

# Cabinet

## Dorset County Council



Date of Meeting	6 December 2017
<p><u>Cabinet Member(s)</u> Daryl Turner – Cabinet Member for The Natural and Built Environment</p> <p><u>Local Member(s)</u> All Councillors</p> <p><u>Lead Director(s)</u> Mike Harries – Corporate Director for Environment and Economy</p>	
<b>Subject of Report</b>	<b>Highway Infrastructure Assets – 2018/19 Investment Strategy</b>
Executive Summary	<p>Dorset County Council’s Highway Asset Management Plan Volumes 1 and 2, outline the strategic approach adopted in managing the highway network across the County.</p> <p>The Department for Transport (DfT) recommends a Highway Authority’s Asset Management Plan, and any subsequent amendments, should be ratified by Cabinet Members, and to date all relevant Highway Maintenance Plans have followed this process.</p> <p>Revised guidance documentation has been issued by the DfT relating to the process and parameters to be followed when identifying sites for detailed investigation, following the receipt of skid resistance survey data.</p> <p>This report highlights the contents of the new guidance document and seeks the Cabinet’s approval to adopt the new approach into our strategic planning processes for the compilation of future highway maintenance programmes.</p>
Impact Assessment:	See Appendix

	<p>Use of Evidence:</p> <p>The report documents a proposed strategy which links to Dorset Highways' Service Plan which is supported by a robust Highways Asset Management Plan, and a performance framework that links to corporate outcomes. It has been developed in line with DfT guidance and the Highways Maintenance Efficiency programme.</p> <p>Budget: The anticipated capital maintenance budget for 2018/19 is £13,735,249 (subject to confirmation from the Department for Transport).</p> <p>Risk Assessment:</p> <p>There are risks that are highlighted in the report which relate to under investment and the impacts on asset condition.</p> <p>This under investment will also impact on asset value through depreciation. As condition deteriorates the demand placed on revenue budgets will increase through increased revenue reactive defects.</p> <p>There are further risks specifically linked to the management of skid resistance on the network, and this change in approach sets out how we will tackle these highest risk sites. It may also provide a defence against any third party claims where the carriageway has been alleged to have been a contributory factor.</p> <p>Having considered the risks associated with this decision using the County Council's approved risk management methodology, the level of risk has been identified as:  Current Risk: MEDIUM  Residual Risk: MEDIUM  <i>(ie reflecting the recommendations in this report and mitigating actions proposed)</i></p> <p>Other Implications: None</p>
<p>Recommendation</p>	<p>That the Cabinet approve a change in approach and subsequent investment in tackling high risk skid sites, to conform to revised Department for Transport guidance in relation to skid resistance.</p>
<p>Reason for Recommendation</p>	<p>To support key corporate aims linked to 'Safe', 'Healthy' and 'Prosperous', and to demonstrate adherence to national highway maintenance strategies.</p>
<p>Appendices</p>	<p>Equalities Impact Assessment: Ref EqIA-61989194</p>
<p>Background Papers</p>	<p>None.</p>

Officer Contact	Name: Mike Hansford Tel: 01305 228168 Email: m.w.hansford@dorsetcc.gov.uk
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## Highway Infrastructure Assets – 2018/19 Investment Strategy

### 1. Introduction

- 1.1 For a number of years, the County Council's capital highway maintenance programme has been compiled in accordance with the published Highway Asset Management Plan Volumes 1 and 2, with any necessary amendments being formally ratified by Cabinet through the recognised democratic process.
- 1.2 Following the publication of revised Department for Transport (DfT) guidance, it has become necessary to re-visit our current strategy and our approach to categorising our carriageway maintenance schemes.

### 2. Our Existing Strategy

- 2.1 The existing maintenance strategy relating to our carriageway asset, is linked directly to identifying sections of the network where existing condition has declined below recognised intervention levels and as a result, maintenance is required. This treatment may vary from substantive resurfacing, surface dressing or extensive patching.
- 2.2 In addition, in accordance with our published skid policy, where a section of the network is found to have a skid resistance below the defined intervention level, maintenance treatments will be implemented to remove the risk. This is invariably achieved by carrying out surface retexturing, resurfacing or surface dressing.
- 2.3 The above approach has ensured that we can demonstrate linkage to the County Council's corporate outcomes of Safe, Healthy and Prosperous by reducing risk to the travelling public and minimising potential congestion and delays that could disrupt and inconvenience the local economy.

### 3. Establishing And Benchmarking Network Condition

- 3.1 Network condition is assessed through nationally recognised surveys called SCANNER and SCRIM. these are carried out through a specialist external contractor on an annual basis.
- 3.2 SCANNER is a surface condition assessment which identifies road defects such as cracking, texture, rutting and ride quality (bumpiness). These defects are weighted in an algorithm that provides condition bandings to reflect overall condition, based on 'Red' (Plan maintenance), 'Amber' (Plan investigation) and Green (Generally in good condition).
- 3.3 SCRIM (Sideway Coefficient Routine Investigation Machine) is an assessment of the skid resistance properties of the road surface based on increased need of individual sites to provide additional traction to prevent skidding.
- 3.4 The data received from these survey exercises is interpolated to compile prioritised programmes of maintenance using our specialist asset management software.

