Department for Environment Food & Rural Affairs

Government Statistical Service

Statistical Digest of Rural England:

5 – Connectivity and Accessibility

February 2025

This publication is available at www.gov.uk/government/publications

Any enquiries regarding this publication should be sent to us at

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www.gov.uk/defra

Cover photos

		Ward 2011	Rural-Urban Classification
TL	Helmsley marketplace	Helmsley	Rural Village and Dispersed in a sparse setting
TC	Horton-in-Ribblesdale train station with Penyghent behind	Penyghent	Rural Village and Dispersed in a sparse setting
TR	St Giles Church, Skelton	Rural West York	Rural Town and Fringe
CL	Fishing Boat, Marske-by-the-Sea with Hunt cliff in the distance	St Germain's; Saltburn	Rural Town and Fringe
CR	Thornton Force Waterfall, Ingleton Waterfalls Trail	Ingleton and Clapham	Rural Village and Dispersed in a sparse setting
BL	Farmer working the fields in Knapton	Rural West York	Rural Town and Fringe
BC	Remote pub at Ribblehead viaduct	Ingleton and Clapham	Rural Village and Dispersed in a sparse setting
BR	Glamping pod in the North York Moors	Pickering East	Rural Town and Fringe in a sparse setting

All cover photos provided by Martin Fowell.

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About the Statistical Digest of Rural England

The Statistical Digest of Rural England (hereafter the Digest) is a collection of statistics on a range of social and economic topics and provides broad comparisons between Rural and Urban areas by settlement type. For more information on our classifications, including maps and diagrams explaining the classification, see Appendix 2: Defining Rural areas.

The Digest has been restructured into thematic reports and incorporates the previously separate publication the Rural Economic Bulletin.

The Digest consists of the following thematic reports:

1. Population
2. Housing
3. Health and Wellbeing
4. Communities and Households
5. Connectivity and Accessibility
6. Education, Qualifications and Training
7. Rural Economic Bulletin
8. Energy

In March 2024 the content relating to energy that was previously split across the Housing and Communities and Households chapters has been consolidated into a new Energy report. Appendix 1 shows the sub-themes within each of the 8 Digest reports. Thematic reports will be updated individually and not every report with be updated every month. The most recent updates for this theme are shown in Table 1. In August 2023, the “Travel and Transport” section from previous releases of the Digest was split into two sections (“Travel behaviours” and “Access to personal transport”), although no new analysis was added. Access to personal transport was revised and expanded in June 2024. In June 2024 the Broadband section was heavily revised, expanded and renamed as Broadband and mobile; but the mobile content will not be added until later in the year.

Table 1: Update monitor for Connectivity and Accessibility subsections

where “✔" indicates the topic has been updated, “✖" indicates the topic has not been updated, and “New” indicates a new topic with analysis not previously included within the Digest.

Section	July 2023	Aug 2023	June 2024	Jan 2025	Feb 2025
Broadband and mobile	✖	✔	✔	✔	✖
Travel behaviours	✔	New	✖	✖	✖
Access to personal transport	✔	New	✔	✖	✖
Access to services	✔	✖	✖	✖	✖
Home working	✖	✔	✖	✖	✔

Official Statistics

These statistics have been produced to the high professional standards set out in the Code of Practice for Official Statistics, which sets out eight principles including meeting user needs, impartiality and objectivity, integrity, sound methods and assured quality, frankness and accessibility.

More information on the Official Statistics Code of Practice can be found at: Code of Practice for Statistics.

This publication has been compiled by the Rural Statistics Team within the Rural and Place Team in Defra:

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There is a 2011 Census version of the Digest which looks at the data from the 2011 Census and where possible makes comparisons to the 2001 Census results.

This can be found at https://www.gov.uk/government/statistics/2011-census-results-for-rural-england

Analysis of the 2021 Census will follow the release of a 2021-based Rural-Urban Classification.

Connectivity and Accessibility

The part of the Statistical Digest of Rural England focuses on Connectivity and Accessibility, and covers the following:

- broadband and mobile (Section A).
- rural accessibility in terms of travel behaviour (Section B).
- accessibility to personal transport (e.g., electric vehicles) (Section C).
- accessibility to key services (such as hospitals, centres of employment, primary schools, and food stores) (Section D).
- home working (Section E).

