

County Road Highway Maintenance Capital Budget: Progress on 2019/20 Schemes and Proposals for the 2020/21 Programmes

Report of the Chief Officer for Highways, Infrastructure Development and Waste

Please note that the following recommendations are subject to consideration and determination by the Cabinet (and confirmation under the provisions of the Council's Constitution) before taking effect.

Recommendations: That:

- (a) progress on 2019/20 capital funded highway maintenance schemes detailed in Appendices II and III to this report be noted;**
- (b) the capital funded highway maintenance programmes for 2020/21 as set out in Appendices IV and V be approved;**
- (c) detailed allocation of the available budget be determined by the Chief Officer for Highways, Infrastructure Development and Waste, in consultation with the Cabinet Member for Highway Management, on the basis of the Highways Infrastructure Asset Management Plan, and within the limits of the approved budget.**

1. Summary

This report deals with capital funding of planned, programmed or structural maintenance, to restore or replace highway components which are dilapidated due to traffic loading, weather impacts or aging of assets. The investment is to arrest or slow deterioration and to add value to highway assets. Capital investment in the highway network will keep assets structurally sound and therefore reduce the risks of defect formation, which require repairs funded from revenue. When investment is made at the right time, long term maintenance costs will be reduced.

This report presents information on the progress of highway capital maintenance programmes and schemes delivered in 2019/20; and Section 3 of the report details the proposals for capital funding of highway maintenance schemes in 2020/21.

The 2020/21 funding awarded to Devon from central government included in this report, was approved by Full Council on 20 February 2020, of £48,155,000. This report seeks approval from Cabinet, to allocate the funding across the programmes and schemes proposed in 2020/21 as listed in appendices IV and V. The allocations include an adjustment for the LTP over programming carried forward from 2019/20 of £1,943,000.

2. Background

Over the past 12 months there has been some influential changes which have and will significantly affect the delivery of the 2020/21 programme and impact further on the ongoing review of Devon's Highway Infrastructure Asset Management Plan (HIAMP).

Following the Coronavirus lockdown on 23 March, the impact across the industry was contractors, material manufacturers and suppliers began to close down and restrictive

working was imposed as the industry adopted the governments guidance on social distancing and home working.

Within Devon the sequential closure of quarries and larger supply chain suppliers limited the ability to maintain the delivery of the capital programme and by the end of March most works were limited to essential safety works and limited sites where social distancing could be adhered to.

We have seen a number of deferments in the 2019/20 programme which will see these sites promoted in to the 2020/21 programme, however, this programme may also be curtailed depending upon how long the current lockdown restrictions are applicable. The intention is to continue to deliver schemes where controls, supplies and resources permit the authority to do so throughout the lockdown period however an extended period of limited delivery will challenge the delivery of the full programme in 2020/21. What this may look like in terms of delivery of the intended programme cannot currently be easily defined but it would not be unreasonable to assume a 10% loss per month in the overall programme for each month of lockdown.

Clearly the impact of a lengthy lockdown will result in a considerable under programming of the capital programme by the end of 2020/21 and carry over into 2021/22.

In May 2019 Devon declared a Climate and Ecological Emergency and through the Devon Climate Emergency Response Group (DCERG) there is the expectation to deliver on challenging targets within Devon's new Carbon Plan.

Further development within the service on the 'Doing What Matters' (DWM) approach is framing how maintenance works will be identified and delivered in the future and this will impinge significantly on the shape of the HIAMP going forward.

The current framework within the HIAMP is used to inform on capital investment in the highway asset and has historically been used in recommending programmes and schemes. This approach considers the condition and performance of individual asset groups such as roads, bridges and footways and proposes funding allocations accordingly.

3. Financial Considerations and Sources of Funding for 2020/21

It should be noted that the date of release of this report means certain areas of funding are subject to final confirmation from the Department for Transport (DfT). The report does not include the details of the March 2020 budget announcement on the Devon share of the £500m pothole fund, as at the time of writing the details have not been received.

- Devon's Local Transport Plan (LTP) Needs Formula Settlement 2020/21 is £34,042,193 million and provides funding for structural maintenance of all highway assets. Other capital funding previously awarded or anticipated by Government are detailed below:
- Devon's Incentive Fund Self-assessment return to the DfT has been completed placing the authority at the highest rating of band 3 for the fourth successive year which for 2020/21 is expected to be £7,090,167 million of further funding.

The incentive fund and 'Needs Formula' allocations advised in the Government's spending review are shown in Table 1 below.

Devon County Council		Self-assessment ranking by Band (indicative)		
	LTP Needs Formula Allocation (announced in Dec 2014) (£)	Band 3 Highest Band (£)	Band 2 Medium Band (£)	Band 1 Lowest Band (£)
2015/16	42,306,229	No incentive funding		
2016/17	38,784,623	2,347,737	2,347,737*	2,112,964
2017/18	37,610,754	3,521,606*	3,169,446	2,112,964
2018/19	34,042,193	7,090,167*	4,963,117	2,127,050
2019/20	34,042,193	7,090,167*	3,545,084	709,017
2020/21	34,042,193	7,090,167 #	2,127,050	
2021/22	No indication of funding. Likely to be covered in a future spending review			

Table 1 - DfT Needs Based and Incentive Formula Allocations (* awarded; # anticipated)

- 2020/21 is the final year of funding under the Pothole Action Fund (PAF) although the actual value of allocation to Devon has yet to be confirmed by the DfT. Currently based upon previous percentage years allocations to Devon under this funding element it is anticipated for 2020/21 that this will be in the region of £1,920,000.
- In the 2019/20 report to Cabinet, it was proposed to carry forward £5,103,000 into 2020/21 as part of the under-programming from the 2018/19 programme, this proposal was subsequently approved as part of the Capital Outturn report in May 2019.
- As a consequence of improvements in scheme delivery in 2019/20 there has been an over-programming of the budget of £1,943,000. This was curtailed slightly due to the deferrals as a result of the COVID 19 crisis.
- A carryover of £213,000 associated with ecological mitigation works for the Slapton Line works.
- In support of the Authority's Carbon Reduction Plan and to save revenue funding on energy, £8.5m has been allocated to convert the remaining 45,000 Street Lighting assets, which are principally in residential areas, to LED over a three-year period. During the past year circa. 7,000 lights have been converted.

In summary, the funding sources for 2020/21 are:

LTP needs formula allocation 2020/21	£34,042,193
Pothole Action Fund (PAF) #	£1,920,000
Incentive Fund (Band 3)#	£7,090,167
LTP Over Programming b/f from 2019/20	(£1,943,000)
LTP Under Programming b/f from 2018/19	£5,103,000
A379 Slapton Line b/f grant from 2019/20	£213,000
Highways Lighting LED 2020/21 budget	£3,469,000
Total	£49,894,360

anticipated

Table 2 – Funding Sources

4. Road Condition and Strategy

The condition of Devon’s road network has broadly remained stable for many years, a situation that is also reflected at a national level for most other local authority (LA) managed roads.

Assessment of road surface condition of classified roads throughout the United Kingdom is provided using automated survey vehicles (SCANNER) and also through visual surveys which ensure a consistent method of determining and comparing road condition across the UK network. The main measure of road condition is the Road Condition Indicator (RCI), this is made up of several parameters, such as cracking and rutting which combine to give an overall measure of the state of the road and an indication of surface condition. The underlying data can then be used along with other data to inform decisions about maintenance and future programmes.

Under the Local Government Act, Local Authorities (LA) are required to provide, over a two-year cycle, data to the Department for Transport (DfT) on the conditions of their ‘A’, ‘B’ and ‘C’ roads. In addition, because the percentage of unclassified roads make up more than 52% of the total road network in Devon, we also measure the road condition of this important part of the network, and this survey is undertaken over a three-year cycle.