Defining Skid Resistance on the Network

- 3.5 The most recent skid data was collected in September 2017 and is assessed against the national guidance published by the Department for Transport.
- 3.6 The guidance identifies a category of difference (recorded in points) between the required level (known as IL), and that recorded during testing. Anything recorded below the minimum recommended level is recorded as a negative figure and referred to as SCRIM difference.
- 3.7 The current condition bandings for the Dorset Highway Networks are shown in Chart 1 and 2 below, and shows that 1.82% of our principle network and 4.39 % of our B Class roads falls into the red (Functional Deficiency) category and will require immediate attention.

Chart 1 SCRIM Difference Principal Roads

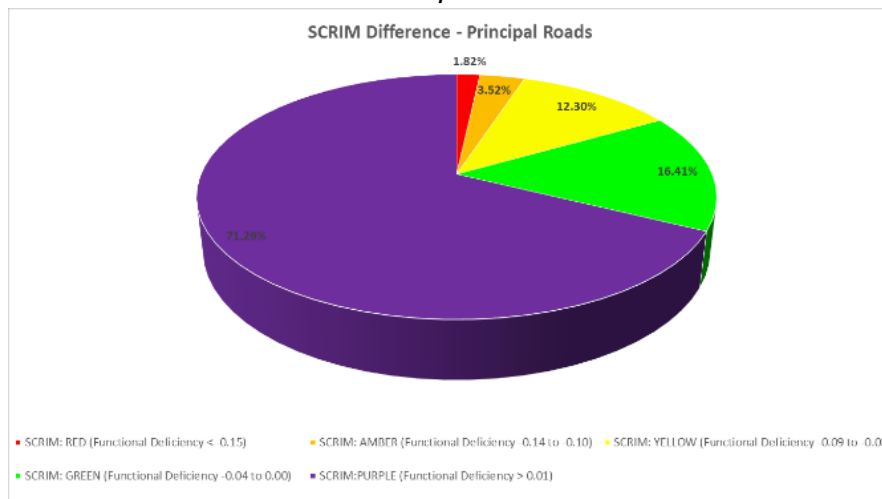
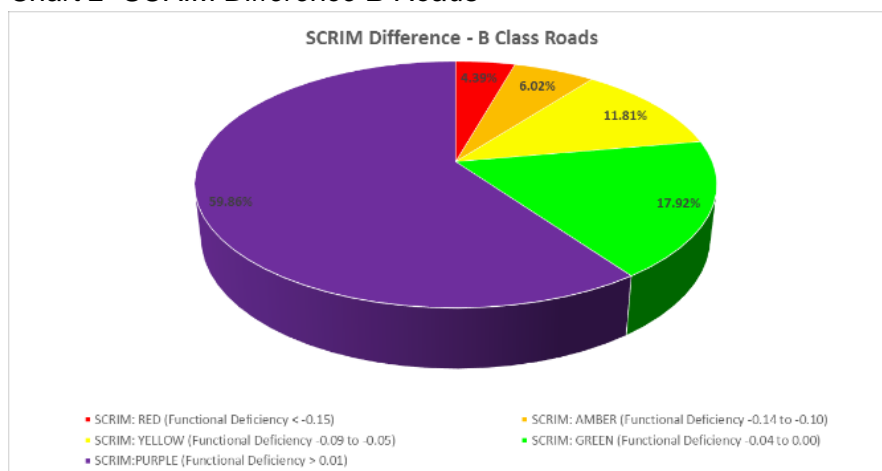


