

County Road Highway Maintenance Capital Budget: Progress on 2018/19 Schemes and Proposals for the 2019/20 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 2018/19 capital funded highway maintenance schemes detailed in Appendices I and II to this report be noted;**
- (b) the capital funded highway maintenance programmes for 2019/20 as set out in Appendices III and IV 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 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 asset. 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 2018/19. Section 3 of the report details the proposals for capital funding of highway maintenance schemes in 2019/20.

The report presents the latest network condition information and key performance indicator data. This data measures performance against the levels of service as agreed in Devon's Highway Infrastructure Asset Management Plan (HIAMP) adopted by the County Council in November 2016.

The 2019/20 funding awarded to Devon from central government included in this report, was approved by Full Council on 21 February 2019. This report seeks approval from Cabinet, to allocate the funding across the programmes and schemes proposed in 2019/20 as listed in appendices III and IV. The allocations include an element of the estimated funding carried forward from 2018/19.

2. Background

Devon's HIAMP was adopted by the County Council at its meeting on 9 November 2016 and is currently undergoing its first review. It provides the framework and approach to deciding on capital investment in highway asset and has been used in recommending programmes

and schemes contained in this report. The schemes and programmes for 2019/20 proposed in this report flow from the application of the HIAMP principles.

The Highway Asset Management approach uses lifecycle planning to inform the optimal timing and treatment at each stage of an asset's life. Where there is not sufficient capital funds to meet all of the needs of the network, the HIAMP enables decisions to be made on schemes and programmes based upon defined criteria, need and priorities.

3. Financial Considerations and Sources of Funding for 2019/20

Devon's Local Transport Plan (LTP) Needs Formula Settlement 2019/20 is £34.042 million and provides funding for structural maintenance of all highway assets. Other capital funding previously awarded or anticipated by Government are detailed below:

- Devon has completed the Incentive Fund Self-assessment return to the Department for Transport (DfT) and has entered its third successive year as a band 3 Authority, the highest rating possible and attracting an additional £7.09 million funding for the current year. The incentive fund and 'Needs Formula' allocations advised in the Government's spending review are shown in Table 1 below. Allocations from 2019/20 onwards are indicative only.
- Pothole Action Fund value is not yet confirmed but anticipated for 2019/20 at £1.92 million, based upon previous percentage allocations from the fund.
- £800K balance of £2.5 million DfT grant for coastal protection works to A379, Slapton Line.
- As part of the Outturn report Cabinet approval will be sought in May to carry forward from the 2018/19 year, in the region of £15.754 million, this under programming is a consequence of the additional £18.754 million DfT Local Highway Maintenance Fund awarded in October 2018. It is anticipated that £10.651 million will be carried forward to 2019/20 and £5.103 million to 2020/21.

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)

The Pothole Action Fund announced in 2015 is designed to assist in dealing with the backlog of potholes through repair or action to prevent them forming in the first place. The funding is allocated by formula shared by local highway authorities in England, between

2016/17 and 2021. Spend will be targeted to priority sites across the network through discussion between Councillors and local Neighbourhood teams to ensure the funds are used as efficiently as possible and have the biggest impact over the network. In summary, the funding sources for 2019/20 are:

LTP needs formula allocation 2018/19	£34,042,000
Pothole Action Fund (PAF)	£1,920,000
Incentive Fund (Band 3)	£7,090,000
Estimated Under Programming b/f from 2018/19	£10,651,000
A379 Slapton Line	£800,000
Total	£54,503,000

Table 2 – Funding Sources

4. Trends in Road Condition

'A' Road Assessment Vehicle (SCANNER) is used to collect data on road surface condition. The data provides information on condition and trends for 'A' roads, 'B' roads, 'C' roads and Unclassified roads. Figures 1, 2, 3 and 4 to this report provide summary of road condition indicator data in a graphical form using the following national indicator bands to reflect road condition.

RED Condition	Plan Maintenance soon
AMBER Condition	Plan Investigation soon
Green Condition	Generally, in a good state of repair.

The A and B road network is designed to keep communities and businesses on the move and maintains key links into communities and neighbouring authorities even when winter weather affects the county. Commitment to maintain the 'A' and 'B' road network under LTP key objectives to below 4% in the red national indicator band will continue to absorb a major part of the budget leaving the balance to be spread across Devon's significant minor road network.

Unclassified roads combined with 'C' roads make up 87% of Devon's total road network. The data confirms that under current funding models and excluding external influences of increased daily traffic flows, climate change and severe weather, we are managing to maintain the status quo across this part of the network.

Decreasing budget has however seen a growing and continued reliance on preventative short-term less expensive treatments. Such treatments, although providing an excellent mid-life protection, cannot be used continuously and will ultimately have an associated impact on network condition.

The current trend of road condition reflects that the Devon road network is vulnerable to the formation and propagation of potholes, this is inevitable given the nature of the network, its usage and past funding arrangements. 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.

5. Analysis

The current gross replacement cost for all assets across the network is valued at £12.26 billion. Of all the assets, carriageways form by far the greatest proportion by value (83%) with a gross replacement cost of £10.2 billion. The value of the accumulated depreciation of these assets has remained stable over the last few years and is being maintained at less than 14%.

Central to the Devon asset management approach is the development of a performance framework to monitor progress against defined levels of service. Analysis of the performance shows that in general, levels of service are currently being achieved and supports the decisions regarding funding allocation of available budget against each asset group in the 2019/20 programme.

Through the use of condition and inventory data and determining, through asset management principles, the appropriate treatment, it is estimated to improve all roads currently at 'planned maintenance soon' stage requires an investment in excess of £170 million and an ongoing annual maintenance programme valued at £39 million to maintain just carriageways in a steady state condition.

The impact of insufficient funding to deal with structural deterioration in our minor road network and the trend in using less expensive treatments to 'patch up' essentially life expired pavements will eventually lead to significant failures of the network. It is therefore essential that available funding is provided and targeted to deliver the most cost-effective treatment of each asset in the longer term. Annual Scanner surveys indicate that a larger proportion of available funding should be allocated to 'C' class road repairs at the expense of the other unclassified roads.

