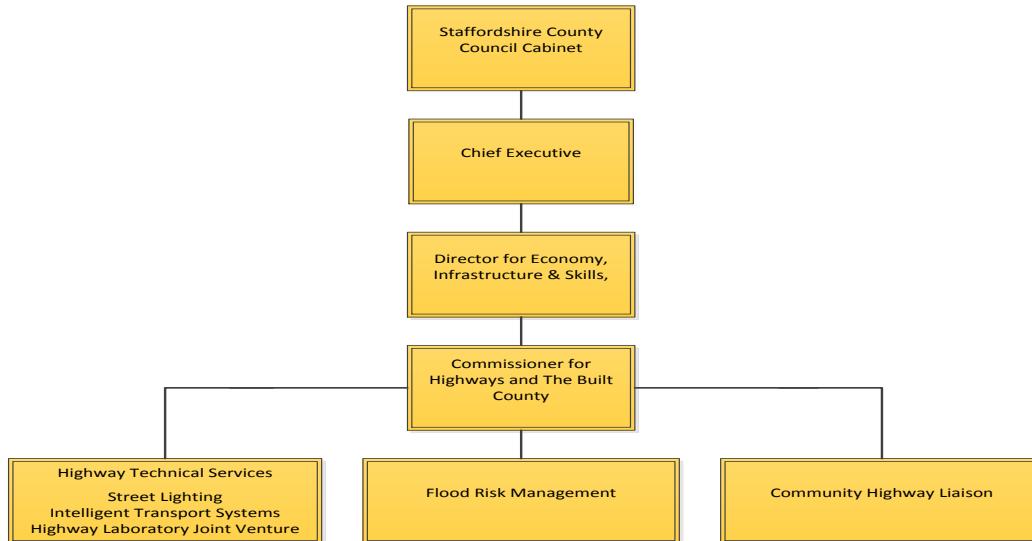
Staffordshire County Council Cabinet considers key decisions relating to highways; this is defined as decisions which are termed significant, either in financial terms or in its effects on communities or working in an area comprising two or more electoral divisions in the county area.

The Strategic Partnership Board (SPB) comprises of Staffordshire County Council and Amey Senior Leadership Teams and the Staffordshire County Council Portfolio Holder for Transport and Highways. The objective of the SPB is to lead the strategic direction of the partnership and determine how it shall meet the outcomes.

The OCB comprises of Staffordshire County Council and Amey Senior Management; its primary objective is to lead the performance and contractual requirements of the partnership to meet the outcomes.

DPTs deliver the services and enable the partnership to meet the outcomes whilst achieving best value for the County Council.

The performance of the partnership is monitored via suite of key performance and operational performance indicators which through the governance structure enables a continuous cycle of improvement.



Staffordshire County Council Services Outside of I+

The Staffordshire County Council Services Outside of I+ diagram above indicates the services outside of I+ follow a traditional governance model, reporting through the Staffordshire County Council Senior Leadership Team and Cabinet.

1.4 Legal Obligations, National Guidance and the Strategic Document Framework

The HIAMP aims to enable asset management guided by the principles of BS ISO 55000, 55001 and 550002; forming part of a wider strategic document framework.

2 The Highway Asset

2.1 Asset Inventory

Staffordshire County Council is responsible for a wide variety of highway assets; tables 1 and 2 give details of this infrastructure.

Table 1: The Staffordshire Highway Infrastructure Key Assets

Highway Assets	
Asset Group	Elements
Carriageway	Carriageway - including lay-bys, bus lanes etc
Footway, Footpaths & Cycleways	Footways - adjacent to the carriageway
	Footways - remote from the carriageway
	Cycleways - constructed off-carriageway cycleways, shared cycle/footways and cycle/carriageways
Structures	Bridges, sign gantries, culverts, embankments, retaining walls and subways
Lighting (including illuminated signs and bollards)	lighting columns, lamps, cabling, ducts feeder pillars, subway lighting. Illuminated signs & posts, information boards

Integrated Transport Systems	Signalised junctions, signalised pedestrian crossings, detection equipment, cabling, ductwork, bollards and variable message signs
Safety Fences	Vehicle safety fences
Non-illuminated Signs	Non- illuminated signs, warning, regulatory and local direction/information posts, information boards
Closed Circuit Television	CCTV Installations & Monitoring Equipment
Drainage	Gullies & linear drainage channels, highway drains (including pipework, manholes & outfalls), land drainage ditches and watercourses, roadside ditches swales etc
Traffic Calming	Traffic Calming Features - including tables, humps chicanes etc
Road Markings	All road markings
Verges and Planted areas	verges, soft landscaped areas and trees
Street Furniture	Cycle stands, bollards etc

Table 2: The Staffordshire Highway Asset Inventory

Asset Type	Amount	Unit	Data Confidence	HIAMP Reference
Carriageway	6060.6	km	High	Carriageway Lifecycle Plan (CWLCP)
Footway	4168	km	High	Footway, Footpaths & Cycleway Lifecycle Plan (FWLCP)
Cycleway	199	km	High	FWLCP
Bridges	1048	No.	High	Highway Structures Lifecycle Plan (HSLCP)
Culverts (1.0 - 1.5m span)	Unknown	No.	No Info	HSLCP
Retaining Walls	200	km	Low	HSLCP
Streetlights	92,656	No.	High	Street Lighting PFI
Illuminated Signs	22,741	No.	High	Street Lighting PFI
Illuminated Bollards	2076	No.	High	Street Lighting PFI
Subway Lights	675	No.	High	Street Lighting PFI
Zebra Crossings	347	No.	High	Traffic Signal Lifecycle Plan (TSLCP)
Twin Amber Flashing Units (school crossing points)	216	No.	High	TSLCP
Feeder Pillars	442	No.	High	TSLCP
Hatpins	311	No.	High	TSLCP
Car Park Monitoring Systems	112	No.	High	TSLCP
Traffic Signal Junctions	174	No.	High	TSLCP
Traffic Signal Pelican / Puffin /	353	No.	High	TSLCP

