Department for Transport

Road Conditions in England to March 2019

The condition of local authority (LA) managed roads have remained stable in the most recent years. This follows a period of gradual improvement for classified 'A', 'B' and 'C' roads.

About this release

This annual release presents information on the condition of roads in England, as well as other aspects of highways maintenance.

Figures for road condition are available back to the financial year 2007/08, with the most recent available data covering the period 2018/19.

Automated survey machines and visual surveys are used by local authorities (LAs) and Highways England (HE) to determine the percentage of the network that are categorised as *'red' (*see key points for this release on page 2).

Regional and national figures include all LAs with data that passed validation checks.

The latest figures for local authority surface condition are broadly in line with the previous 3 years. Prior to this, 'A' roads, and 'B' and 'C' roads combined, had seen a period of gradual improvement since 2011/12 (i.e. fewer roads categorised as red). Unclassified roads had not seen the same improvement over this period.

Trend in the proportion of LA managed roads categorised as red, in England, by road type, 2007/08 to 2018/19 [RDC0120]
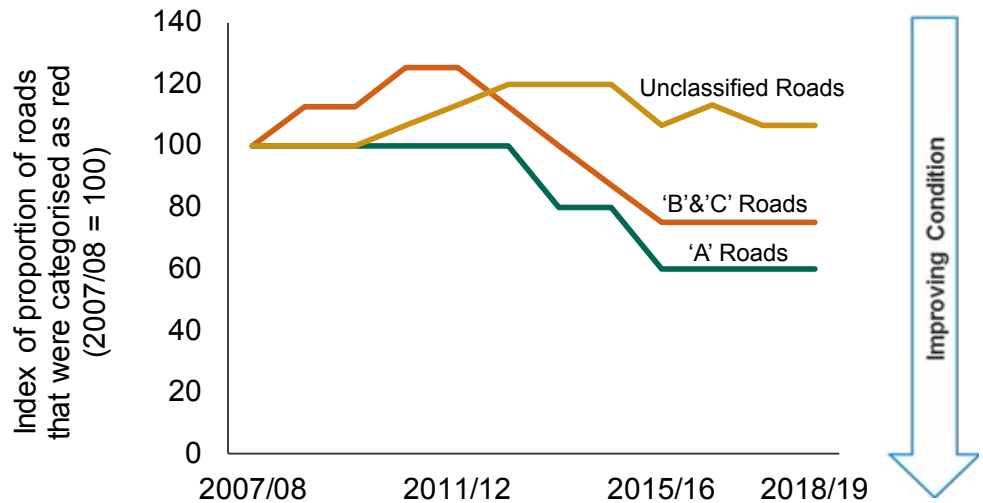
In 2018/19, the proportion of LA managed roads that were categorised as red was:

► 3% of 'A' roads;

► 6% of 'B' and 'C' roads;

► 16% of unclassified roads

Comparisons of road condition across different road types should be made with caution due to differing methods (see page 2 for further detail).

## In this publication

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► **Automated survey machines and visual surveys are used by local authorities** (LAs) and Highways England (HE) to collect data on the condition of the roads in England.

► **The main measure of condition shown in this report is the Road Condition Indicator (RCI)**. This is made up of several parameters, such as cracking and rutting (see Technical Note), which combine to give an overall measure of the state of the road and an indication of surface condition. The underlying data can be used by LAs and HE to make decisions about maintenance.

► **Sections of road can be split into 3 categories (red, amber and green)** based on the RCI. The roads categorised as 'red' are those that *should have been considered for maintenance* (i.e. further investigation is required). These roads will not necessarily require immediate treatment, but they should be inspected to determine whether maintenance is required.

