

Surrey's long term plans for the maintenance of key highway assets – 5 years on...

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AIA Sharing Best Practice Event

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What I'm going to cover

- **History – Why we needed to do something different**
- **Roads**
- **Other Assets**
- **2016 to 2021 and beyond...**

Why we needed to do something different

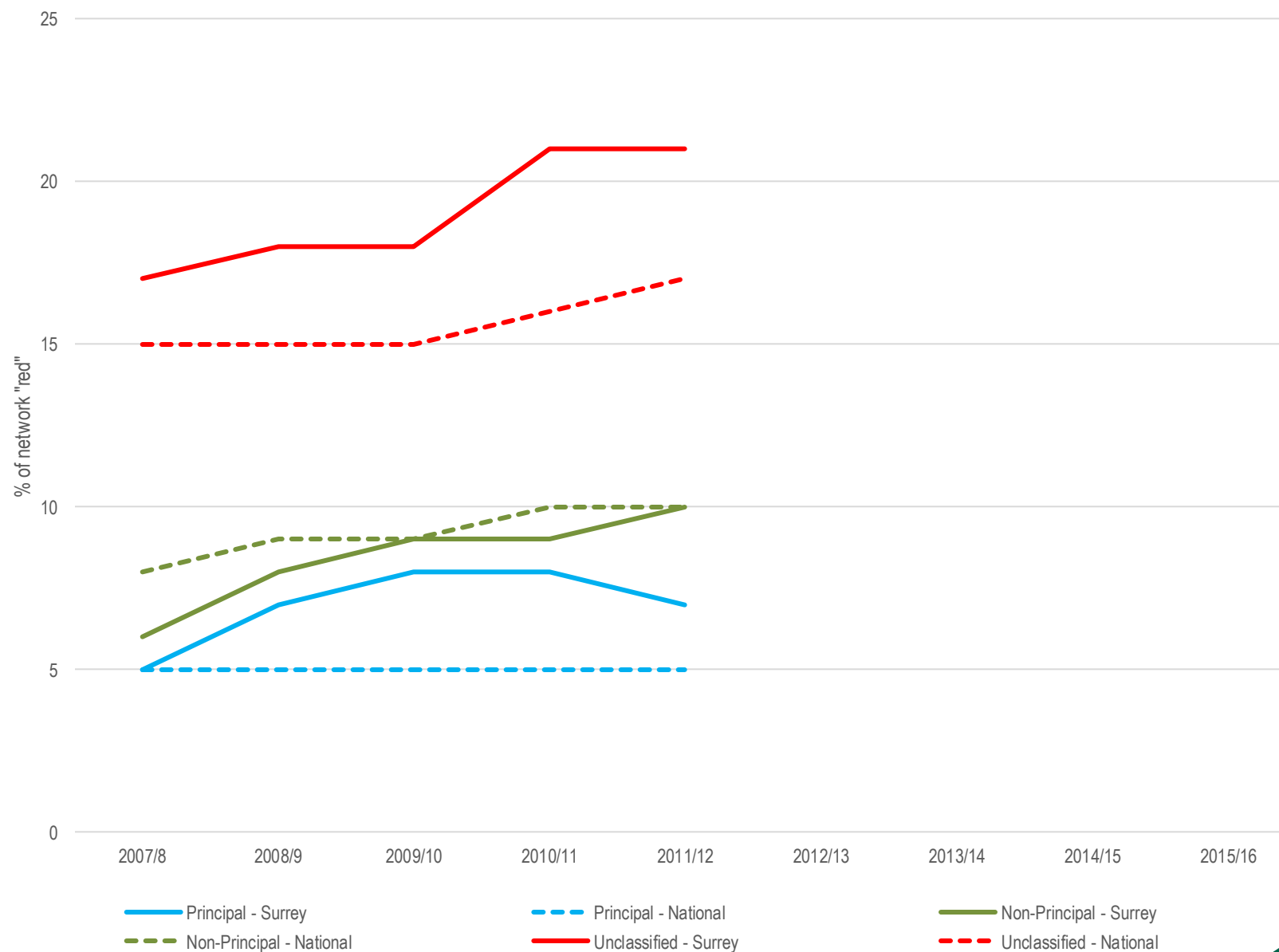
The situation in 2012

- **Surrey maintains approx. 5000kms of roads**

Category	Road Length (km)	% of poor condition Road	UK Average Road Condition Index
High Speed (A Roads)	620	7%	5%
Link Roads (B & C Roads)	1025	10%	8%
Unclassified (residential & country lanes)	3207	21%	16%

- **In 2012 around 17% of Surrey roads were classed as Poor, compared to a national average of 10%**