The key findings from this chapter are summarised with the following set of headline clouds:

Broadband and mobile – key findings

All headlines featured below use the Ofcom definition of rural. See Rural Urban Classification – different definitions used by Defra and Ofcom for more information.

Proportionally, fewer premises in rural areas (52%) have access to gigabit capable broadband than in urban areas (87%).

Full fibre broadband is available for 51% of all premises in rural areas, compared with 70% of premises in urban areas.

Superfast broadband is now available for 89% of all premises in rural areas, compared with near total coverage in urban areas (98%).

The proportion of premises unable to access decent (at least 10Mbit/s download speed) broadband is greater in rural areas (4%) than in urban areas (1%).

98% of the rural landmass has good geographic 4G mobile coverage from at least one operator (100% for urban areas).

88% of the rural landmass has good geographic 4G mobile coverage from all 4 operators (99% for urban areas).

2% of the rural landmass still has no geographic 4G mobile coverage from at least one operator (0% for urban areas).

Travel behaviours – key findings

People in the most Rural areas travelled nearly twice as many miles in 2021 as in the most Urban areas

In the most Rural areas, people travelled nearly 6,000 miles each by car or van in 2021

On average, people in the most Urban areas made 7 times more journeys by local bus in 2021 than those in the most Rural areas

Secondary school pupils in Rural areas typically have to travel twice as far to school as those in Urban areas

Access to personal transport – key findings

1 in 20 households in the most Rural areas had no car or van in 2021

1 in 3 households in the most Urban areas had no car or van in 2021

4 in 10 new cars were electric in 2023

More than half of new cars had petrol engines in 2023 in both Rural and Urban

There are more plug-in cars per 1,000 households in Predominantly Rural areas than in Predominantly Urban areas

More than half of households in the most Rural areas had 2 or more cars or vans in 2021

There were 2 public EV charging points per 1,000 car/van-owning households in Rural areas

Waverley, in Surrey, had more private plug-in cars per household than anywhere else in England

74% of public EV chargers in Rural areas had a power rating of less than 50kW (resulting in slower charging times)

East Devon had the most public EV charging points per household out of all Rural constituencies

Access to services – key findings

In the most Rural areas, it can take at least 78 minutes on average to reach the nearest hospital by public transport

In the most Rural areas, it can take at least half an hour to reach the nearest food store when travelling by public transport

In Rural areas, there was typically only 1 secondary school within 30 minutes when travelling by public transport, limiting student's education options

Only 17% of those in Rural areas could access a large employment centre within 30 minutes when travelling by public transport

More than half of those living in Rural areas could not access a further education centre within 30 minutes when travelling by public transport

Home working – key findings

4 in 10 people living in the most Rural areas said they worked from home for at least half of their working week

3 in 10 people living in Urban areas said they worked from home for at least half of their working week

In Rural areas, the smallest proportion of home workers was in the agriculture, forestry and fishing sector

The greatest proportion of home workers in England was in the professional, scientific and technical service sector

A. Broadband and mobile

The availability of broadband and mobile services in rural areas can be poorer than in urban areas – with lower speeds or coverage – but coverage has been improving year on year.

Summary

This section presents analysis of broadband and mobile coverage using two different methods for classifying rural and urban areas. Simple rural urban comparisons use Ofcom definitions while more detailed analysis uses the Official Statistics Rural Urban Classification.

In July 2024, the proportion of premises in rural areas with access to gigabit-capable broadband was 52% (1.8 million premises), up from 47% since January 2024. This compares with 87% of premises in urban areas. Some 4% of premises in rural areas are not able to access a decent broadband service (at least 10Mbit/s download speed) compared with just 1% in urban areas. The figures in this paragraph use the Ofcom definition of rural.

At a more detailed level the analysis shows that generally, the more rural an area is the poorer the coverage is likely to be, with access to gigabit capable broadband ranging from 64% of premises in Mainly Rural areas up to 89% of premises in Urban Conurbations for July 2024. The same is true when considering those unable to access a decent broadband service with coverage ranging from 0.3% of premises in Urban Conurbations to 2.1% of premises in Mainly Rural areas. These figures use the Official Statistics Rural Urban Classification.

