



The Road Surface Treatments Association Ltd

A critical time for local authorities

Dr Howard Robinson, Chief Executive

www.rsta-uk.org

Presentation brief



- The **growing crisis** in road investment for the 97.6% of the network managed by local authorities
- **Innovation** in surfacing products and processes
- Championing **safe working, sustainability** and **workforce competence**



LETS START BY LOOKING AT THE SIZE OF THE LOCAL ROAD NETWORK



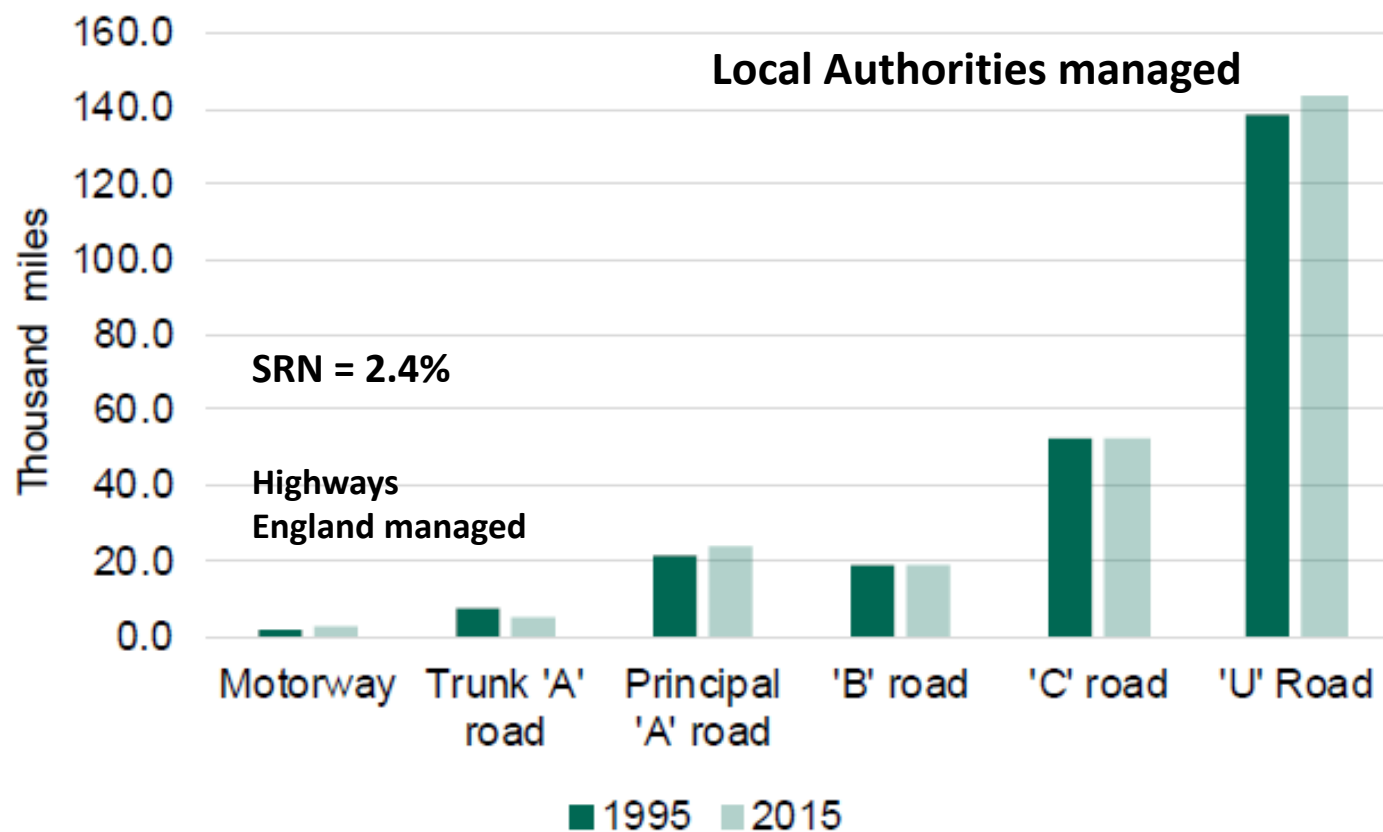
Size of the prize (scale of challenge?)

- 98% of England's roads
- 157 highway authorities
- 183,000 miles
- 113,000 of them unclassified
- 52,000 bridges
- £235bn – estimated value, English local roads
- *“The local highway network and other local transport infrastructure assets represent the biggest capital asset that the UK public sector holds.” (CIPFA)*

Road Lengths



Road length by road type in Great Britain, 1995 and 2015



Source: Department for Transport

Road Types in England

Highways England (HE) managed motorways and 'A' roads make up the Strategic Road Network (SRN). In 2016, the SRN made up 2.4% of road length but carried 33% of motor traffic vehicle miles

All other road types are managed by local authorities (LAs). In 2016:

- LA managed 'A' roads and motorways made up 9% of road length and carried 32% of motor traffic vehicle miles.
- Minor roads are made up of classified non-principal roads ('B' and 'C' roads) and unclassified ('U') roads. They make up the majority of road length in England, at 88%, but carried only 35% of motor traffic vehicle miles



HOW MUCH IS CURRENTLY BEING INVESTED IN ROADS?

Local Highways Maintenance Funding 2016-21



Department
for Transport

Over **£7 billion** of **capital** funding for local highway maintenance and improving local networks

£4.7 billion – Needs based formula

£575 million – *Challenge fund* for large one off maintenance or renewal of roads, footways, cycleways

£578 million – *Incentive fund* to encourage authorities to undertake cost effective improvements and adopt good asset management – following HMEP and evidence based!

£250 million – *Pothole action fund*

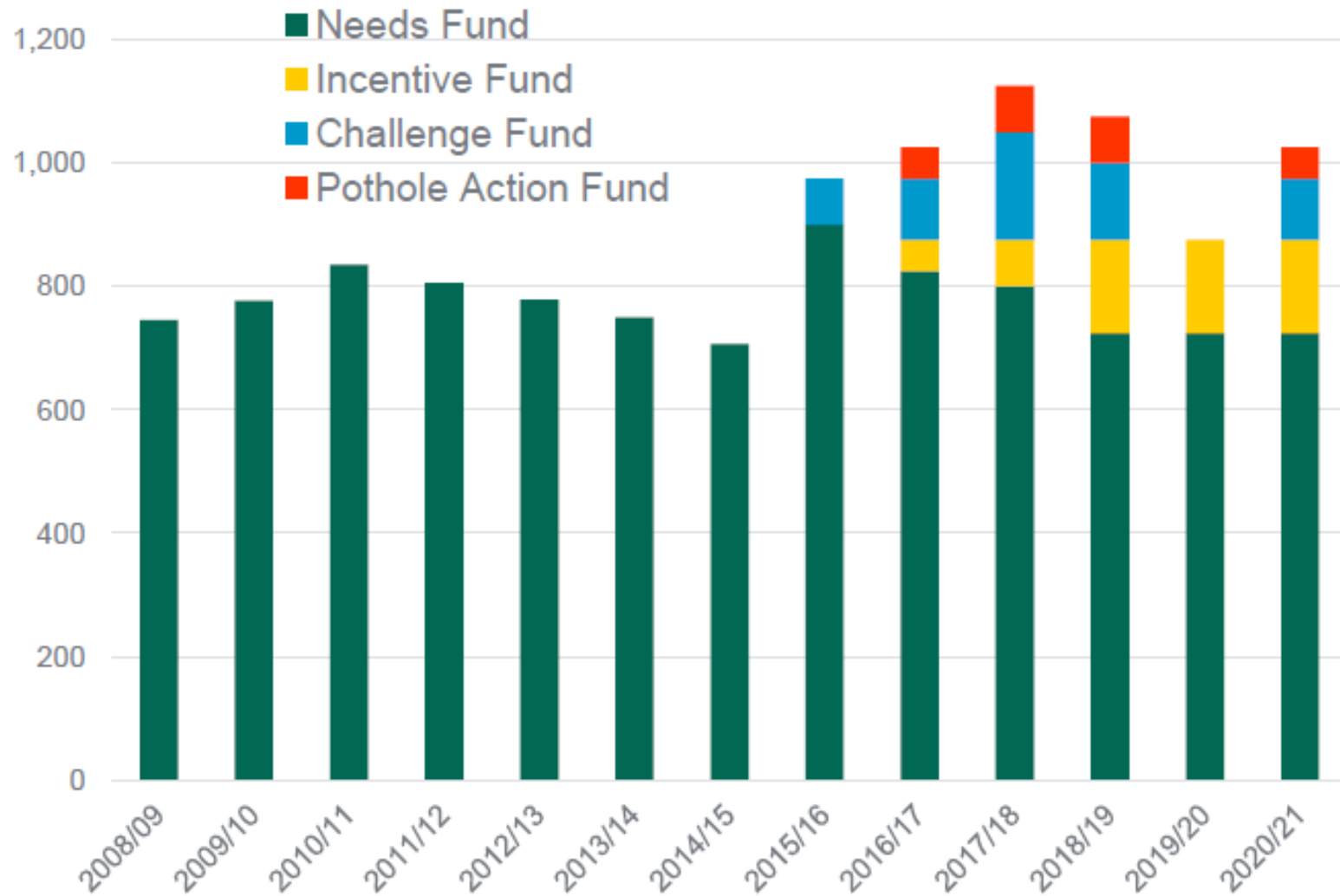
£1.1 billion – autumn statement 2016 mainly for relieving congestion and encouraging economic growth

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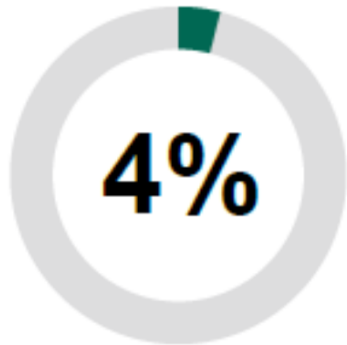
Department
for Transport

Local Highways

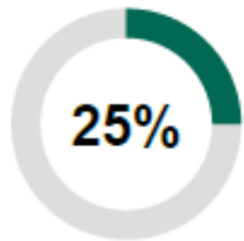


Road Conditions in England 2015

Principal Roads

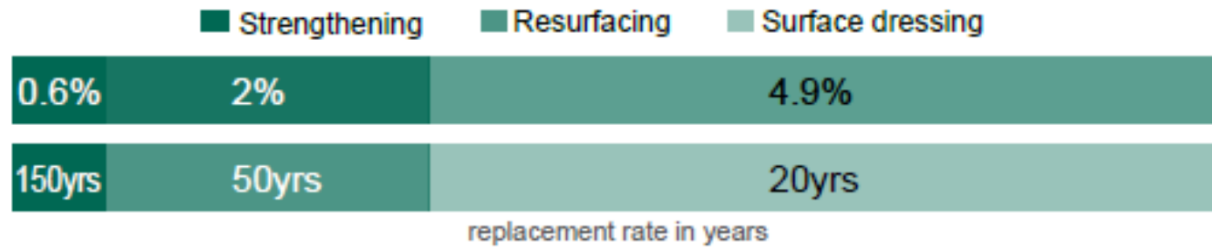


of the LA managed 'A' road network should have been considered for maintenance



of the LA managed 'A' road and motorway network required further investigations for skidding resistance