Red Network Trend 2007 - 2012

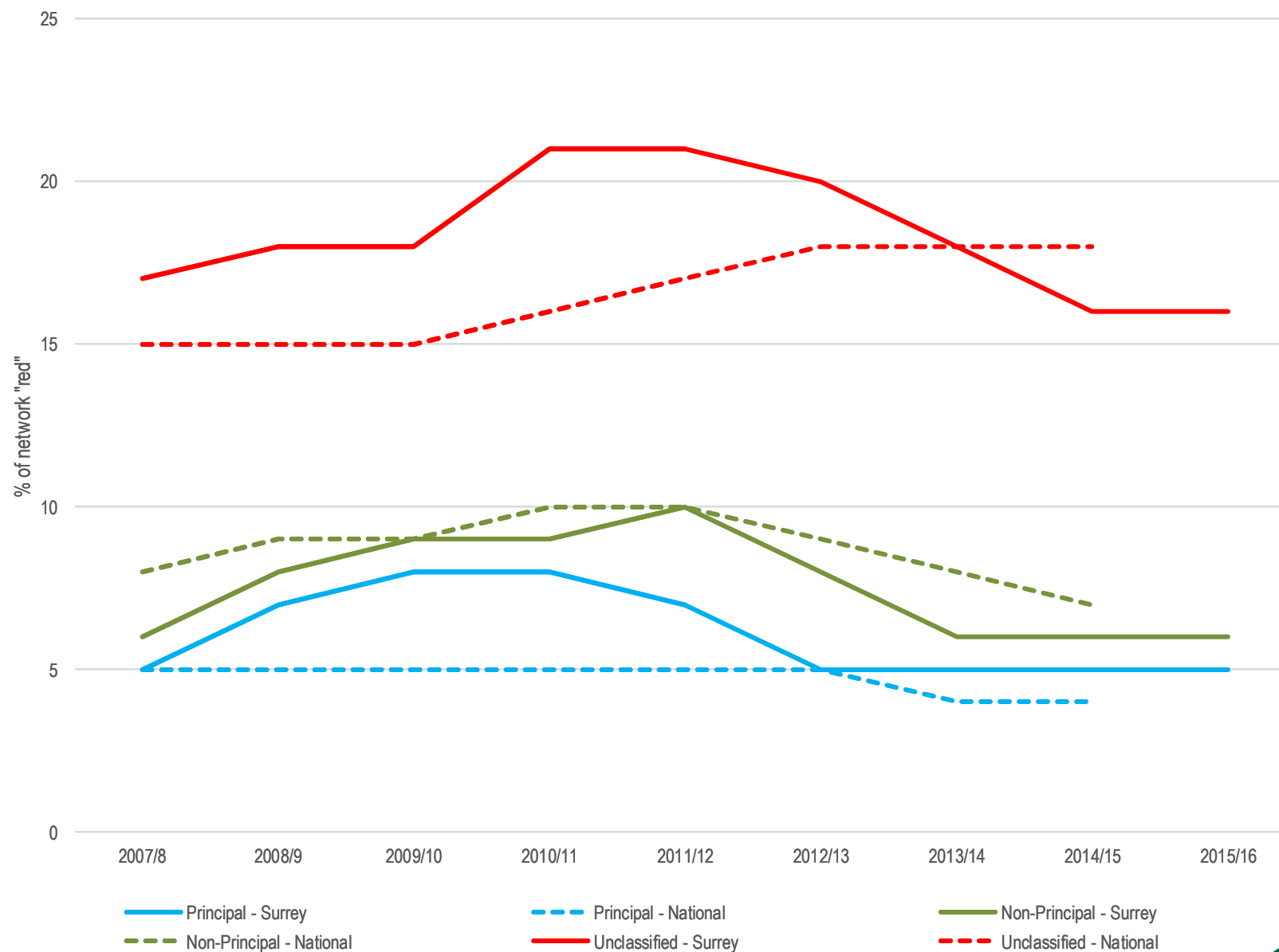


Operation Horizon – 5 year roads programme

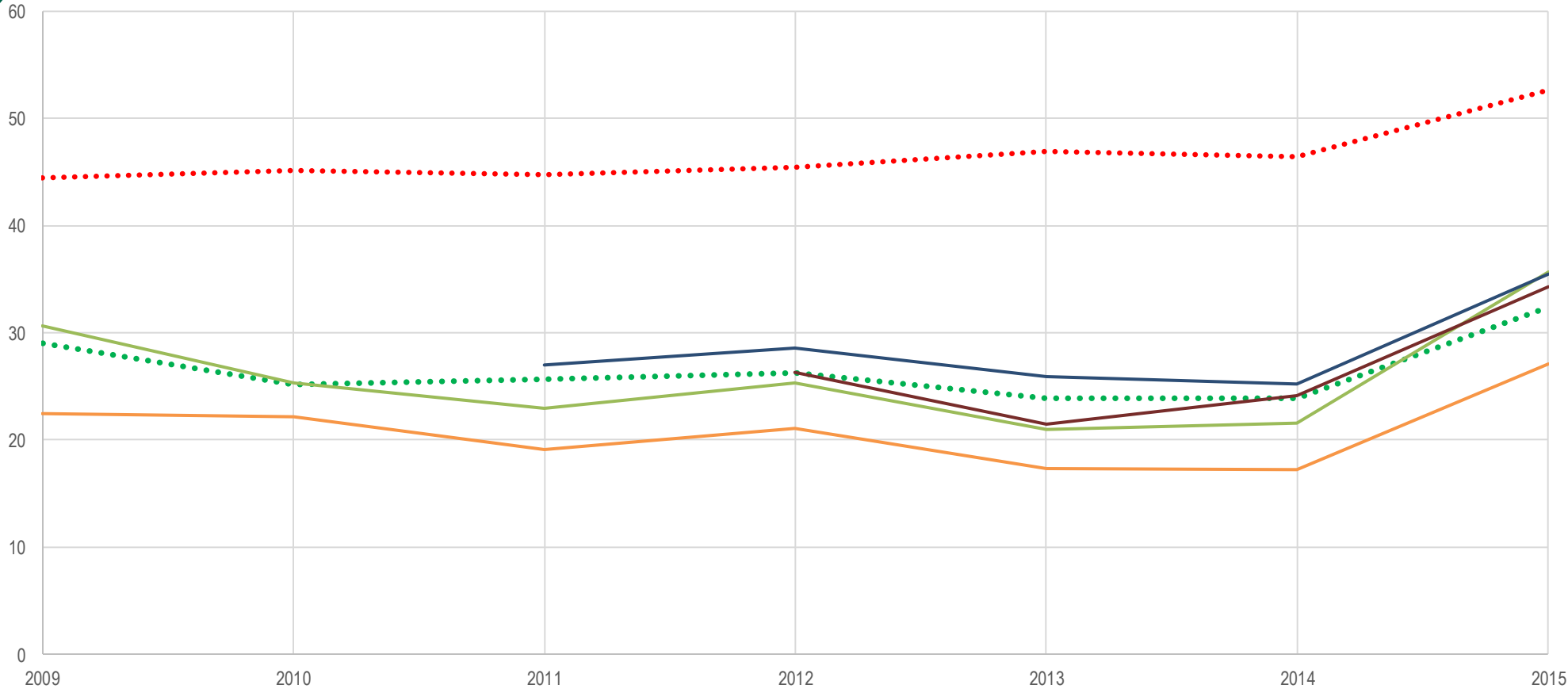
Operation Horizon

- **A new £100m investment plan for major road maintenance delivered through two key actions:**
 - ✓ **Increase road maintenance budget** – Cabinet approved an additional £25m funding over five years, enabling annual budget to increase from £12m to £20m
 - ✓ **Contract Savings** – project aimed to deliver 16% to 20% through savings on existing contract rates, by providing certainty of work to supply chains and enabling better, more co-ordinated programming to enable savings to be re-invested in Surrey roads.
- **Combined the actions were anticipated to enable a total investment of £120m to replace the worst 500km of Surrey roads and deliver over a 1000 separate road schemes**
- **£5m per annum in addition to the above to be spent on preventative maintenance**