► **LAs are required to report the proportion of roads categorised as red** under the Single Data List. In addition this year, local authorities were asked to provide data on a voluntary basis for both the green and amber road condition categories. Roads categorised as 'green' are where *no further investigation or work is needed to bring it up to standard*, while those categorised as 'amber' are *where work may be needed sometime soon*. We have presented experimental statistics for LA managed 'A' roads (page 7) and welcome any feedback to roadmaintenancestats@dft.gov.uk**.**

Chart 1: Flow Diagram of Management Responsibility for roads in England
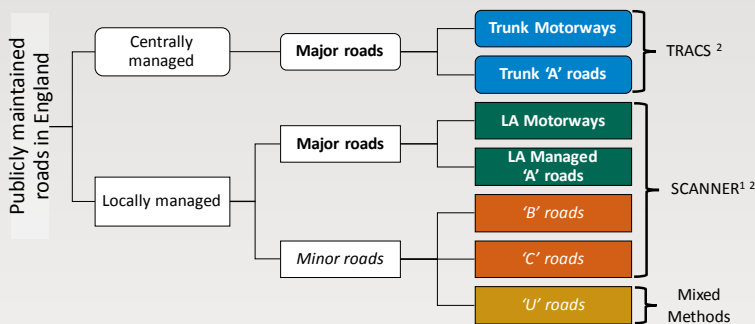
1. Alternative technologies to SCANNER surveys were used to collect data for some local authorities for LA managed 'A', 'B' and 'C' roads.

2. SCANNER = Surface Condition Assessment for the National Network of Roads. TRACS = TRAffic-speed Condition Surveys.

► Most roads in England are managed locally. LAs are currently required to undertake SCANNER surveys to measure condition for all of their classified roads (i.e. LA managed motorways, 'A', 'B' and 'C' roads), while for unclassified roads a mixture of different methods can be used. The condition of centrally (HE) managed roads are measured using TRACS surveys.

► **Comparisons of road condition across different road types should be made with caution** due to the differing methods used.

► **There are many possible factors that can contribute to the changes in trends over time** for the RCI. For example, the weather, road maintenance strategies, funding, levels of road traffic and congestion can all affect the condition of the network. Data for 2018/19 covers the period to March 2019, which includes the cold and wintery weather conditions experienced in early 2018.

► In addition to the RCI, **this release also covers other aspects of highways maintenance** including skidding resistance and maintenance treatment of LA managed roads.

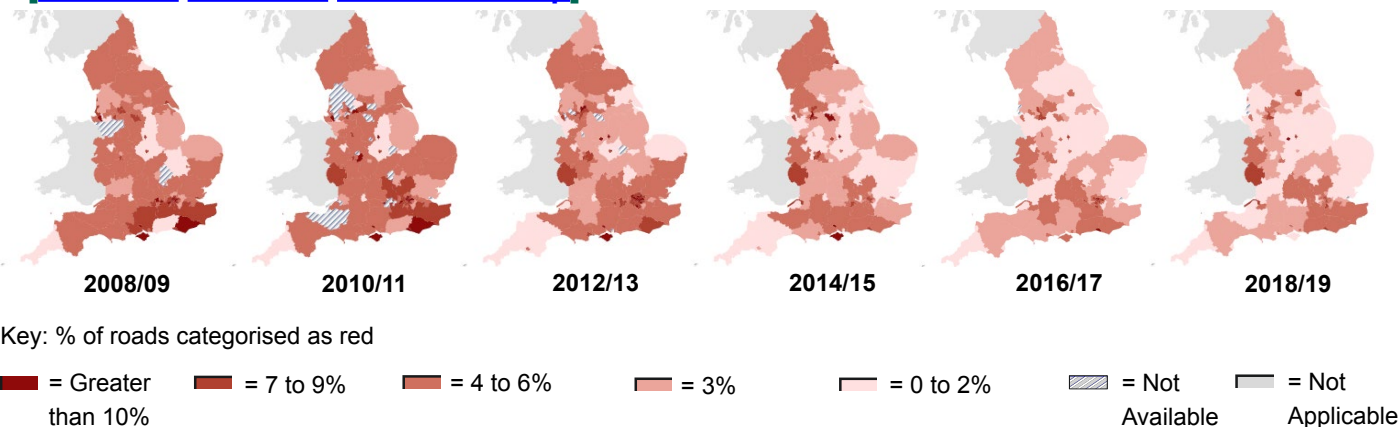## Surface Condition - Local Authority Managed 'A' Roads

LA managed 'A' roads and motorways account for around 9% of the road network in England and carry approximately one-third of all traffic. LAs are expected to collect SCANNER data and survey 90% of their 'A' road network and motorways in both directions over a 2 year period. The 2018/19 data would have been collected between April 2017 and March 2019.