Asset Type	Amount	Unit	Data Confidence	HIAMP Reference
Toucan				
Dual Pelican / Puffin / Toucan	42	No.	High	TSLCP
Vehicle Actuated Signs (VAS)	128	No.	High	TSLCP
Variable Message Signs (VMS)	23	No.	High	TSLCP
Car Park Management Systems	6	No.	High	TSLCP
CCTV Cameras	12	No.	High	TSLCP
Non-illuminated Signs	Unknown	No.	No Info	HIAMP
Road Gullies	148,000	No.	High	Drainage Lifecycle Plan (DLCP)
Footway Gullies	Unknown	No.	Medium	DLCP
Rural Verge	5762	km	Medium	HIAMP
Urban Verge	2,240,036	m ²	Medium	HIAMP
Kerb	Unknown	m	No Info	CWLCP
Culverts	Unknown	No.	No Info	DLCP
Offset kerbs, bypass kerbs & kerb drain	Unknown	No.	No Info	DLCP
White and Yellow Lining	Unknown	m	No Info	HIAMP
Safety Fencing	50,209	m	Medium	Safety Fence Lifecycle Plan (SFLCP)
Pedestrian Guardrail	Unknown	m	No Info	SFLCP
Boundary Fencing	Unknown	m	No Info	HIAMP
Visibility Fencing	Unknown	m	No Info	HIAMP
Highway Drain	Unknown	m	No Info	DLCP
Bollards	Unknown	No.	No Info	HIAMP
Fingerposts	Unknown	No.	No Info	HIAMP
Trees	Unknown	No.	Low	HIAMP
Bus Stop Flag Posts	Unknown	No.	No Info	HIAMP
Street Furniture, bicycle racks etc	Unknown	No.	No Info	HIAMP
Grit Bins	1774	No.	High	HIAMP

Each asset group has its own lifecycle plan and schedule of works that come together to enable us to identify the optimum management strategy for each group and the highway assets as a whole. The life cycle plans associated with each asset group are appendices to this document

2.2 The Value of the Asset

The highway asset has a current gross replacement cost of £7.77 billion, excluding land and a depreciated replacement cost of £6.71 billion. The annual depreciation is £38.3m i.e. the amount of annual funding required to maintain the highway asset in a steady state.

From 2015/16 onwards, it has been necessary to value highway assets on a depreciated replacement cost basis to comply with Whole of Government Accounts

(WGA) and International Financial Reporting Standards (IFRS). The County Council has voluntarily reported highway asset values in accordance with WGA and IFRS since 2012.

Table 3: The Staffordshire Highway Asset Valuations

Asset Group	£000's	£000's	£000's
	Gross Replacement Cost	Depreciated Replacement Cost	Annual Depreciation
Carriageway	5,541,320	5,171,414	18,321
Footways + Cycleways	765,735	721,116	1,225
Structures	1,300,393	746,345	13,814
Lighting	103,080	43,291	2,577
Traffic Management	31,441	16,740	1,536
Street Furniture	35,777	14,561	827
Total	7,777,746	6,713,467	38,300

3 Management of the Asset

Infrastructure services are delivered through a number of different contract models depending upon the asset group. Highway maintenance, design and construction services are delivered through the Infrastructure Plus (I+) Strategic Partnership, Street lighting is delivered through a Private Finance Initiative (PFI) and a number of other services are delivered internally.

The I+ Partnership with Amey is a first for any local highway authority and demonstrates our forward thinking and determination to achieve the required outcomes for our county. I+ has also enabled us to provide an end to end service for developers, attracting investment into Staffordshire and enabling us to retain engineering skills in the county whilst attracting the next generation of talent who will give us the foundations for continuous improvement and growth within this wonderful county. Continual service reviews through monthly Delivery Project Team (DPT) meetings are an integral part of the strategic partnership with outturn performance indicators reported to the Operational Commissioning Board (OCB) on a monthly basis along with actions required and/or implemented as a result of any under-performance.

The street lighting PFI maintains over 99,000 lighting units and contributes to Staffordshire County Council's priority outcomes and aims through the provision of efficient lighting coupled with a good standard of lighting stock.

Staffordshire County Council has and continues to be a leading highway authority both regionally and nationally, sharing our good practice and continual improvement through the Highway Maintenance Efficiency Programme (HMEP), United Kingdom Roads Board (UKRB), Midland Service Improvement Group (MSIG), Midlands Highway Alliance (MHA) and Highway Asset Management Financial Information Group (HAMFIG).

The financial challenges the County Council face require greater prioritisation of overall funding across the authority. However, our strategy of preventative maintenance and whole lifecycle cost management ensures the impact on the asset is proactively managed.

The I+ Partnership has enabled us to utilise Amey's Asset Management System to identify whole lifecycle costed programmes of work, prioritised using our locally developed asset value management prioritisation criteria that takes into account the condition of each length of highway, managed risk and the benefit to stakeholders using the highway. This allows us to predict the effect of funding strategy and budget decisions on each section of the highway. This enables us to calculate the whole cost of those decisions and other options using a mechanised approach.

Knowing the effects of various budgeting strategies on each asset group and how the performance of each asset affects our delivery of corporate priorities, along with the direct links to stakeholder's satisfaction that they receive from the use of the network makes this paramount to customer satisfaction with our management of the highway asset.

3.1 Funding

The capital maintenance fund available over the last 7 years inclusive of any additional funding is shown in Table 4 below. By contrast, the funding for subsequent years is shown and demonstrates the importance of ensuring our asset management approach minimises the impact of the County Council's prioritisation of resources to at least 2020/21.

	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>	<u>2014/15</u>	<u>2015/16</u>	<u>2016/17</u>	<u>2017/18</u>	<u>2018/19</u>	<u>2019/20</u>	<u>2020/21</u>
	£(m)									
	35	31	29	17	16	15.75	15.5	24.25	15.15	14.75

Table 4 – Capital Maintenance Highway Funding 2010/11 – 2020/21

In December 2014, the Secretary of State for Transport announced that £6 billion will be made available between 2015/16 and 2020/21 for local highways maintenance capital funding. In November 2015 he also announced a further £250 million for a dedicated Pothole Action Fund. From this funding, £578 million has been set aside for an Incentive Fund scheme, to reward councils who demonstrate they are delivering value for money in carrying out cost effective improvements.