Devon's overall bridge stock remains classed as "Good" as reported in previous years and the overall condition places Devon's bridge stock in the top 3 in the UK. This 'good' rating is interpreted as representing a low risk to public safety. The large size of Devon's bridge stock is such that despite this overall 'good' score, there remain over 800 bridges classed as "fair" or "poor" with the latter category indicating there is a significant risk to public safety. These "poor" structures are managed, and the level of risk mitigated by weight restriction signs, physical measures, monitoring or strengthening.

The average condition of the retaining wall stock is improving due to the larger proportion of the capital budget being allocated to this asset type. Also, additional inspectors have been recruited (from within the current establishment) to ensure the large stock of structures is inspected in accordance with the return period of 2 years as set out in the national Code of Practice.

Surveys show that 14.5% of street lighting columns are older than their recommended 40 years design life. Extensive replacement in 2018/19 has been completed and continued replacement of lighting columns in urban areas will continue in 2019/20.

6. Capital Highway Maintenance Programmes: 2018/19

Progress on the 2018/19 for the Highway Structural Maintenance Programme is shown in Appendix I of this report and the Bridges Assessment and Strengthening Programme, can be found in Appendix II.

7. Capital Highway Maintenance Programmes: 2019/20

The funding planned to be allocated for 2019/20 is £54,503,000.

It is proposed to allocate this as follows:

Highway Structural Maintenance	£46,503,000
Bridge and Structures Programme	£8,000,000
Total	£54,503,000

Table 3 – Programme Allocation

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 surface dressing and microasphalt. Almost 45% of the programme is delivered through the TMC with the remaining 55% shared amongst the Framework contractors (22%) and others (33%).

Based upon our current design resource and delivery capability it is considered the proposed 2019/20 capital programme contained in this report is at capacity and any additional funding is likely to invoke under delivery within this programme and result in carry over of undelivered schemes into 2020/21. In view of this, there is provision in the programme of £5.103 million as a Forward Plan for 2020/21 to enable a continuous delivery of deferred schemes into 2020/21. This contingency arrangement will also manage the transition should anticipated funding reductions through central government in 2020/21 be realised.

Key elements include:

- (i) Highway Structural Maintenance (HSM): Principal Roads (A class roads)
 - £6.4 million for resurfacing to larger schemes identified through condition data and visual assessment.
 - £0.434 million on surface dressing and micro-asphalt treatments in the Preventative Programme.
 - £0.3 million pre-patching works for preparatory treatment ahead of the 2020/21 Preventative Programme.

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 Appendix H by the Annual Wet and Dry Collision Review, other roads identified as requiring further investigation are also 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.

All deficient sites identified through SCRIM are validated through visual assessment to determine the exact causation from this a programme of remedial treatment is determined. £1.6 million has been allocated for SCRIM Remedial Works.

(iii) HSM Non-Principal Roads

Key elements include:

- £5.75 million 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.
- £4.3 million has been allocated for preventative treatments, surface dressing (£3.2 million) and micro asphalt (£1.1 million).
- £4.2 million pre-patching works for preparatory treatment ahead of the 2020/21 Preventative Programme.
- £4 million has been allocated as a result of the DfT October award of £18.754 million to enable local scheme issues to be addressed. Each electoral division will receive £60K to target locations which may otherwise be overlooked through the normal identification process of condition data and visual assessment.

Roads can often be economically restored to a good condition and life extended by intervening at the right point in the road's life cycle with intermediate treatments. Using a whole life costing approach focuses maintenance to minimise the total maintenance costs over the lifetime of the asset. Surface dressing as a cost-effective preventative treatment provides that intervention treatment extending the period where more costly reconstruction maintenance will be necessary in the future.

(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 2019/20.

This has an allocation of £1.92 million and has been apportioned across each electoral division based upon the density of actual potholes within the division.

(v) Footways

It is proposed to allocate £2.15 million to footway schemes. Slurry sealing is recognised as a cost-effective intervention treatment for efficiently restoring the performance of worn and tired footway surfaces. £492,000 will be allocated for the 2019/20 footway slurry sealing programme.

£150,000 will be used to prepare the footways ahead of the planned slurry sealing programme in 2020/21.

It is proposed to target £550K of footway budget to replacing and upgrading slab footways in urban areas. Such footways generate a significant level of customer feedback relating to defective or uneven slabs. To improve maintenance longevity consideration will also be given to replacing such footways with alternative lower maintenance surfaces noting that any such change will only occur following agreement through consultation with local communities.

A programme of footway reconstruction estimated at £958K is targeted at footways where condition data identifies potential issues and where local teams have visually assessed poor footway condition.

(vi) Drainage

A £1.6 million programme of drainage repair and upgrading is planned and will prioritise on drainage issues on the winter salting network and other major roads.

(vii) Road Restraint Systems

£1.2 million has been allocated to continue with the upgrading and replacement of road restraint systems. All high-risk sites identified in the 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

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 between 10 and 20 years old and approaching obsolescence. A four-year replacement programme started in 2018/19 and this is a continuation with £0.1 million allocated to ensure we have adequate reporting systems to satisfy our resilience requirements.

(ix) Bridges and Structures

The condition of Devon's bridge stock is currently ranked 3rd in the UK out of nearly 200 Local Authorities, however for the second 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 programme to load test these structures to ensure the overall number classed as sub-standard can be reduced.
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 2018/19 a total of 105 bridges and structures projects were included in the annual programme for design or works. The largest capital maintenance projects involved replacing major components on Torridge Bridge (East) and Bray Viaduct which between them cost over £1m.

A contribution of £900,000 was allocated from the BAS budget to waterproofing and resurfacing works to over bridges on the A361 near Tiverton.

One major unexpected event occurred at Shaldon Bridge where emergency repairs were undertaken at a cost of just under £200,000.

As well as strengthening and major refurbishment projects there continues to be 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	£309,000
Bridge Assessments - Post Tensioned Bridge Inspections	£175,000
Stage 1 Scour Assessments Non-Main Rivers	£86,000
Principal Inspections - Retaining Walls	£168,000

The programme for 2019/20 will continue with further strengthening projects to improve the resilience of the network. Major refurbishments will take place on several historic structures including Iron Bridge in Exeter and 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.