Based on the RCI data, sections of road are split into 3 categories (red, amber and green) representing the general condition of that piece of highway with red being the worst condition and green carriageways in a good state of repair.

The roads categorised in a ‘red’ condition indicate poor overall condition and are roads likely to require major maintenance soon, some possibly immediately. If left untreated the cost of maintaining these roads increase significantly the longer they are left. Those roads within an ‘amber’ condition are roads that are in a reasonable condition but have some apparent deterioration requiring further investigation to determine the optimum timing for planned maintenance. Often intervention maintenance on these roads will extend the life of the road at a considerably reduced cost than if the section of road was allowed to deteriorate to a ‘red’ condition category where more extensive and major works will be necessary.

Road Network

Figure 1 shows the proportion of classified and unclassified roads across the network.

Almost every journey begins and ends on local roads and is of critical importance in connecting people and driving economic growth and should be treated as an important national asset and it must be managed appropriately. Individuals, families and communities depend on their local road network and it acts as the key arterial system that drives economic growth in our villages, towns and cities. In Devon Unclassified roads combined with ‘C’ roads make up 87% of Devon's total road network.

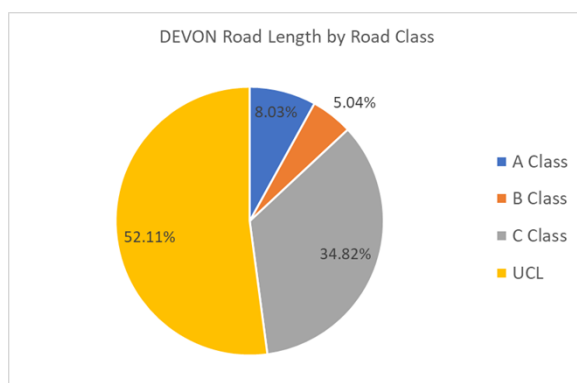


Fig 1 - Devon’s Road Length by Road Class

Doing What Matters

The 'Doing What Matters' (DWM) project introduced in 2019 continues to provide further learning from within the two electoral division test areas in West Devon and from this we have been able to further refine the new way of selecting maintenance schemes in some of the principal work areas. 2020/21 will see fruition of the learning gained in 2019 being applied in a live situation where the principals of DWM will be used to manage the capital programme within the two West Devon test areas for the whole year.

Following on from the successes within the west of Devon test areas we have expanded the DWM learning into East Devon with the initial focus on the Broadclyst electoral division (ED). An initial start-up meeting was held in Okehampton to understand the work and experience that has been undertaken and gained in the west of the County and to then test and challenge these principals in another area of Devon. Inspections are now complete in the Broadclyst ED and meetings with the Parish Councils to discuss their highway priorities and concerns were also well underway. Feedback from meetings with Parish Councils are very positive and provides a great opportunity to further develop already well-established relationships with local communities.

Following completion of the Broadclyst ED further divisions in the east of Devon will be rolled out using the DWM principals with the intention to establish the forward programme for 2021-22.

5. Road Statistics and Analysis

Devon's has a commitment under our LTP key objectives to maintain the 'A' and 'B' class road network to a minimum condition of below 4% in the red national indicator band. This commitment absorbs a significant part of the funding streams with the remaining budget spread across Devon's significant remaining road network of 'C' and unclassified roads.

Reviewing the 2019/20 data for Devon, the percentage of roads categorised in red condition was:

- 'A' roads 3%
- 'B' roads 3%
- 'C' roads 17%
- Unclassified roads 22%

Appendix I, Figs 2 to 5 incl. provides a summary of Devon's (RCI) road condition indicator data in a graphical form over time by road classification using the national indicator bands. This has seen a growing and continued reliance on preventative and short-term less expensive treatments. Such treatments, although providing an excellent short to mid-life solution, cannot be used indefinitely and this has an associated impact on Devon's predominantly rural Road Network and is directly reflected by the vulnerability and susceptibility to the formation and propagation of potholes.

Under current funding modes and excluding substantial outside influences such as, increasing population, daily traffic flows, global warming, and increased severe weather events, we are generally managing to keep pace with the decline although this is proving more challenging each year.

Although the number of potholes filled annually and the cost per pothole of doing so has fluctuated over the past nine years, because of their visibility the public understandably focus

on the formation of potholes as a benchmark of the overall condition of a carriageway, this however is not necessarily reflective of actual condition. Other defect types such as cracking, stone-loss, rutting, etc. are also indicative of approaching failure or deterioration, consequently it is a combination of all these defects that essentially define the true condition of a carriageway.

This trend will remain the case until substantial investment to add life and resilience to the network is made available, such investment will allow Devon to carry out the required structural carriageway repair and rebuild necessary to improve overall road condition. This would ensure future works could then keep pace with normal wear and tear and deterioration.

The current gross replacement cost for all assets across the network is valued at £13.3 billion. Of all the assets, carriageways form by far the greatest proportion by value (83%) with a gross replacement cost of £11.1 billion. In general inflation has remained relatively stable nationally and this is reflected in the accumulated depreciation of our highway assets over recent years which currently remains at around 14%.

Over recent years increased capital provision has enabled the service to focus this funding on specific and essential parts of the major and minor road parts of the network. Minor roads making up 88% of our total road network means the additional funding has had to focus on all but the most essential roads meaning other minor roads are having to wait longer for more extensive planned works and in the interim kept functional through timely safety repair works.

The DWM's approach is enabling teams to focus on those roads that are most essential to the communities and less dependent upon data led scheme identification. Over time this will ensure resource is prioritised to those parts of the network which are the most important to the locality user and through the use of the 'Dragon Patcher' in dealing more effectively with potholes and preventative serviceability repairs the expectation is we will see further improvements across the whole network and more specifically on the local roads.

Although Devon's overall bridge stock remains classed as "good" and continues to be placed in the top three of LA's in the UK for bridge condition the large size of Devon's bridge asset still means there are over 800 bridges classed as either of 'fair' or 'poor' condition. With 'good' condition rating representing a low risk to public safety conversely a 'poor' condition rating indicates a significant risk to public safety and to mitigate this level of risk locations have to be managed by weight restriction signs, physical measures, monitoring or strengthening.

Recent programmes of work are showing the average condition of the retaining wall stock is improving due to the larger proportion of the BAS budget being allocated to the maintenance of this asset type.

6. Capital Highway Maintenance Programmes: 2019/20

Progress on the 2019/20 Highway Structural Maintenance Programme is shown in Appendix II of this report and the 2019/20 Bridges Assessment and Strengthening Programme, can be found in Appendix III.

7. Capital Highway Maintenance Programmes: 2020/21

The 2020/21 allocation is £49,901,360. For highways, appendix IV, reports over programming of £2,336,310 however due to changing design and unforeseen delays due to the Covid-19

pandemic, also extreme weather events and other emergency scenarios, an overspend is not anticipated.

It is proposed to allocate the funding as follows:

Highway Structural Maintenance	£40,644,360
Bridge and Structures Programme	£9,250,000
Total	£49,894,360

Table 3 – Programme Allocation

A breakdown of the above programme elements is included in Appendix IV and V.

In addition to the Term Maintenance Contract (TMC), there are a number of other contracts in place that deliver other significant elements of the capital programme. The Framework contract focuses largely on the delivery of a proportion of the surfacing and patching works with separate contracts also let for the delivery of specialist works such as high friction surfacing and road restraint systems.

Key elements include:

- (i) Highway Structural Maintenance (HSM): Principal Roads (A class roads)
- With a 2% increase in the 'amber' condition on principal roads is an indication that the rate of deterioration is also increasing which potentially will impact on the percentage of roads falling into a 'red' condition. To ensure we retain principal roads at less than 4% 'red' condition this budget line has been increased by £1 million to £6,800,000 for carriageway resurfacing and patching. It will ensure those roads which are in need of immediate attention are treated whilst also optimising the treatment for planned maintenance on those 29% of roads which are beginning to show signs of deterioration.
 - Following re-assessment of the network condition and potential funding projections the programme of surface dressing in 2020/21 was deferred into 2021/22. This provides the opportunity to transition smoothly to improved annual planning and preparation ahead of surface dressing programme in 2020/21 and time for reflection on the DWM work.