Chart 2 SCRIM Difference B Roads

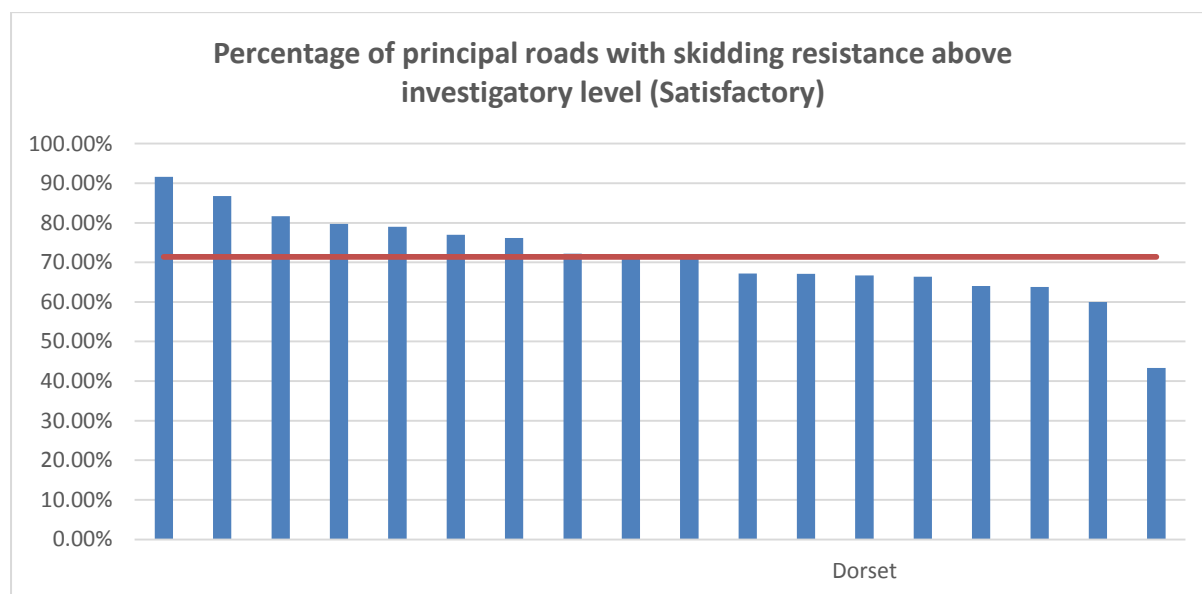


*Purple = Above minimum required level. Green = marginally below IL but can come back within the minimum level with seasonal variations. Yellow, amber and red are all below the minimum level.*

## Highway Infrastructure Assets – 2018/19 Investment Strategy

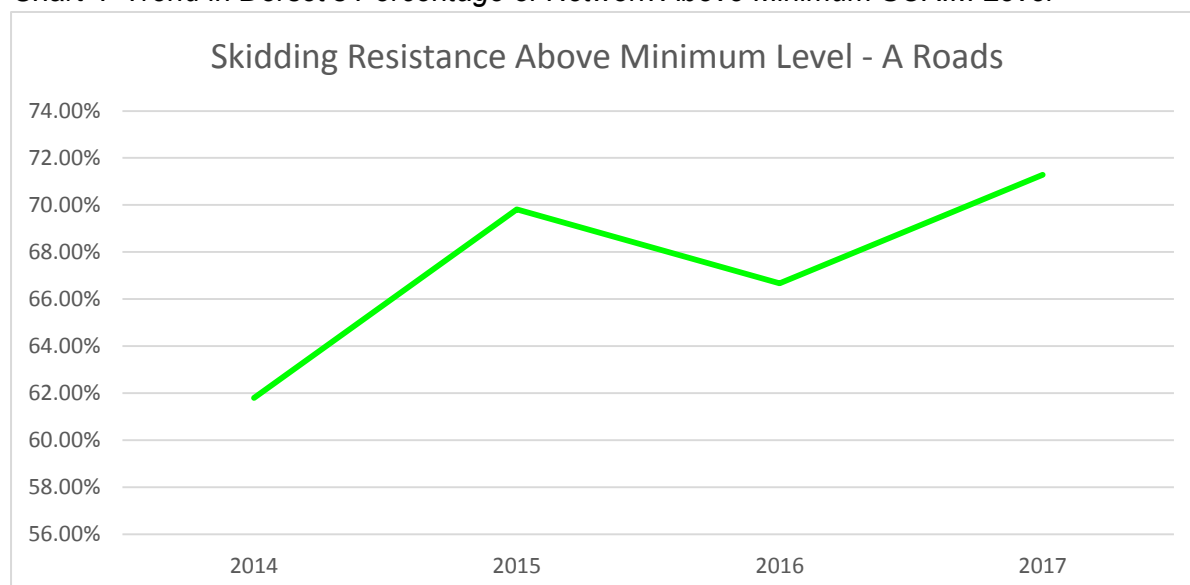
- 3.8 Dorset's Highway Service is a member of The Direct Management Group (DMG) Benchmarking Club, consisting of 21 Highway Authorities throughout the UK.
- 3.9 Through this process we can compare our performance data over a wide scope of activities and budget provision information.
- 3.10 Chart 3 below shows how our SCRIM survey results compare to other Benchmarking Club member Authorities across the UK. This shows Dorset as being in the second from bottom quartile, in terms of percentage of principal network above the desired minimum level of skid resistance.

*Chart 3 Benchmarking of Percentage of Network Above Minimum SCRIM Level*



- 3.11 Chart 4 below demonstrates that recent strategies implemented to increase the percentage of our network above the minimum level of skidding resistance, have proved to be successful with an improving trend being achieved.