(ix) Storm Damage

In line with DfT requirements for highway authorities to make provision within their funding allocation, a storm contingency reserve of £2 million has been incorporated within the programme for possible repairs should storm damage be experienced during the year.

8. Options/Alternatives

The programme for 2019/20 optimises the use of the available funding and follows the approved HIAMP to reduce whole life maintenance costs. Any reduction in the programme would therefore further compromise Devon's ability to the agreed levels of service and reduce the resilience of the local authority highway network to the dis-benefit of businesses and all road users.

The Highway Infrastructure Asset Management Plan includes a preventative regime. An alternative to the preventative regime would be to repair roads on a 'worst first' basis and focusing maintenance on the sections of road in the poorest condition. This would be a higher cost approach adding more than 30% in maintenance costs over time to maintain

road condition resulting in fewer roads being treated in the longer term.

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. The DfT have clearly said they will take this into account in future submissions for funding.

Further to the recent scrutiny review the service is undertaking a 'doing what matters' review reflecting on what developments can be made to the Highway Infrastructure Asset Management Plan which will concentrate on roads being fit for purpose and provide a more pragmatic approach and transparent service.

The 19/20 programmes include a large element of forward programming. An alternative would have been to attempt delivery of a larger programme in the forthcoming year, putting pressure on design and delivery resources and impacting adversely on the supply chain and network availability for users. Additionally, there is a significant relative reduction in highway capital funding identified in the 2020/21 financial year and currently no detail on proposed allocations for the years following this. The proposed inclusion of a forward planning allocation will enable a smoother transition of resources and delivery in the long term.

9. Consultations

The results of the 2018 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.

The complete survey can be seen at [NHT Survey](#)

A summary of the individual NHT highway maintenance benchmarking indicator results illustrating public satisfaction levels for highway maintenance and road condition can be found at the above link. The 2018 survey summary shows that the level satisfaction with the condition of the highway and the delivery of the highway maintenance service in Devon is at 27% and 49% respectively which is slightly below the national average giving an overall average satisfaction of 47% (National average 49%). The general trend has been clearly one of reduced level of public satisfaction and this is reflected nationally where we have seen a declining trend in satisfaction. The Devon figures similarly reflect this decline by showing a comparative drop in the 2018 results. Over the previous three years we had started to see a general upward trend of improved public satisfaction however the latest survey is indicating this is no longer the case. It will be interesting to see outcomes from the 2019 survey in the Autumn following the helpful additional £6.5 M funding provided by the Council last year.

10. Sustainability Considerations

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. Whenever possible the use of recycled materials and secondary aggregates are encouraged however 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.

11. Carbon Impact Considerations

The carbon impact of this highway maintenance programme through the manufacture and planning of the materials is likely to be offset by reduced emissions from highway users utilising a better maintained network and using suitable alternatives such as walking and cycling.

The completion of the countywide part-night street lighting scheme and the maintenance of LED on main roads will contribute to reducing the county council's carbon footprint.

12. 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.

A copy of an updated overview of the Budget 2019/20 Equality 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-2019-2020/>

13. 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.

14. 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 or inclement weather, which could disrupt the capital programme by causing higher than anticipated costs or delays respectively, 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.

15. 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.

16. Reasons for Recommendations and Conclusion

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

The DfT capital settlement for 2019/20 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 2019/20 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.

Meg Booth
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	December 2018	https://www.devon.gov.uk/impact/budget-2019-2020/

pd201019cab County Road Highway Maintenance Capital Budget Programme 201910
hk 06 290319