Red Network Trend 2007 - 2016



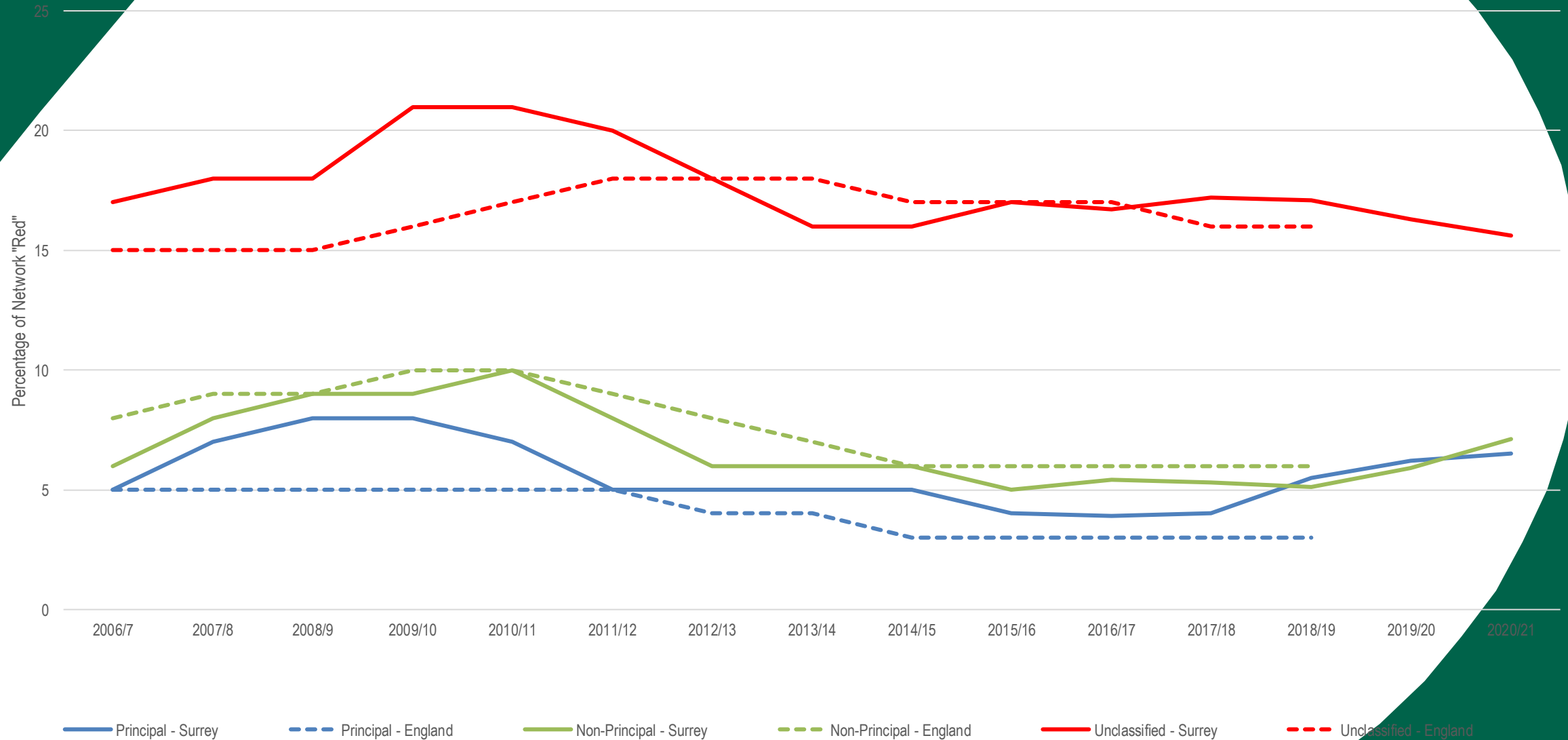
NHT Survey Highway Maintenance Questions 2009-2015



..... KBI 23 - Condition of highways
— HMBI 01-Condition of road surfaces
— HMBI 08-Quality of repair to damaged roads/Pavemt

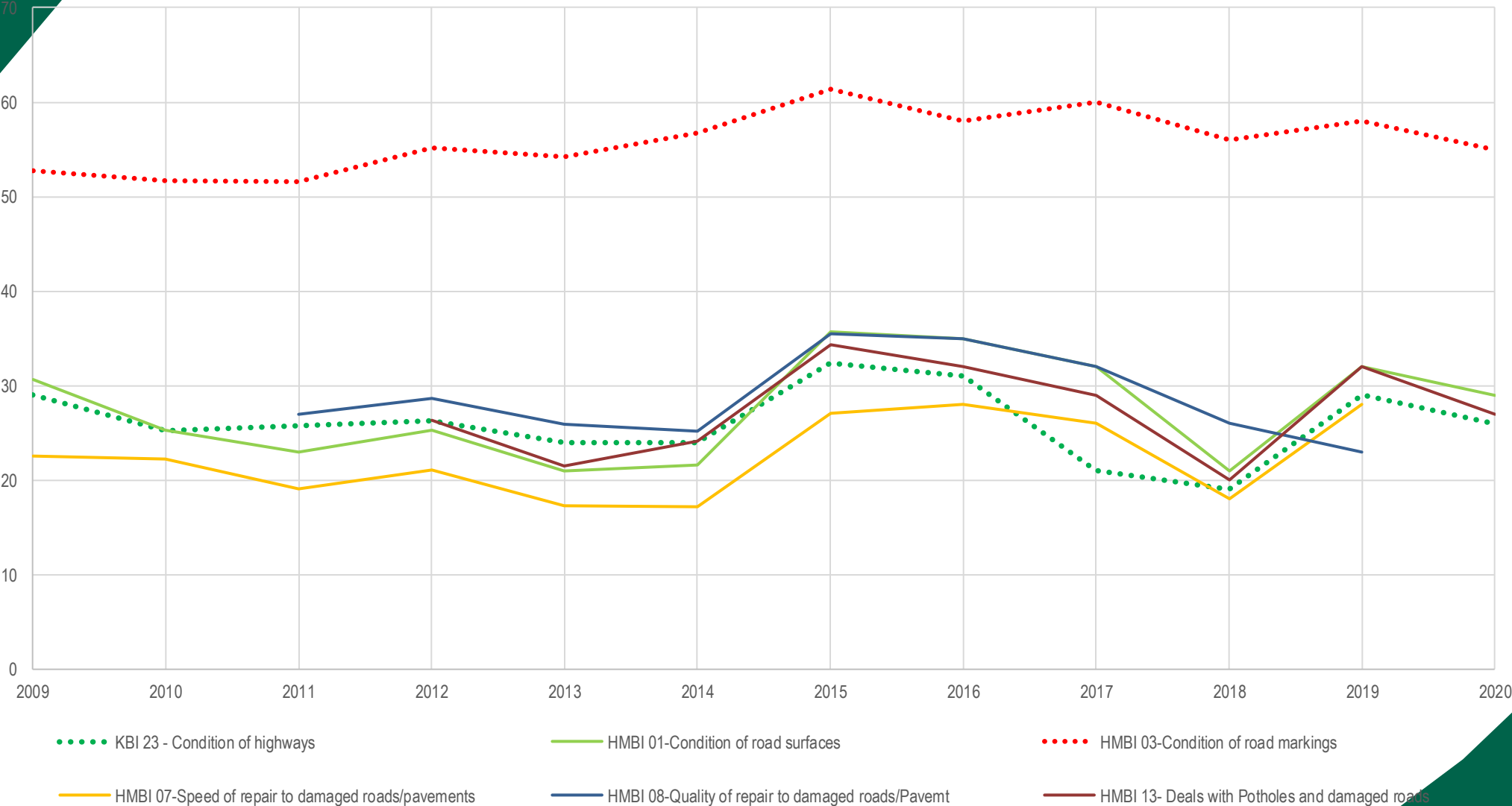
..... KBI 24 - Highway maintenance
— HMBI 07-Speed of repair to damaged roads/pavements
— HMBI 13- Deals with Potholes and damaged roads