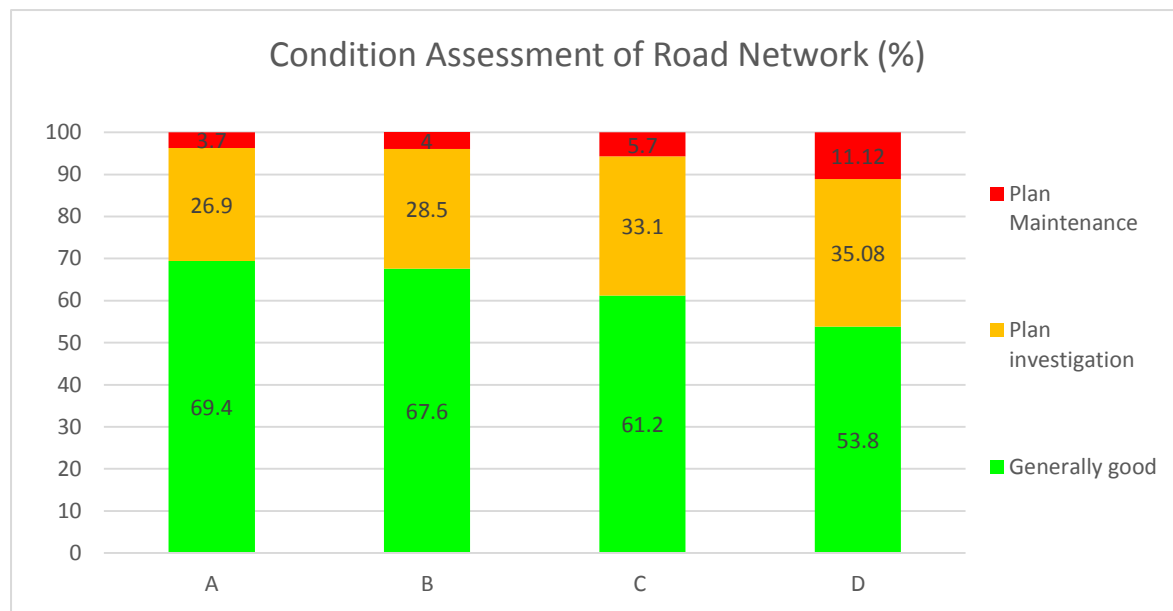
*Chart 4 Trend in Dorset's Percentage of Network Above Minimum SCRIM Level*



Carriageway Condition

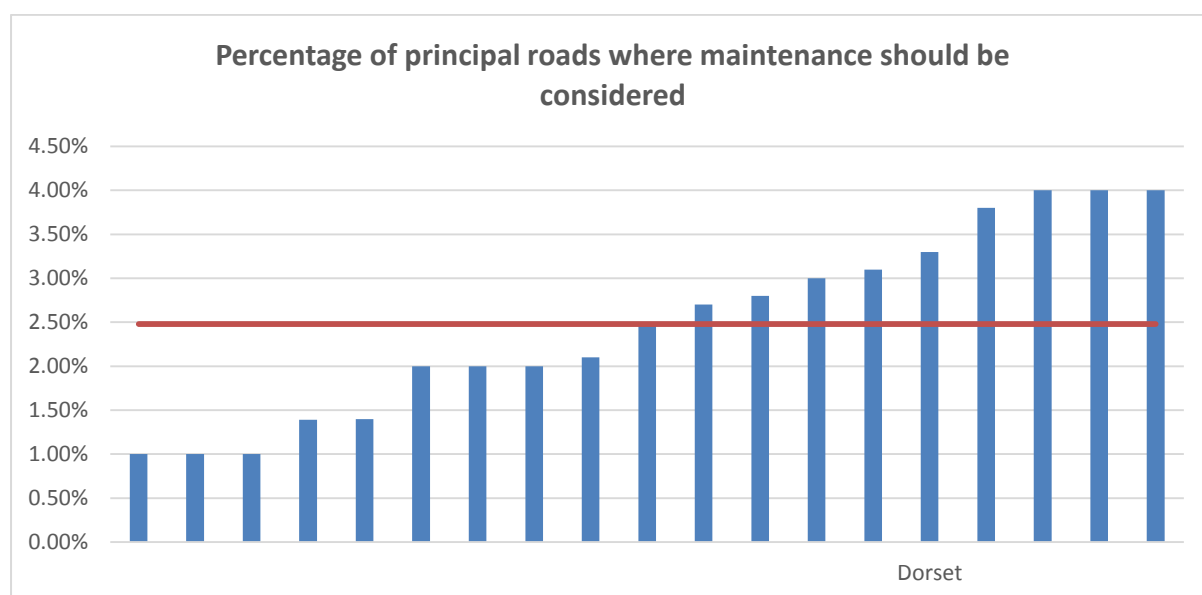
3.12 Chart 5 below, shows a breakdown of current carriageway condition across the four road classes (A – D), based on analysis of the SCANNER survey data. This is expressed as a percentage of the network identified to be in good condition ('green'), where investigation should be considered (amber), and where maintenance should be planned ('red').