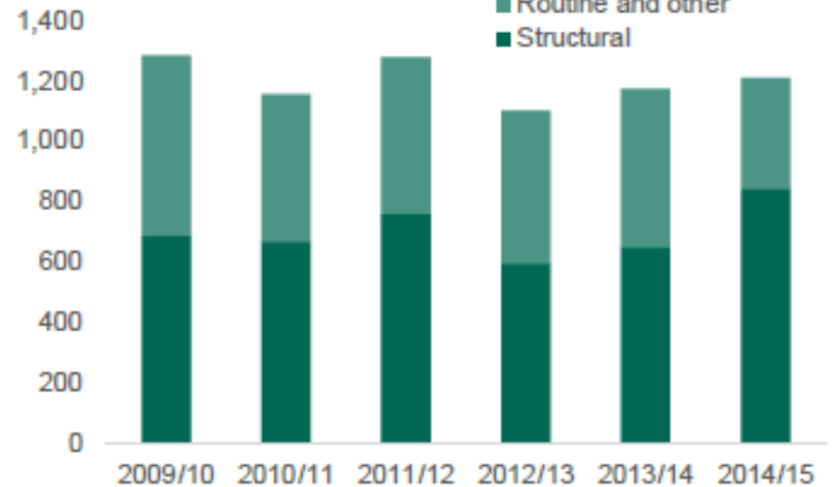
7.5% of the LA managed 'A' road network received maintenance treatments



£1,211 million

was spent on maintenance of LA managed 'A' roads and motorways

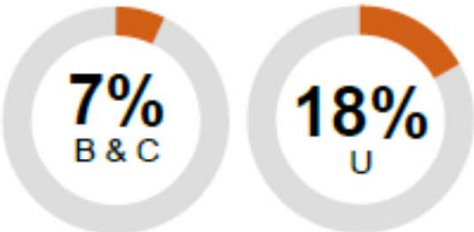
£ million at 2014/15 prices



Road conditions in England 2015

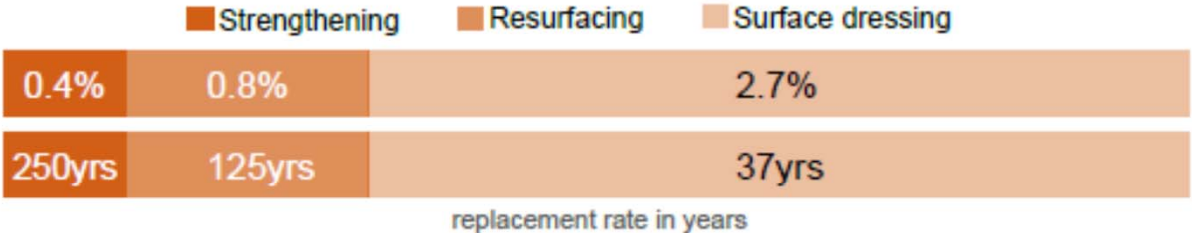


Minor Roads



of the 'B', 'C' and 'U' road network should have been considered for maintenance

3.9% of the 'B', 'C' and 'U' road network received maintenance treatments



£2,121 million was spent on maintenance of 'B', 'C' and 'U' roads

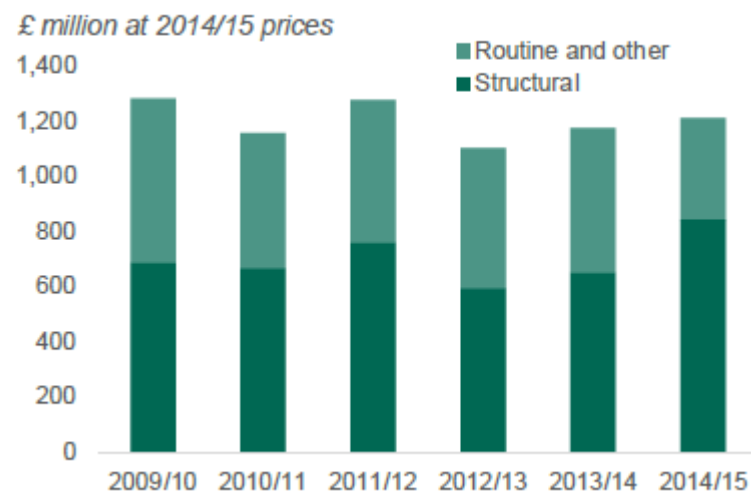


Road Conditions in England 2015

£3.3Bn was spent on local road maintenance in 2015

£1,211 million

was spent on maintenance of LA managed 'A' roads and motorways



£2,121 million was spent on maintenance of 'B', 'C' and 'U' roads

■ Routine and Other ■ Structural



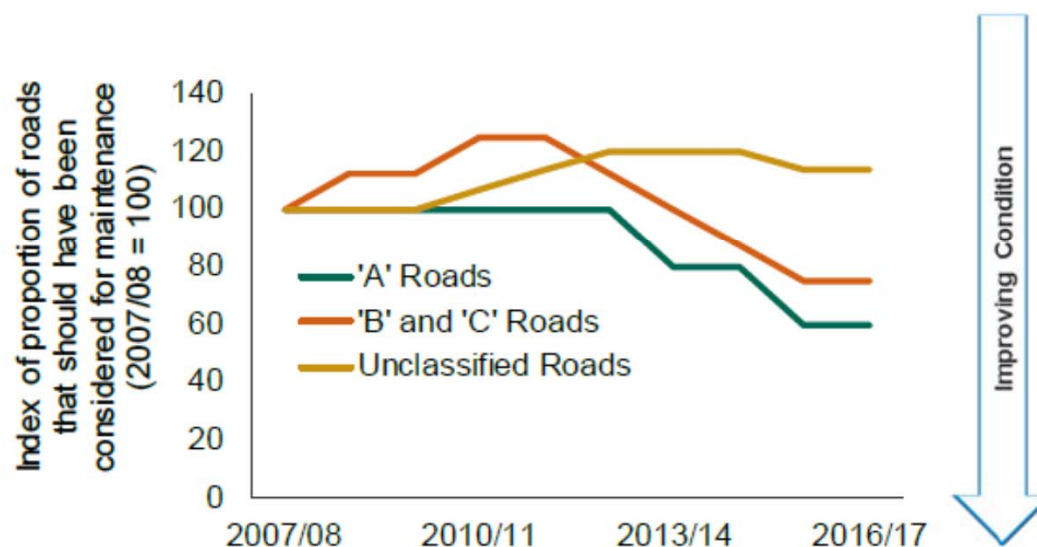


Department
for Transport

Road Conditions in England 2017

Local authority managed 'A', 'B' and 'C' roads have gradually improved over the last 5 years, while unclassified roads have remained broadly stable.

Trend in the proportion of LA managed roads that should have been considered for maintenance, in England, by road type, 2007/08 to 2016/17 [\[RDC0120\]](#)



Road Condition - Local Authority Managed Unclassified Roads

Chart 6: Proportion of unclassified roads that should have been considered for maintenance , 2007/08 to 2016/17 [[RDC0130](#) [RDC0131](#)]

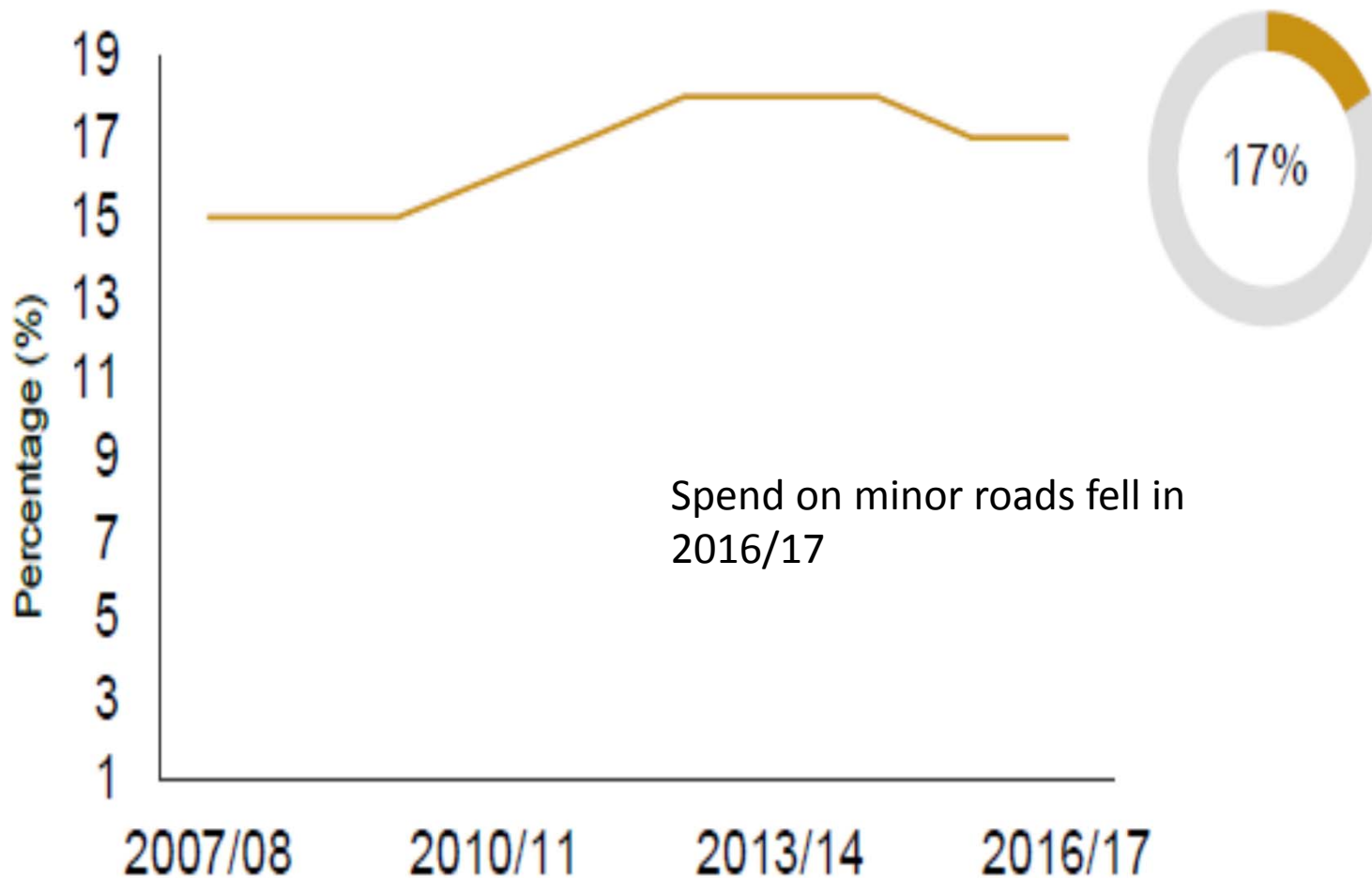
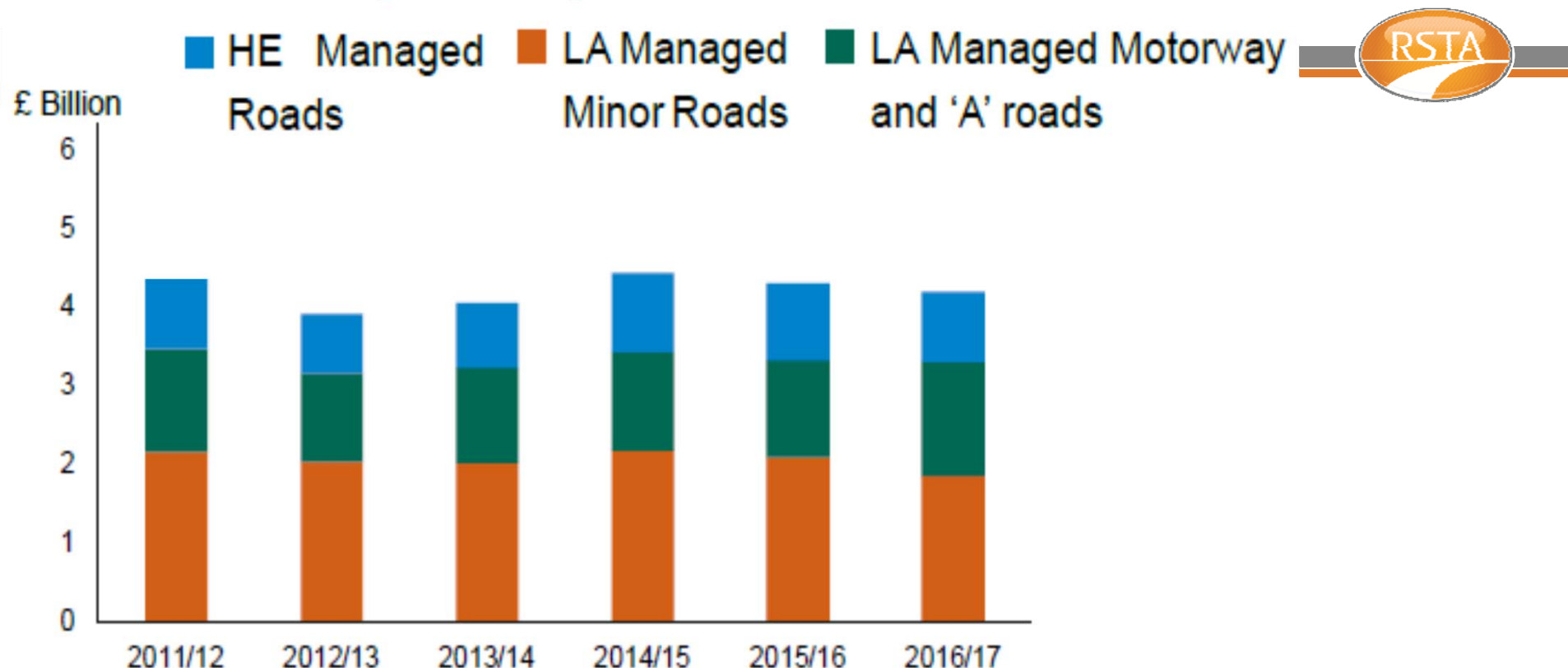