Road Condition Index (RCI) by Year

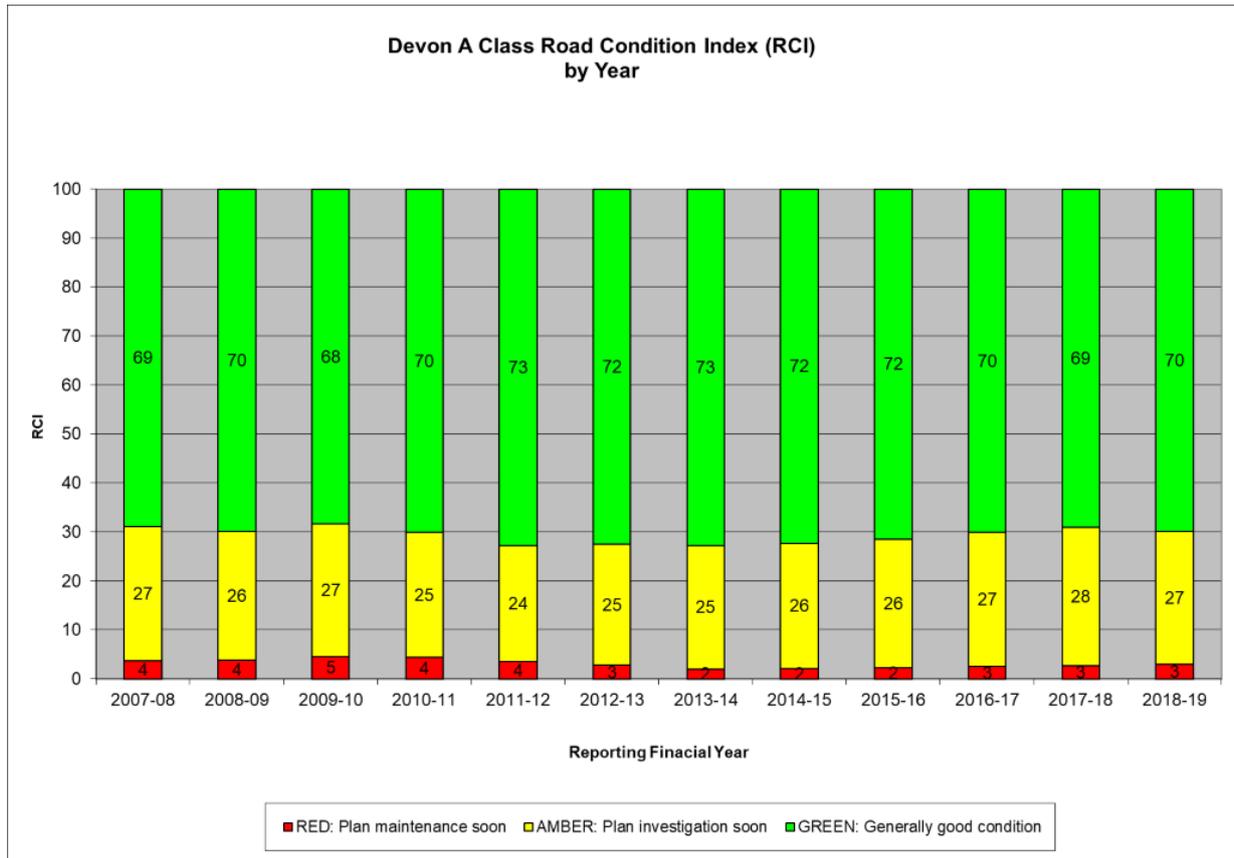


Figure 1

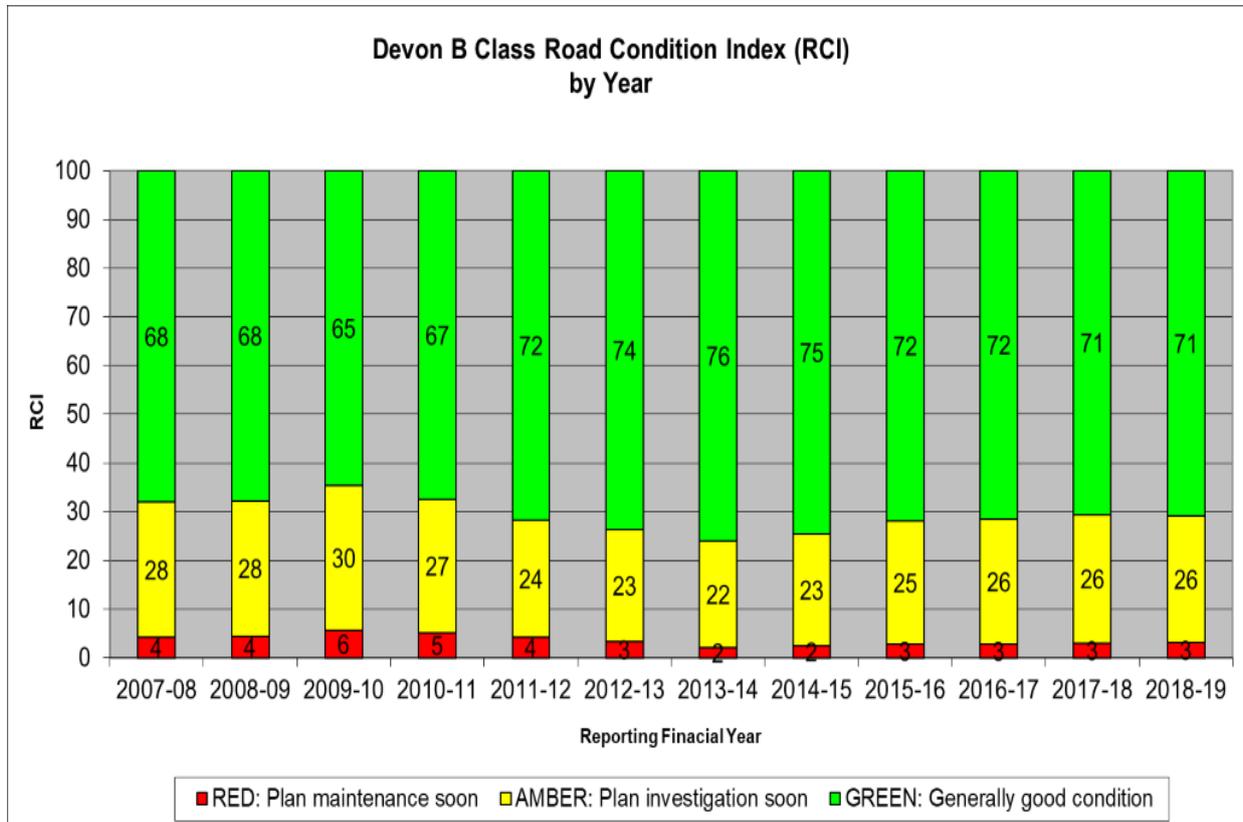


Figure 2

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

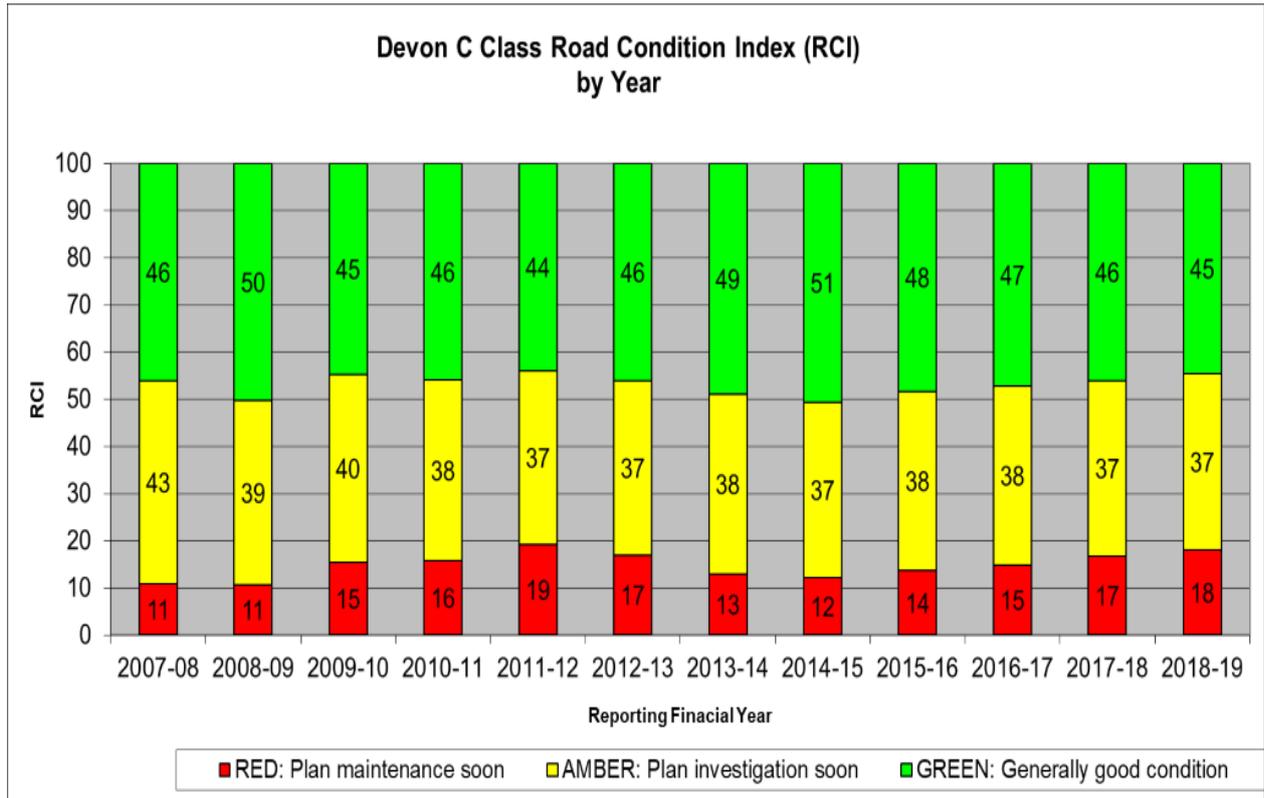


Figure 3

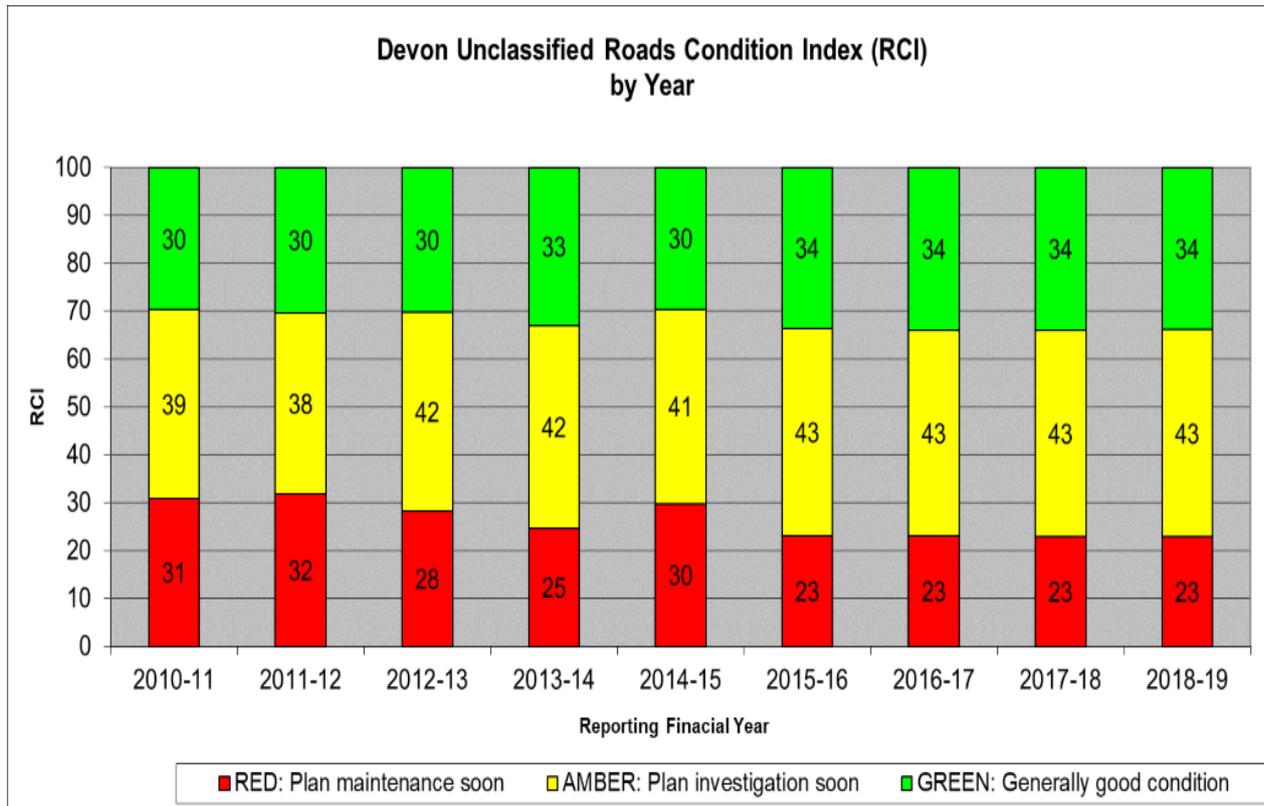


Figure 4

Highway Structural Maintenance Programme 2018/19

Road Scheme Name 2018/19 Appendix I	Value
<i>Principal Roads Named Schemes</i>	
	£'000
A3072 Rydon Road, Holsworthy	83
A3124 Redpost Cross to Culm Cross - Sampford Courtenay	103
A358 Musbury Road, Axminster	151
A361 Bish Mill Roundabout, Bishops Nympton	52
A361 Bishops Tawton Junction - Bishops Tawton	54
A375 Chapel Street, Sidmouth	176
A375 Two Bridges Road, Sidmouth	137
A376 Belle Vue Road/Exeter Road, Exmouth	22
A376 Rivermead Avenue to Halsdon Lane, Exmouth	58
A377 Fishleigh, Atherington	40
A377 Alphington Junction Roundabout, Exeter	152
A377 Copplestone (One Way) Copplestone	69
A377 Exe Bridges, Exeter	309
A377 Woodforde, Umberleigh	98
A379 A379 Sandygate roundabout	32
A379 Teignmouth Hill - Dawlish	36
A379 The Strand - Starcross	56
A379 Bitton Park Road, Teignmouth	364
A379 Exeter Road, Kenton	179
A380 Telegraph Hill Southbound	60
A380 Harcombe Plantation, Southbound	126
A380 Ware Barton southbound, Kingsteignton	54
A381 Bow Bridge, Ipplepen	124
A381 East Street, Newton Abbot	48
A381 Wrigwell Cross, Ipplepen	53
A385 Station Road & Ashburton Road, Totnes	206
A386 Folly Gate, Inwardleigh	305
A386 Hatherleigh Roundabout, Hatherleigh	38
A386 Myrtle Street, Appledore	32
A386 Plymouth Road, Horrabridge	56
A386 Tavistock Road, Bickleigh	103
A39 Fairy Cross to Knotty Corner, Alwington	764
A396 Black Cat	66
Named Schemes Total	4,206
<i>Principal Roads</i>	
A379 Slapton Line	1,498
Gornhay Cross to M5 (Challenge Fund Tranche 2A)	3,965
SCRIM Remedial Works	737
Preventative Programme	205
Pre Patching for 2018/19 Preventative Programme (deferred schemes)	92
Pre Patching for 2019/20 Preventative Programme (summer 2018/19)	6
Pre Patching 2019/20 Preventative Programme (winter 2018/19)	207
Pre Patching for 2020/2021 Preventative Programme	1,434