Chart 2: Proportion of LA managed 'A' roads categorised as red, 2007/08 to 2018/19 [RDC0120 RDC0121]
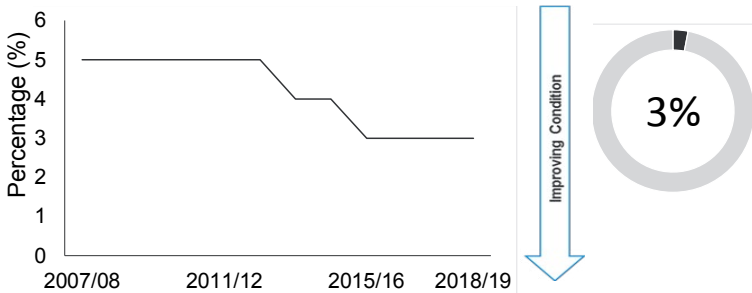
In 2018/19, 3% of local authority 'A' roads (including LA motorways) were categorised as red. This in line with the previous 3 years. There has been a gradual fall in the proportion of LA managed 'A' roads categorised as red over time, from 5% in 2012/13 to 3% in 2018/19.

Chart 3: Distribution of LA managed 'A' road results between 2008/09 and 2018/19 [RDC0120 RDC0121 Interactive Map]

Key: % of roads categorised as red

| ■ = Greater than 10% | ■ = 7 to 9% | ■ = 4 to 6% | ■ = 3% | ■ = 0 to 2% | ▨ = Not Available | □ = Not Applicable |

While nationally, 3% of local authority 'A' roads in England were categorised as red in 2018/19, the 2018/19 map in Chart 3 above shows that there is some geographical variation. For example, a small number of LAs reported that 1% or less of their 'A' roads were categorised as red, with others reporting 8% and above. An interactive map has been published alongside this statistical release presenting condition data for England by LA and road type, which can be used to further explore the variation   .

Looking at the set of maps as a whole, you can see the gradual improvement at a national level since 2008/9 that was highlighted in Chart 2 above. Around three-quarters of the LAs that reported a figure in both 2008/9 and 2018/19 reported a lower figure in the latest year i.e. fewer roads categorised red.

Although the national average for 2018/19 of 3% is in line with the national average for 2016/17, there is some variation at LA level as illustrated in the last 2 maps above. Around one-quarter of LAs providing data in both of these years reported a change of more than one percentage point.