Red Network Trend 2007 - 2020



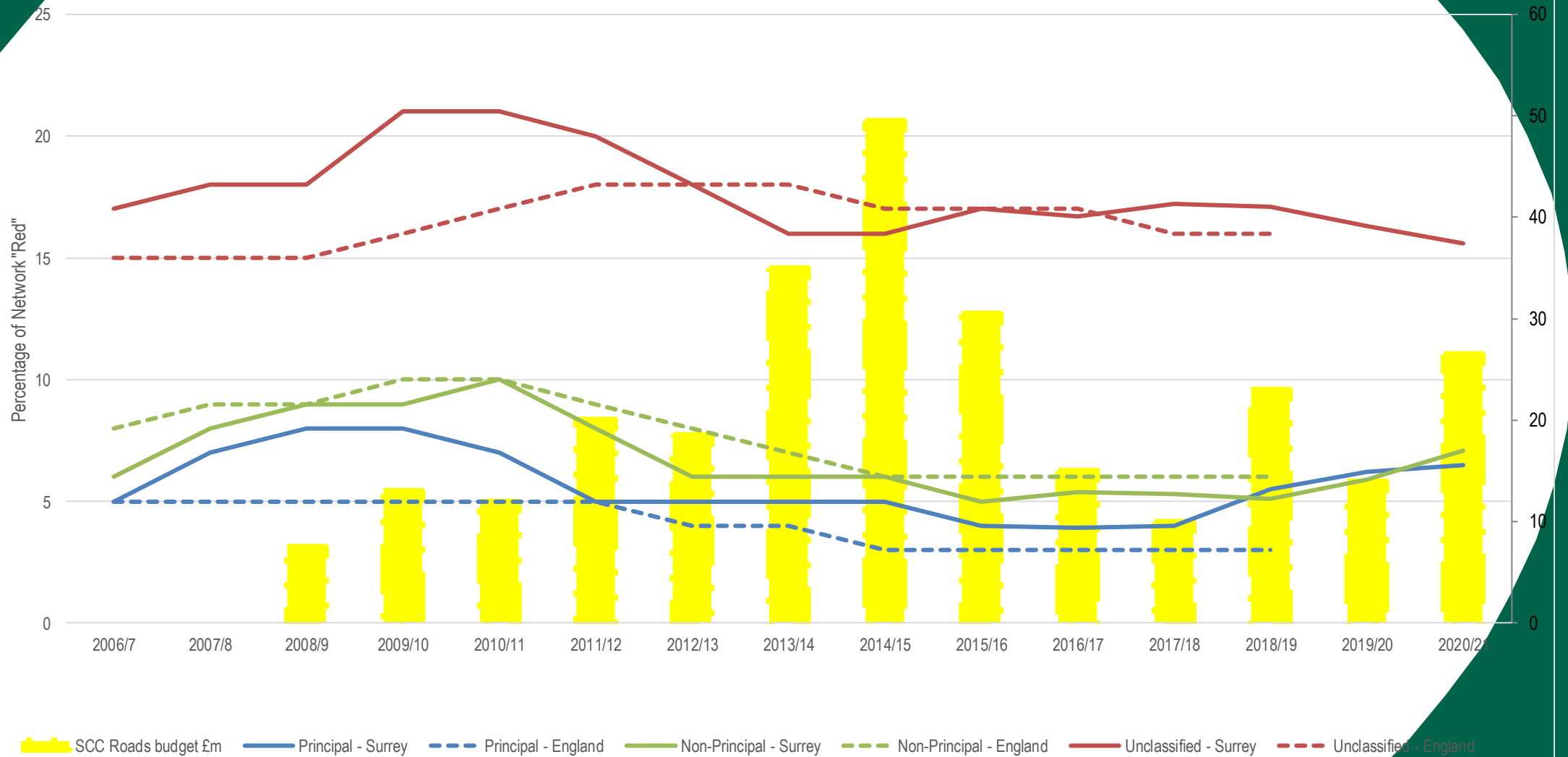
NHT Survey Highway Maintenance Questions