All will target "red" and "amber" Scanner data to maintain the proportion of A roads in a red condition at less than 4%.

- (ii) Skid Resistance Treatment (SCRIM)

Skidding resistance surveys (SCRIM Surveys) are undertaken by local authorities and Highways England. They provide a measure of the road surface contribution to the frictional forces developed between a vehicle's tyres and the road when accelerating, braking or cornering. Skidding resistance figures do not necessarily reflect safety levels on the network but rather sites where further investigation is required.

Devon limits routine annual SCRIM surveys to the principal road network only as it is considered neither affordable nor practicable for all roads on the highway network to be surveyed for skid resistance. The remaining untested network is covered under the strategy

in the Annual Wet and Dry Collision Review, other roads identified as requiring further investigation are also be included in the programme of assessment.

It is not possible to treat all parts of the principal road network that are currently below the current standard therefore the work is prioritised and limited to potentially high-risk sites with a history of collisions. This includes sites with a reported skidding resistance deficiency and a history of collisions on wet surfaces, others with a high deficiency (greater than or equal to 0.15) and collisions on dry surfaces. The allocation for SCRIM deficient sites is £1,200,000.

(iii) HSM Non-Principal Roads

Key elements include:

- £4,737,000 has been allocated to make further progress on non-Principal roads and to undertake preparatory patching and surfacing on local roads. This will support the strategic pledge on the condition of the 'B' roads and to help prioritise repairs to the more minor network identified through condition data, local knowledge and validated through visual assessment.
- £5,922,000 pre-patching works for preparatory treatment ahead of the 2021/22 Preventative Programme.
- £1,093,000 has been allocated for pre-patching works for preparatory treatment ahead of the 2022/23 Preventative Programme to enable scheme issues to be addressed through the local teams to target locations which may otherwise be identified through the normal identification process of condition data and visual assessment.
- £1,687,000 has been allocated from various HSM budget headings specifically for DWM's trial areas and will focus principally on resurfacing, patching, footways and drainage works.
- £1,500,000 is allocated for Highway Improvements Triage Patching for localised issues identified by the Triage Team whose focus is on small areas of capital patching and associated works.
- £2,000,000 has been allocated to operate four 'Dragon Patchers' located strategically around the county which provide an effective and efficient additional option for the repair of small to medium size patches on selected parts of the network.

(iv) Pothole Action Fund (PAF)

The Highway Infrastructure Asset Management Strategy outlines the insufficiency in funding to address all the demands for maintenance on the network consequently this has resulted in a backlog of planned work particularly on the minor road network. To address part of this backlog the PAF has been targeted towards areas of poor condition on the minor road network and Neighbourhood teams have worked with Councillors to identify a programme of schemes across the county for 2020/21.

The PAF has a total allocation of £1,920,000 and has been apportioned across each electoral division based upon two criteria, the density of actual potholes within the division and a minimum spend consistent across all ED's and DWM's trial areas.

(v) Footways

It is proposed to allocate a total of £1,367,000 to footway schemes and includes a combination of upgrading of slabbed footways, resurfacing and intervention treatments to restore condition of footway surfaces.

It is proposed to target part of the footway budget to replacing and upgrading damaged slab footways in urban areas which consistently generate a significant level of customer feedback regarding defective or uneven slabs. To improve the life of footway surfaces consideration will also be given to replacing, in consultation with local members and communities, existing slabbed footways with alternative more resilient flexible surfacing material.

Slurry sealing is recognised as a cost-effective intervention treatment for efficiently restoring the performance of worn and tired footway surfaces. Within this allocation and subject to final tender submissions, £500,000 has been set-aside for the 2020/21 footway slurry sealing programme.

(vi) Drainage

A £1,367,000 programme of drainage repair and upgrading is planned and is prioritised towards drainage issues on the winter salting network and other major roads in the first instance as well as schemes to protect damage to property.

(vii) Road Restraint Systems

£1,000,000 has been allocated to continue with the upgrading and replacement of road restraint systems. All high-risk sites identified in the original strategy have been inspected and upgraded where required, along with lower category roads and sites protecting structures and at overbridge locations adjacent to other major routes. The strategy has been reviewed and now includes other sites on the network which may have safety barrier protecting structures in central reservations and along other major routes.

(viii) Road Weather Stations

An ongoing programme valued at £100,000 per annum is being undertaken to upgrade Road Weather Stations are used to inform winter decision makers on the appropriate response necessary to deal with various winter service scenarios. These stations are over 15 years old and using obsolete equipment which is making them difficult to maintain. Replacing these stations and upgrading their communication will provide greater resilience to managing winter service and severe weather events over the next decade.

(ix) Highway Lighting and Street Lighting LED

8% of street lighting columns are over 40 years old, and a significant proportion of younger columns have been identified with specific failure modes that need to be checked. In response to this £1,220,000 has currently been made available annually to facilitate an ongoing column replacement programme, to mitigate the liability that this represents. The on-going street lighting programme to upgrade all lights to LED continues into 2020/21, with a budget of £3,469,000.

(x) Bridges and Structures

Whilst there hasn't been national survey for some years the condition of Devon's bridge

stock can be assumed to be still ranked 3rd in the UK out of 203 Local Authorities, however for the third year running an RAC Foundation report showed that Devon has the largest number of substandard bridges in the UK at 249. This is not a cause for concern for three reasons:

1. Devon has the largest stock of Local Authority bridges in the UK by a significant amount and the 249 substandard represents only 6% of the total stock.
2. A significant portion of the 249 are ancient 'clapper' bridges on Dartmoor which cannot be proved to carry the full load capacity but are doing so without any signs of distress and will not be strengthened or have weight limits applied. There is a proposal to load test these structures to reduce the number classed as sub-standard but the priority for this work is low as the highway users are not being adversely affected and are generally unaware that a structure is sub-standard.
3. There are many bridges in Devon with weight limits that are appropriate for the location and they do not cause transportation difficulties or limit access and there are no plans to remove the weight limits.

In 2019/20 a total of 152 bridges and structures projects were included in the annual programme for design, inspection or works. The number of landslides and embankment failures has significantly increased in recent years, none more so than this winter. The BAS budget has been increasing year on year to cover this unplanned engineering work.

The Bridge and Structures maintenance allocation has been increased to £9,250,000 to enable the continuation of strengthening and refurbishment projects whilst also ensuring the continuation of a large programme of major examination work that is necessary to ensure structural assets remain fit for purpose and safe to use:

Principal Inspections - Bridges	£165,000
Bridge Assessments - Post Tensioned Bridge Inspections	£225,000
Stage 1 Scour Assessments Non-Main Rivers	£134,500
Principal Inspections - Retaining Walls	£107,000

The programme for 2020/21 will continue with further strengthening projects to improve the resilience of the network. The ongoing programme of inspections and major examinations will continue to ensure the risk of failure of an asset is kept to an acceptable and manageable level. Safeguarding the public by modifying fencing on high bridges is nearing completion at one bridge in North Devon, a second structure has been included in the 20/21 programme.

(xi) Storm Damage (resilience contingency)

In line with DfT requirements for highway authorities to make provision within their funding allocation, a resilience contingency reserve of £250,000 has been incorporated within the programme should storm damage be experienced during the year. This is a reduction in last year's provision, but it is recognised that climate change is challenging the resilience of the network because of the increasing frequency of severe weather events. We are already seeing calls on this budget line due to three successive major storm events and the impact they have had on parts of the network. Recognising this challenge, we will continue to prioritise additional funding to this budget line.