LA managed 'B' and 'C' roads account for around 28% of all roads in England. LAs are expected to collect SCANNER data and survey 85% of their 'B' road network in both directions and 80% of their 'C' road network in a single direction over a 2 year period. The 2018/19 data would have been collected between April 2017 and March 2019.
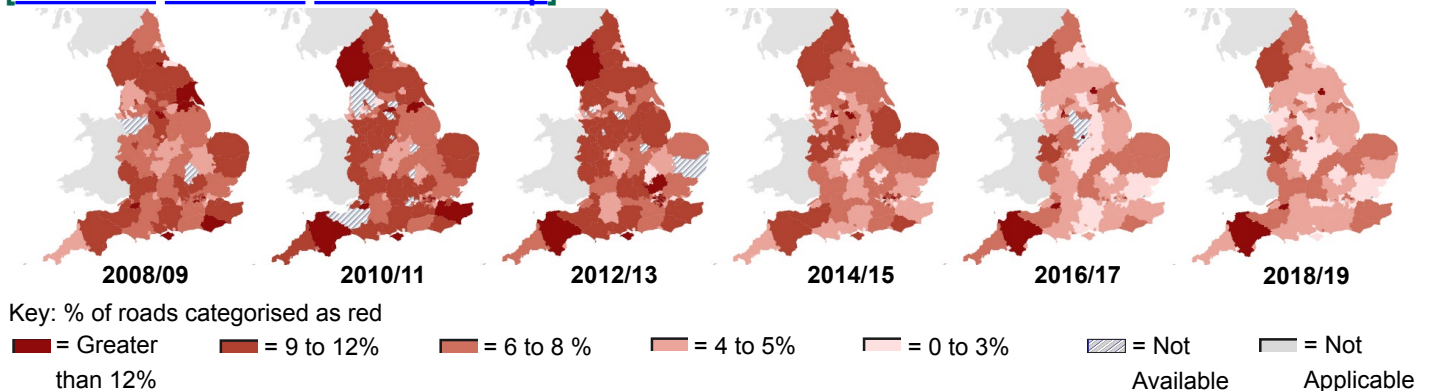
Chart 4: Proportion of LA managed 'B' and 'C' roads combined categorised as red, 2007/08 to 2018/19 [RDC0120 RDC0121]
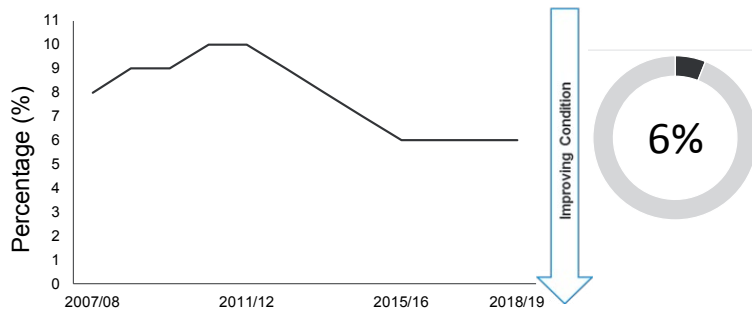
In 2018/19, 6% of LA managed 'B' & 'C' roads combined were categorised as red, in line with the previous 3 years. Prior to this there had been a gradual improvement from a 2 year peak in 2010/11 and 2011/12.

In each year since the start of the series a higher proportion of LA managed 'B' & 'C' roads have been categorised as red than LA managed 'A' roads.

Chart 5: Distribution of LA managed 'B' and 'C' road results between 2008/09 and 2018/19 [RDC0120 RDC0121 Interactive Map]

Key: % of roads categorised as red

■ = Greater than 12% ■ = 9 to 12% ■ = 6 to 8 % ■ = 4 to 5% ■ = 0 to 3% ▨ = Not Available ■ = Not Applicable

While nationally, 6% of local authority 'B' & 'C' roads in England were categorised as red in 2018/19, the 2018/19 map in Chart 3 above shows that there is some geographical variation. For example, just over a quarter of LAs reported that 2% or less of their 'B' & 'C' roads were categorised as red, while a small number of LAs reported a figure of 10% and above. An interactive map has been published alongside this statistical release presenting condition data for England by LA and road type, which can be used to further explore the variation.

Looking at the set of maps as a whole, you can see the gradual improvement at a network level from the two year peak in 2010/11 and 2011/12 that was highlighted in Chart 4. Almost 90% of the LAs that reported a figure in both 2010/11 and 2018/19 reported a lower figure in the latest year i.e. fewer roads categorised red.

Although the national average for 2018/19 of 6% is in line with the national average for 2016/17, there is some variation at LA level as illustrated in the last two maps above. Around one-quarter of LAs providing data in both years reported a change of more than one percentage point.

Surface Condition - Local Authority Managed Unclassified Roads

LA managed unclassified roads form the majority (60%) of the road network in England. The data collection is not a mandatory requirement and LAs are permitted to use the method they consider most appropriate to monitor their network. The 2018/19 data would have been collected between April 2015 and March 2019.