In September 2024, the proportion of landmass in rural areas with 4G mobile coverage availability from all four operators is 88%, up from 81% in September 2020. This compares with 99% coverage for Urban areas in September 2024. 2% of the rural landmass has no 4G mobile coverage in September 2024 (there is no urban area that does not have 4G mobile coverage from at least one operator). The figures in this paragraph use the Ofcom definition of rural.

At a more detailed level of the analysis shows, as with broadband, that generally the more rural an area is the poorer the coverage is likely to be. Coverage availability for 4G mobile from all four operators ranges from 86% of landmass for Mainly Rural areas to 98% of landmass in Urban Conurbations. The same is true when considering the proportion of landmass with no 4G mobile coverage from at least one operator, with coverage ranging from 2.1% of landmass for Mainly Rural areas to 0.2% of landmass for Urban Conurbations. These figures use the Official Statistics Rural Urban Classification.

Rural-Urban Classification – different definitions used by Defra and Ofcom

Data within this section comes from the Ofcom 'Connected Nations 2024' publication which reports on fixed broadband and mobile networks. The Broadband and Mobile sections in this report start with key headline analysis from the Ofcom report using Ofcom's definitions of rural and urban. This is followed by more detailed Rural and Urban analysis, including maps, which uses the Defra Rural and Urban classification of Parliamentary Constituency areas (Note A-1).

Ofcom use a 'Locale' classification for defining rural and urban areas (Note A-2). This 'Locale' classification differs from the official statistics Rural-Urban Classification used by Defra throughout the rest of the Statistical Digest of Rural England publication (see 'About the Digest and Rural Definitions' for more information). The key difference between the two classification methods is the threshold for resident population used to define rurality. The Ofcom report defines rural areas as those settlements with a population under 2,000 while the Official Statistics classification defines areas as Rural if they are settlements below 10,000 resident population and open countryside (see Figure A-1). This means only smaller settlements are classified as rural when using the Ofcom definition of rural. Figure A-2 shows how the two different rural urban classification methods impact on the four levels of broadband provision (superfast, gigabit capable, full fibre and decent). In all instances the classification method used by Defra results in better broadband provision for the broader definition of Rural areas used, than that reported by Ofcom for only the smaller settlements covered by its definition of rural. This should be considered when using this report.

Figure A-1: Diagram showing how differing settlement sizes are categorised as rural or urban when using the Ofcom or Defra rural – urban classifications.