8. Options and Alternatives

The current approach to scheme selection uses a preventative regime based upon need and sound asset management principles that optimises the use of available funding to reduce whole life maintenance costs. An alternative to this preventative regime would be to repair roads on a 'worst first' basis by focusing maintenance on the sections of road in the poorest condition.

Experience and learning gained from the DWM trials is demonstrating that possibly a combination of both traditional approaches combined with greater influence and input from a community perspective is offering a more transparent service. Through greater local involvement it offers a more robust and pragmatic focus on scheme selection by ensuring those locally identified important roads are 'fit for purpose'. By expanding the DWM testing, learning and principles out to other areas of the county will highlight areas of further improvement and refine the new approach that will enable the service to manage future expectations within our communities.

It is important however to note that any departure from our asset management approach as defined in the HIAMP could adversely affect future financial settlements from the DfT who see the use of sound asset management principles as fundamental in delivering cost effective maintenance solutions. It is therefore essential that developments within the plan continue to incorporate and amalgamate these and other principles within the assessment of its works programmes as the DfT have clearly said they will take this into account in future submissions for funding.

9. Consultations

The results of the 2019 National Highways and Transport (NHT) Public Satisfaction Survey reflect public perception of performance, importance and desire for various activities to be funded. Analysis shows that the condition of the highway network and the speed and quality of repairs are important to the public.

A summary of the NHT highway maintenance benchmarking indicator results illustrating public satisfaction levels for highway maintenance and road condition can be found in Appendix VI.

The 2019 survey summary gives a positive position and shows an improvement in the level of public satisfaction with regard to the highway maintenance service in Devon across every single area, which although slightly below the national average, gives an overall average satisfaction of 50% (National average 51%).

In 2018 we saw a dip in the general national trend of public satisfaction for highway maintenance however from the 2019 survey we are seeing a return to the overall upward trend nationally which is similarly reflected in the Devon figures. Prior to the dip in results in 2018 results had started to show a general upward trend of improved public satisfaction, it will be interesting to see outcomes from the 2020 survey in the Autumn following the extremely wet winter of 2019/20.

10. Environmental Impact Considerations (Including Climate Change)

The ability to efficiently transport people and goods around the County underpins Devon's economy and has a direct impact on the quality of our environment. When maintenance work is undertaken it is managed to ensure that the effect on the surrounding environment is kept to a minimum.

On carriageways and footways, surface treatment and reconstruction work is tightly controlled to achieve long term durability. Devon continues to use recycled materials within their hot mix materials and further trials are underway to further improve asphalt durability through the addition of materials such as rubber crumb and graphene. Whenever possible the use of recycled materials and secondary aggregates are encouraged along with greater utilisation of warm asphalts whose use is expanding across the network as more of the supply chain move to the production of warm mix material, Prior to installation these materials are subjected to rigorous testing to ensure their suitability within the construction and how its use impacts on the environment.

Construction contracts include for recycling plans to ensure that the use of natural resources is reduced where recycled alternatives exist.

As part of the Devon County Council's drive to become carbon neutral by 2030 we are developing a process that will establish average carbon intensity for various key work types. By the end of 2020/21 this will inform our average carbon cost of these works where carbon usage is high. These figures will then be used to establish the potential for utilising different treatments or to drive through procedures and processes that will reduce our carbon usage.

When the Street Lighting programme to upgrade all lights to LED is complete, there will have been a 75% carbon saving compared to the carbon footprint of Street Lighting in 2008 when the part night lighting was first introduced.

11. Equality Considerations

Where relevant to the decision, the Equality Act 2010 Public Sector Equality Duty requires decision makers to give due regard to the need to:

- eliminate discrimination, harassment, victimisation and any other prohibited conduct;
- advance equality by encouraging participation, removing disadvantage, taking account of disabilities and meeting people's needs; and
- foster good relations between people by tackling prejudice and promoting understanding.

Taking account of age, disability, race/ethnicity (includes Gypsies and Travellers), gender and gender identity, religion and belief, sexual orientation, pregnant women/new and breastfeeding mothers, marriage/civil partnership status in coming to a decision, a decision maker may also consider other relevant factors such as caring responsibilities, rural isolation or socio-economic disadvantage.

This may be achieved, for example, through completing a full Equality Impact Needs Assessment/Impact Assessment or other form of options/project management appraisal that achieves the same objective.

An overview of the impact assessment entitled '2020/21 Budget Impact Assessment' for all service areas has been circulated separately and is available to all Members of the Council at: <https://www.devon.gov.uk/impact/budget-2020-2021/>

12. Legal Considerations

The lawful consequences of the recommendations have been considered in the preparation of this report.

With the condition of parts of the network there is likely to be an increase in user

dissatisfaction and complaints which could lead to an increase of challenges to the Authority under Section 56 of the Highways Act.

13. Risk Management Considerations

The proposals contained in this report have been assessed and all reasonable actions are taken to safeguard the Council's position. Inability to undertake enough planned and general preventative maintenance work will result in an increased depreciation to the highways asset. This will lead to increased deterioration and defects and consequently, increased repair costs with potential for claims, which will put pressure on revenue and staffing budgets.

Where risks have been identified such as those associated with cost inflation, Covid-19 or inclement weather, which could disrupt the capital programme by causing higher than anticipated costs or delays, the implications have been accounted for in preparing this report. This includes developing long term programmes and the provision for reasonable contingencies in the estimates for capital highway and bridge maintenance schemes.

14. Public Health Impact

The cumulative reduction in budgets could have an impact on public health with reduced maintenance effecting sustainable travel alternatives, and potentially more injuries resulting from crashes, trips and falls, however the recommended approach limits this risk, by targeting investment.

15. Reasons for Recommendations and Conclusion

It is important to report to Cabinet on the performance of the highway network.

The DfT capital settlement for 2020/21 provides funding for capital maintenance of highway assets and this report sets out proposed programmes to optimise their availability and safe use for the travelling public. Approval of schemes and programmes of highway maintenance will enable the delivery of the 2020/21 plan to commence.

The report alerts Members to the fact that Government provides insufficient capital funding to meet all network maintenance needs. However, the proposed programme is designed to make best use of the available financial resources using the Cabinet endorsed Asset Management approach.

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Chief Officer for Highways, Infrastructure Development and Waste

Electoral Divisions: All

Cabinet Member for Highway Management: Councillor Stuart Hughes

Local Government Act 1972: List of Background Papers

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Background Paper	Date	File Reference
Impact Assessment	31 January 2020	https://www.devon.gov.uk/impact/budget-2020-2021/

pd210420cab County Road Highway Maintenance Capital Budget Programme 2020 21 hk 10 030520