Chart 7: Maintenance expenditure by road class, in England, from 2011/12 to 2016/17 [RDC0310]



In 2016/17, £4.5 billion was spent on the maintenance of roads in England. Of this, £900 million was spent on HE managed motorways and 'A' roads, and £3.6 billion on LA managed roads. Spend on minor roads fell in 2016/17 compared to recent years, while spend on LA managed 'A' roads and motorways increased.

Road conditions in England 2017

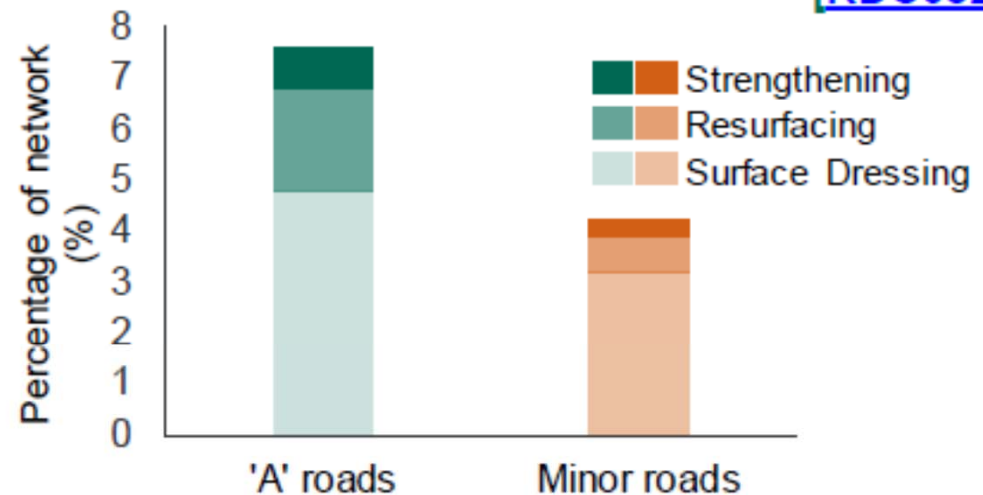


Maintenance Treatments on Local Authority Managed Roads

Levels of treatment applied to roads fluctuate, and are influenced by a range of factors such as weather and funding.

In 2016/17, 7.6% of the LA managed 'A' road network and 4.3% of the minor road network ('B', 'C' and 'U' roads) received maintenance treatment, both similar to the previous year.

Chart 8: Percentage of local authority managed roads receiving maintenance treatments in 2016/17
[\[RDC0320\]](#)



Surface dressing (layers of chippings and binder), a relatively minor treatment, accounted for 63% and 74% of all treatments on LA managed 'A' roads and minor roads respectively in 2016/17.

Surface Dressing hot binder production fell 12% in 2017 – source Road Emulsion Association



COMMENTARY ON ROADS INVESTMENT

Investment per mile



- Government is investing over **40** times more in maintaining national roads i.e. Strategic Road Network (SRN)
- **£1.1 million per mile** on national roads which make up 2.4% of total roads
- **£27,000 per mile** on local roads which represent 97.6% of England's road network

Rees Jeffreys Study 2016



Rees Jeffreys Road Fund

A Major Road Network for England Report Summary

A Rees Jeffreys Road Fund Study

David Quarmby
Phil Carey
October 2016



Rees Jeffreys Study 2016



- **89%** of personal travel is by road
- **86%** of inland freight movement is by road
- Government is spending **£70Bn** on transport infrastructure to drive economic growth. Of this **£15Bn** is for the SRN up to 2021
- **Highways England manage 2.4% of England's roads.** They have a 5 year plan + targets for user satisfaction and network performance/ condition and they have a regulator (ORR).
- There is no equivalent plan for English highway authorities which manage the other **97.6%**
- Instead they face ongoing cuts in road maintenance, face complex funding arrangements and have a greater backlog



THE TREND IS NOT OUR FRIEND!

Roads seem to be getting worse



Anyone who travels around the UK will know the roads are getting worse not better.

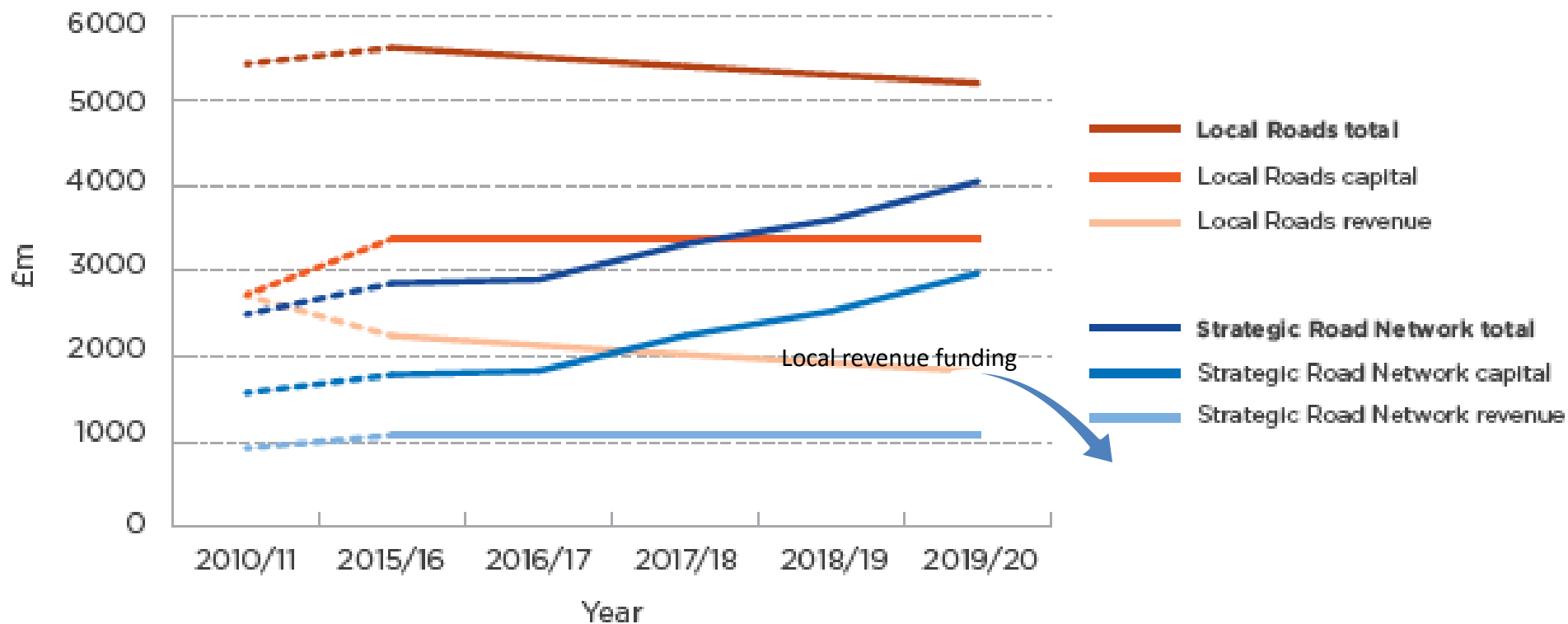


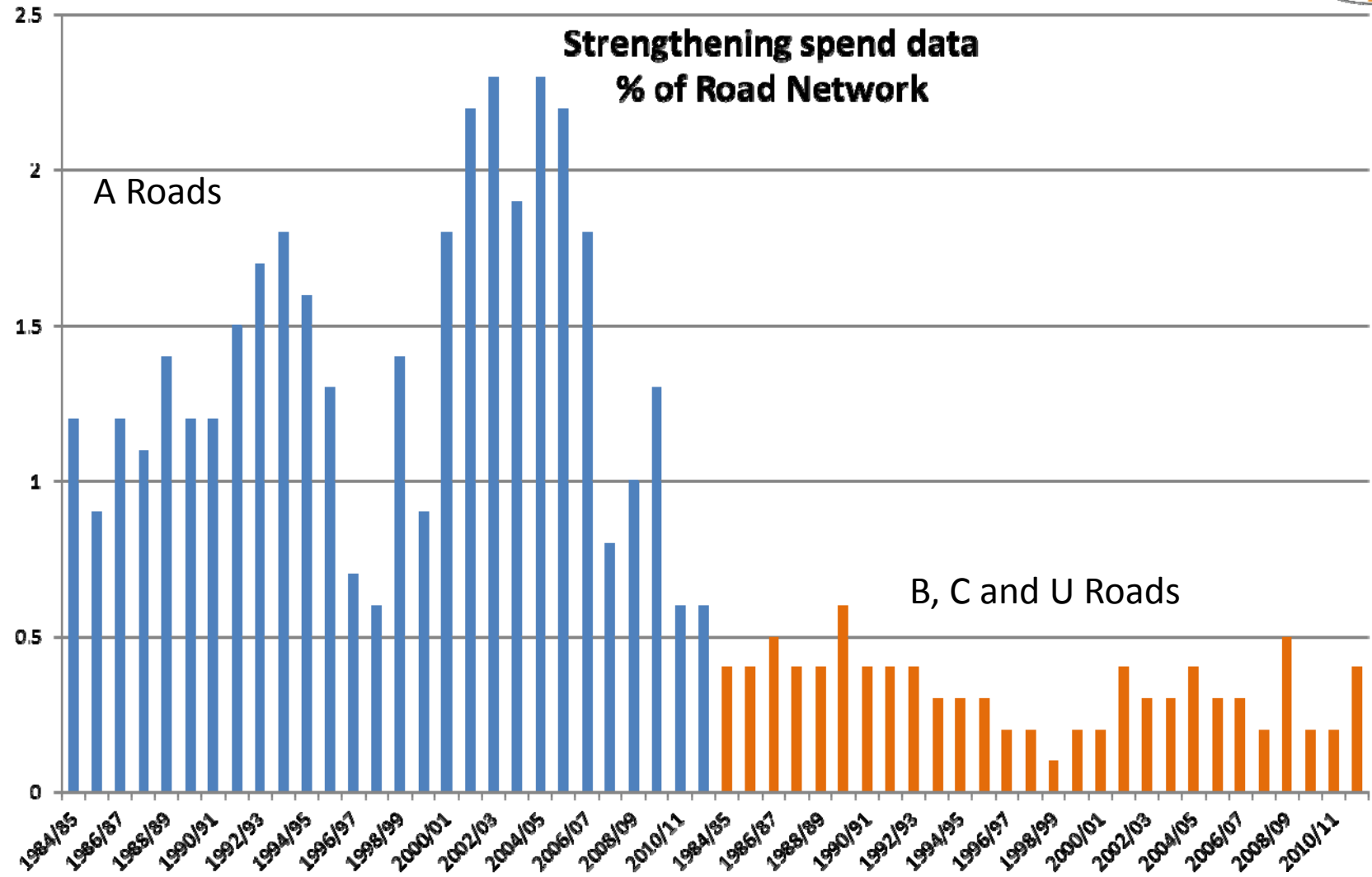
About 1% of the replacement cost of local roads is spent on maintenance each year.