Chart 6: Proportion of unclassified roads categorised as red, 2007/08 to 2018/19 [RDC0130 RDC0131]
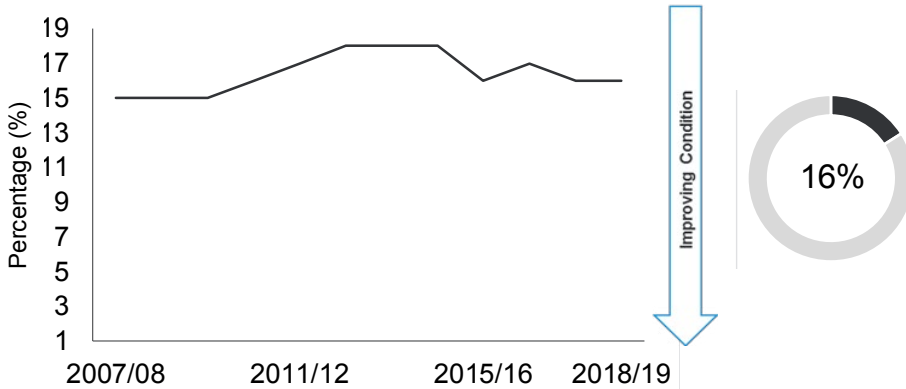

In 2018/19 the proportion of LA managed unclassified roads categorised red was 16% which is broadly in line with the previous 3 years, and lower than the peak between 2012/13 and 2014/15.

It is noticeable that the method used appears to affect the results, with visual surveys generally indicating worse network condition than automated surveys. The most common method in 2018/19 were visual surveys, with over 71% of LAs (who returned valid data) using solely this type.

Surface Condition - Highways England Managed Roads

HE managed roads account for around 2% of the road network in England and carry approximately one-third of all traffic. TRACS surveys are carried out on the full network each year. The 2018/19 data would have been collected between April 2015 and March 2019 with most of the data being from the last 2 years.

Chart 7: Proportion of the Highways England (HE) managed road network that should have been considered for maintenance, by road type, 2007/08 to 2018/19 [RDC0201]
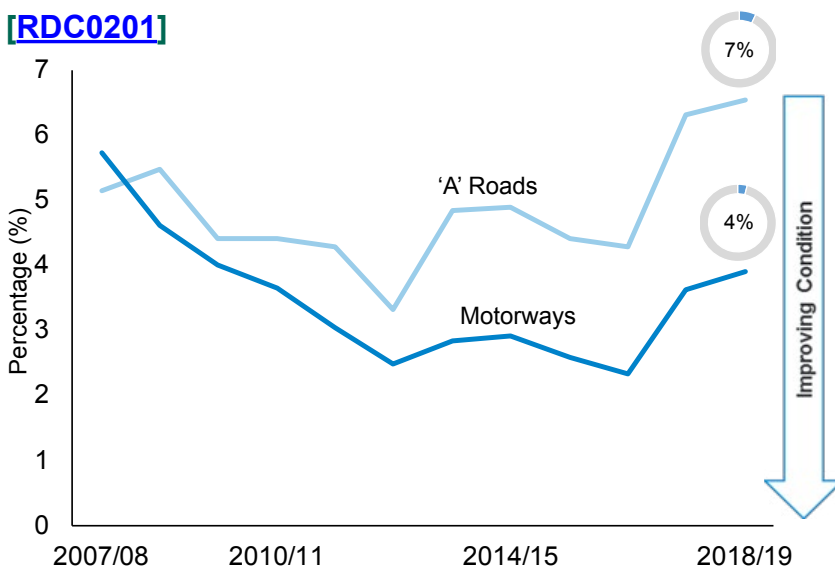
For HE managed motorways and 'A' roads, 4% and 7% respectively should have been considered for maintenance in 2018/19. The proportion broadly fell between 2007/08 and 2012/13 but has fluctuated thereafter with a peak in 2018/19.