Road Condition Indicator (RCI) by Year

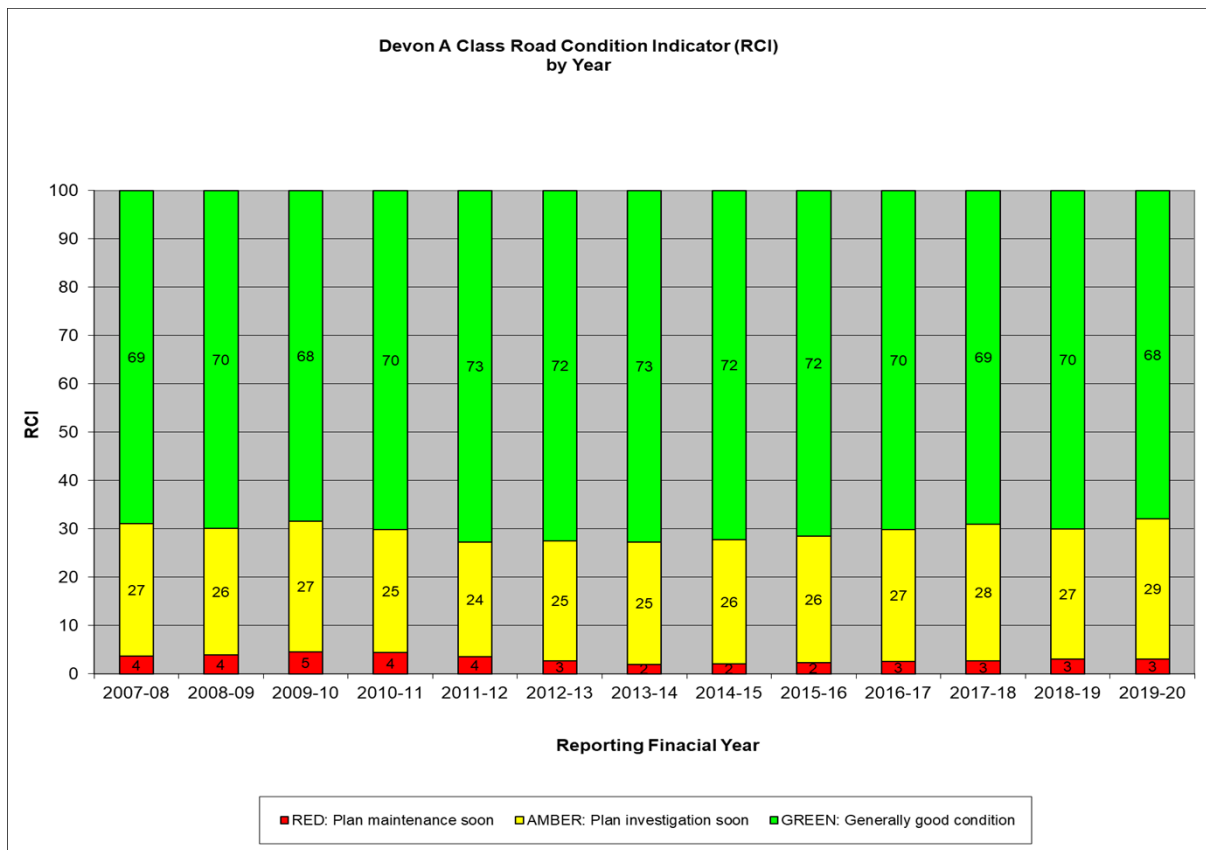


Figure 2

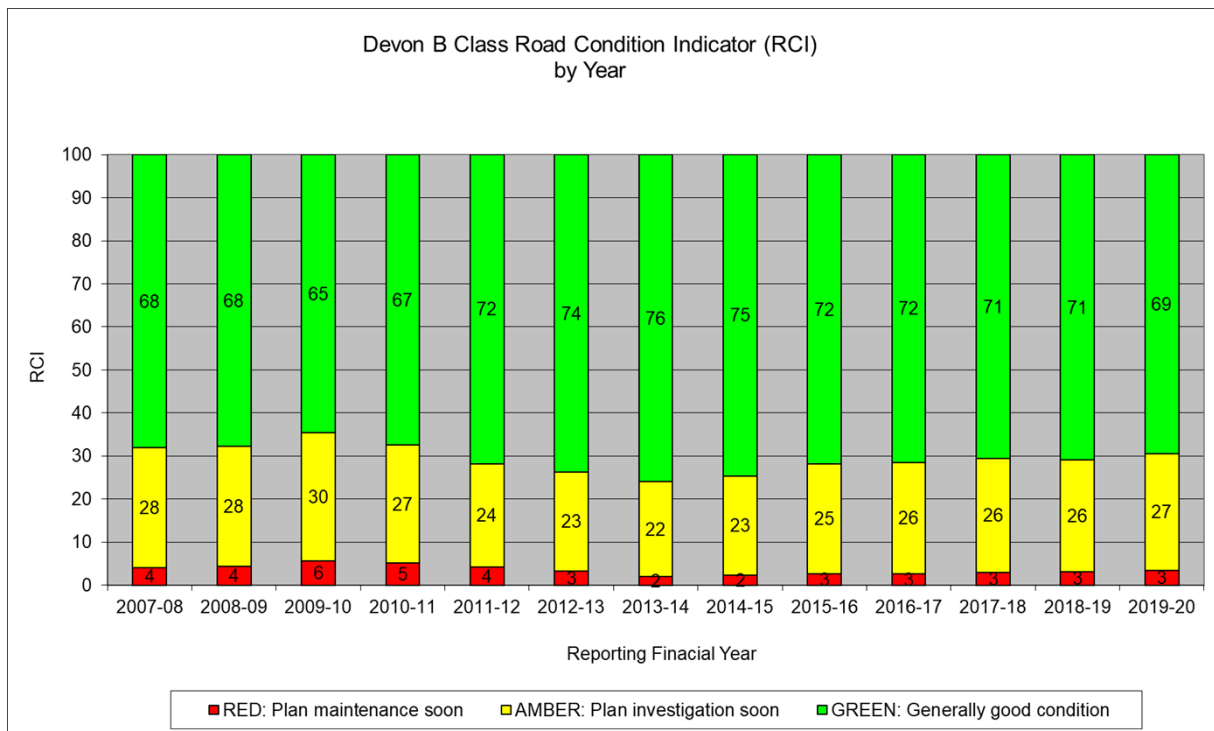


Figure 3

Road Condition Index (RCI) by Year (cont'd)