It is anticipated that in the near to medium term future the majority of funding will be provided by the above two mechanisms. As opportunities occur, further funding will be sought through various bidding mechanisms and the Stoke on Trent and Staffordshire Local Enterprise Partnership.

3.2 Data capture

Whilst it is important to collect inventory and condition data related to existing assets, this needs to be progressed proportionately in accordance with the relevant risk and resources available. New developments and integrated transport improvements that are taken into the adopted highway provide the ideal opportunity to put these assets onto whole lifecycle management. The Council County record all new assets in the asset register, ensuring procedures are in place internally and externally to capture these.

3.3 Integrated Highway Asset Management Systems

The collection and analysis of inventory and condition data enables us to make the right investment and priority decisions for each asset group. The storage, sharing and use of that data is therefore paramount to the continued strategic planning and implementation of asset management works. Across all major asset groups integrated highway management software systems are in place, furthering our use of quality data in decision making. An example of this is the utilisation of asset management planning software, supplemented by our asset value management prioritisation toolkits to inform asset management in relation to planned programmes of work on footways and carriageways.

3.4 Condition Assessment

Asset condition information is collected at regular scheduled intervals to ensure the information held in the asset systems is up to date and supports the performance management framework in place as part of the I+ Partnership and wider services. It also ensures the risk and value of premature failure associated with each asset is monitored and corrective actions at both a strategic and practical level can be instigated to prevent or minimise those risks in good time. By having foresight of potential risks at an early stage, investment decisions can be altered to ensure the efficiency and effectiveness of the overall management of the asset. New or accelerated risks are identified before they compromise delivery of the required outcomes.

A fundamental component of asset management is to demonstrate;

- The levels of service that we are delivering
- Identify trends in improvement or deterioration
- Identify priorities for focussing our resources
- Monitor the effect of our treatment strategies
- Provide the base data required for lifecycle modelling and the calculation of Depreciated Replacement Costs (DRC).

The County Council undertake comprehensive annual surveys to collect condition data on our entire carriageway and footway asset (SCANNER, Griptster and CVI), updating the data through a continuous four-year cycle. This data is collected and analysed within the UKPMS framework.

The County Council undertake scheduled safety inspections of all highways except on its rights of way network and some of our unsurfaced minor roads, to identify and respond to deterioration that is likely to cause a significant risk to users. This strategy supports the revision of the network hierarchies and in order to develop our risk-based approach in line with the latest guidance, this will in turn support the revision, update and implementation of the frequency of inspections. Frequencies will be established in accordance with the level of risk associated with each level of the local network hierarchy and aligned with the level of available inspection resource. This will help us to identify and respond more effectively to the most critical defects on the network.

All highway bridges are inspected every two years and their condition is scored using the national Bridge Condition Index (BCI) method and recorded on Highways Management System (HMS). This data, along with an understanding of the route importance, enables the identified maintenance works to be prioritised.

3.5 Asset Group Strategies

Different types of asset have their own asset management strategies that reflect national codes of practice and the individual needs of each asset. The contribution of each asset group to the corporate priority outcomes, along with the relative risks of reduced maintenance on those assets link directly to the overall strategy for the maintenance of all highway assets.

Each group of assets have their own asset manager and are managed in different ways to reflect their need. For example street lighting is managed under a 25 year PFI agreement, traffic signals and intelligent transport systems are managed in-house by the county council, whereas all other highway maintenance is managed by Amey under the I+ Partnership.

A major part of budget strategy is assessing the effect of budget decisions for an asset group on the delivery of corporate priority outcomes and customer satisfaction. We therefore ensure the effects of all strategic funding decisions are considered at an early stage to achieve the most efficient and effective outcome for the authority and our customers within the finance available for the service. Whilst all our required investment would produce the greatest outcomes, in reality it is unlikely that the funding required will be available in the short to medium term; therefore we have a duty to live within our means whilst reducing as far as is reasonably practical the effects on our corporate priority outcomes and consequently our customers.

The lifecycle plans for each asset group allow the effects of different budget strategies to be considered before implementing the most advantageous strategy for the authority's stakeholders.

3.6 Implementing Planned Works

To ensure effective network management and co-ordination, our works programmes are planned up to 5 years in advance. This allows other 3rd parties with major infrastructure within the highway to have sight of planned works and to co-ordinate the sequence of works to both cause the least disruption for stakeholders and abortive works on the network.

Preventative works will generally cover between 1/10th and 1/12th of the network each year and as these works are seasonal to apply and usually require some preparation works their effective planning is key to their success for stakeholders and their required lifecycle. This early planning also enables our I+ Partnership sub-contractor to plan works and material deliveries in the most economical and efficient way. This in turn ensures the sub-contractor can procure the required materials etc. in plenty of time to ensure they are available and at the most economically advantageous price

that allows them to offer competitive rates to the contract that could not be achieved without such detailed forward planning.

With all works, quality management systems will be employed to ensure the durability/quality of products and works.

Whilst forward planning is essential, annual reviews are necessary to consider any changing needs of all the asset groups and thereby ensure efficiency and effectiveness are maintained within the management of the highway asset.

Our I+ Partnership has collaboration between the County Council and Amey at its heart to ensure the required outcomes are achieved. The partnership has been working towards formal recognition of this collaboration with BS11000 certification.

The lifecycle planning approach also allows tracking of performance against investment for each group and thereby informs following future strategies to ensure the investment achieves the outcomes planned

3.7 Utility and Developer

An increasingly important factor in the preservation of long term asset life is the appreciation of Statutory Undertaker Asset Management Plans and the priorities and constraints placed upon them by their respective national service regulators. This has a direct impact on the life of highway assets and is another area being targeted for improvement. Increased understanding of these external constraints and vision of external party delivery objectives will be targeted through the life of this HIAM Strategy, with all parties encouraged to share their longer term asset programmes. As well as ensuring that highway investment is not wasted by undermining excavations in the longer term, improvements in this area will also improve forward planning for disruptive works, improve public perception of partnership working and increase the potential for collaborative working on site.