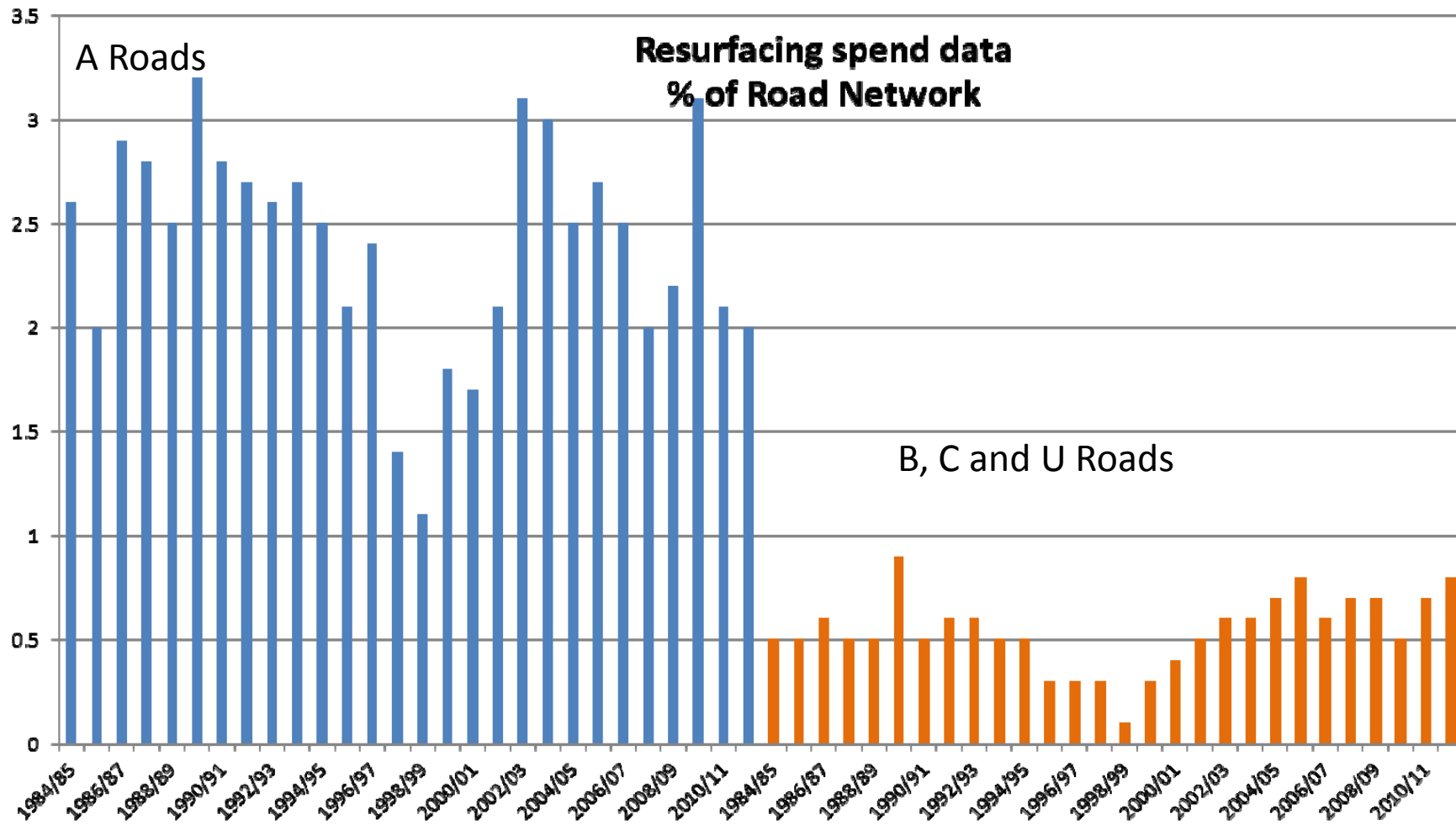
Rees Jeffreys again..



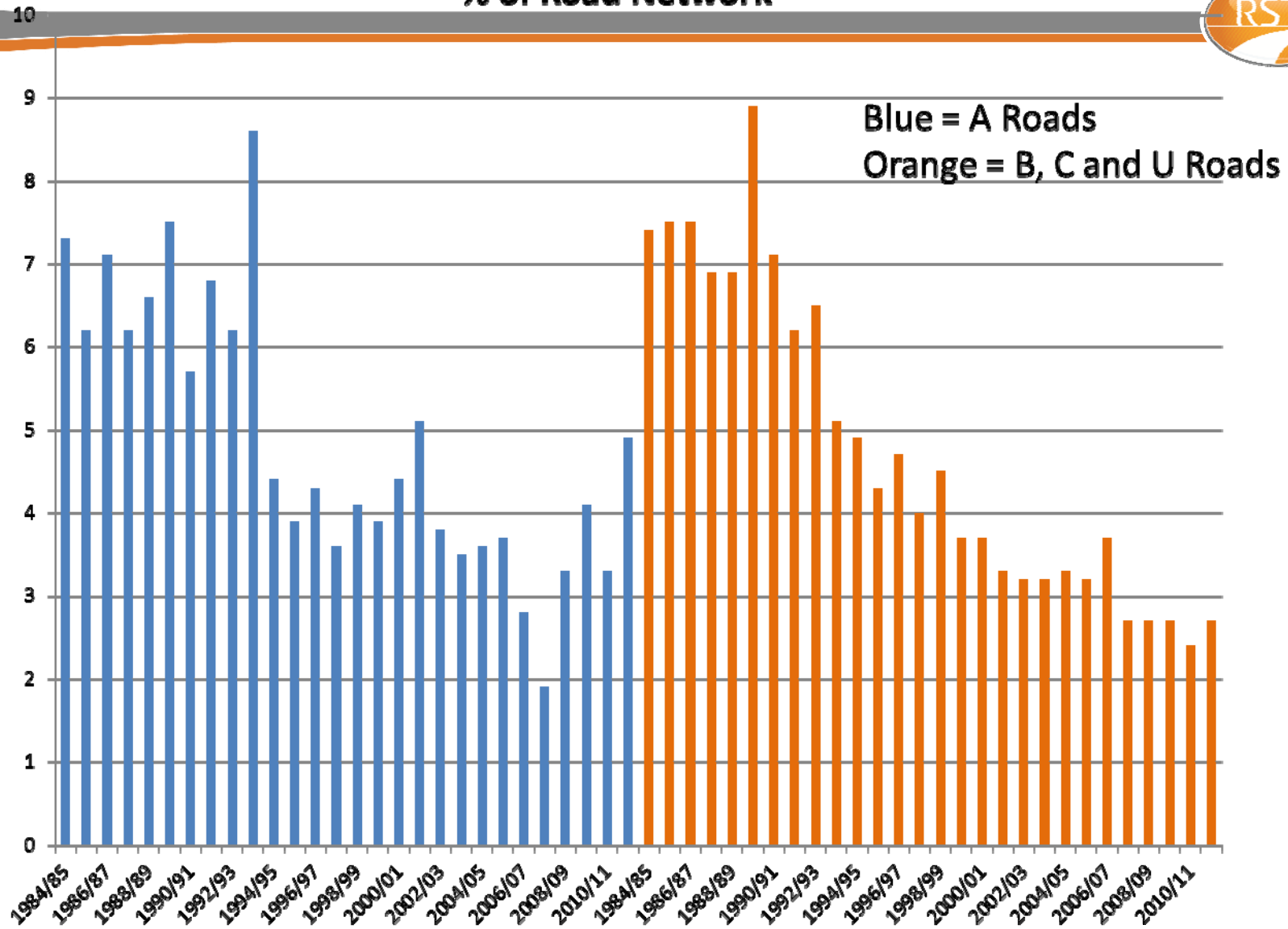
Current and forecast capital and revenue expenditure (£m) for the Strategic Road Network and all local roads



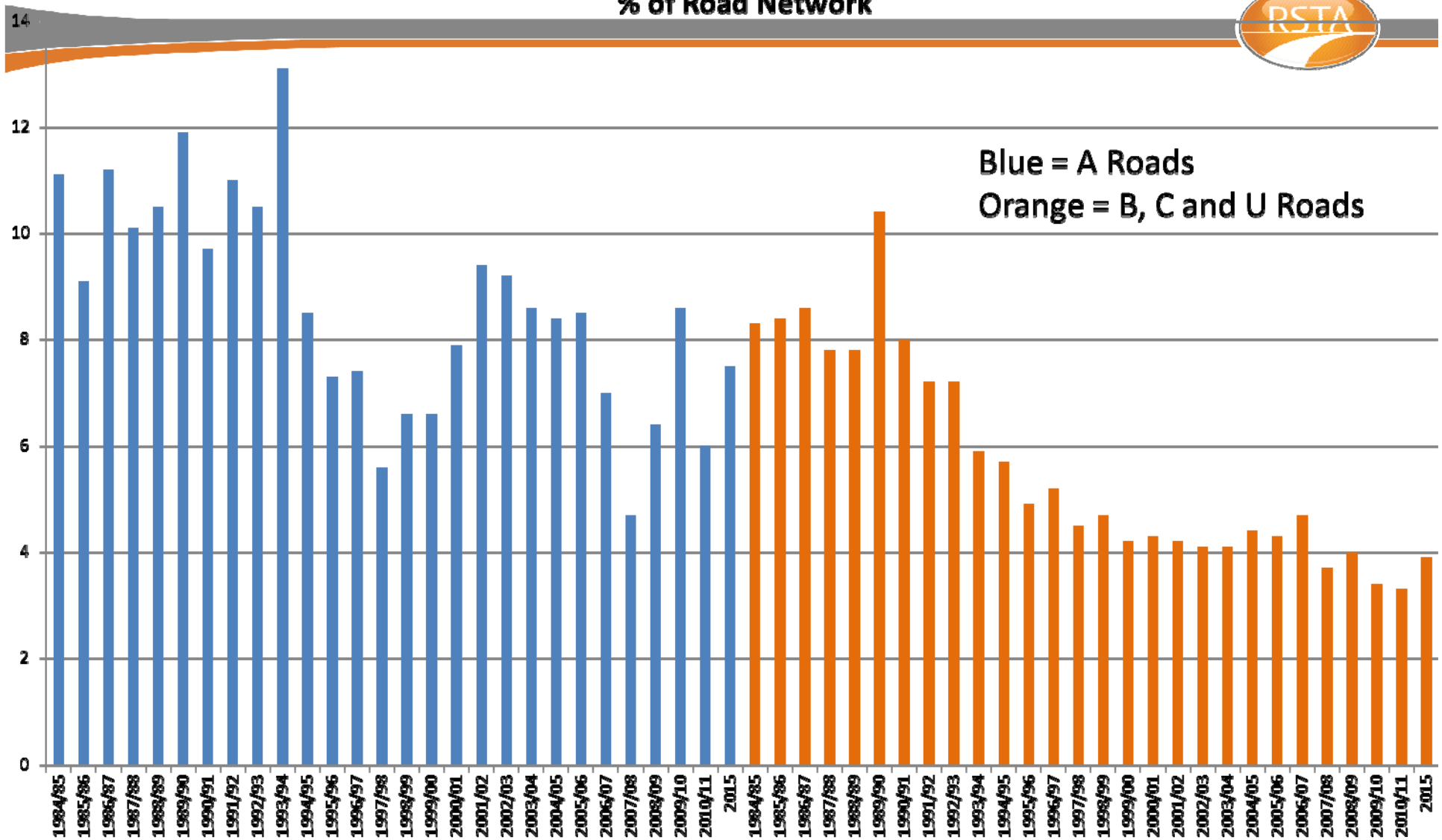




Surface Dressing spend data % of Road Network



Total Spend 1984 – 2015 % of Road Network





VITAL STATISTICS

ALARM

Annual Local Authority Road Maintenance Survey



The organisation's Annual Local Authority Road Maintenance (ALARM) report published in March 2016²⁰ found that, despite the commitment to extra state funding, local authority highways departments in England claimed that funding has dropped by 16% on average since last year. The report also said that the amount of investment needed to bring roads in England and Wales up to an acceptable level had remained just below £12 billion.