2009-2020

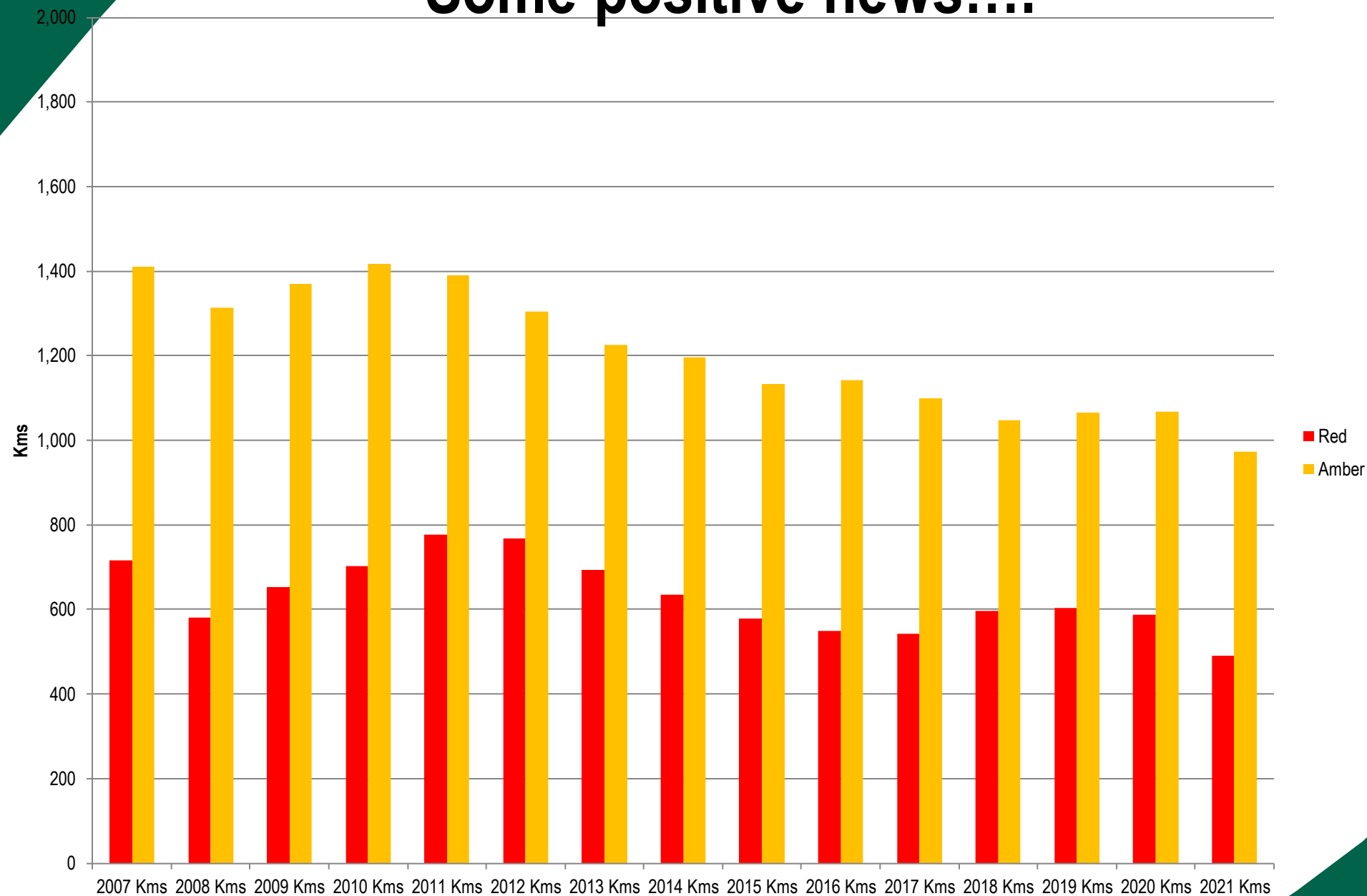


Why wasn't the improvement maintained?

Red Network Trend 2007 - 2021



Some positive news....



Development of 15 year strategy for key highway assets

Grading the Assets – Discovery & Data Gathering

For each asset class, we assessed the condition of the assets against a number of criteria and used these to produce estimates of how they will deteriorate across the next 15 years.

The approach taken for each asset class has varied based on the systems, data and processes available to the teams given their current position. Tools used have included UKPMS, Bridgestation, wetspots (bespoke drainage database), HMEP LCP tool

This example shows one of the sub-criteria for Traffic Systems.

Traffic Signals

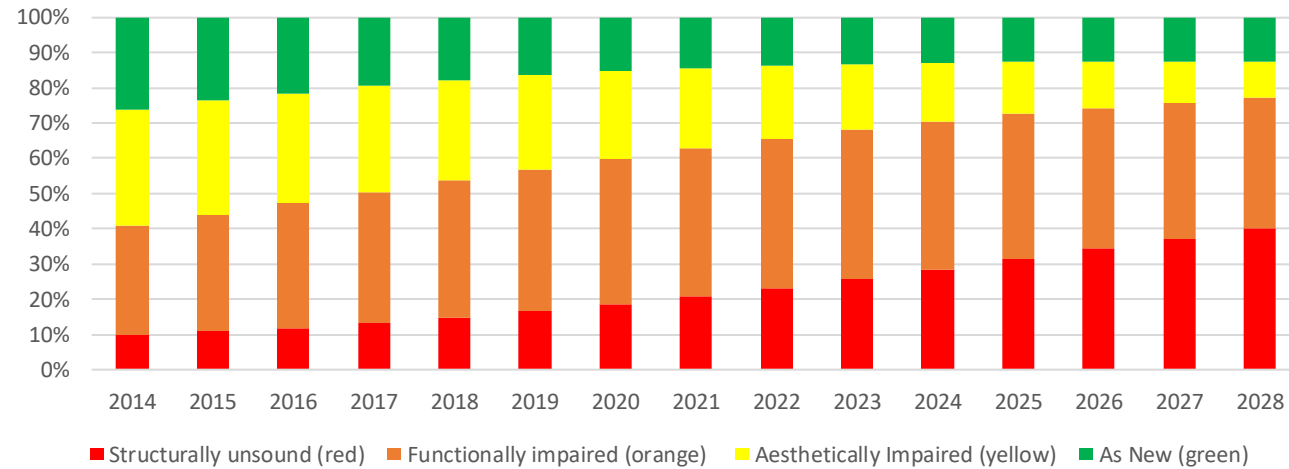


Street Furniture	
Sub-Criteria Description	Score
Excellent Condition (LED)	0
Good Condition	1
Fair Condition but Operational	2
OK starting to deteriorate, tungsten halogen signal heads	3
Poor signs of corrosion	4
Very poor very rusty	5