3.8 Training

Effective management of the highway network requires professional well trained staff. The strategic partnership ensures the experience and level of training required is developed through personal development plans. As a minimum, Asset Managers and other senior staff complete Highway Maintenance Efficiency Programme Asset Management modules, with key staff undertaking ongoing training as approved by the Institute of Asset Management.

4 Engagement

4.1 Key Stakeholders

Ultimately everyone is a highway stakeholder to some extent; however, the needs of each stakeholder group and the way in which they use the highway asset vary to

some degree. This variation in highway users needs requires an array of approaches to engagement and information dissemination. This has resulted in the identification of the following key stakeholder groups:

- Elected members
- Residents of Staffordshire (cyclists/motorists/ footway users)
- Businesses and the Chamber of Trade
- Public facility organisations and services
- Visitors to Staffordshire
- Transiting network users
- Emergency services
- Utility apparatus owners
- Local Enterprise Partnership
- Members of Parliament
- Parish/Town Councils
- District and Borough Councils

4.2 Communications Strategy

Communications and stakeholder engagement are co-ordinated across the partnership through the Community Liaison Team. Communication is implemented in accordance with the Communications Guideline Document and stakeholders are consulted with regard to improvement and maintenance schemes. Elected members and other affected stakeholders will be engaged in the co-production exercises throughout the life cycle of the asset to create highways that add to the fabric of society.

In today's financial environment demand management must be practised, proactive communication is key to this. The partnership will manage expectations through clear sight of proposed works programmes and typical activity cycle times; in addition to this, the partnership will promote the use of community capacity via self-help groups within communities to complete minor tasks. An example of this is the well-established Ice Busters scheme.

To keep our communities and stakeholders informed, the following information will be published on the authority's website:

- Annual maintenance programmes (Routine, reactive and cyclical)
- Scheme programmes (Integrated transport, highway structures, highways structural and preventative maintenance)
- Policy documents
- Performance figures
- Life cycle plans

All highway defects are managed through the Operational Control Room (OCR) using the Standard Operating Model (SOM) allowing defects to be easily tracked. Residents who report a defect digitally are kept updated with the defect remedial work via email. Through the same system, feedback is sought regarding their experience of dealing with the County Council.

The Communication Strategy is supplemented by a Communication Guideline Document which informs how we communicate highway works.

The County Council participates in the National Highway and Transport (NHT) Public Satisfaction Survey to obtain information on the customer view of the highways service. This survey covers all aspects of highways and transport service delivery.

The County Council has participated in the NHT survey since 2008 and this enables us to understand the views and preferences of a sample of resident and to compare these against other similar councils. The survey, undertaken by Ipsos MORI, is based on a sample of residents and is designed to represent a spread of customers' views of the service across the county, geographically by gender and by age.

Details of the latest NHT survey can be found at the below web link:

<http://www.nhtnetwork.org/nht-network/home/>

5 The Future of the Network and Risk

5.1 Risk Management

The analysis of risk applies to asset management from a variety of different perspectives. These range from the broad strategic and corporate risks, such as the loss of the asset or a significant change in the corporate budget, to those affecting discrete processes or assets such as the risk that an individual defect might present to stakeholders.

Risk is present throughout asset management because of the extensive treatment options possible with decisions, often made without full understanding of the asset, how it will perform or the consequences of failure. Combined with a variety of uncertain external factors influencing the performance of the network, including weather and changes in budget provision, risk is ever present.

It is not possible to eliminate all risk from asset management. This means that while some mitigation is possible, the usual approach will be to understand the degree of risk and its possible consequences. This then needs to be balanced against the cost of reducing or eliminating the risk as well as the benefits of accommodating the risk.

Risks affecting our strategic objectives are managed across different levels of the organisation involving monthly review and assessment. The likelihood and severity

are factored to provide a score which is subsequently converted to a traffic light Red, Amber, Green RAG rating. Significant strategic or corporate risks are reported through the management chain and consideration given to further mitigation.

More specific risks associated with the maintenance of highway assets will be assessed against an understanding of the strategic importance of the asset or assets concerned. Fundamental to this will include consideration of the local road hierarchy and our Resilient Network. For example, an identical pothole on two different carriageways, both carrying the same volume of traffic would have the same impact if a vehicle collides with it. However, it will have a higher priority on one of the carriageways if it is part of a link with more strategic importance.

5.2 Climate Change

Staffordshire County Council is reacting to climate change by reducing the impact of the highway asset upon the environment and ensuring that the asset is suitably prepared to deal with an increase in the magnitude and number of extreme weather events.

The County Council has adopted an emissions reduction target of 80% by 2050, from a 1990 baseline. We have also adopted a short term target to reduce our emissions by an average of 3% each year, up to 2016/17.

The HIAM Strategy will help to contribute to the targets through continuing to promote the use of recycled materials and materials that consume less energy in their production. Over recent years the Street Lighting PFI has introduced lower energy consuming LED technology and variable lighting levels which has saved millions KWh in energy. Over the life of the HIAMP the PFI will continue to mitigate energy consumption against planned growth of the street lighting asset.

The HIAM Strategy will improve the resilience of the highway network through enabling the development and continual improvement of a resilient network as identified in The Transport Resilience Review 2014.

5.3 Network Growth and Demand

The highway asset is constantly evolving to support the needs of the people of Staffordshire; assets are added and removed as a result of highway schemes commissioned by Staffordshire County Council and private developers. The evolution of the asset is heavily influenced by the economic activity of Staffordshire. It is anticipated that the asset will increase in length by 10km per annum.

Alongside the anticipated growth in asset size it is envisaged that overall network demand will increase by 7% between 2016 and 2021.