ALARM 2017



One
pothole
filled
every...



One-time
catch-up
cost:



1 in 6
local roads
may need to
be replaced
in the next **5** years



Annual
carriageway
shortfall:
£730m





	TOTAL*	England**	London	Wales
Percentage of authorities responding	↑ 63%	↑ 70%	↑ 44%	− 55%
Highway maintenance budgets				
Average highway maintenance budget per authority	↑ £17.1m	↑ £21.8m	↓ £7.5m	↓ £6.9m
Percentage of highway maintenance budget spent on carriageway	↑ 58%	↑ 58%	↑ 56%	↑ 58%
Average carriageway maintenance budget	↑ £9.9m	↑ £12.6m	↑ £4.2m	↑ £4.0m
Shortfall				
Shortfall in annual carriageway maintenance budget	↓ £729.9m	↓ £569.8m	↓ £79.8m	↓ £80.3m
Average annual carriageway maintenance budget shortfall per authority	↓ £4.3m	↓ £5.0m	↓ £2.5m	− £3.7m
Estimated time to clear carriageway maintenance backlog	↓ 12 years	↓ 13 years	↓ 10 years	↑ 9 years
Estimated one-time catch-up cost	↑ £12.06bn	↑ £10.78bn	↓ £686.1m	↓ £591.5m
Estimated one-time catch-up cost per authority	↑ £71.8m	↓ £85.7m	↓ £21.4m	↓ £26.9m
Road condition				
Frequency of road surfacing (all road classes)	↓ 51 years	↓ 55 years	↓ 23 years	↑ 63 years
Number of potholes filled over past year	↓ 1,748,916	↓ 1,535,352	↓ 72,544	↑ 141,020
Average number of potholes filled per authority last year	↓ 10,410	↓ 13,468	↓ 2,267	↑ 6,410
Average cost to fill one pothole – planned	↓ £49	↓ £46	↓ £72	↑ £53
Average cost to fill one pothole – reactive	↑ £72	↑ £69	↑ £98	↓ £59
Total spent filling potholes in past year	↓ £102.3m	↓ £88.3m	↓ £6.2m	↑ £7.9m

13 years – time needed to clear the backlog in England (10 years in London; 9 years in Wales).

17 per cent of local roads in England reported as having less than 5 years life remaining (16% in London; 18% in Wales).

55 years – average time before a road is resurfaced in England (23 years in London; 63 years in Wales).



POTHOLES

THE VITAL STATISTICS

WWW.RSTA-UK.ORG

2ND EDITION
JANUARY 2018

Vital Statistics



99

defective road surfaces responsible for killing or seriously injuring cyclists in 2016

£12.1 billion

to bring UK roads up to an acceptable standard

1 in 6

roads may need to be repaired within 5 years

£1.8 million

paid out for a single pothole claim

53%

of local authorities have cut road maintenance spend

-£900,000

average reduction in council maintenance spending

37.8 million

vehicles per year using UK roads

325.1 billion

road miles travelled in 2017

+1.9%

increase in total vehicles on UK roads, 2016-17

68%

of UK businesses don't think road infrastructure will improve

More stats



Motorists pay £26.9 billion in fuel duty, £25 billion VAT on fuel and £6.1 billion for other motoring taxes. An annual total of £58 billion. Against this central government funding allocated to road maintenance is just £2.06 billion.

(Autumn Statement 2016, HM Treasury, 2016)



ECONOMIC EFFECT OF ROAD INVESTMENT



Centre for Economics and
Business Research Report
February 2017

- Independent consultancy formed 1993
- Provides forecasts & advice
- To Government Depts, local authorities and Blue Chip companies throughout Europe

The economic effect of road investment

The necessity & value of upgrading the UK's road infrastructure

February 2017

Independent Report Commissioned by the FairFuelUK Campaign

Rail v Roads

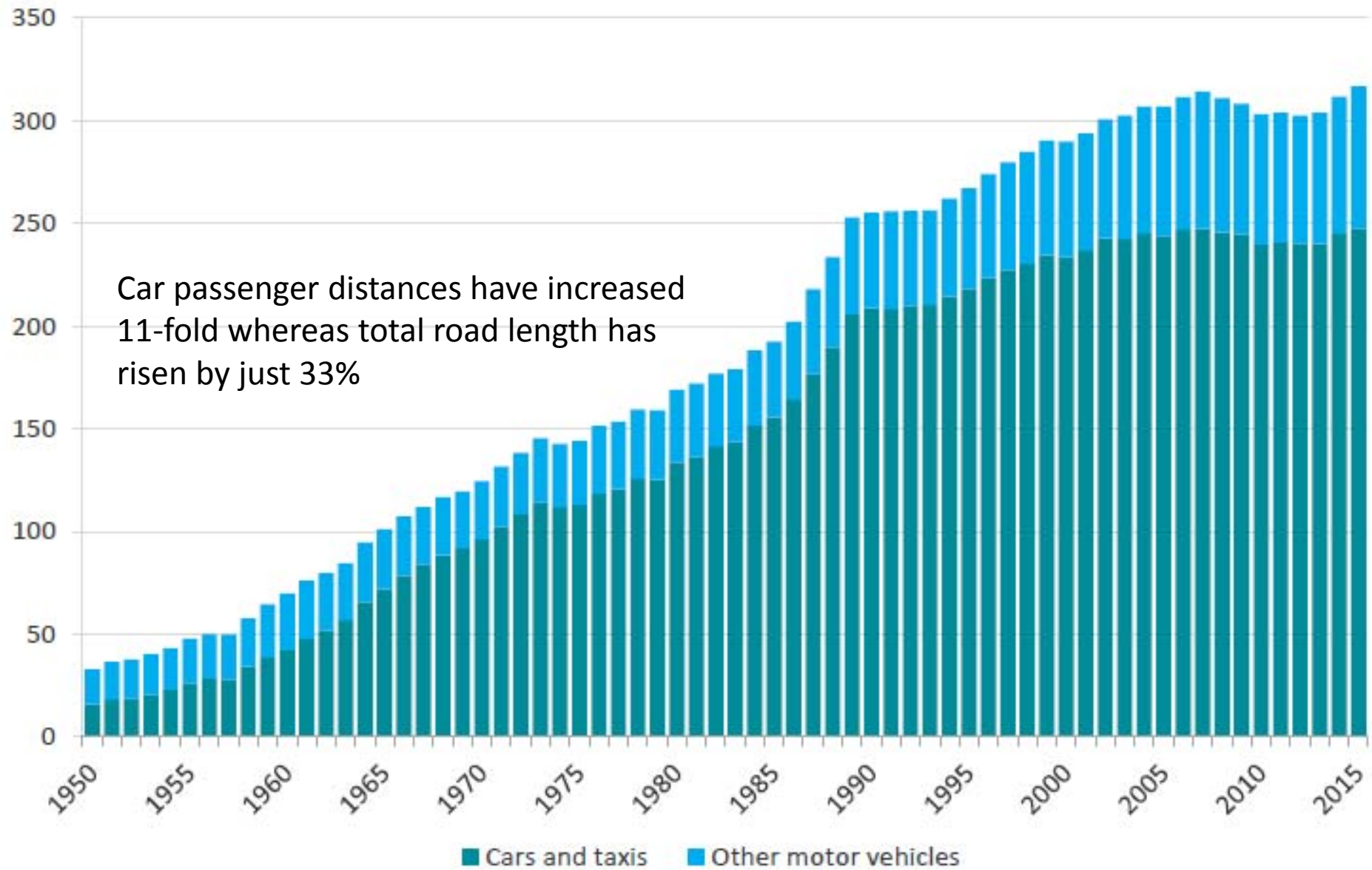


- Rail investment is 9 times greater than roads per mile
- £186k invested per million miles of passenger travel by rail compared to just £21k for roads
- Every £1 spent on roads yields £4.50 in benefits compared to £2.83 for rail

Source: Cebr

Although roads carry nearly nine-tenths of all passenger travel and car use is on the up, railways receive nine-times the amount of spending per mile travelled than roads.

Road traffic (billion miles travelled) by vehicle type, 1950 to 2015



Source: Department for Transport (2016)

Miles of new motorway 2000 - 2009



Between 2000-2009

- France opened **850** miles
- Germany opened **680** miles
- Netherlands opened **225** miles
- **UK opened just 46** miles

Rank / 138	Country / Economy	Score	Trend
1	United Arab Emirates	6.5	—
2	Singapore	6.3	↘
3	Hong Kong SAR	6.2	↘
4	Netherlands	6.1	—
5	Japan	6.1	—
6	France	6.0	↗
7	Switzerland	6.0	↗
8	Austria	6.0	—
9	Portugal	5.9	↗
10	Denmark	5.7	↘
11	Taiwan, China	5.7	↘
12	Finland	5.7	—
13	United States	5.6	—
14	Korea, Rep.	5.6	↗
15	Luxembourg	5.6	↗
16	Germany	5.6	↗
17	Spain	5.5	↗
18	Croatia	5.5	↘
19	Oman	5.5	↗
20	Malaysia	5.5	↘
21	Sweden	5.3	—
22	Canada	5.3	↗
23	Namibia	5.2	↘
24	Ecuador	5.1	↘
25	Bahrain	5.1	↘
26	Qatar	5.1	↘
27	United Kingdom	5.1	↘
28	Turkey	5.0	—
29	South Africa	5.0	—
30	Chile	5.0	↘
31	Rwanda	5.0	↘