The relatively small size of the SRN could mean these figures are subject to fluctuation, as a change in the proportion denotes a relatively small change in the amount of road.

Skidding Resistance

Skidding resistance surveys are undertaken by local authorities and Highways England (see section 5 in the [Technical Note](#) for further detail). 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.

For HE, the skidding resistance data uses averaging lengths according to those prescribed in [Design Standard for Roads and Bridges](#). The results presented for 2018/19 are based on surveys carried out in the summer of 2018 (i.e. the latest available for March 2019). Skidding resistance figures do not necessarily reflect safety levels on the network but rather sites where further investigation is required.

LA level data are typically averaged over 3 years to reduce the inherent variability in the data returns from LAs. Also other methodological factors, such as seasonal correction factors and site category reviews undertaken on the network, can contribute to the changes in the results shown.

Chart 8: Proportion of HE managed roads requiring further investigation for skidding resistance, by road type, 2008/09 to 2018/19 [RDC0210]
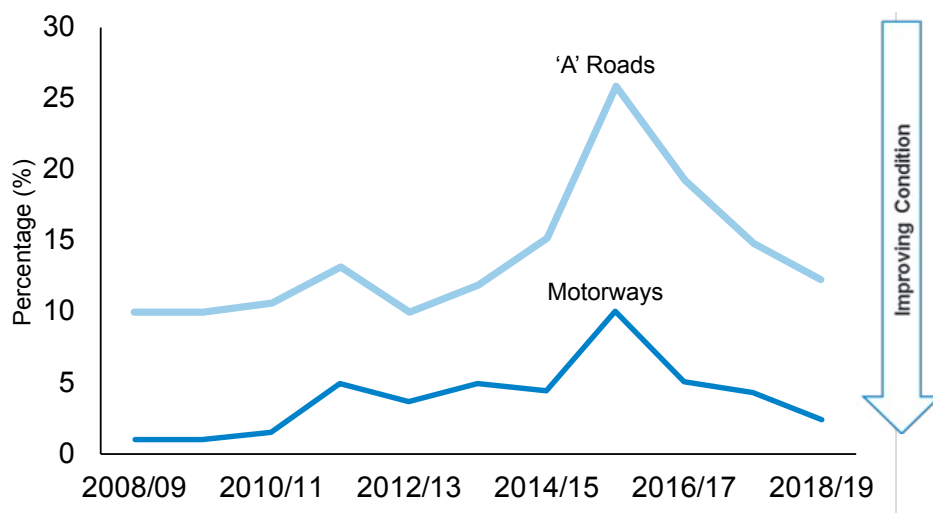
As shown in the chart above, in 2018/19, **2% of the HE managed motorway required further investigation**, while for **HE managed 'A' roads this was 12%**, both falling from a peak in 2015/16.

For LA managed roads, 28% of motorway and 'A' road network in England required further investigation in the period 2016/17 to 2018/19, an increase of 2 percentage points from the period 2013/14 to 2015/16. The London boroughs had the highest proportion requiring further investigation, at 53%.

Maintenance Treatments on Local Authority Managed Roads

Different types of treatment are applied to sections of road to preserve, repair or improve the condition. These are influenced by factors such as weather, funding and nature of the defect. The type of road selected for treatment by an LA is likely to include a broader group of roads than just those categorised as red (see page 2).