Chart 5 Road condition



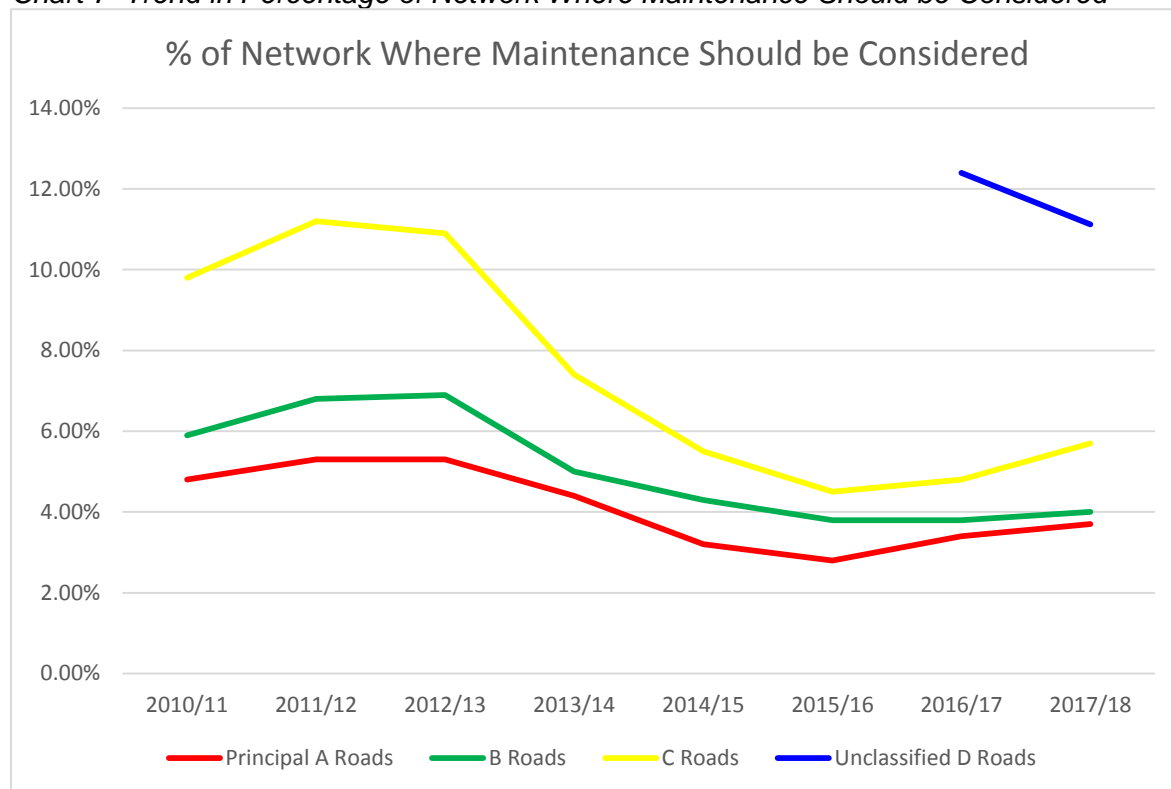
3.13 Chart 6 below shows that in comparison with Direct Management Group Benchmarking Club members, Dorset's network is ranked in the top quartile of Authorities where the Principle Road network is in need of maintenance.

Chart 6 Benchmarking of Percentage of Principal Network Where Maintenance Should be Considered (Data collected 2017)



- 3.14 Since 2012, we had seen a continual annual improvement in network condition as can be seen in Chart 7 below. However restricted investment in our capital maintenance funding including a reduction in Corporate funding in 206/17, has resulted in the latest data collected in September 2017, highlighting a reversing trend.

Chart 7 Trend in Percentage of Network Where Maintenance Should be Considered



#### 4. The Need To Revise Our Existing Strategy

- 4.1 The Department for Transport (DfT) has published new guidance (HD28/15) relating to management of carriageway skid resistance which recommends increased emphasis on the adoption of a more proactive approach to dealing with high risk sites. To demonstrate Dorset County Council’s alignment with this national agenda, it is our intention to adopt the contents of this new guidance document into our core strategy.
- 4.2 This approach will link to our revised Skid Policy which sets out how we propose to manage skid resistance on the network (see separate report on this Agenda).

#### 5. The Proposed Approach to Identifying Maintenance Need

##### Network Lengths with Defective Carriageway Condition

- 5.1 It is proposed to continue to use SCANNER condition data for scheme identification and prioritisation on the A and B Class roads. This will be done through our Horizons asset management software, which recommends optimised treatments and proposed timing.
- 5.2 Sites on the C class and unclassified network (D roads) will be identified and prioritised through a combination of SCANNER (where this data is available) and recommendations arising from Community Highways Officer inspections, and

reinforced by historic recorded defects. Repairs will consist of a combination of patching, surface dressing, recycling techniques and resurfacing.

Network Lengths Failing to Meet Skid Resistance Intervention Level

- 5.3 Based on the revised DfT guidance relating to skid resistance it is intended to put increased emphasis on sections of the network that fall into the highest risk category based on the scoring matrix (figure 1 below) documented in HD28/15, which has been replicated in our Horizons asset management software. Analysis of current data indicates that scores range from 1 (low risk) to 29 (high risk).
- 5.4 We have proposed that the policy state that any sites scoring 24 or over, be subject to an immediate detailed site investigation (see decision matrix below), to determine whether any remedial works are required. Based on our assessments this has identified twelve sites.