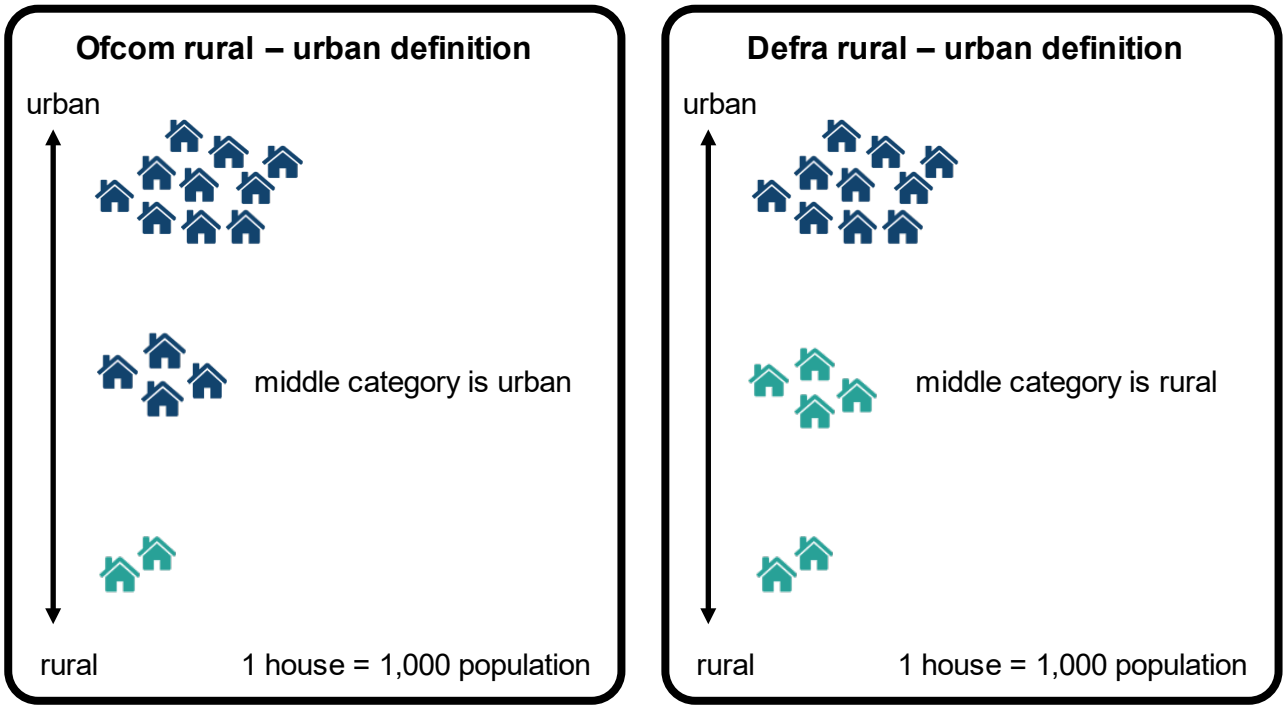
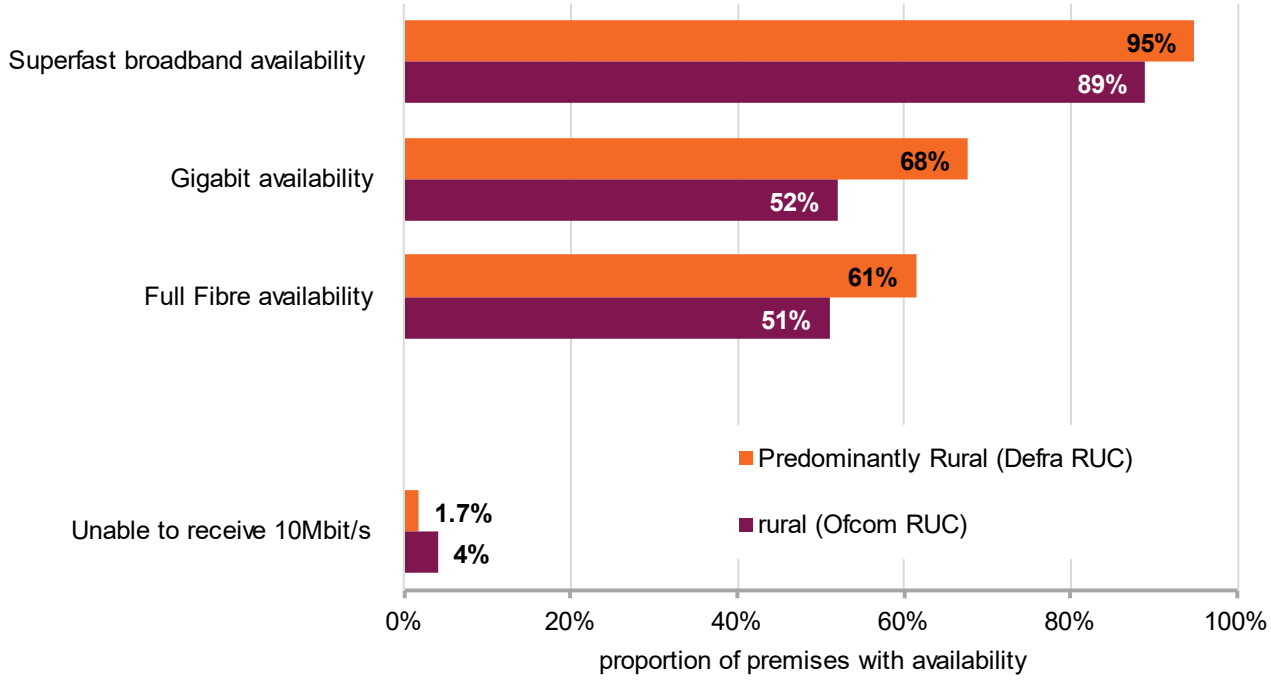


Figure A-2: Bar chart showing impact of two different methods of Rural Urban classification on broadband provision in Rural areas, by various levels of broadband provision, England, July 2024

The legend is presented in the same order and orientation as the clusters of bars.



Additional background information

When we talk about broadband speeds, we are referring to the rate of download available within an area. Higher speeds result in shorter download times, meaning a user has a better experience with things like streaming television programmes or films. This section provides analysis on those premises which unable to access a decent (at least 10Mbit/s download speed) broadband service. At a decent speed it would take at least 14 minutes to download a film (assuming a file size of at least 1GB for a typical standard definition film).