6 Glossary

Annual Depreciation	The value by which the asset depreciates over a 12 month period as a result of condition deterioration.
Asset	In the context of the HIAMP, an asset refers to an item that forms part of the highway fabric, i.e. carriageway, footway and street lighting.
Asset Management	Asset management is an approach to maintaining items of infrastructure in a methodical manner. It identifies the optimal allocation of resources to maintain the best achievable asset condition with the available level of funding.
BS ISO 110000	The British and International Standard for Collaborative Business Relationships.
BS ISO 55000, 550001 & 55002	The British and International Standard for the Implementation of Asset Management.
Capital Funding	Grants from Government through the Department for Transport and contributions to fund capital schemes to pay for items like roads.
Carriageway	Within the HIAMP carriageway refers to a surfaced right of way intended for use by vehicles and maintained at the public expense.
Culvert	A structure that allows the flow of water under an asset.
Depreciated Replacement Cost (DRC)	The cost of bringing an assets current condition up to 'as new' condition.
Footway	Pedestrian path maintained at public expense that is usually alongside a carriageway.
Gross Replacement Cost (GRC)	The total cost of replacing an element of or the entire asset with an equivalent new asset.
Highway	In the context of this document a highway is a road or thorough fair that is maintained at the public expense.
Infrastructure	Infrastructure describes fixed assets that form part of a larger network, in the terms of this document it refers to carriageways, footways, drainage, lighting, fencing and the like.

LED	An LED is a Light Emitting Diode which is a highly efficient form of lighting.
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Life Cycle Plan	A Life Cycle Plan is key to asset management and takes into account the whole-of-life implications of acquiring, operating, maintaining and disposing of an asset.
Local Enterprise Partnership (LEP)	Local voluntary partnership between local authorities and businesses set up to help drive economic growth.
Preventative Maintenance	The treatment of an asset at an optimal time to prevent asset deterioration, enabling the efficient use of funding. Essentially implementing the principle that prevention is better than cure.
Private Finance Initiative (PFI)	A partnership between a public and private organisation where funding for a public scheme is provided by the private organisation and repaid over the duration of the agreement.
Revenue Funding	This is income that the authority gets to deliver everyday services. It is made up of an element of business rates and Government grants through the Department for Communities and Local Government.
Safety Fence	A barrier intended to prevent an errant vehicle leaving the highway
Stakeholder	An individual, group or organisation that have a legitimate interest in a project
Standard Operating Model (SOM)	A system operated by Amey to help organise and manage highway works.
Statutory Undertaker	A utility company such as British Telecom and the like.
Structure	A structure can be a bridge, retaining wall or culvert.
Whole of Government Accounting	Whole of Government Accounts consolidates the audited accounts of over 5,500 organisations across the public sector in order to produce a comprehensive, accounts-based picture of the financial position of the UK public sector

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Average Response Time from Enquiry to Inspection	Years	2015	2016	2017	2018
Division Name					
CC - Brereton - Ravenhill		35	36	35	51
CC - Cannock Town Centre		62	58	34	47
CC - Cannock Villages		112	88	39	44
CC - Chadsmoor		120	57	34	49
CC - Etchinghill - Heath		78	66	41	38
CC - Hednesford - Rawnsley		77	71	34	40
ES - Burton Tower		52	66	26	30
ES - Burton Town		54	61	33	49
ES - Burton Trent		102	55	32	40
ES - Dove		68	68	39	37
ES - Horninglow - Stretton		41	44	22	28
ES - Needwood Forest		51	42	28	45
ES - Uttoxeter Rural		66	62	38	34
ES - Uttoxeter Town		67	56	29	29
L - Burntwood North		57	47	47	48
L - Burntwood South		53	71	32	45
L - City North		52	56	31	40
L - City South		46	47	52	60
L - Rural East		51	69	43	70
L - Rural North		46	60	31	47
L - Rural South		54	46	53	69
L - Rural West		68	54	40	37
N - Audley - Chesterton		64	50	43	41
N - Bradwell - Wolstanton		58	45	37	24
N - Keele Knutton - Silverdale		57	45	36	44
N - Kidsgrove		47	46	39	58
N - May Bank - Cross Heath		37	51	44	32
N - Newcastle Rural		65	67	29	23
N - Newcastle South		69	43	43	34
N - Talke - Red Street		44	55	34	39
N - Westlands - Thistleberry		57	29	55	32
No code allocated		22	72	8	29
S - Eccleshall		45	51	45	38
S - Gnosall - Doxey		40	63	54	48
S - Stafford Central		47	34	25	25
S - Stafford North		51	37	47	24
S - Stafford South East		51	38	31	15
S - Stafford Trent Valley		88	43	38	26
S - Stafford West		41	30	30	15
S - Stone Rural		77	53	30	23
S - Stone Urban		42	49	31	24
SM - Biddulph North		32	62	46	53
SM - Biddulph South - Endon		63	58	43	66

SM - Caverswall	86	89	45	56
SM - Cheadle - Checkley	45	37	38	67
SM - Churnet Valley	45	75	42	62
SM - Leek Rural	53	51	30	36
SM - Leek South	55	53	35	34
SS - Brewood	101	59	64	70
SS - Cheslyn Hay - Essington	81	91	60	55
SS - Codsall	121	68	69	77
SS - Kinver	80	86	51	81
SS - Penkridge	57	66	37	46
SS - Perton	53	56	63	70
SS - Wombourne	60	77	58	91
Tamworth - Amington	43	70	52	86
Tamworth - Bolebridge	40	60	48	69
Tamworth - Perrycrofts	47	54	45	69
Tamworth - Stonydelph	46	29	43	70
Tamworth - Watling North	45	78	41	71
Tamworth - Watling South	68	77	38	65



Carriageway Asset Modelling Key Results

v1.0 - April 2019

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1 Introduction

Asset management has been widely accepted as a means to deliver a more efficient and effective approach to management of infrastructure assets through longer term planning, ensuring that standards are defined and achievable for available budgets. It supports making the case for funding and better communication with stakeholders, facilitating a greater understanding of the contribution highway infrastructure assets make to economic growth and the needs of local communities.

This document outlines the key results of investment scenario modelling for the AMEY Staffordshire's Carriageway assets. This modelling was undertaken using the current asset and survey information available.