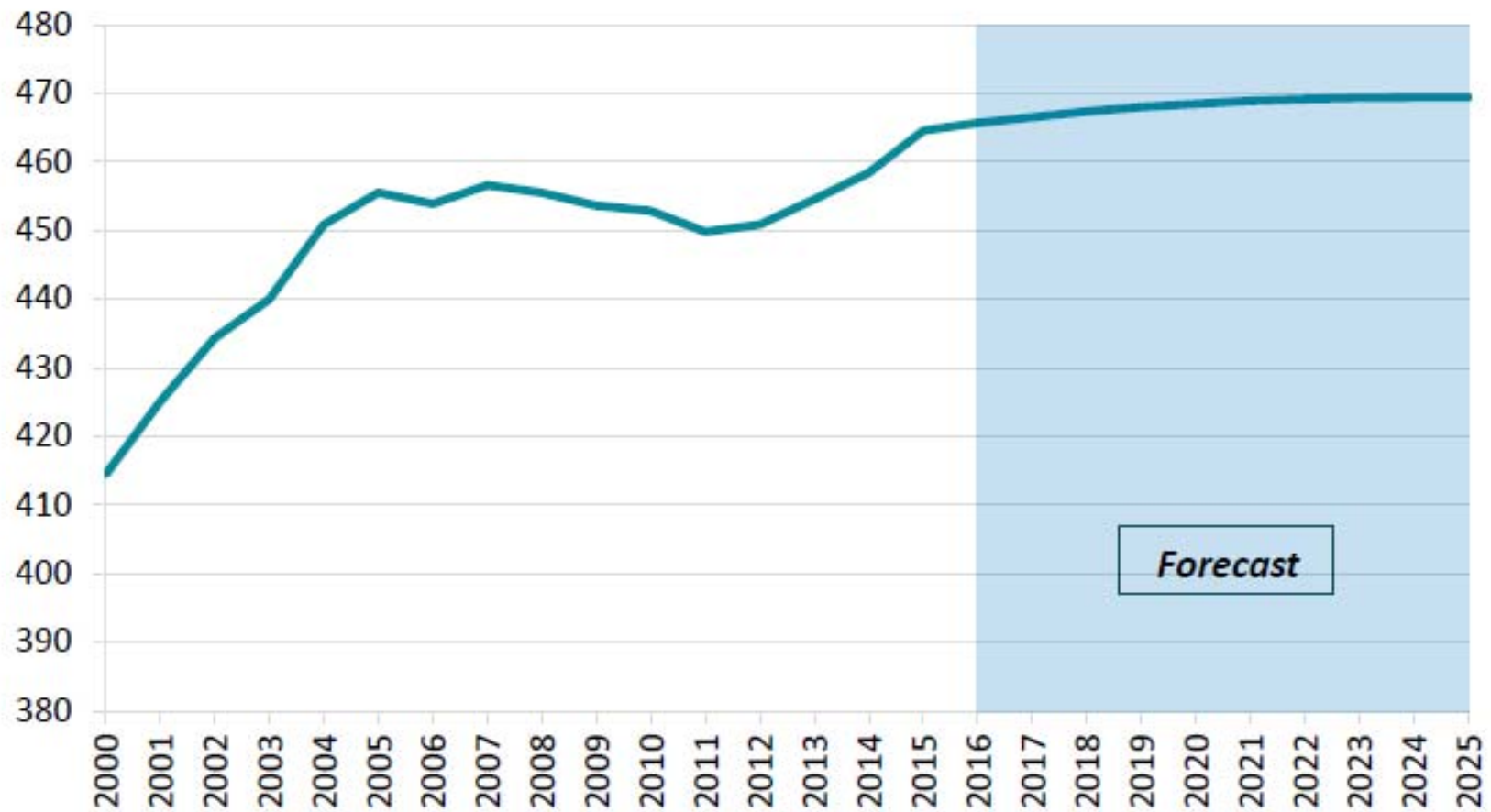
www.rst

Source: World Economic Forum

By 2025 traffic volume is forecast to grow by 12%

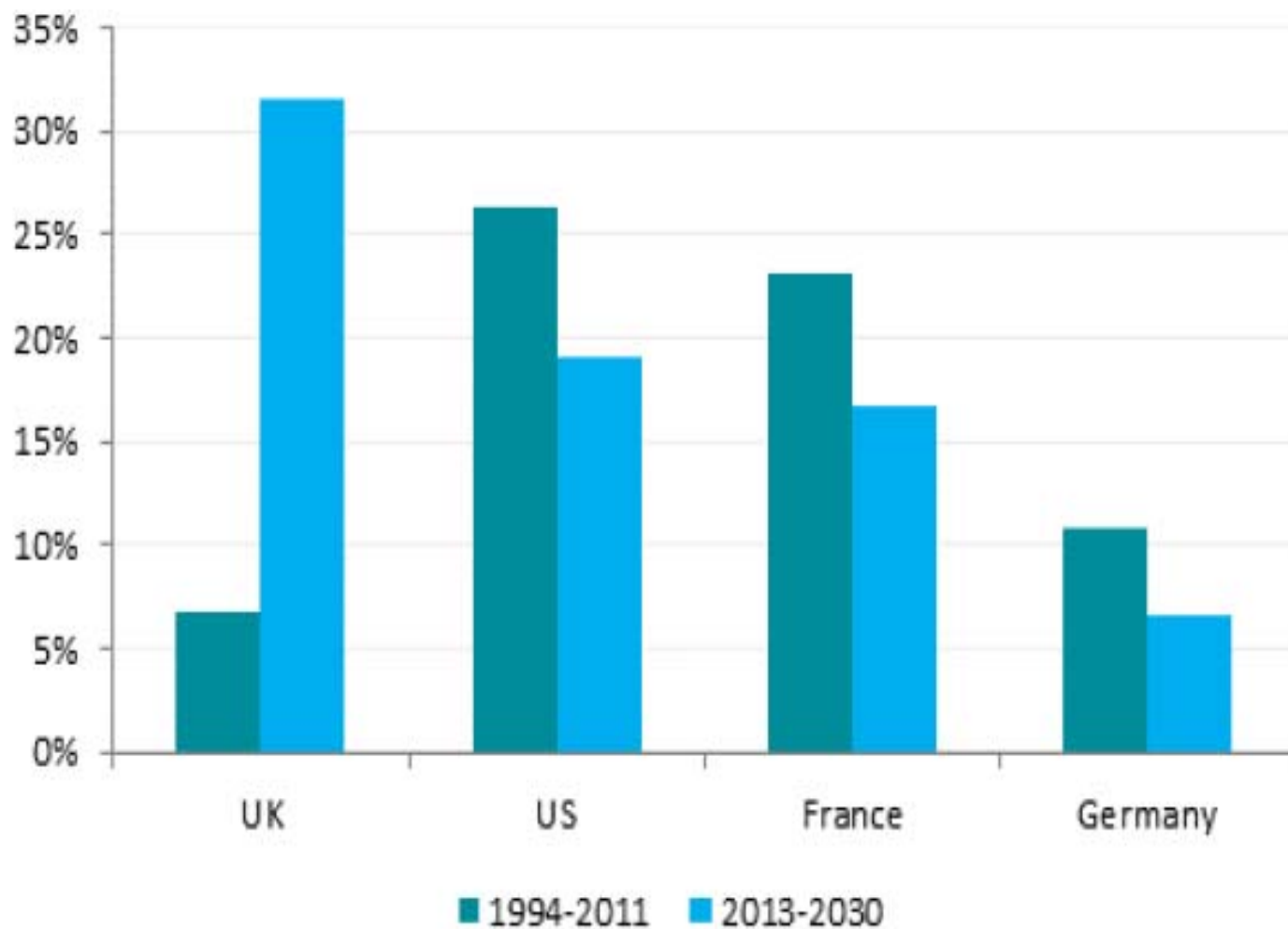


UK cars per 1,000 people, 2000-2025



Source: Department for Transport, Eurostat, ONS Population Projections, Cebr analysis

Growth in car passenger vehicle-miles, historic 1994-2011 and forecast 2013-30



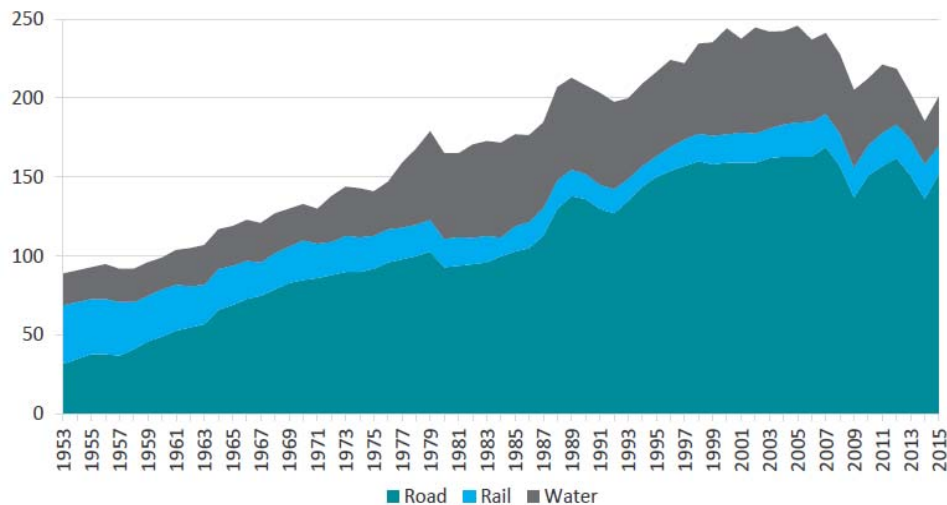
Source: Department for Transport, US EIA, OECD International Transport Forum, Cebr analysis

Impact of congestion on freight



- Traffic congestion is forecast to cost the economy £300Bn from 2013-30
- 76% of freight is carried by road – only 9% by rail
- The Freight industry contributes £11Bn to the UK economy employing over 220,000 people growing at 15% year on year
- Indirect cost of road congestion represents 38% of total costs

Figure 10: Goods moved (billion tonne-kilometres) by mode, 1953-2015



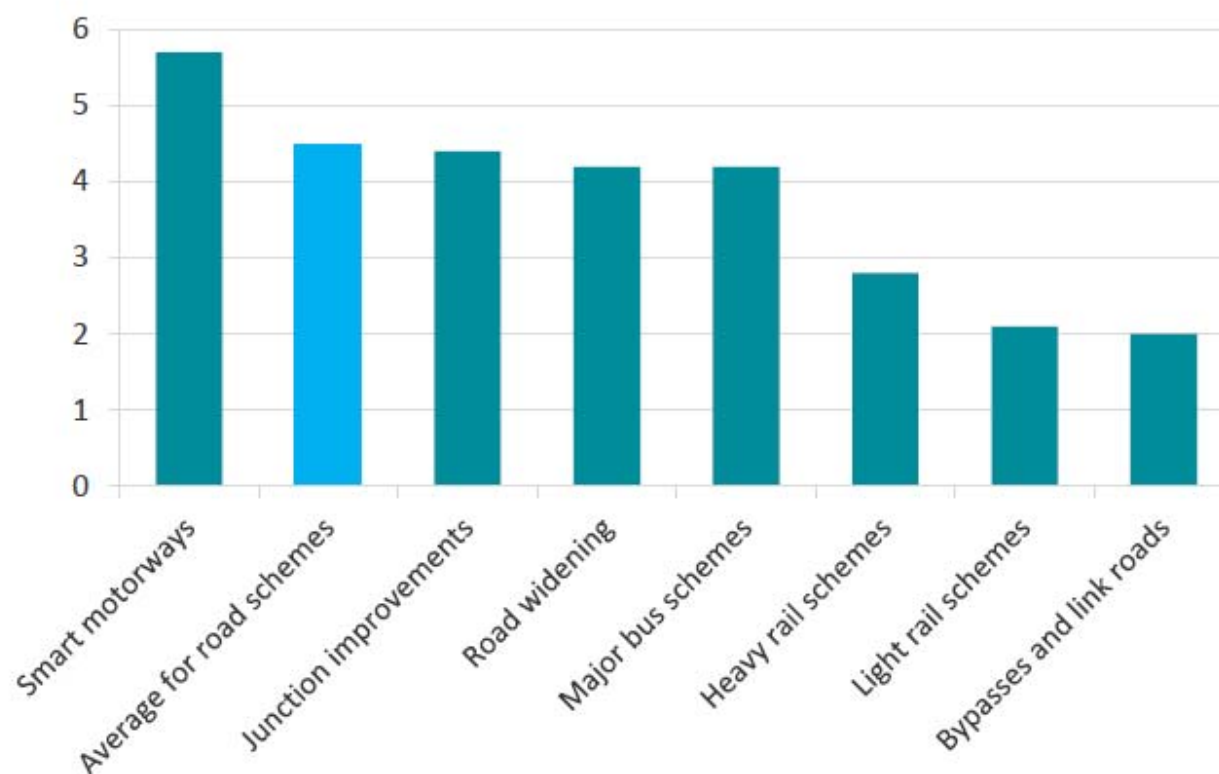
Source: Department for Transport (2016)

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Value for Money Assessments – benefit cost ratios



Figure 11: Average BCRs for rail projects (Eddington), road schemes of different types (DfT, 2015), and major bus schemes



These are judged against;

- Wider economic benefits
- Social and Environmental benefits
- Impacts of other transport methods
- Necessity
- Commercial viability
- Financial feasibility
- Delivery

Source: DfT (2015), DfT (2016), Eddington (2006)