The following analysis presents data on the provision of broadband services that are made available across England. It should be noted that actual take-up of these services is lower than provision.

Broadband coverage - Rural Urban headlines from Ofcom Connected Nations report

Key findings for rural and urban areas taken from latest Ofcom Connected Nations report 2024 published on 5th December 2024. They relate to July 2024. See Note A-9 for details about the various levels of broadband service.

- In England, the proportion of premises (Note A-3) in rural areas (Note A-2) with access to gigabit-capable broadband is 52% (1.8 million premises), up from 47% since January 2024 (Table A-1). This is up from 15% in May 2020 for rural areas. In July 2024, 87% of premises in urban areas had access to gigabit-capable broadband.
- Full fibre coverage is at 51% of all premises in rural areas in England, compared with 70% for urban areas. In rural areas this represents an increase of 7 percentage points since January 2024.
- Superfast (greater or equal to 30Mbit/s) broadband coverage has seen no change in rural areas in England between January and July 2024, remaining at 89%. This is up 7 percentage points from May 2020. In urban areas it is 98% and has been since January 2022.
- The proportion of premises unable to get access to Decent (at least 10Mbit/s download speed) broadband has fallen to 4% in rural areas for July 2024 (down from 8% in May 2020). This compares with 1% for urban areas.

Table A-1: Proportion of premises able to achieve fixed broadband network coverage from at least one operator by speed and Ofcom Rural Urban Classification, July 2024

Speed	Rural	Urban	England
Superfast (greater or equal to 30 Mbit/s)	89%	98%	97%
Gigabit capable	52%	87%	83%
Full fibre	51%	70%	67%

Table A-2: Proportion of premises not able to achieve a Decent broadband service (at least 10Mbit/s) from at least one operator by Ofcom Rural Urban Classification, July 2024

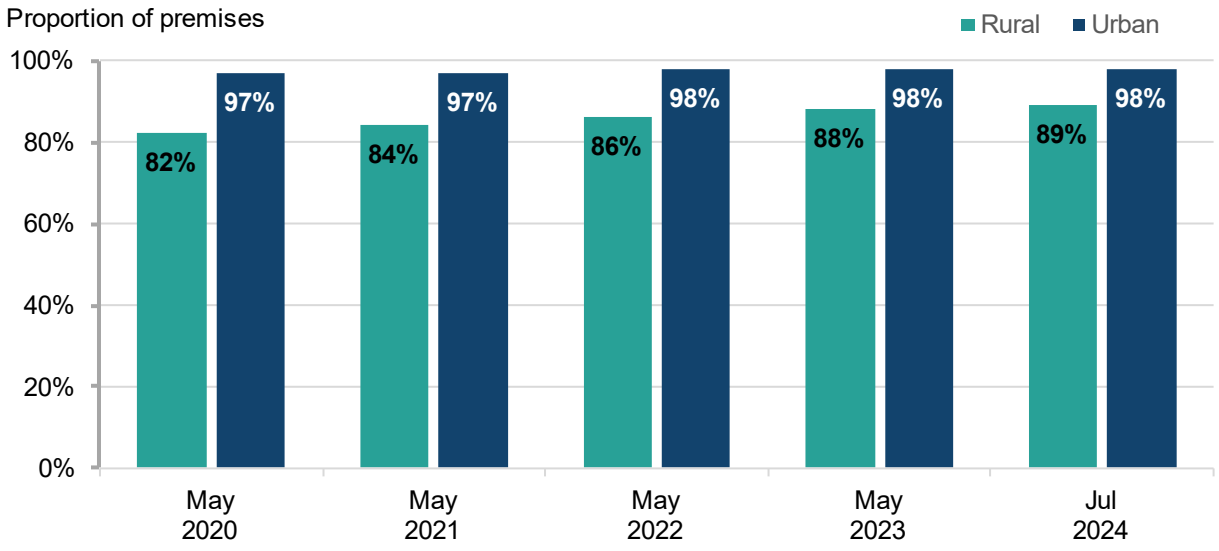
Speed	Rural	Urban	England
At least 10 Mbit/s	4%	1%	1%

The following bar charts show what progress has been achieved for these four key broadband measures between May 2020 and July 2024 (this is the latest timeseries analysis provided in the Connected Nations report for 2024. Previously data had been collected every January, May and September, however the annual report for 2024 uses data collected in July 2024).