*Figure 1 -Priority 1 Sites for Detailed Investigation (Intervention Level Score 24>)*

	Scores and Criteria				
Number of Crashes	0	1	2	3+	
Score	0	4	8	12	
Likely impact of a crash	Slight	Slight/Serious	Serious	Serious/Fatal	
Score	1	2	3	4	
Skid resistance difference (SD)	>0	>-0.05 and <0	>-0.10 and <-0.05	>-0.15 and <-0.10	<-0.15
Score	0	1	3	6	12
Site has SD <0 and poor texture at the same point	No	Yes			
Score	0	1			

- 5.5 Based on our current investment strategy, we are proposing to investigate sites scoring 18 or more (see figure 2 below). At present, a total of one hundred sites fall into this category, and these sites will form the basis of our future maintenance programme.

*Figure 2 - Priority 2 Sites for Further Investigation (Intervention Level Score 18>)*

	Scores and Criteria				
Number of Crashes	0	1	2	3+	
Score	0	4	8	12	
Likely impact of a crash	Slight	Slight/Serious	Serious	Serious/Fatal	
Score	1	2	3	4	
Skid resistance difference (SD)	>0	>-0.05 and <0	>-0.10 and <-0.05	>-0.15 and <-0.10	<-0.15
Score	0	1	3	6	12
Site has SD <0 and poor texture at the same point	No	Yes			
Score	0	1			



## 6. Current and Anticipated Future Funding

- 6.1 Table 1 below, outlines the current capital maintenance funding and the net budget availability once other commitments have been applied for the financial years 2017/18 and 2018/19.

Table 1 – Annual Capital Maintenance Funding

	2017/18	2018/19
DfT Maintenance block funding	£12,364,000	£11,193,842
DfT Incentive Fund	£1,189,000	£2,331,407*
DfT Pothole Acton Fund	£1,070,000	£500,000*
Corporate Top Up	£750,000	£550,000*
Less efficiency savings	£340,000	£340,000
Less A338 Scheme contribution	£370,000	£500,000
Adjustments	-£15,000	£0
	<b>£14,648,000</b>	<b>£13,735,249</b>

*\*Denotes final confirmation awaited*

## 7. Proposed Allocation of Available Capital Maintenance Funding

- 7.1 To reflect the anticipated reduction in budget, and the revised investment strategy to target high risk skid resistance sites, the table below sets out proposed investment across our highway infrastructure asset groups for 2018, with a comparison to the current financial year.

Table 2 – Investment Strategy Across Highway Asset Groups

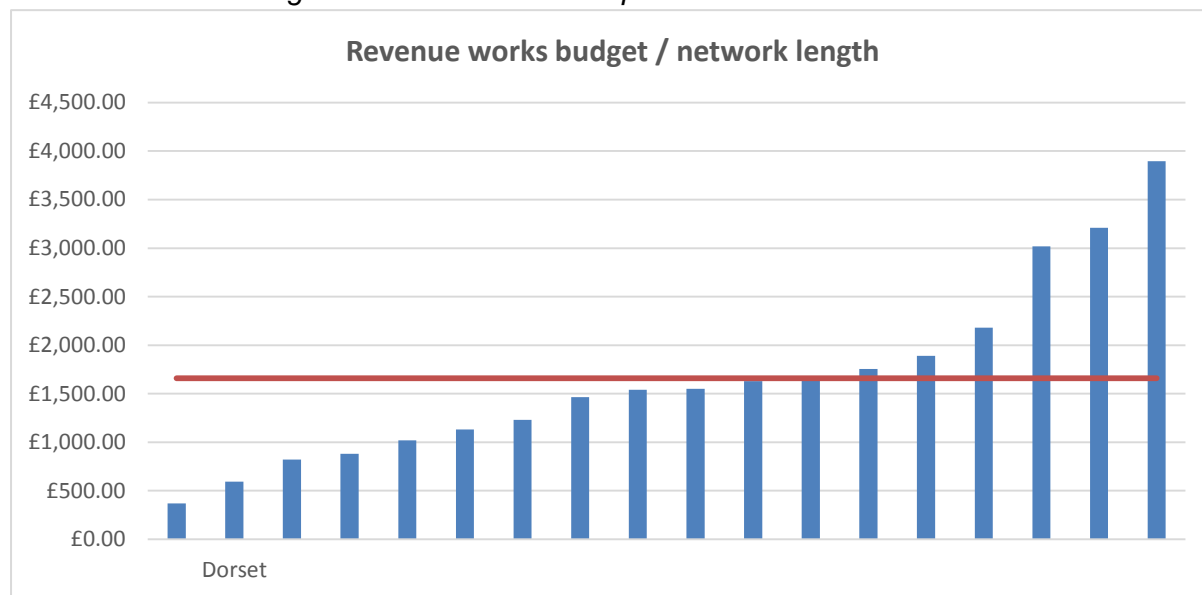
	2018/19		2017/18	
<b>Carriageway</b>				
Skid resistance	1,000,000	7%	4,631,016	32%
Resurfacing strategic routes	3,325,729	24%		
Preventative maintenance (premium surface dressing)- Strategic / main distributor	1,100,000	8%	1,200,000	8%
Unclassified/Classified C road maintenance (including patching / surface dressing)	3,550,000	26%	4,157,464	28%
<b>Footways</b>	500,000	4%	400,000	3%
<b>Drainage</b>	300,000	2%	600,000	4%
<b>Bridges &amp; structures</b>	2,000,000	15%	2,000,000	14%
<b>Strategic sign replacement</b>	74,520	1%	74,520	1%
<b>Roadmarkings</b>	80,000	1%	80,000	1%
<b>Capitalised funding (Patching and C/way defects)</b>	1,805,000	13%	1,505,000	10%
	<b>13,735,249</b>		<b>14,648,000</b>	