Chart 9: Percentage of local authority managed roads receiving maintenance treatments in 2018/19 [RDC0320]
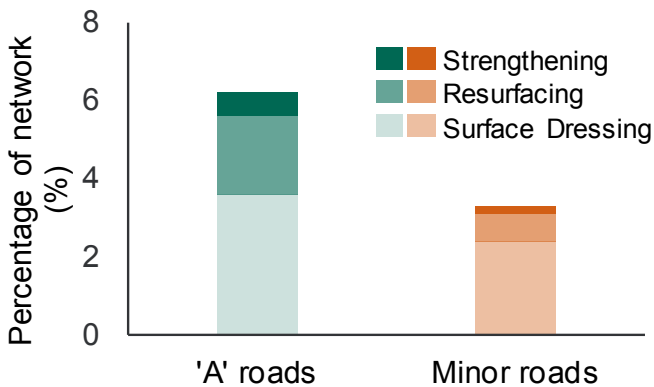

In 2018/19, 6.2% of LA managed 'A' roads (excluding motorway) and 3.4% of minor roads ('B', 'C' and 'U' roads) received maintenance treatment, both slightly lower than the previous year. Surface dressing accounted for the majority of all treatments on LA managed 'A' roads and minor roads (58% and 73% respectively) in 2018/19. Further information on each treatment type can be found here.

Experimental Statistics - Surface Condition

LAs were asked to provide data on a voluntary basis for their amber and green roads for 2017/18 and 2018/19. For those LAs that provided data the results have been aggregated and presented in this release at a national level. Accompanying tables have also been published which provide breakdowns at a regional and LA level.

Chart 10: Proportion of LA managed 'A' roads that are categorised as red, amber or green in 2018/19 [RDC0122 RDC0123]
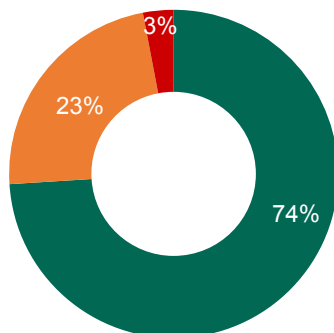
In 2018/19 just under a quarter of the 'A' roads (23%) was categorised as amber. Three-quarters (74%) of the network was categorised as green. These figures shown at a national level are based on data returns from over 90% of LAs in England.

Maintenance Expenditure on Roads in England

This release does not present maintenance expenditure statistics in 2018/19. This is because the source data for local roads had not been published at the point of production of this release. An update of maintenance expenditure information for 2018/19 shall be published in December.

Technical information

Further information about road condition data and surveys can be found in the guide, notes and definitions and technical note, which can all be found on the Road Condition Statistics webpage: https://www.gov.uk/government/collections/road-network-size-and-condition.

Further data on road expenditure and on road construction can be found in tables TSGB0717 to TSGB0720: https://www.gov.uk/government/statistical-data-sets/tsgb07.

Further information on the Single Data List can be found here: https://www.gov.uk/government/publications/single-data-list.

Official Statistics

Official Statistics are produced to high professional standards as per the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure they meet customer needs.

Details of ministers and officials who received pre-release access to these statistics up to 24 hours before release can be found in the pre-release access list: https://www.gov.uk/government/publications/roadnetwork-size-and-condition-statistics-pre-release-access-list.

Strengths and Weaknesses

Figures in this publication come from a wide range of sources. Consequently, the accuracy of figures will vary between tables. Users are recommended to refer to separately published guidance for more detail on how information for each table was collected: https://www.gov.uk/government/publications/road-network-size-and-condition-statistics-guidance

SCANNER (Surface Condition Assessment for the National Network of Roads) data are collected using automated road condition survey machines. Although each machine is accredited for accuracy and readings fall within the accepted boundaries of the SCANNER specification for road condition, there is still variability between the results that each machine delivers. It can lead to small changes in the figures over time that are for reasons beyond the condition of the road, and above the expected range of variability that already exists within the data. Caution should therefore be taken when comparing the figures over time, particularly for the LAs and regions flagged in the publication tables.

Other measures of condition do exist. The Asphalt Industry Alliance carry out the Alarm Survey and report on a measure of structural condition alongside other measures (see here). The RAC also produce a pothole index using their members' breakdown data (see here).

The next update, Road Conditions in England: 2020, and accompanying tables are due to be published in 2020. In the meantime, continued engagement with stakeholders will be undertaken to improve the usability and relevance of the statistics (roadmaintenancestats@dft.gov.uk).

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