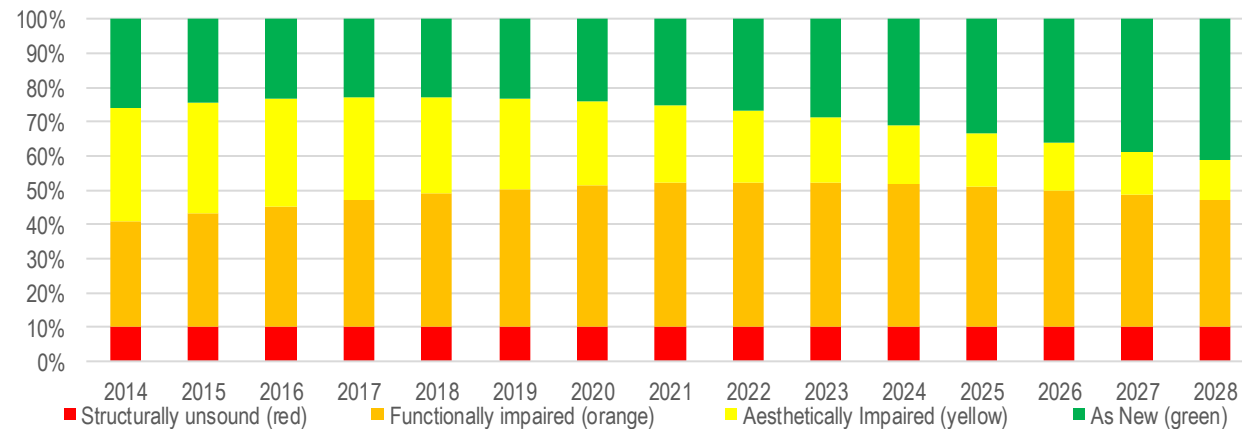


Deterioration Modelling Example – Safety Barriers

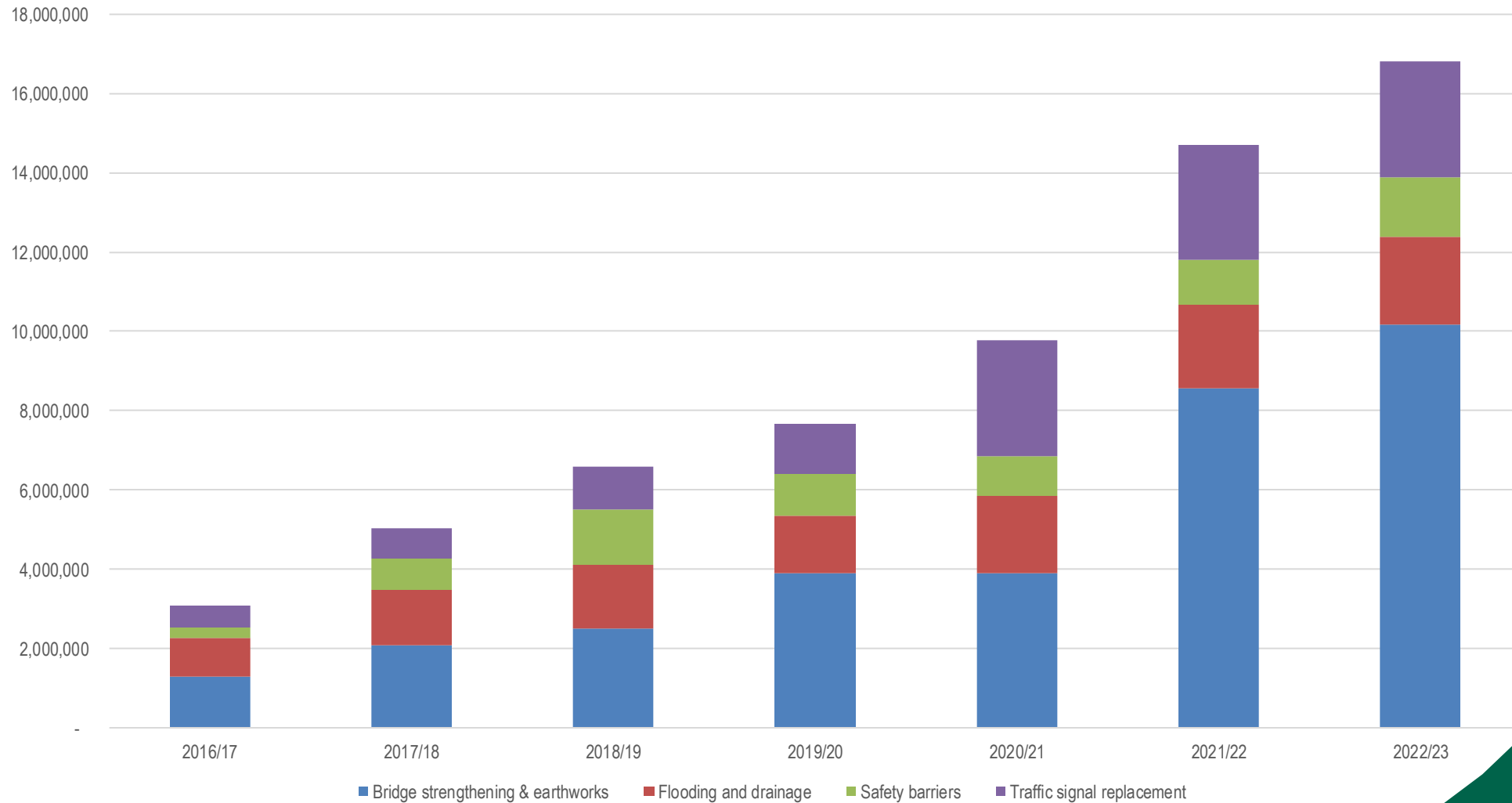
Current Funding Levels - £256k per annum



Maintain Current Condition Levels - £1.15m per annum



Key Highway Asset budgets 2016-2023



What else has changed in the last 5 years to improve the service?