The modelling was undertaken using the Horizons software package. Horizons is analysis software designed to produce works programs based on asset condition surveys and previously completed works information. By setting up the maintenance treatments that are used, Horizons will deteriorate the asset's over time to estimate the future condition and future works programs. Horizons will delay non-critical treatments to ensure the most efficient use of budget and resources. Ultimately Horizons can be used to assess the impact of various budget scenarios and also to estimate the budget required to meet a condition criteria.

2 Carriageway Modelling

2.1 Budget Strategy Results

Two budget strategies were run as follows:

- 10.75M annual budget (no annual inflation)
- 15M annual budget (no annual inflation)

While the annual budgets aren't increasing due to inflation each year, the cost of treatments is set to increase by 4.5% each year. This is the reason for the increasing slope of the maintenance backlog in figure 2.2 following.

The results of the modelling are presented in the following figures:

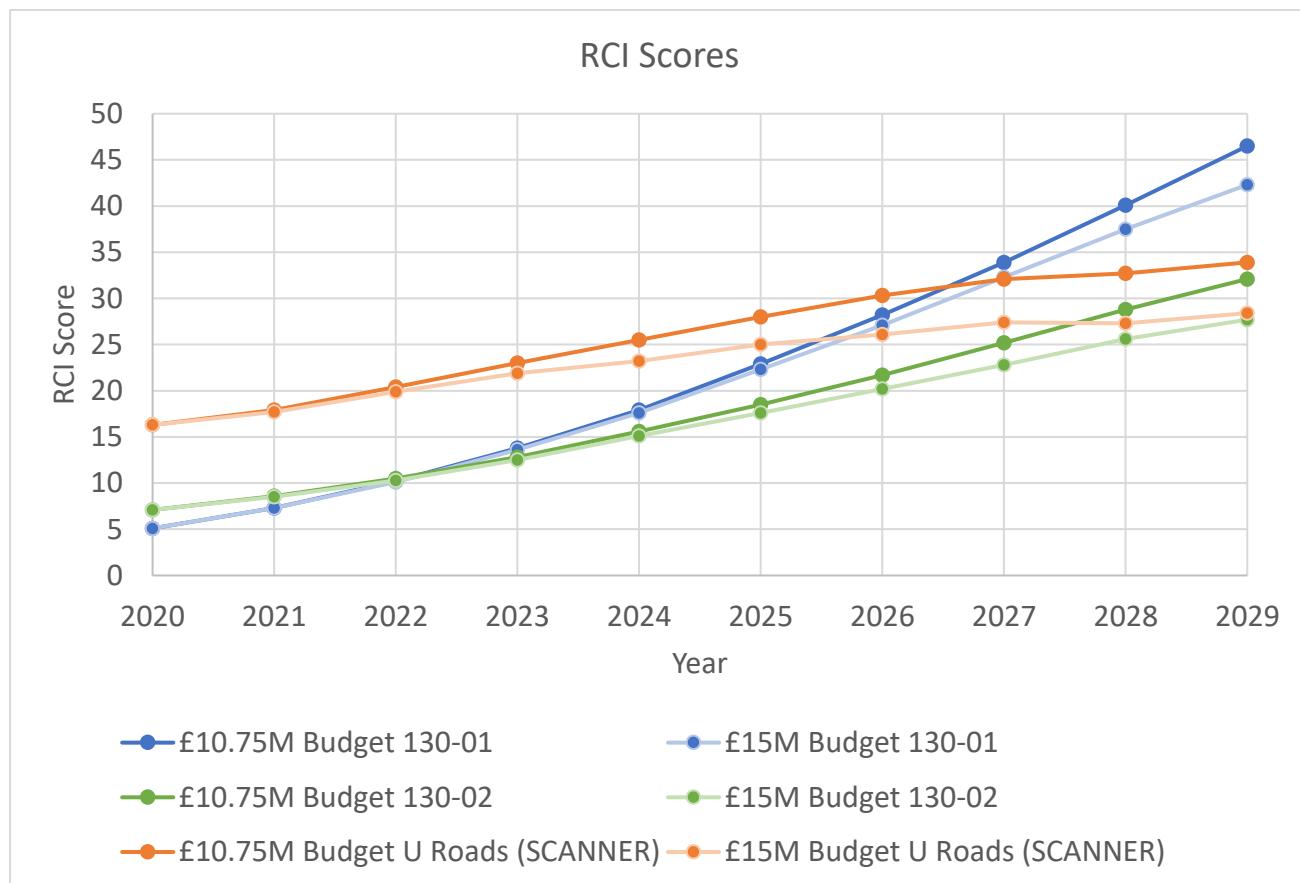


Figure 2.1: RCI Scores.