Total Principal Roads	12,350

Non-Principal Roads

Non-Principal Road Recovery Programme	6,782
Preventative Treatment Surface Dressing or Microasphalt Programme	5,150
Pre Patching for 2018/19 Preventative Programme (deferred schemes)	790
Pre Patching 2019/20 Preventative Programme (summer 2018/19)	2,613
Pre Patching 2019/20 Preventative Programme (winter 2018/19)	58
Pre Patching 2020/2021 Preventative Programme	4,375

Total Non Principal Roads	19,768
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All Roads

A380 Preston Down RAB Marldon Southbound	117
Pothole Action Fund (b/f 17/18 + 18/19 PAF)	3,700
Severe Weather Resilience	4,391
Spray Injection Patching (incl Dragon Patcher)	630
Joint Sealing	200
Pre Surface Dressing Cleaning / Design	700
Wet/Dry Collision Sites	0
High Skid Resistance Surfacing Programme	479
Carriageway Condition Surveys	260
Fixed Contract Overhead Charge	1,222
Material Testing	161
Scheme Delivery Group	650
Footways	1,810
Cycleway, PROW & Unsurfaced Roads	645
Road restraint systems - strategy priority 1d (timber post over trunk rds)	318
Road restraint systems - strategy priority 1e	198
Road restraint systems - strategy priority 2 (A rd/rail rd overbridge)	25
Road restraint systems - strategy priority 3 (All remaining rd/rail overbridge)	31
Road restraint systems - strategy priority 10	5
Road restraint system - damage permanent replacements	302
Drainage works	1,602
Cattle Grid structural repairs	50
Extreme Weather Resilience Contingency	0
DfT Challenge Fund	1,649
Street Lighting column replacements	900
Road Weather Station Renewal Programme	108
Traffic Signal Replacements	968
Highway Vehicles	493
Road Stud Upgrade	100
Depots	201

Total All Roads	21,915
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Highway Structural Maintenance Programme	54,033
Allocation 2018/19	68,742
Estimated carry forward to 2019/20	10,651
Estimated carry forward to 2020/21	4,058

Bridge Assessment and Strengthening Programme 2018/19

Scheme Name	Value (£ 000's)
1258 Gara Bridge - Physical Width Restriction	1
1334 Littlehempston Bridge - Highway Realignment / Protection Kerbing	11