Information for the public - 2018

Horizon 2 – 2018/19 programme, Elmbridge

Horizon 2 ROADS programme

Road No.	Road name	Location	Limits	Length (metres)	Type of Work	Year	Surrey Highways ID	Other information
D6955	Aragon Avenue	Thames Ditton	Summer Road to End	225	Micro Asphalt	2018/19	CW 3336	Completed
D6877	Bookham Road	Cobham	Downside Common Road to district boundary	1400	Surface Dressing	2018/19	CW1031	Completed
D6819	Couchmore Avenue				Surface			

- This is a list of works being considered for future years
- This list will change as condition survey information is received

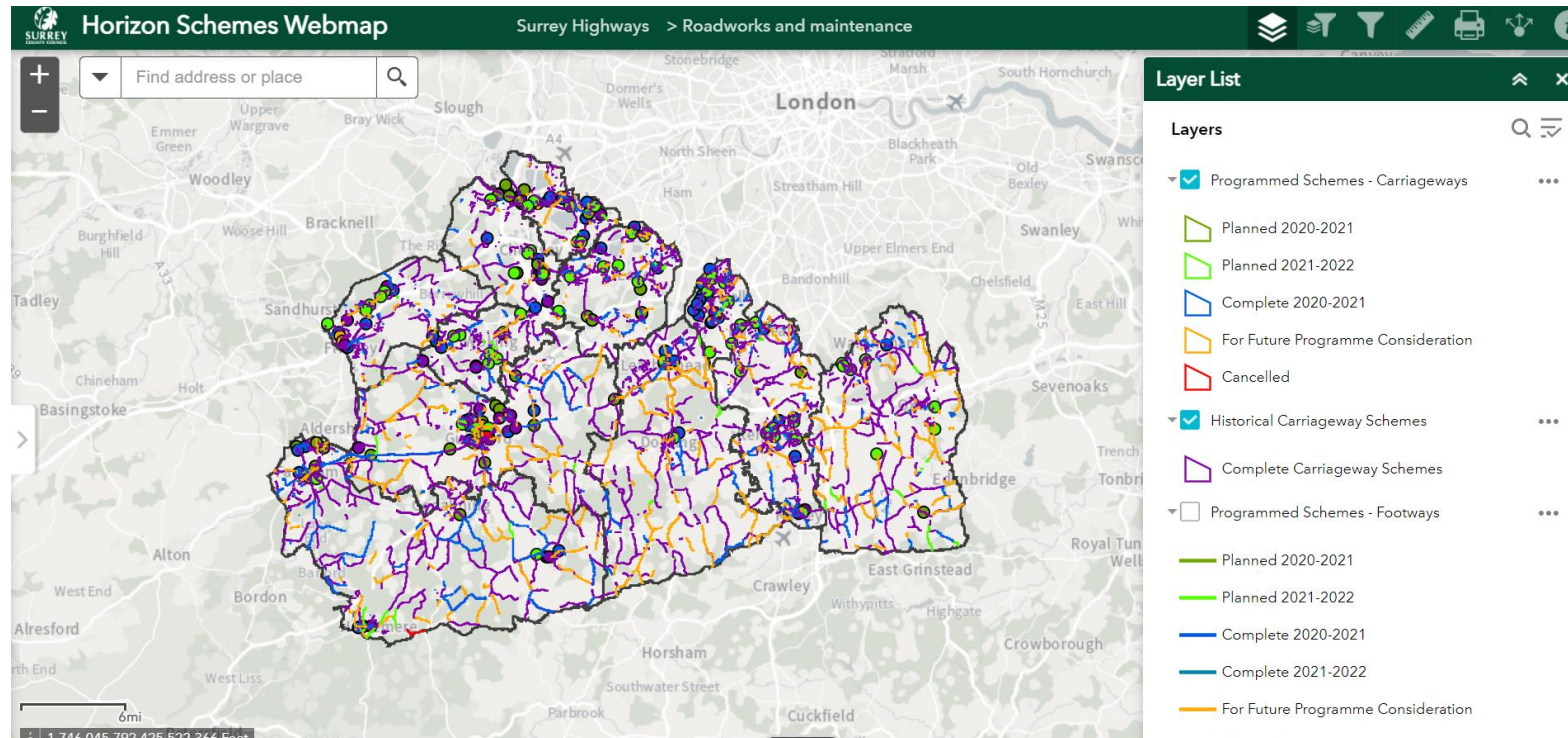
Horizon 2 STRUCTURES Schemes for consideration for future years

Road No.	Road / Scheme name	Location	Limits	Length (metres)	Type of Work	Surrey Highways ID	Other information
B3379	Bridge Road	East Molesey	Mole Bridge - Construction	N/A	Structures	B3379/3	
D6819	<u>Couchmore Avenue</u>	Thames Ditton	<u>Couchmore Avenue</u> Bridge - Construction	N/A	Structures	D6819/1557	
D6827	Oaken Lane	Claygate	Oaken Lane Rythe Culvert - Construction	N/A	Structures	D6827/1570	
A245	Portsmouth Road	Cobham	Cobham Bridge - Construction	N/A	Structures	A245/9	
D6831	Raleigh Drive	Claygate	Raleigh Drive Culvert - Construction	N/A	Structures	D6831/1572	

C42	Downside Bridge Road
D6814	Manor Road North
D6904	Parkwood Avenue

2020 - GIS Information for the public

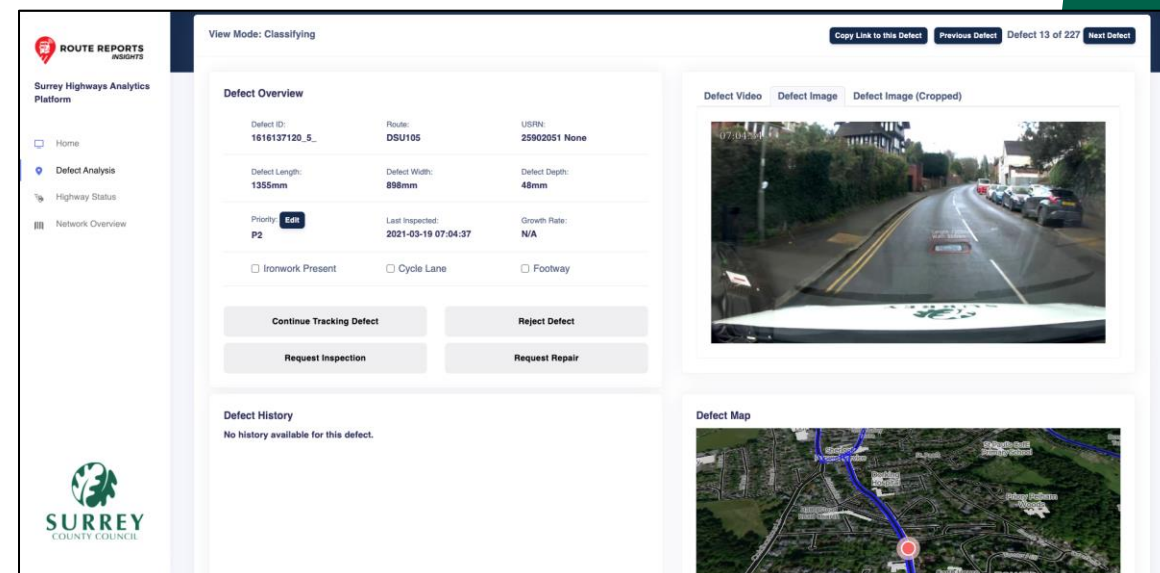
Link to website [Horizon Schemes Webmap \(arcgis.com\)](https://arcgis.com)