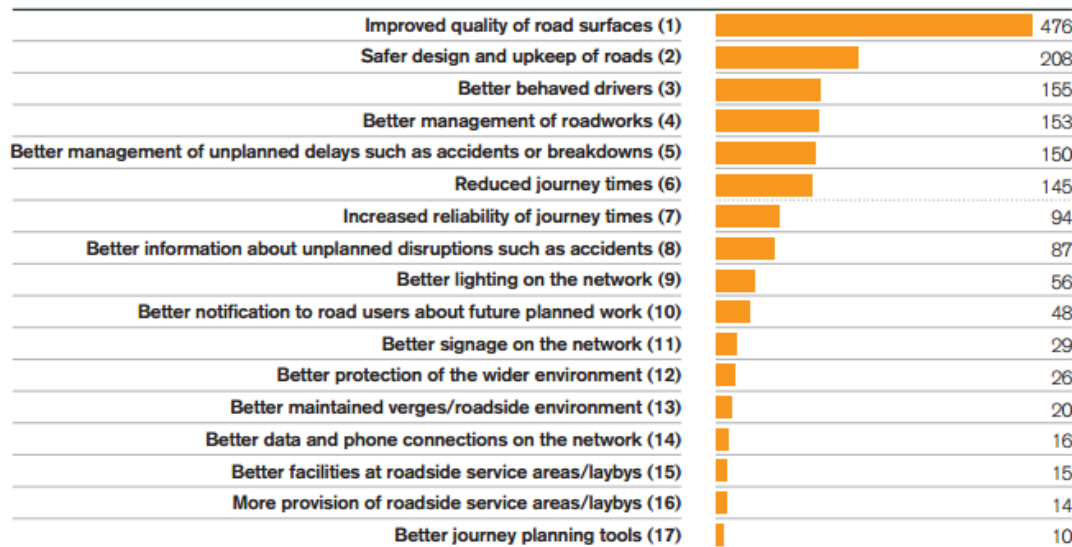


PUBLIC OPINION SURVEYS

Road users' priorities for improvement

SRN road users' priorities for improvement car/van

Rank order with index score to 100



100 = the average priority for improvement

The priorities are shown as an index averaged on 100. In this case 100 = the average share under the assumption of equal importance of all attributes. The number of points above 100 is equivalent to the ratio of actual preference share to this theoretical average. So, for example 150 = 50 per cent more important than average, 300 = three times as important as average, 50 = half as important as average.

Base: All England car/van SRN users, 4578

Public Surveys



Ipsos MORI

National Highways and Transport Survey

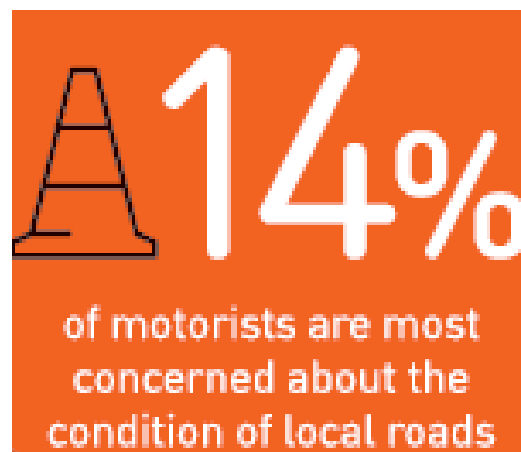
Questionnaires completed by **53,676** residents, making it the largest survey of local opinion about transport and highways

71% of residents across **70** local authority areas (including six in Scotland) think there are more potholes and damaged roads compared to a year ago.

There is strong support for Government funding to be ring-fenced for local road maintenance: 32% of motorists think this should be the UK's top transport investment priority, while 80% think it should be a top-five priority. Indeed, almost half (45%) of drivers say they would be willing to pay higher levels of vehicle tax if the revenues were used to improve roads.

RAC Report on Motoring 2016

The road to the future





SO WHAT NEXT?

Making smarter decisions

www.rsta-uk.org

Drivers for Better Asset Management



- Reducing highway maintenance budgets
- New incentive funding scheme
- Increasing population & traffic and the need to reduce congestion
- Improving network resilience to combat climate change
- Protecting public safety e.g. skid policy
- Extending the road asset service life and delaying replacement
- Improved customer satisfaction
- Benchmarking and efficiency

New asset management guidance

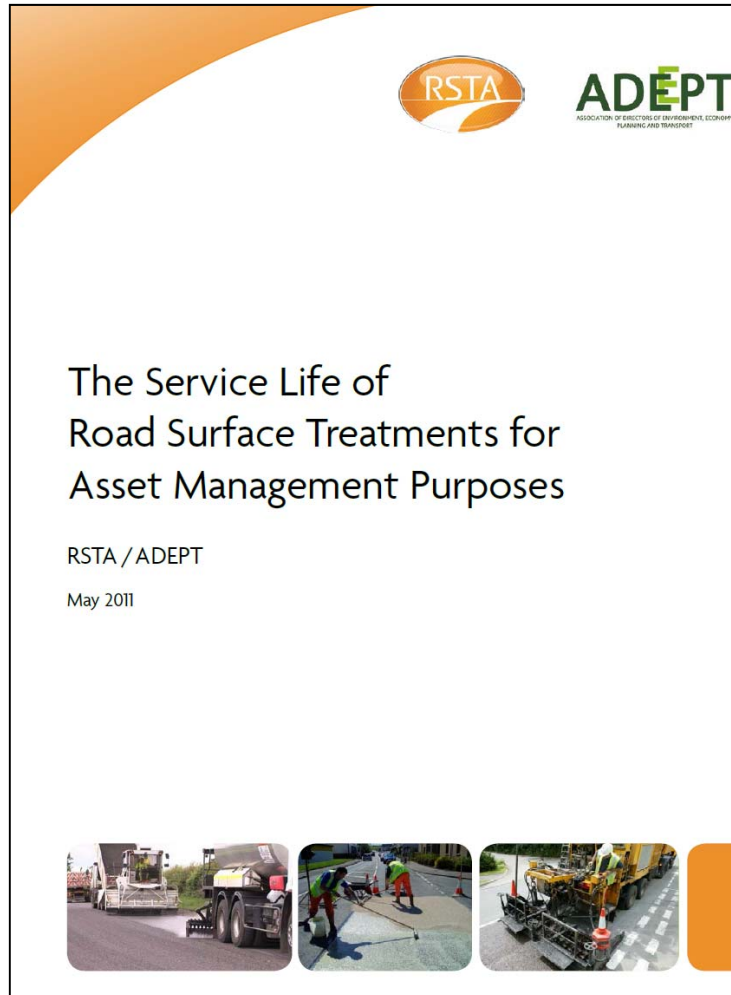


- RSTA, ADEPT and MSIG recognised in 2014 the need for new tools/guidance to help highway authorities to make better informed decisions at the pavement level
- This resulted in a panel being set up involving industry stakeholders to collaborate and produce a new tool
- The tool was launched at the 2016 RSTA Conference and is now available through www.rsta-uk.org and www.trl.co.uk



www.rsta-uk.org

Improving Asset Management



- Better asset management is key
- Extending the service life of the existing road asset will become more important

Service Life – how long does it last?



The following summarises the agreed figures:

SURFACE TREATMENT		SERVICE LIFE
Surface dressing	Low to medium traffic	15 years
	Medium to high traffic	10 years
Microsurfacing	Carriageway	10 years
	Footway	15 years
Slurry surfacing	Carriageway	6 years
	Footway	10 years
High friction surfacing	Hot applied	4 years
	Cold applied	8 years



INNOVATION IN SURFACING PRODUCTS AND PROCESSES

Making smarter decisions

www.rsta-uk.org

Raising awareness amongst asset managers

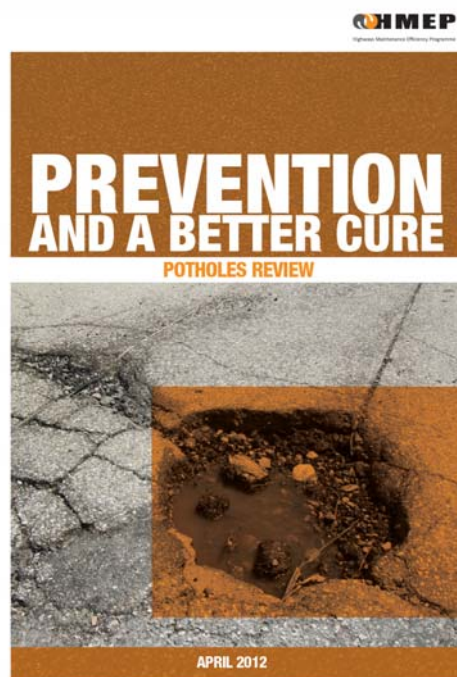
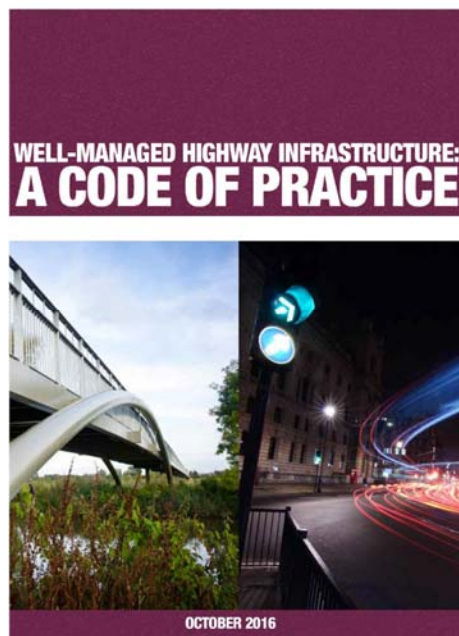


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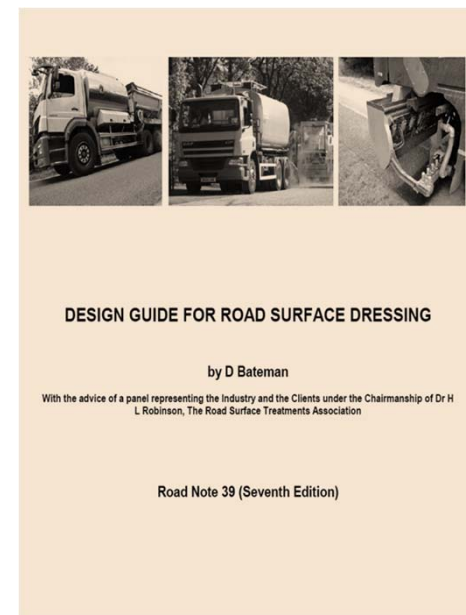
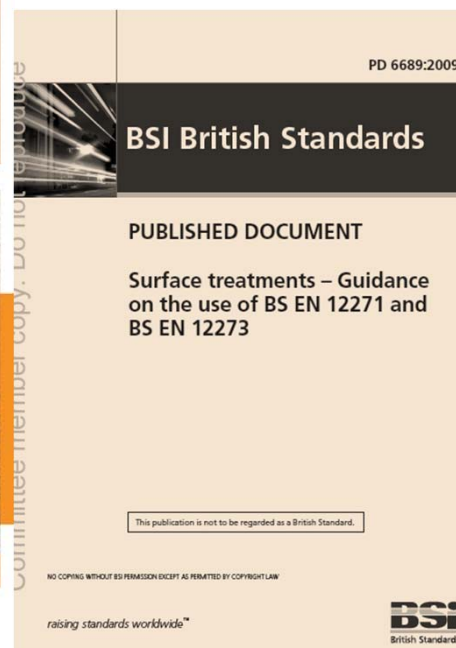
Industry guidance is becoming more important