4571 Teigngrace Causeway - Traffic Management	5
A379 County Garage Culvert - New Manhole Access	6
A379 Shaldon Bridge lifting span refurbishment	25
A380 Bridges - Component Replacement	8
A381 Newton Abbot Station Usk Girder No 3817	76
A39 Torridge Bridge, Bideford - Joint Replacement	634
BAS - All Capital Schemes (unallocable)	1
BD 79 - Management of Sub Standard Structures	15
Bickleigh Bridge - CCTV / Highway Realignment	32
Bideford Railway (03081) - Station Hill footway slab replacement	50
Bridge Assessments - Bridge Road Canal Bascule Bridge (DCC No. 01804)	59
Bridge Assessments - EDG	30
Bridge Assessments - EDG - Bridge Road Canal Bascule Bridge (dcc No. 01804)	7
Bridge Assessments - Jacobs - from 18/19	69
Bridge Assessments - Post Tensioned Bridge Inspections (Jacobs) from 18/19	171
Bridge Inspectors Minor Works	450
Bridge Strengthening - 423 Meavy Cross	71
Bridge Strengthening - 5133 Broom River Bridge	132
Bridge Strengthening - Clyst St Mary Bridges	97
Bridge Strengthening - Exeter Hill, Cullompton	30
Bridge Strengthening - Longham (23)	30
Bridge Strengthening - Pattard (3186) - EDG	20
Bridge Strengthening - Shaldon Bridge Pier 2 & 3	3
Canal Swing Bridge - steelwork repairs	9
Exe Bridges - waterproofing	50
F/D - Major Refurbishments - 02529 Baulk Bridge	60
F/D - Prevention of Suicides at Taw & Torridge Bridges	30
F/D Bridges - F120 Alma Footbridge Sidmouth	162
F/D Major Refurbishment - Iron Bridge, Exeter	21
F/D Retaining Walls - A377 Blackboards Carriageway Stabilisation (2015)	3
F/D Retaining Walls - A396 Ashley Recycling Centre	61
F/D Retaining Walls - A396 Ashley Recycling Centre - Jacobs Drainage	9
F/D Retaining Walls - Beacon Lane, Kingswear	2
Joints and Bearings - River Bray Viaduct joint replacement	406
Joints and Bearings - River Taw Bridge (Rumsam)	59
Landcross Viaduct - Major Refurbishment	1
Major Refurbishment - Fremington Viaduct, Barnstaple	2
Major Refurbishment - Halberton Aqueduct inc Waterproofing	3
Minor Refurbishment - Shaldon Bridge - Deep Water Piers	82
Newbridge Chudleigh Knighton Invert/Apron (797)	6