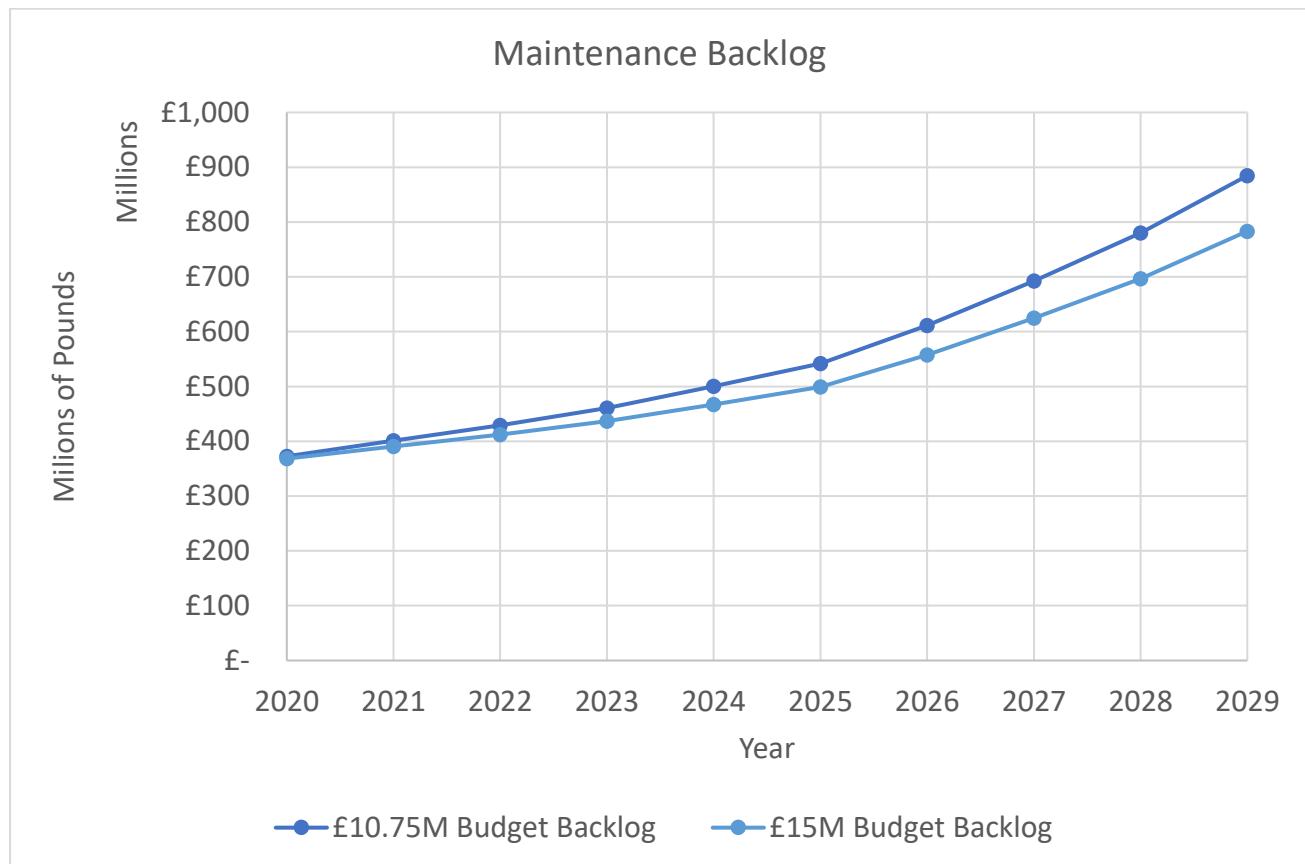


Figure 2.2: Replacement Backlog Projections.

As can be seen, the model is predicting that the budget strategies run are not sufficient to maintain or reduce the current maintenance backlog.

2.2 Hard Strategy Results

A hard strategy was run in order to estimate the budget required to maintain a targeted road condition. The following condition targets were set:

- 130-01 = 2.1
- 130-02 = 4.6
- U Roads (SCANNER) = 12.2

The results estimated than an average annual budget of £41.7M would be required in order to maintain the above condition targets.

APPENDIX - Results Tables

Budget Strategies

Year	£10.75M Budget				£15M Budget			
	130-01	130-02	U Roads (\$)	Backlog	130-01	130-02	U Roads (\$)	Backlog
2020	5.1	7.1	16.3	£ 372,603,986	5.1	7.1	16.3	£ 368,354,005
2021	7.3	8.6	17.9	£ 400,776,800	7.3	8.5	17.7	£ 390,538,485
2022	10.2	10.5	20.4	£ 428,918,205	10.1	10.3	19.9	£ 412,151,685
2023	13.8	12.8	23	£ 460,806,071	13.6	12.5	21.9	£ 436,574,347
2024	17.9	15.6	25.5	£ 500,103,694	17.6	15.1	23.2	£ 467,133,432
2025	22.9	18.5	28	£ 541,723,511	22.3	17.6	25	£ 499,437,657
2026	28.2	21.7	30.3	£ 611,090,964	27.1	20.2	26.1	£ 557,474,386
2027	33.9	25.2	32.1	£ 692,348,995	32.3	22.8	27.4	£ 624,580,171
2028	40.1	28.8	32.7	£ 780,270,022	37.5	25.6	27.3	£ 696,295,534
2029	46.5	32.1	33.9	£ 884,611,828	42.3	27.7	28.4	£ 783,258,571

Hard Strategy

Year	Hard Only
2020	£ 74,547,353
2021	£ 39,323,002
2022	£ 40,523,450
2023	£ 39,589,161
2024	£ 47,905,582
2025	£ 44,935,615
2026	£ 46,436,678
2027	£ 37,923,099
2028	£ 38,104,956
2029	£ 40,166,850
Average	£ 41,656,488

(The first year is ignored, as a greater budget is required to bring the current road condition up to the targeted road condition.)



National Highways
& Transport Network

www.nhtnetwork.org

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NHT Survey Report 2018

Executive Summary - Staffordshire County Council

2018 NHT Survey Results - Year on Year Comparison

Report Description

Introduction

This report summaries your Authority's results in the 2018 National Highway & Transport (NHT) Public Satisfaction Survey and compares your results this year with your results in the 2017 NHT Survey.

The main purpose of this report is to show your satisfaction scores from the survey this year and highlight those areas where they have changed most significantly from last year. The report comprises a page of summary results, followed by a series of individual pages which show high level results for each of the main themes of the survey.

Summary Page

The summary page shows your overall satisfaction result and satisfaction results for each of the surveys themes as a series of pictograms. Each pictogram shows your percentage satisfaction result for this year, the larger of the two numbers, and compares that to your satisfaction result for last year. The pictograms use traffic light colouring to show the degree of change, see notes below.

The summary page includes tables that highlight which of your KBI results have improved the most since last year and which have declined the most since last year, up to three results are shown in each table in descending order. Details of your sample size and response rate in this years survey are also shown in a table.

The theme pictograms show the number of Key Benchmark Indicator (KBI) results within each theme that have increased this year, next to an upward arrow, and the number to have reduced this year, next to a downward arrow.

Theme Pages

The theme result pages show your theme satisfaction result and satisfaction results for each of the KBI's within the theme as a series of pictograms. Each pictogram shows your percentage satisfaction result for this year, the larger of the two numbers, and compares that to your satisfaction result for last year. The pictograms use traffic light colouring to show the degree of change, see notes below.

Notes

The pictograms in this report use traffic light colouring to signify the change in results from last year. For any improvement in satisfaction pictograms are shown in green; dark green for improvement of 3% or more and light green for improvements of up to 3%. For any small declines in satisfaction, up to 3%, pictograms are shown in amber and for larger declines in satisfaction, more than 4%, pictograms are shown in red.