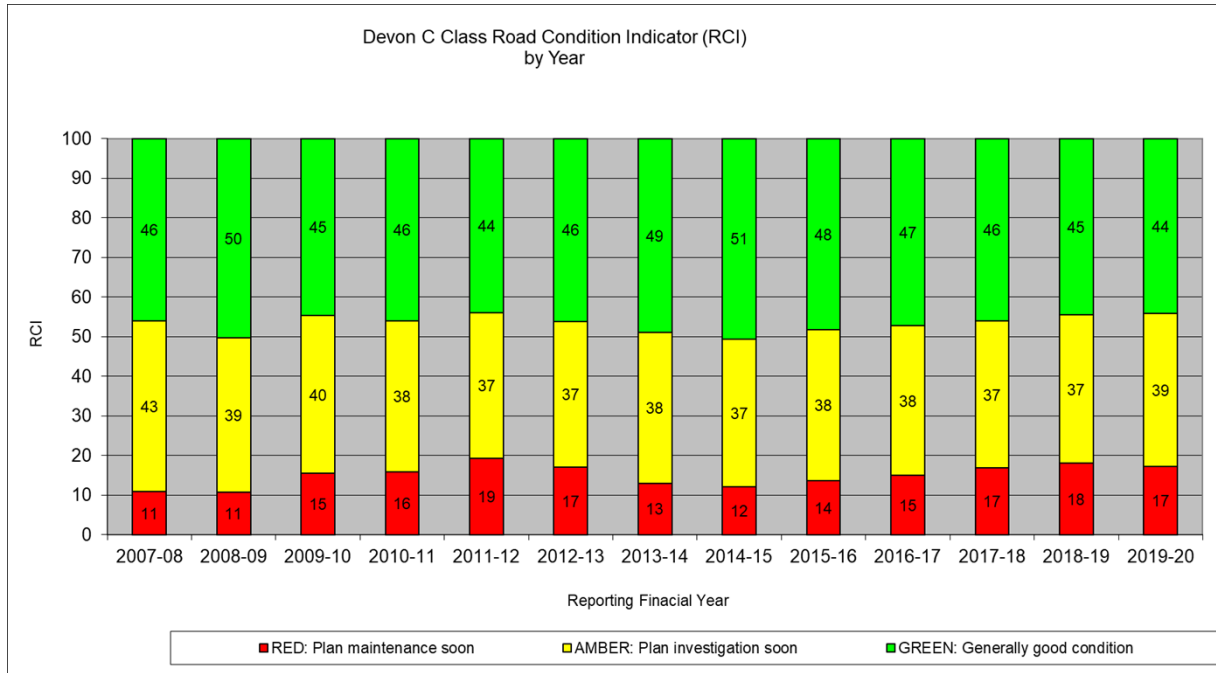


Figure 4

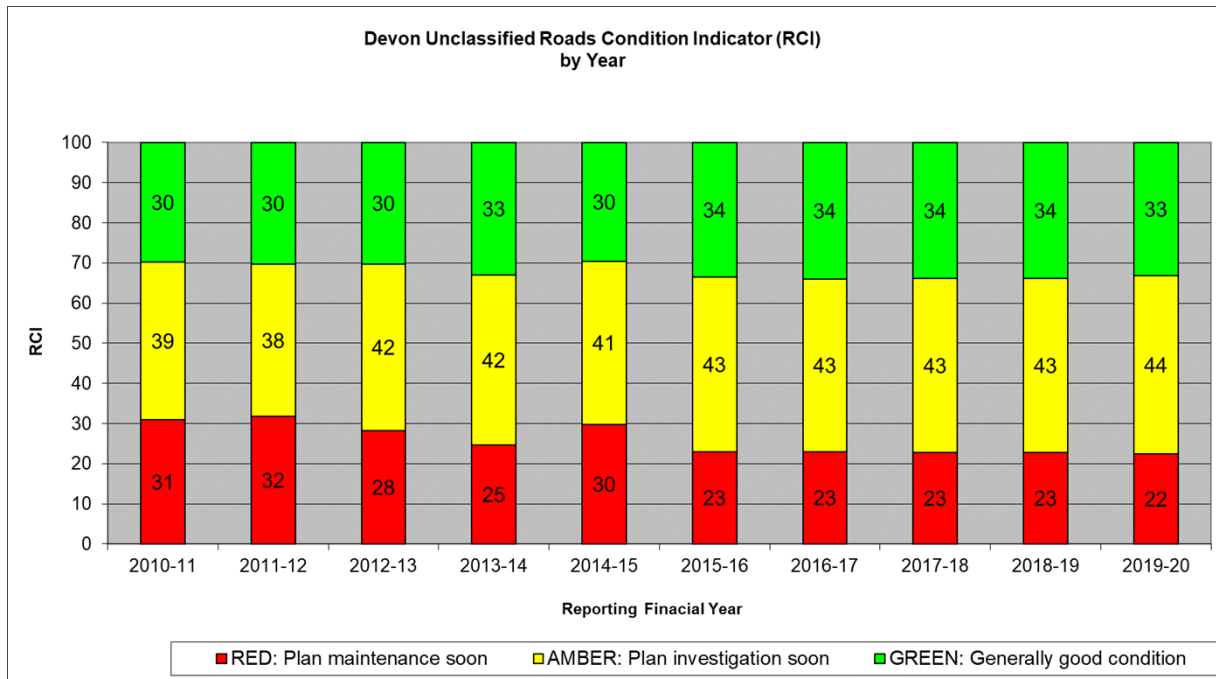


Figure 5

**Appendix II
To HIW/20/19**

Highway Structural Maintenance Programme 2019/20

Scheme Name	Value £
<u>Principal Roads</u>	
<i>Named Schemes</i>	
A3124 Trigger`s Hill, Old Parsonage, Beaford	11,174
A377 Weirmarsh Farm	14,139
A377 South Molton Road Elston Cross Kings Nympton	139,351
A377 Old Exeter Road	21,701
A379 Sandygate Roundabout and Approach Lanes, Exeter (Phases 1, 2 & 3)	3,090
A3124 Cocktree Sampford	10,394
A377 Exe Bridges, Exeter	213,754
A380 Harcombe Plantation Southbound Phase 1 & 2	475,736
A380 Kingsteignton Northbound	1,506,106
A380 Telegraph Hill Northbound	20,409
A380 Kingsteignton Southbound	1,536,671
A380 Ware Barton Northbound	50,386
Prin Rds Named schemes – other	60,659
A377 Half Moon to Newbridge Hill - Newton St Cyres	102,414
A377 Sand Down Lane to Pump Street - Newton St Cyres	200,880
Resurfacing and drainage on A361 between Gornhay Cross and M5	22,279
A379 Exeter Road - Kenton	13,350
A381 East Street - Newton Abbot	1,006
A381 Newton Road - Totnes	8,416
A361 Challoners Road	3,205
A386 Folly Gate Inwardleigh	23,874
A386 Hatherleigh Roundabout Hatherleigh	2,242
A386 Tavistock Road Bickleigh	383,500
A3015 Honiton Road, Exeter	129,923
A3072 Crosspark Cross, Holsworthy Hamlets	261,717
A3079 Fowley Cross, Sourton	35,006
A384 Caddaford, Staverton	5,488
A375 Exeter Road, Honiton	2,006
A3072 Crediton Road, Jacobstowe	117,474
A3123 Long Lane, Berrynarbor	13,951
A382 Whiddon Down A30 Overbridge, Drewsteignton	174,060
A396 Exeter Road - Bickleigh	2,567
A377 Chaffcombe Lane - A3072 - Copplestone	135,374
A30 Yarcombe	8,532
A379 Countess Wear Roundabout, Exeter	22,480
A379 Wobbly Wheel, Exminster	11,259
A396 Oakford Bridge, Bampton	15,367
A386 Plymouth Road, Tavistock (Industrial Estate)	249,598
A361 Chivenor Cross	121,452
A3124 River Torridge - St. Giles in the Wood CP	285,890
A3124 Torches Corner - Beaford CP	183,853
A380 Woodlands - Kenn CP	88,664

A376/A3052 Sandygate	18,429
A39 Watersmeet Road, Lynmouth	1,094
A39 Bucks Cross to Higher Waytown Parkham	1,342
A3121 Totnes Road, Ermington	24,567
A380 Teign Viaduct to Ashcombe Cross RRS verge	23,365
A380 Teign Viaduct to Ashcombe Cross Ware Barton roundabout	7,579
A380 Teign Viaduct to Ashcombe Cross Eagle Farm to Gappah Lane	6,736
A380 Teign Viaduct to Ashcombe Cross Gappah Lane to Ashcombe Cross Northbound	8,940
A380 Teign Viaduct to Ashcombe Cross Gappah Lane to Ashcombe Cross Southbound	5,532
A380 Kingskerwell	2,890
A382 Ford Street Station Road - Moretonhampstead	74,957
A385 Ashburton Road, Dartington	8,203
A399 Newtown - North Molton (Heady Ball Wood)	189,153
A399 Wistlandpound - Challacombe 19/20	4,570
A361 - St Brannocks Road, Ilfracombe CP	79,295
A383 Tesco Roundabout, Kingsteignton	65,140
A377 Jubilee Terrace, Copplestone	94,672
A3122 Dreyton Cross, Blackawton	4,929
A3122 Halwell Cross, Halwell and Moreleigh	147,993
A3122 Hunters Fields, Blackawton	127,095
A3124 Bondleigh Moor Cross, Bondleigh	128,653
A3124 Coulson Cross, Winkleigh	60,020
A3124 Summers Moor Cross, Winkleigh	4,719
A361 Braunton Road, Barnstaple	104,989
A382 Newton Road, Bovey Tracey	91,031
A386 Landcross, Landcross	49,203
A386 Kingsley Road, Bideford	252,412
(New) A3124 Beaford Village Centre	112,457
A386 Pretty Top Cottage - Merton CP	32,675
A39 Eastern Avenue - Barnstaple CP	8,245
A3052 Crealy/Blackmore Road Junction	57,577
A381 Elston Farm-West Alvington	12,141
A379 Slapton Line	645,000
Prin SCRIM	1,610,000
Prin Preventative Programme (Surface Dressing)	407,000
Prin - Summer Pre-patching for 20/21 Preventative Programme SD & MA (includes b/f from 18/19)	158,000