Potholes

Sensors installed in 8 Highways Inspection vehicles

- Currently it takes one vehicle two days to do an 80km route.
- >50% of potholes recorded are estimated as it is not safe for the inspector to stop to take measurements
- Accurate sizing of potholes and timely identification is essential to correctly prioritise a pothole as part of our obligation to maintain the roads
- Route Reports solution uses cameras, gyroscopes and accelerometers to determine the size and depth of a pothole
- Trial compares the existing process with the new technology
- Cost savings and service improvements possible



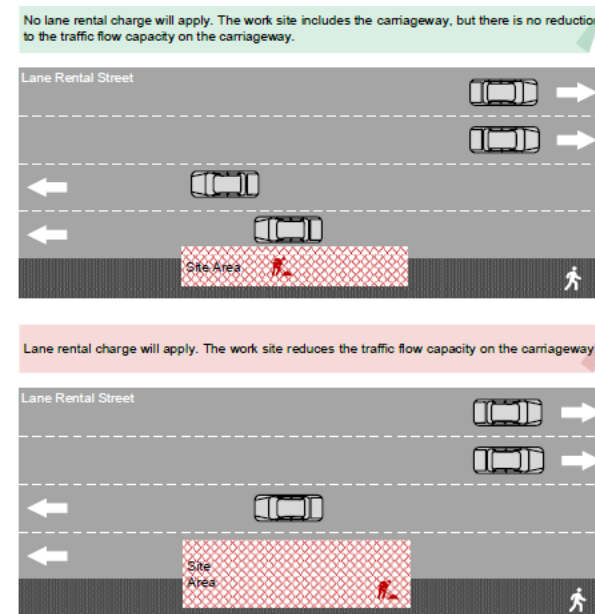
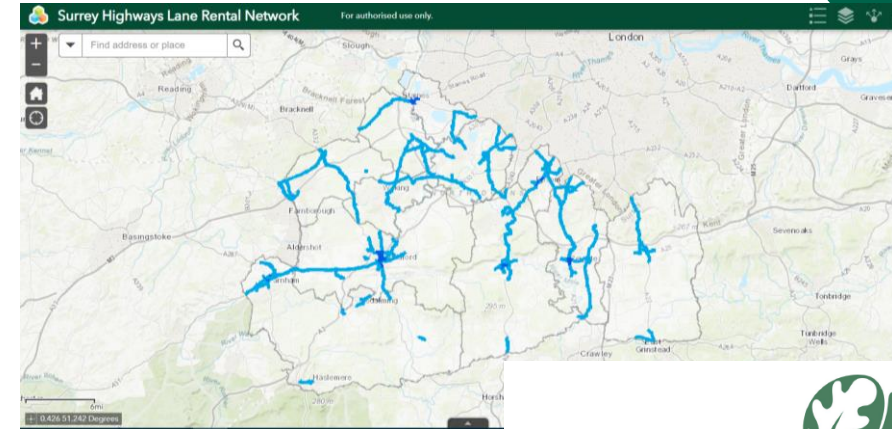
Gritting Efficiency

- 33 gritting routes in Surrey, each approx. 60km long
- Currently gritting is done on a domain basis – i.e. all routes within a domain are gritted if one location is forecast to require it
- Currently have ten weather stations providing real-time road surface temperature information
- 26 road temperature sensors are being deployed to provide more granular levels of information across the county
- Data from these will enable confidence to be built in Route Based Forecasting (RBF), where only the specific routes that require it will be gritted
- Potential savings if we move to RBF, in addition to environmental and safety benefits (less salt and diesel being used, fewer gritters on the roads)



Lane Rental

- In April 2021 Surrey became the 3rd local authority after TfL and Kent to implement a Lane Rental Scheme
- This enables us to charge for works on our busiest streets at the busiest times
- Real benefits come from encouraging collaborative working and different methodologies of work to reduce the impacts
- Surplus funds from the scheme can be used to fund trials and innovative new ways of working to reduce congestion



Surrey Lane Rental Scheme
Operational Guidance

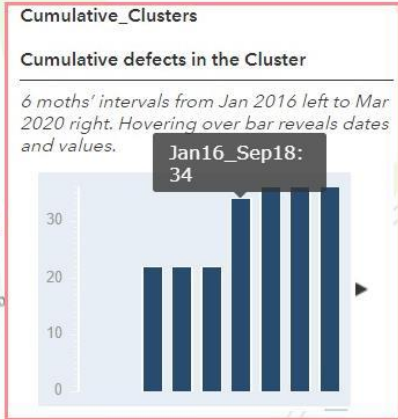
Version 1
March 2021

Road Condition Reporting

- Focus on road condition, white line condition and street furniture surveying
- Technology runs on Samsung Galaxy phones installed in vehicle windscreen
- Expected that Surrey's unclassified roads will be able to be surveyed once every year instead of once every four years, delivering a significant improvement to the service and savings
- Potential to enable more effective targeted lower cost treatments on minor defects before they develop into more serious defects with the potential to extend asset life



GIS analysis



CW Condition P4 Defects: cogmans lane

Road Name	cogmans lane
District	Tandridge
Length (m)	100.00
Width (m)	3.00
Depth (mm)	40.00
Condition Defects (P4)	Quilting (Patch on Patch)
Other	
Combined Defects (P4)	
XPS	
Hazards	



DrainageIssues10Sites_131records:
1451409-2

ID 1451409-2

Location COGMANS LANE, SMALLFIELD



Thank You