## 8. Impact of Current County Council Funding Strategy

### Current funding/capitalisation of funds

8.1 An area of concern is the availability of both revenue and capital funding. Chart 8 below shows current funding levels in comparison to other local highway authorities in the DMG Benchmarking Club. This shows that Dorset is the second lowest revenue funded authorities per km of network.

Chart 8 Benchmarking of Revenue Investment per KM



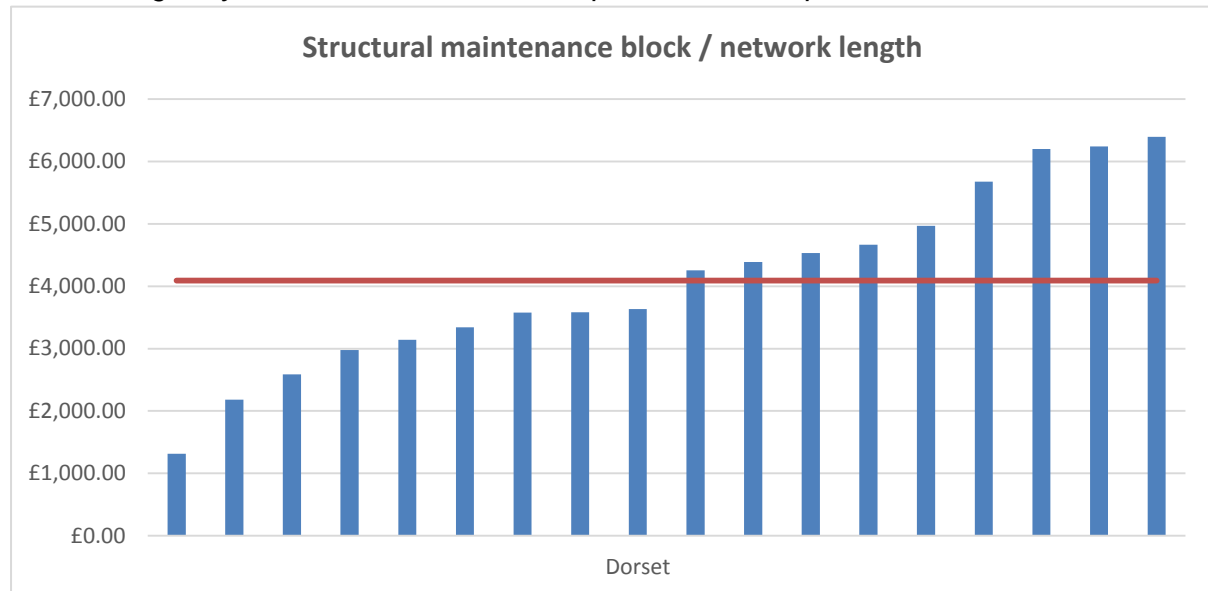
8.2 Shortfalls in the revenue budget leave us vulnerable in the delivery of our statutory obligations to maintain the Highway under The Highways Act 1980.

8.3 This is mitigated by investing £1.8million of capital funding on reactive repairs, and other essential cyclic activities, in line with that permitted under CIPFA guidance.

8.4 This figure is relative to demand, so if the number of potholes increased, further demand is placed on the capitalised funds, which will lead to the deferral of capital schemes.

- 8.5 Chart 9 below, from the DMG Benchmarking Club, also shows a comparison in capital funding for highway structural maintenance which again shows Dorset to be below the average of participating Authorities.

Chart 9 Highway Structural Maintenance Capital Investment per KM



### Corporate capital support

- 8.6 Historic lifecycle planning exercises carried out in recent years have indicated a £5.9million gap in funding between that required to maintain even existing condition, with that we receive annually.
- 8.7 In an attempt to reduce this gap, Cabinet provided additional corporate support of £2million for both 2015/16 and 2016/17 financial years. This level of funding was reduced to £750,000 for 2017/18, and is likely to be further reduced to £550,000 for 2018/19.