Total Principal Roads 11,320,000

Non-Principal Roads

Non-Principal Road Recovery Programme	7,634,000
Non-Prin Preventative Programme (Surface Dressing & Microasphalt)	4,199,000
Non-Prin - P/P 18/19 b/f for Preventative Programme	144,000
Non-Prin - Summer Pre-patching for 21/22 Preventative Programme SD and MA	4,893,000
Non-Prin - Pre-patching for 21/22 Preventative Programme	3,553,000

Total Non-Principal Roads 20,423,000

All Roads

Pothole Action Fund (deferred from 17/18)	217,000
Pothole Action Fund (17/18 additional)	145,000
Pothole Action Fund 19/20	1,750,000
Severe Weather Resilience	316,000
Spray Injection Patching	334,000
Dragon Patcher	639,000
Joint Sealing	176,000
Pre-Surfacing Cleaning	18,000
Forward Design	357,000
Pre-Surface Dressing Cleaning	751,000
Wet/Dry Collision Sites	413,000
High Skid Resistance Surfacing Programme (HFS)	548,000
Carriageway Condition Survey	315,000
Material Testing	245,000
Scheme Delivery Group	831,000
Footways	1,950,000
Cycleway, PROW & Unsurfaced Roads	618,000
Road Restraint Systems - Upgrade Strategy	1,075,000
Drainage	1,328,000
Cattle Grid structural repairs	120,000
Street Lighting column upgrades	1,615,000
Street Lighting LED	1,293,000
Road Stud upgrades	2,000
Road Weather Station Renewal Programme	102,000
Traffic Signal Replacements	1,074,000
Highway Vehicles	552,000
Minor traffic management improvements	224,000
Depots	523,000
Highway improvements Triage Patching	1,516,000
HOCC Improvements CCTV Upgrade	164,000
Total All Roads	19,211,000
Total HSM Programme (incl. of TMC overheads)	50,954,000
HSM Allocation 2019/20	49,812,000
Final variance 2019/20 carried forward (LTP over-programmed but street lighting & Slapton under-programmed)	1,142,000

Bridge Assessment and Strengthening Programme 2019/20

Scheme Name	Parish	Value £
1258 Gara Bridge - Physical Width Restriction	Diptford CP	15,604
1804 Canal Bascule Bridge - NDT & refurbishment of pins	Exeter CP	1,991
4170 River Exe Viaduct - East expansion joint replacement	Tiverton CP	36,971
4186 South Hayne U/B - Expansion joint replacement	Bishop's Nympton CP	1,287
A379 County Garage Culvert - New Manhole Access	Teignmouth CP	2,625
A379 Shaldon Bridge lifting span refurbishment	Teignmouth CP	12,793
A380 Bridges - Component Replacement	A380	2,785
A381 Newton Abbot Station Usk Girder	Newton Abbot CP	14,077
A39 Torridge Bridge, Bideford - Joint Replacement	Westleigh CP	123
A399 5km South of Brayford - Lions Rump South	Brayford CP	138,317
B3174 St Saviours Bridge - Waterproofing and Refurbishment	Ottery St. Mary CP	1,268
B3181 Bramley Bridge	Bradninch CP	9,860
Management of Sub-standard Structures	Countywide	9,534
Beckford Irish - Bridge Replacement	Dalwood CP	101,666
Bickleigh Bridge - CCTV / Highway Realignment	Tiverton CP	6,165
Bridge Assessments - Bridge Pier Impact	Countywide	159,825
Bridge Assessments - Bridge Road Canal Bascule Bridge	Exeter CP	9,810
Bridge Assessments	Countywide	133,235
Bridge Assessments - Bridge Road Canal Bascule Bridge	Exeter CP	3,339
Bridge Assessments - Lightning Protection	Countywide	2,723
Bridge Assessments - Post Tensioned Bridge Inspections	Countywide	184,176
Bridge Inspectors Minor Works	Countywide	303,310
Bridge Strengthening - Stony Bridge	North Molton CP	17,777
Bridge Strengthening - Broom River Bridge	Chardstock CP	231,327
Bridge Strengthening - Clyst St Mary Bridges	Clyst St. Mary CP	9,953
Bridge Strengthening - Bridge Road Canal Bascule Bridge	Exeter CP	27,843
Bridge Strengthening - Exeter Hill, Cullompton	Cullompton CP	48,712
Bridge Strengthening - Longham	Hatherleigh CP	101,315
Bridge Strengthening - Pattard	Hartland CP	22,519
Bridge Strengthening - Shaldon Bridge Pier 2 & 3	Teignmouth CP	362,434
Canal Bridges - New Barriers	Exeter CP	81,692
Canal Swing Bridge - Steelwork Repairs	Exeter CP	15,714
Clyst St Mary River and Leat Bridges– Waterproofing	Clyst St. Mary CP	5,811
Exe Bridges - waterproofing	Exeter CP	75,964
F/D - Major Refurbishments - Baulk Bridge	Bradninch CP	21,313
F/D Major Refurbishment - Iron Bridge, Exeter	Exeter CP	21,293
F/D Retaining Walls - A377 Blackboards Carriageway Stabilisation	High Bickington CP	9,088
F/D Retaining Walls - A396 Ashley Recycling Centre	Tiverton CP	271,541
F/D Retaining Walls - Beacon Lane, Kingswear	Kingswear CP	10,715
Bridge strengthening F120 Alma Footbridge Sidmouth	Sidmouth CP	1,484,662
Joints and Bearings - River Bray Viaduct joint replacement	Filleigh CP	66,517
Landcross Viaduct - Major Refurbishment	Bideford CP	160
Landslip - Puffing Billy - Torrington	Great Torrington CP	8,929

Major Refurbishment - B3344 Bovey Bridge Cantilever Footway	Bovey Tracey CP	9,106
Major Refurbishment - Courtlands Boardwalk and Ramp	Exmouth CP	4,455
Major Refurbishment - Fremington Viaduct, Barnstaple	Fremington CP	12,403
Major Refurbishment - Halberton Aqueduct incl Waterproofing	Halberton CP	350,614
Newbridge Chudleigh Knighton Invert/apron	Hennock CP	2,273
Old Rockbeare Bridge Refurbishment	Broad Clyst CP	17,701
Bridge Safeguarding at Taw Bridge	Barnstaple CP	468,989
Bridge Safeguarding at Torridge Bridge	Westleigh CP	23,702
Principal Inspections - Bridges	Countywide	357,630
Principal Inspections - Retaining Walls	Countywide	190,947
Principal Inspections - Retaining Wall - Station Hill Bideford	Bideford CP	6,520
Retaining Walls - Bickleigh House	Bickleigh CP	37,318
Retaining Walls - 50958 Coombe Trenchard	Coryton CP	40,022
Retaining Walls - 50968 Craydon Hill near South Tawton	South Tawton CP	71,417
Retaining Walls - 51419 East Allington	East Allington CP	73,065
Retaining Walls - 51442 Rake, Loddiswell	Churchstow CP	5,577
Retaining Walls - 60052 Dacombe Hill Rockface Stabilisation	Coffinswell CP	26,361
Retaining Walls - A375 (Rosemount Lane to Battishorne Way)	Honiton CP	32,860
Retaining Walls - A377 Kingford	High Bickington CP	68,488
Retaining Walls - A377 Langford Newbridge Cross	Tawstock CP	5,163
Retaining Walls - A379 Fancy Cross Embankment	Modbury CP	19,214
Retaining Walls - A381 North of Harbertonford	Harberton CP	3,995
Retaining Walls - A386 Landcross	Landcross CP	6,143
Retaining Walls - A396 Riversmeet Cottage	Bampton CP	12,519
Retaining Walls - A396 Stoke Woods	Exeter CP	877
Retaining Walls - A399 Brayford South (Bray Quarry)	Brayford CP	10,775
Retaining Walls - A399 Landslip Combe Martin - West Seven Ash Farm	Kentisbury CP	2,602
Retaining Walls - B3212 Approach to Moretonhampstead	Moretonhampstead CP	78,375
Retaining Walls - B3229 Kentisbury	Kentisbury CP	235,812
Retaining Walls - B3230 Muddiford Leat Stabilisation	Ilfracombe CP	226,585
Retaining Walls - B3230 Warmcombe Farm	Ilfracombe CP	19,290
Retaining Walls - B3234 Lynton Outside Lyndhurst	Lynton & Lynmouth CP	644
Retaining Walls - B3260 New Road Near Okehampton - Gabion Stabilisation	Okehampton CP	12,948
Retaining Walls - Bonhay Road/Haldon Road	Exeter CP	4,698
Retaining Walls - Brixham Road, Kingswear	Kingswear CP	13,645
Retaining Walls - Brooklyn	Broadhempston CP	22,111
Retaining Walls - Exeter rear of 26 Bonhay Road	Exeter CP	14,143
Retaining Walls - Hillsborough Lodge, Exeter	Exeter CP	2,762
Retaining Walls - Iron Bridge Lower North Street Retaining Wall	Exeter CP	11,081
Retaining Walls - Joseph's Garden		104
Retaining Walls - Lower Loxhore Cross	Loxhore CP	75,561
Retaining Walls - Lypstone Exe Estuary retaining wall refurbishment	Lypstone CP	96
Retaining Walls - Lynton, Station Hill junction with B3234	Lynton & Lynmouth CP	361,548
Retaining Walls - Morwellham Chapel	Gulworthy CP	26,761
Retaining Walls - Neighbourhood Team Minor Works	Countywide	149,455
Retaining Walls - Tarka Trail Ethelwynne - Station Hill Footway Slab Replacement	Bideford CP	29,236
Retaining Walls - Toe protection - Marine Parade Shaldon	Shaldon CP	24,805
Retaining Walls - Westleigh Tarka Sea Wall	Westleigh CP	124,249
Retaining Walls - Wonnell Barn, Yealmpton (Holbeton)	Holbeton CP	119,005
Retaining Walls - 24 Salters Road, Exeter	Exeter CP	17,962