UK ROADS LIAISON GROUP



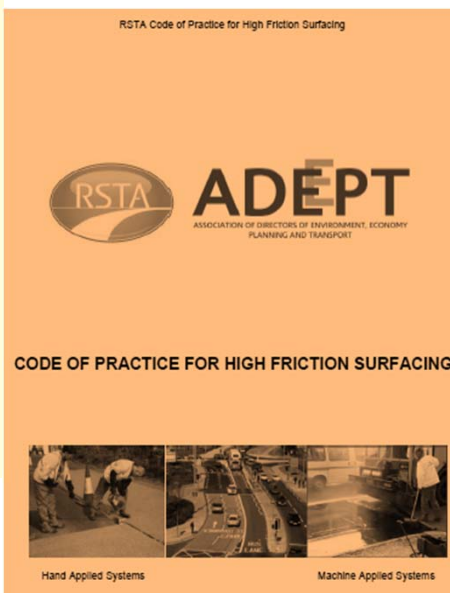
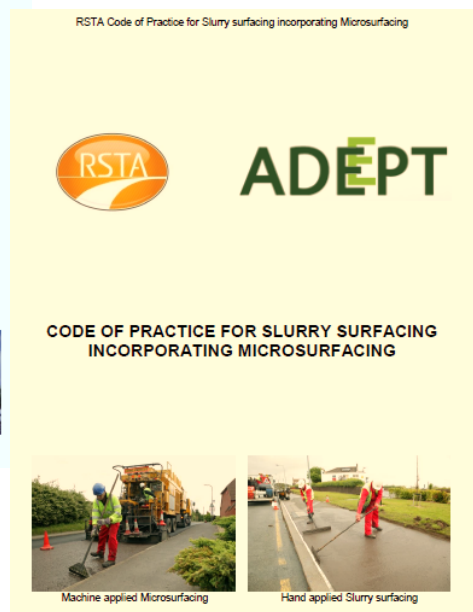
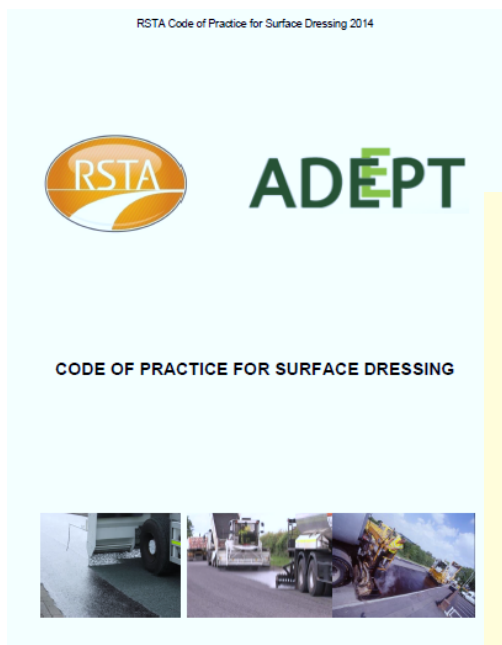
Rebuilding industry expertise



..and Codes of Practice



Principally aimed at extending the service life of existing road assets so they become more sustainable into the long term



Sharing Knowledge – CPD Training for Alliances





SAFE WORKING AND WORKFORCE COMPETENCY

Making smarter decisions

www.rsta-uk.org

Guidance on TTM



ADEPT

**GUIDANCE FOR TEMPORARY TRAFFIC MANAGEMENT
AT
SURFACE DRESSING SITES**

Formerly known as the CSS/ RSDA Code of Practice

Published by RSTA and ADEPT

December 2017

Site risk assessment



SD1.2 When undertaking a site specific risk assessment, the contractor should follow the guidance contained within the *Traffic Signs Manual Chapter 8* as well as this document. The site specific control measures identified should be documented on a specific risk assessment for the site and the relevant highway/road authority consulted.

SD1.4 The contractor must undertake a risk assessment before any work is undertaken including producing a site specific risk assessment for each location of dressing work. The risk assessment should include as a minimum, specific assessments for the dressing activity, delivery and vehicle marshalling, temporary traffic management implementation, operation and removal together with consideration of the risk to third parties or general public for all operations.

Managing risk on sites



SD1.6 All risks should be reduced as low as reasonably practical (ALARP) and the chosen method of work must not increase the risk to road users¹ with all risks remaining Generally At Least Equivalent (GALE) to normal conditions.

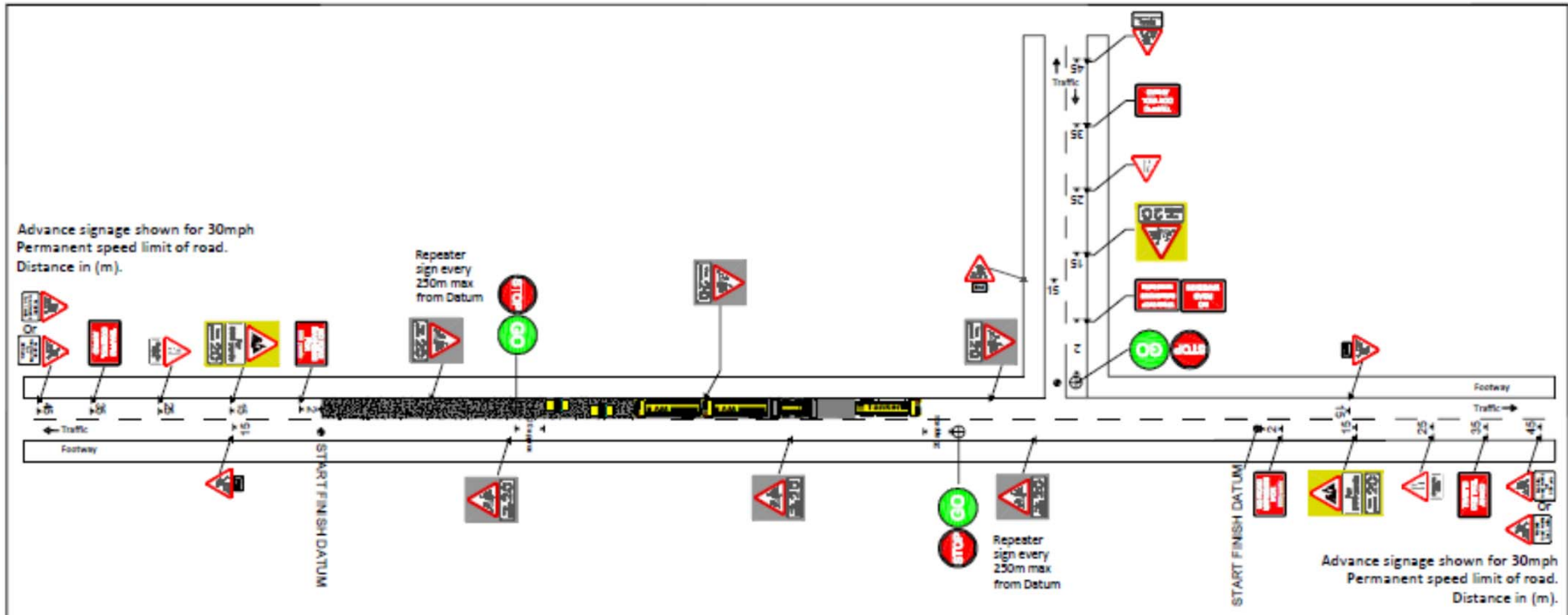
SD1.7 All construction work known as surface dressing shall be undertaken by a contractor registered to *National Highways Sector Scheme 13, the Supply and Application of Surface Treatments to Road Surfaces*. Where a package of work involves other contractors for which there is an appropriate Sector Scheme (NHSS), those contractors should comply with the relevant requirements of the applicable scheme for quality management in highway works.

Designing TTM



SD3.7 Guidance on traffic management designer competence is detailed in *Traffic Signs Manual Chapter 8 Volume 3, Update, Section U2.7 Traffic Management Designer – Training and Competence*. It is recommended that these stated requirements should be met by surface dressing organisations. Where the design of traffic management is provided by a third party organisation, it is recommended that clients, principal designers and principal contractors for surface dressing, make compliance with this section a minimum contractual requirement for third party organisations and suppliers in addition to compliance with NHSS requirements for design.

SD3.8 Specific training and certification for TTM professionals is provided by the Institute of Highway Engineers. It is strongly recommended that highway authorities and contractors meet the requirements of TSM Chp8 U2.7 by using professionals who are registered as a TTM engineer (*RegTTME(IHE)*) with the IHE. Further details can be found at www.theihe.org/professional-certificates/temporary-traffic-management/.



Permanent Speed Limit of Road 30								

Notes:

- Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
- Sign must be changed to reflect side on which works are being undertaken.
- 'For xx yards' may be omitted on side road approaches.
- Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
- The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
- A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic. Site staff 'on-foot' shall be minimised and travel on vehicles.
- A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.

Sector Schemes



National Highways Sector Schemes for Quality Management in Highway Works

13

For the supply and application of surface treatments
to road surfaces

Published by the Sector Scheme Advisory Committee for
Surface Treatments (SSACST)



NATIONAL HIGHWAYS SECTOR SCHEMES FOR
QUALITY MANAGEMENT IN HIGHWAY WORKS

Scheme 23

SECTOR SCHEME DOCUMENT
FOR
Small Scale Pavement Repairs

Published by Sector Scheme Advisory Committee for Small Scale Pavement
Repairs

Why do we need Sector Schemes?



- Enables highway authorities to meet the CDM regulations by employing a competent contractor
- Represents industry best practice, so a good insurance policy!
- Ensures the workforce are properly trained and qualified and are competent to work safely on the highway

Sector Scheme 13



APPENDIX C: TRAINING AND HEALTH & SAFETY

1. Surface Treatments Qualifications and Skill Cards

The appropriate skill cards and related training and qualifications required for personnel are listed in the 2 tables below.

APP C. Table 1.		
GRADE OF EMPLOYEE	CSCS CARD	Qualification & Card Requirements (All CSCS Cards require passing of appropriate HS&E Test)
PROVISIONAL (Working as a labourer but have not previously applied for a CSCS card or working through probationary periods whilst employers assess their suitability for employment)	Red	CITB Health, Safety and Environment test pass required. Before expiry Provisional card holders must achieve or be registered for a recognised construction related qualification and apply for the appropriate CSCS card for their job. Valid for 6 months - NOT RENEWABLE.
LABOURER See Note 2	Green	CITB Health, Safety and Environment test pass required. QCF NVQ Level One Award in Health and Safety in a Construction Environment or Site Safety Plus Health and Safety Awareness Course certificate. Valid for 5 years.
TRAINEE (CRAFT & OPERATIVE) (New to industry)	Red	CITB Health, Safety and Environment Highways Operative test pass required or have attended a 1-day Health and Safety Awareness Course. Registered for relevant QCF NVQ or SVQ but have not yet achieved. Valid for 3 years – NOT RENEWABLE.
EXPERIENCED WORKER (Not holding NVQ and Minimum of 1 years' experience certified by employer)	Red	CITB Health, Safety and Environment Highways Operative test pass required. Registered for relevant surface treatment QCF Level 2 NVQ or relevant SVQ. Valid for 1 year - NOT RENEWABLE.
SKILLED WORKER (See table 2 for required occupations)	Blue	CITB Health, Safety and Environment Highways Operative Test pass required. Achieved Level 2 QCF NVQ or L2 NVQ/SVQ for relevant surface treatment or previously issued industry accreditation route. Valid for 5 years. RSTA Endorsed – See Note 1
TRAINEE SUPERVISOR / MANAGER (This card is available if you can provide evidence of current registration with a further/higher education college or university for a nationally recognised construction related qualification).	Red	CITB Health, Safety and Environment Highways at Supervisor or Manager test pass required. Valid for 3 years - NOT RENEWABLE.

CSCS Card



- NHSS13 requires all operatives to have a CSCS card relevant for their occupation
- Qualified operatives require RSTA endorsement





COULD IT GET WORSE?

What else might happen?



- How will **BREXIT** impact on the economy?
- Any downturn in economic growth may put even more pressure on roads funding
- We need foreign workers
- Growth in **Electric Cars** will reduce fuel duty for the Treasury so again less money! By 2040 the government want every new car to be a LEV
- **People** – we need to train the next generation – too many experienced people are retiring or leaving the industry. Training Academies might help.



CONCLUDING REMARKS

In conclusion



- Road investment is now reaching a critical stage for the local road network
- Sadly although government know poorly maintained roads hinder economic growth and better roads means lower costs for business and more time saved for road users the necessary investment is still falling well short due to other spending needs
- Traffic is increasing and roads are getting worse leading to more congestion and more potholes
- A case has been made for more money but we also need to make smarter decisions to get better value and longer life from our road assets



Thankyou for your attention