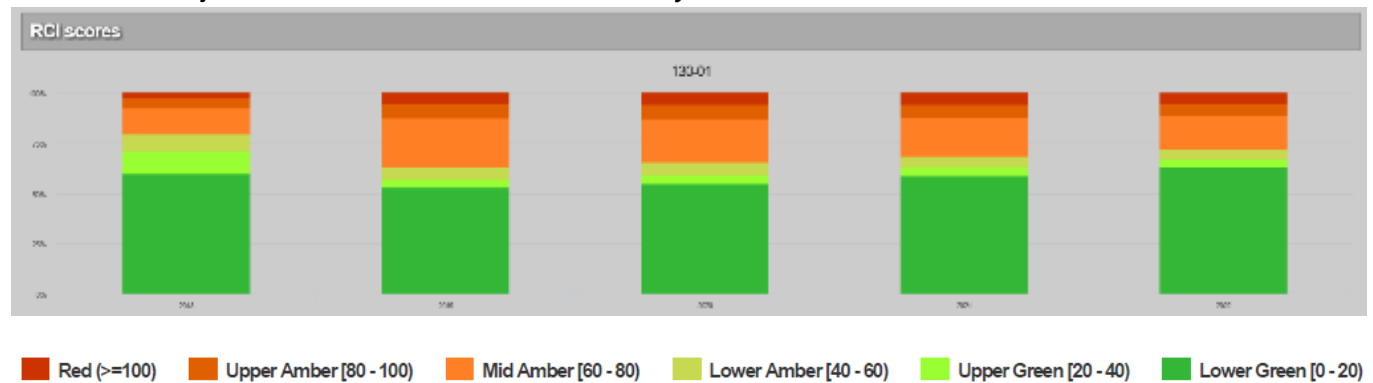
### Lifecycle Planning

- 8.8 Based on the most recent condition data, we have produced updated lifecycle plans which again model the impacts of current investment and treatment strategies.
- 8.10 These Lifecycle Plans show that to maintain the condition of our network in a steady state, £19million of annual capital investment is required if we implemented a 'worst first' strategy. As can be seen within table 1 within Section 6 of this report, we have only £10,780,729 being invested in carriageway maintenance (including £ 1,805,000 of capital patching works) in 2018/19. This is a significant gap which gives cause for concern that will significantly affect our ability to maintain current network condition levels.
- 8.11 This now declining trend in condition has already become apparent with the percentage of network where maintenance should be considered across Principal (A roads) and Non principal (B&C roads) showing a 1% decline between 2016 and 2017.

## Highway Infrastructure Assets – 2018/19 Investment Strategy

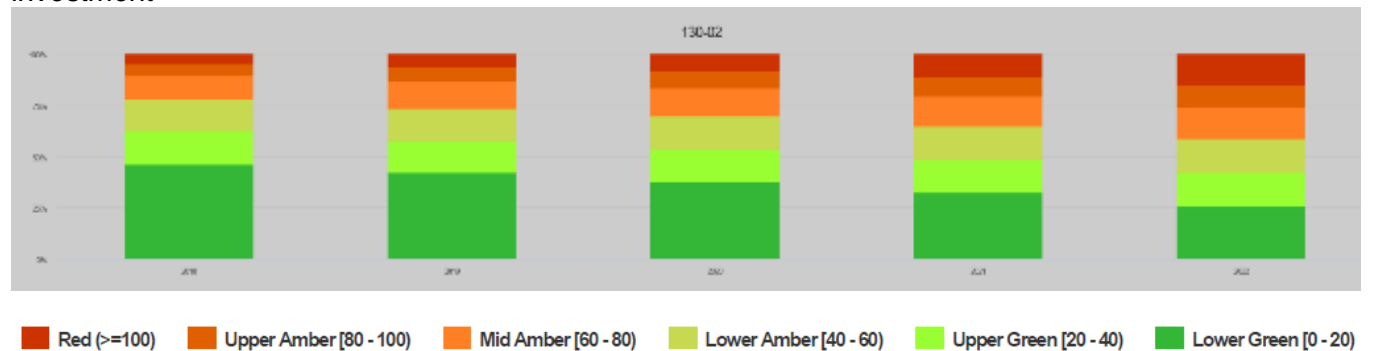
- 8.12 Chart 10 below shows that should the current level of investment remain as at present, the percentage of our Principle A roads where maintenance should be planned would increase from 4% in 2017, to 6% over a five year period shown in the red segment below.

*Chart 10 – Projection on A road condition over five years based on current investment*



- 8.13 Furthermore, should funding levels be maintained at current levels, the percentage of our B and C network requiring planned maintenance over the next five years would increase from 5.1% to 15.9% as shown in the red segment in Chart 11 below.

*Chart 11 – Projection on B and C road condition (130-02) over five years based on current investment*



**Andrew Martin**  
**Service Director for Highways and Emergency Planning**  
 November 2017