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2018 NHT Survey Results - Year on Year Comparison

Summary

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Overall Satisfaction

50%

(last year 52%)



Accessibility

68%

(last year 70%)

KBI's 1 ↑ 2 ↓



Public Transport

57%

(last year 59%)

KBI's: 1 ↑ 2 ↓



Walking & Cycling

53%

(last year 53%)

KBI's: 4 ↑ 1 ↓



Tackling Congestion

44%

(last year 46%)

KBI's: 0 ↑ 2 ↓



Road Safety

54%

(last year 55%)

KBI's: 1 ↑ 2 ↓



Highway Maintenance

45%

(last year 48%)

KBI's: 0 ↑ 4 ↓

Key: Dark Green = an improvement of 4% or more, Light Green = an improvement of up to 3%, Amber = a decline of 1% to 3%, Red = a decline of 4% or more. Blue = no data for last year

Top KBI increases

Key Benchmark Indicator	% Change
KBI 04 - Ease of Access (disabilities)	4
KBI 21 - Road safety environment	2
KBI 13 - Cycle routes and facilities	1

Top KBI falls

Key Benchmark Indicator	% Change
KBI 05 - Ease of Access (no car)	-9
KBI 23 - Condition of highways	-9
KBI 06 - Local bus services	-4

Survey Numbers

Sample Size: 3,300

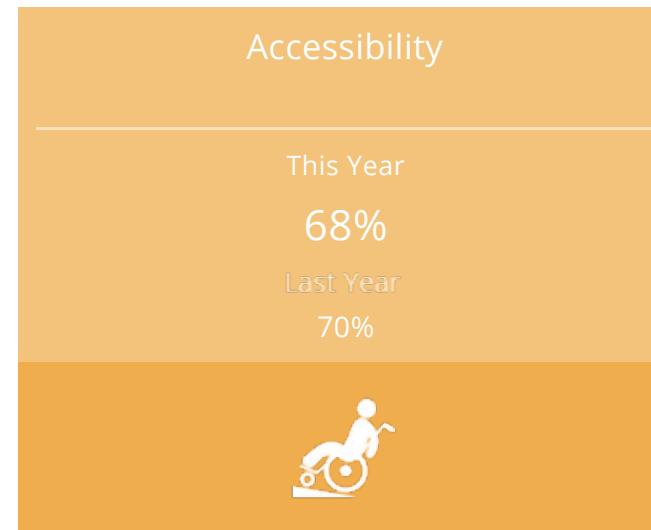
Responses: 973

Response Rate: 29%

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2018 NHT Survey Results - Year on Year Comparison

Accessibility Theme



Key

Dark Green = an improvement of 4% or more, Light Green = an improvement of up to 3%, Amber = a decline of 1% to 3%, Red = a decline of 4% or more. Blue = no data for last year.

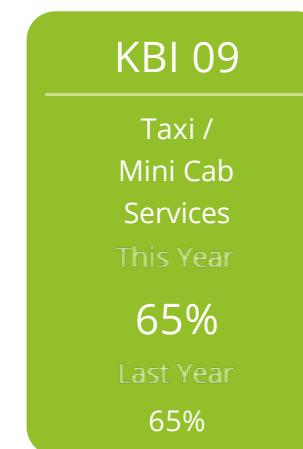
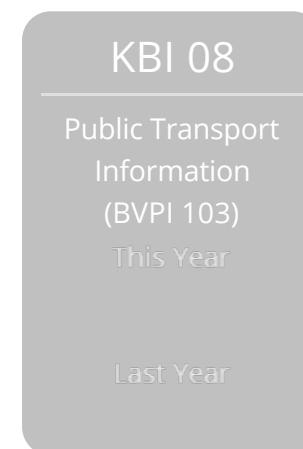
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2018 NHT Survey Results - Year on Year Comparison

Public Transport Theme



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Key

Dark Green = an improvement of 4% or more, Light Green = an improvement of up to 3%, Amber = a decline of 1% to 3%, Red = a decline of 4% or more. Blue = no data for last year and Grey: only available on 12 page questionnaire.

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2018 NHT Survey Results - Year on Year Comparison

Walking & Cycling Theme



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KBI 11

Pavements
&
Footpaths
This Year

52%

Last Year
54%

KBI 12

Pavements
& Footpaths
(Aspects)
This Year

57%

Last Year
57%

KBI 13

Cycle Routes
And
Facilities
This Year

51%

Last Year
50%

KBI 14

Cycle Routes
And Facilities
(Aspects)
This Year

49%

Last Year
49%

KBI 15

Rights
of Way
This Year

56%

Last Year
56%

KBI 16

Rights
Of Way
Aspects
This Year

Last Year

Key

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2018 NHT Survey Results - Year on Year Comparison

Tackling Congestion Theme



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Key

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2018 NHT Survey Results - Year on Year Comparison

Road Safety Theme



KBI 20

Road Safety
Locally
This Year

53%

Last Year

56%

KBI 21

Road Safety
Environment
This Year

57%

Last Year

55%

KBI 22

Road Safety
Education
This Year

51%

Last Year

54%

Key

Dark Green = an improvement of 4% or more, Light Green = an improvement of up to 3%, Amber = a decline of 1% to 3%, Red = a decline of 4% or more. Blue = no data for last year.

Executive Summary - Staffordshire County Council

2018 NHT Survey Results - Year on Year Comparison

Highway Maintenance Theme

Highway Maintenance

This Year

45%

Last Year

48%



KBI 23

Condition Of
Highways

This Year

19%

Last Year

28%

KBI 24

Highway
Maintenance

This Year

48%

Last Year

50%

KBI 25

Street
Lighting

This Year

67%

Last Year

68%

KBI 26

Highway
Enforcement
/Obstructions

This Year

46%

Last Year

47%

Key

Dark Green = an improvement of 4% or more, Light Green = an improvement of up to 3%, Amber = a decline of 1% to 3%, Red = a decline of 4% or more. Blue = no data for last year.