Appendix II continued

Scheme Name	Value (£ 000's)
Old Rockbeare Bridge (02391) Refurbishment	5
Principal Inspections - Bridges (EDG)	104
Principal Inspections - Bridges (Jacobs) - from 18/19	195
Principal Inspections - Retaining Walls (Jacobs) - from 18/19	179
Principal Inspections - Retaining Walls (PB)	2
Railway Structures Assessment / Inspection Jacobs Rail Personal Track Safety (PTS) Support	1
Retaining Walls - Bickleigh House (51910)	50
Retaining Walls - 10a Marine Parade - Dawlish	3
Retaining Walls - 50956 Horrabridge Wall	12
Retaining Walls - 51442 Rake, Loddiswell	21
Retaining Walls - A3124 Rosemoor - Darkham Wood	150
Retaining Walls - A377 Eggesford - 200m East of Station	195
Retaining Walls - A377 Kingford 2017	3
Retaining Walls - A377 Langford Newbridge Cross	3
Retaining Walls - A377 UMBERLEIGH	22
Retaining Walls - A39 Shirwell Hairpin Bends	1
Retaining Walls - A396 Stoke Woods	6
Retaining Walls - A399 Brayford South (50404) (Bray Quarry +950)	20
Retaining Walls - A399 Landslip Combe Martin - West Seven Ash Farm	104
Retaining Walls - B3193 Teign Valley Spara North Extension	10
Retaining Walls - B3212 approach to Moretonhampstead	15
Retaining Walls - B3229 Kentisbury	30
Retaining Walls - B3230 Blakewell Fisheries	123
Retaining Walls - B3230 Muddiford Plaistow Mills	2
Retaining Walls - B3230 Warmscombe Farm	2
Retaining Walls - B3234 Lynton Outside Lyndhurst	4
Retaining Walls - B3260 New Road near Okehampton	239
Retaining Walls - Bow Road Harbertonford	6
Retaining Walls - Brixham Road, Kingswear	6
Retaining Walls - Brooklyn (51622)	9
Retaining Walls - Cadeleigh	19
Retaining Walls - Chudleigh Road, Bideford	107
Retaining Walls - Clapperbrook Lane Bank Stabilisation - design only	6
Retaining Walls - Cloonavon Lynmouth	4
Retaining Walls - Exeter rear of 26 Bonhay Road (51942)	39
Retaining Walls - Hillside Road, Hele, Ilfracombe	1
Retaining Walls - Joseph`s Garden (51438)	1
Retaining Walls - Joseph`s Garden - Jacobs	34
Retaining Walls - Lower Loxhore Cross - Field RW 51421	23
Retaining Walls - Lower Loxhore Cross - Woodland RW 51422	26
Retaining Walls - Lynton Station Hill Gabion	190
Retaining Walls - Lynton, Station Hill junction with B3234	4
Retaining Walls - Neighbourhood Team minor works	25
Retaining Walls - North Walk Lynton	55
Retaining Walls - Quack Cottage retaining wall	44
Retaining Walls - Salcombe, Main road	9
Retaining Walls - Toe protection - Marine Parade Shaldon	100
Retaining Walls - West of Ward House Bridge No 543	0
Retaining Walls – A386 Grenofen	6
Retaining Walls – B3227 Millway (51022) – Jacobs	66
Retaining Walls – Laurel cottage	37
Retaining Walls – Shillingford School (50951) - Jacobs	68

Appendix II continued

Scheme Name	Value (£ 000's)
River Yeo Cycle & Footbridge (4774) - Major Refurbishment (2015)	42
Scour Protection - F/D - 2016 Axmouth (Inc 3934 Side Span)	1
Shaldon Bridge Pier 4 Strengthening	168
Skinners Footbridge Replacement (01968) Sidmouth	64
Stage 1 Scour Assessment Inspection Work non main rivers	10
Stage 1 Scour Assessments Non Main Rivers - From 18/19	87
Sub Standard Parapet - Lee Mill (00414) New Parapets	28
Sub standard Parapet - Sowton Mill new parapets	9
Sub standard parapets Exe Bridges Refurbishment	132
The Strand, Starcross, Road Rail Incursion Mitigation	7
Thongsleigh Farm	57
Thorverton Bridge - Major Maintenance	1
Traffic and Signing - Low Head Room Bridges	53
Wilcombe Embankment, Grand Western Canal	31
Wilder Brook - Culvert Section Outside Osborne Hotel	149
Total All Schemes	6,220
Bridge Assessment and Strengthening Programme	6,220
Allocation 2018/19	7,265
Estimated carry forward	1,045

Highway Structural Maintenance Programme 2019/20

Budget Heading	Treatment	£ 000's
<u>A' Road Schemes</u>		
<u>Major Schemes</u>		
A3015 Honiton Road, Exeter	Resurfacing	150
A3072 Crediton Road, Jacobstowe	Resurfacing	97
A3072 Crosspark Cross, Holsworthy Hamlets	Resurfacing	263
A3079 Fowley Cross to Halwill Junction, Sourton	Resurfacing	750
A3123 Long Lane, Berrynarbor	Resurfacing	300
A3124 River Torridge, St Giles in the Wood	Resurfacing	220
A3124 Torches Corner, Beaford	Resurfacing	100
A361 Chivenor Cross	Resurfacing	100
A377 Chaffcombe Lane to A3072, Copplestone	Resurfacing	91
A377 Exe Bridges, Exeter	Resurfacing	190
A377 Half Moon to Newbridge Hill, Newton St. Cyres	Resurfacing	89
A377 Sand Down Lane to Pump Street, Newton St. Cyres	Resurfacing	95
A377 South Molton Road Elston Cross, Kings Nympton	Reconstruction	104
A379 Countess Wear Roundabout, Exeter	Resurfacing	150
A379 Wobbly Wheel, Exminster	Resurfacing	150
A380 Harcombe Plantation (Southbound)	Resurfacing	470
A380 Kingsteignton (Northbound)	Resurfacing	592
A380 Kingsteignton (Southbound)	Resurfacing	490
A380 Woodlands, Kenn	Resurfacing	110
A382 Whiddon Down, A30 Overbridge, Drewsteignton	Resurfacing	120
A384 Caddaford, Staverton	Resurfacing	180
A386 Plymouth Road (Ind Est), Tavistock	Resurfacing	125
A386 Tavistock Road, Bickleigh	Resurfacing	350
A396 Exeter Road, Tiverton	Resurfacing	75
A396 Oakford Bridge, Bampton	Resurfacing	150
<u>Minor 'A' Road Schemes</u>		846
<u>Total All Schemes</u>		6,356
<u>A' Roads</u>		
A379 Slapton Line		800
SCRIM Remedial Works	Resurfacing	1,600
Preventative Programme	SD / MA	434
Pre Patching for 2020/21 Preventative Programme	Patching	300