Retaining Walls – B3227 Millway	Bampton CP	1,061
Retaining Walls – Shillingford School	Bampton CP	93,664
Retaining Walls - Higher Quarry near Moortown	Whitchurch CP	115,894
River Yeo Cycle & Footbridge - Major Refurbishment	Barnstaple CP	162,159
Road/Rail Incursions - Chenson site 1	Chawleigh CP	4,534
Rock Park - Major Refurbishment	Barnstaple CP	10,090
Rockface Management - A386 Landslip Near Ridd	Monkleigh CP	24,184
Scour Protection - F/D - Axmouth (Inc Side Span)	Axmouth CP	2,374
Scour Protection - Puslinch Bridge	Yealmpton CP	147
Skinnners Footbridge Replacement Sidmouth	Sidmouth CP	55,817
Stage 1 Scour Assessment non main rivers	Countywide	165,700
Sub-standard Parapet - Lee Mill New Parapets	Sparkwell CP	72,381
Sub-standard parapets Exe Bridges Refurbishment	Exeter CP	532
Sub-standard Parapets - Exeter Bypass Cycle Bridge	Exeter CP	167
Traffic and Signing - Low Headroom Bridges	Countywide	129,358
Wilcombe Embankment, Grand Western Canal	Tiverton CP	36,533
Wilder Brook - Culvert Section Outside Osborne Hotel	Ilfracombe CP	4,621
Bridges – unallocated	Countywide	4,409
Total BAS Programme		8,362,000
BAS Allocation 2019/20		8,216,000
Final variance LTP carried forward to 2020/21		146,000

Highway Structural Maintenance Programme 2020/21

Function	Budget £'s
<u>Principal Roads</u>	
A Roads	6,800,000
A379 Slapton Line	213,000
SCRIM Remedial Works	1,200,000
-	
<u>Non-Principal Roads</u>	
DWM Trial Areas	1,687,000
Non-Principal Road Recovery Programme	4,737,000
Pre-Patching for 21/22 Preventative Programme	5,922,000
Pre-Patching 2022/23 Preventative Programme	1,093,000
Highway Improvements Triage Patching	1,500,000
Pothole Action Fund	1,804,000
Dragon Patcher	2,000,000
Joint Sealing	182,000
Forward Design	610,000
Wet/Dry Collision Sites	100,000
High Skid Resistance Surfacing Programme	547,000
Carriageway Condition Surveys	325,000
Fixed Contract Overhead Charge	1,644,670
Material Testing	182,000
Scheme Delivery Group	693,000
Footways	1,367,000
Cycleway, PROW & Unsurfaced Roads	680,000
Road Restraint Systems Strategy	1,000,000
Drainage	1,367,000
Cattle Grid Structural Repairs	73,000
Resilience Contingency	250,000
Road Weather Station Renewal Programme	100,000
Highways Lighting	1,220,000
Street Lighting LED replacement	3,469,000
Traffic Signal Replacements	1,300,000
Depots	300,000
Minor Traffic Management Improvements	615,000
HSM Programme Total	42,980,670
Allocation	40,644,360
Overprogrammed	2,336,310

**Appendix V
To HIW/20/19**

Bridge and Structures (BAS) Capital Maintenance Programme 2020/21

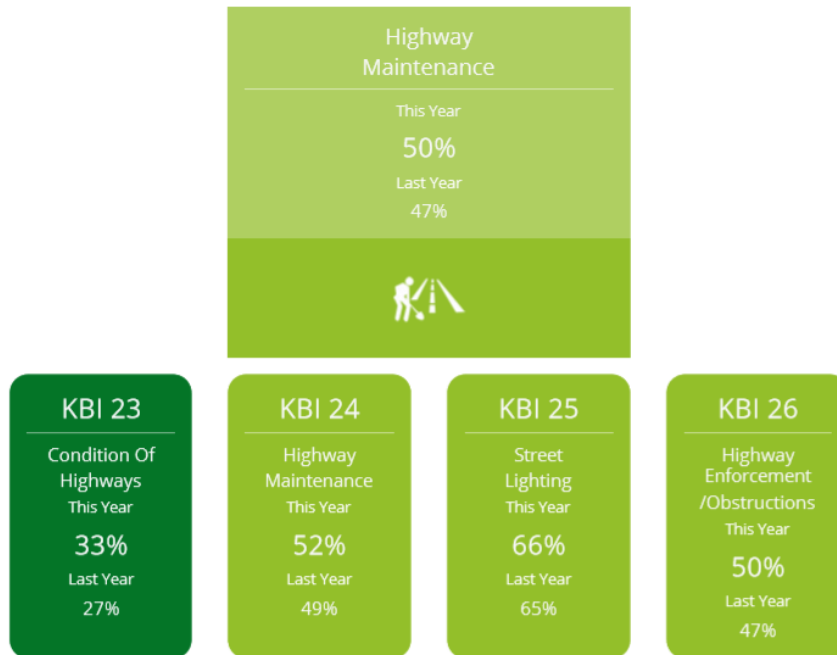
Function	Estimate £
Bridge Strengthening	1,151,500
Forward Design	570,000
Retaining Wall Strengthening	3,639,500
Major Refurbishment	222,500
Minor Refurbishment	1,303,000
Joints and Bearings	386,000
Sub-Standard Parapets	200,000
Bridge Safeguarding	806,000
Bridge Assessments	205,000
Principal Inspections	272,000
Scour Assessments / Protection	134,500
Post Tensioned Special Inspections	225,000
Low Head Room Signage	110,000
Management of Sub-standard Structures	25,000
Total BAS Programme	9,250,000
BAS Allocation 2020/21	9,250,000

2019 National Highway & Transport (NHT) Public Satisfaction Survey Results

Year on Year Comparison

Executive Summary - Devon County Council

2019 NHT Survey Results - Year on Year Comparison
Highway Maintenance 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.