Appendix III continued

Budget Heading	Treatment	£ 000's
<u>Other Roads</u>		
Non-Principal Road Recovery Programme	Resurfacing	5,750
Preventative Programme	SD / MA	4,298
Pre Patching 2020/21 Preventative Programme	Patching	4,200
Pre Patching 2021/22 Preventative Programme	Resurfacing / Patching	4,000
<u>All Roads and Other Assets</u>		
Pothole Action Fund	Resurfacing / Patching	1,920
Spray Injection Patching	Specialist Patching	850
Joint Sealing	Specialist Patching	200
Surfacing Cleaning	Prep	630
Surface Dressing Design	Design	320
Wet & Dry Collision Sites	Resurfacing	100
High Skid Resistance Surfacing Programme	HFS	600
Carriageway Condition Surveys	Survey	325
Fixed Contract Overhead Charge	O/H	1,452
Material Testing	Testing	200
Scheme Delivery	Recon, Resurfacing, Slurry	670
Footways	Recon, Resurfacing	2,150
Cycleway, PROW & Unsurfaced Roads		680
Road Restraint Systems - Upgrade Strategy	Upgrade	1,200
Drainage works	Improvement	1,600
Cattle Grid Structural Repairs		100
Extreme Weather Resilience Contingency		2,000
Street Lighting	Upgrade	1,220
Road Weather Station Renewal Programme	Upgrade Obsolete Equipme	100
Traffic Signal Replacements	Upgrade Obsolete Equipme	1,000
Highway Vehicles	Replacement	612
Depots	Upgrade	495
Minor Traffic Management Improvements	Improvements	340
HIGHWAY STRUCTURAL MAINTENANCE PROGRAMME	Total	46,503

**Appendix IV
To HIW/19/38**

Bridge and Structures (BAS) Capital Maintenance Programme 2019/20

Bridge Strengthening	Project Description	Estimate £ 000's
Alma Footbridge	Start on site August '19	950
Clyst St Mary Bridges	Complete	100
Exeter Hill, Cullompton	Replace culverts -part of flood defence scheme	150
Skinner's Footbridge	Replace footbridge	320
Baulk Bridge	Start in early 2020	185
Bovey Bridge Cantilever	Forward Design	60
Broom Bridge	Newly identified structure - replacement bridge	345
Mole Bridge	Weak Deck - forwad design	50
Southella (562)	Replace deck - F/D only	25
Soutella Rd - (3864)	Replace deck - F/D only	25
Bascule Bridge	Strengthening as outcome from assessment	100
Station Hill, Bideford East-The Water	Strengthen slabs	50
Retaining Wall Strengthening		
Lynton (outside Lyndhurst)		51
Clapperbrook Lane embankment stabilisation		200
Rake, Loddiswell		85
Lower Loxhore Cross - Woodland RW 51422		165
Lower Loxhore Cross - Field RW 51421		165
Kentisbury		100
Brooklyn (51622)		85
Umberleigh		50
Langford Newbridge Cross		23
Brayford South (50404) Bray Quarry +950m		150
A377 Blackboards	50% this year 50% 2020/21	250
Lynton Station Hill Junction		100
Lynton Station Hill Gabions		115
Puffing Billy, Torrington		120
Ashley Recycling Centre		260
Bonhay Road		150
Major Refurbishment		
Iron Bridge, Exeter		420
Newbridge Chudleigh Knighton	Traffic management - possibly traffic lights	100
Newbridge Chudleigh Knighton	Scour protection	40
Shaldon Bridge	Works identified from PI and pier 3 collar work	250
Yeo Cyclebridge		76
Newton Abbot R/Way Usk girder	Remove structure	130
Minor Refurbishment		
Bridge Inspectors Program		250
Neighbourhood Team minor works	Minor structures identified in-year	50
Baker Bridge	Resurface, joints and drainage works	30
Cana Swing Bridge	nose end repairs	50
Woodwater Lane (1796)	Repaint parapets, clear drains,	40
Barnstaple Long Bridge	Masonry repairs	100
KEVICS F/B	Deck surface refurbishment	25
Beckford Irish	Replace irish ford and improve drainage	175
Rockbeare Old	Refurbish	50
Bridge Component Replacement		
Kingsteignton (1023)	Review bearings or assess as fixed end seized bearings	11
Suicide Prevention		
Torrige Bridge		450
Taw Bridge		400
Sub-Standard Parapets		
Gara Bridge		50
Bridge Assessments		
Jacobs		100
EDG	Include VRS checks to bridge piers	50
Principal Inspections		
Jacobs	Retaining walls	250
EDG	Bridges	200
Scour Assessments		
Stage 1 & 2 assessments		100
Post Tensioned Special Inspections		
PTSI		175
Low Head Room Signage check	Jacobs	100
Total All Schemes		8,000

Appendix IV continued

Bridge Component Replacement			
Kingsteignton (1023)	Review bearings or assess as fixed end seized bearings		11
Suicide Prevention			
Torridge Bridge			450
Taw Bridge			400
Sub-Standard Parapets			
Gara Bridge			50
Bridge Assessments			
Jacobs			100
EDG	Include VRS checks to bridge piers		50
Principal Inspections			
Jacobs	Retaining walls		250
EDG	Bridges		200
Scour Assessments			
Stage 1 & 2 assessments			100
Post Tensioned Special Inspections			
PTSI			175
Low Head Room Signage check	Jacobs		100
Total All Schemes			8,000