The bar chart in Figure A-3 shows that the proportion of premises able to access superfast broadband (greater or equal to 30 Mbit/s) is consistently lower in rural areas than urban areas. In May 2020 the proportion of premises able to access superfast broadband in rural areas was 82%, 15 percentage points lower than in urban areas. Coverage in rural areas has improved across the period to 89% in July 2024, while coverage in urban areas has remained largely unchanged. By July 2024 coverage in rural areas was only 9 percentage points lower than for urban areas.

Figure A-3: Bar chart showing proportion of premises able to access superfast broadband (greater or equal to 30 Mbit/s) by Ofcom Rural Urban Classification, England, May 2020 to July 2024

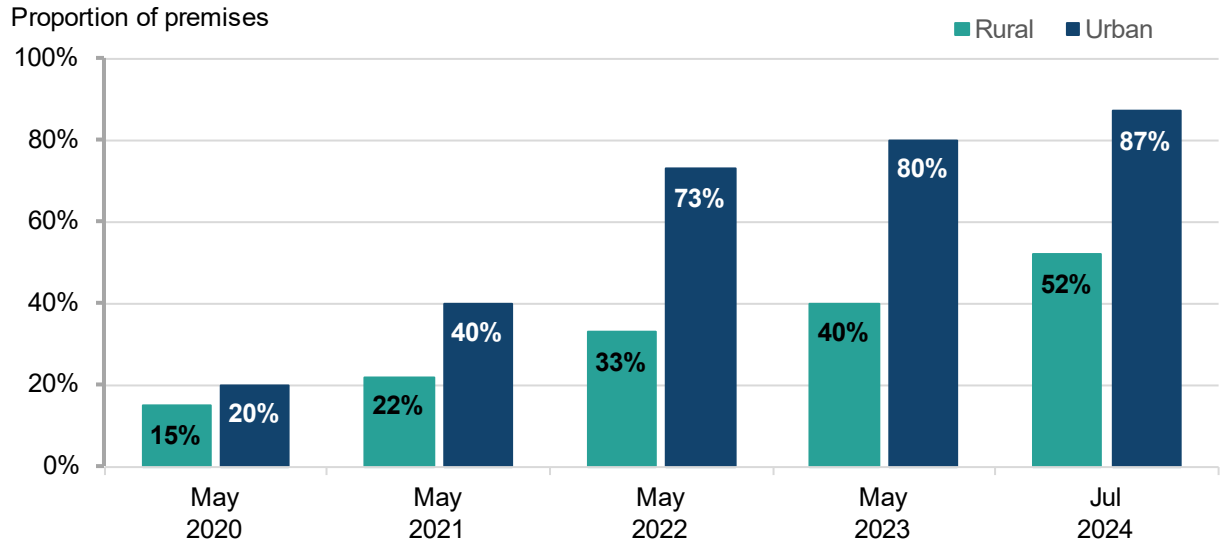
The legend is presented in the same order and orientation as the clusters of bars. Annual data is shown for May, except for the final year, 2024, where data is shown for July.



In the bar chart in Figure A-4 we see that while the provision of gigabit capable broadband has improved in both rural and urban areas between May 2020 and January 2024, coverage has increased by considerably less in rural areas resulting in a large gap in coverage between rural and urban areas. In May 2020 rural and urban areas had a similar percentage of premises able to access gigabit capable broadband with urban areas just 5 percentage points higher at 20%. Between May 2020 and May 2022, the provision of gigabit capable broadband grew quicker in urban areas than it did in rural areas with coverage in urban areas being 40 percentage points higher than rural areas. This large jump in gigabit capable provision in urban areas in 2021 was partly due to the completion of Virgin Media O2's cable network upgrade to gigabit speeds (Note A-4). May 2022 and May 2023 saw similar levels of growth in gigabit capable provision in both rural and urban areas. Latest figures (July 2024) show 52% of premises able to access gigabit capable broadband in rural areas (urban areas were 35 percentage points higher, indicating the gap between rural and urban areas could be starting to narrow).

Figure A-4: Bar chart showing proportion of premises able to access gigabit capable broadband by Ofcom Rural Urban Classification, England, May 2020 to July 2024

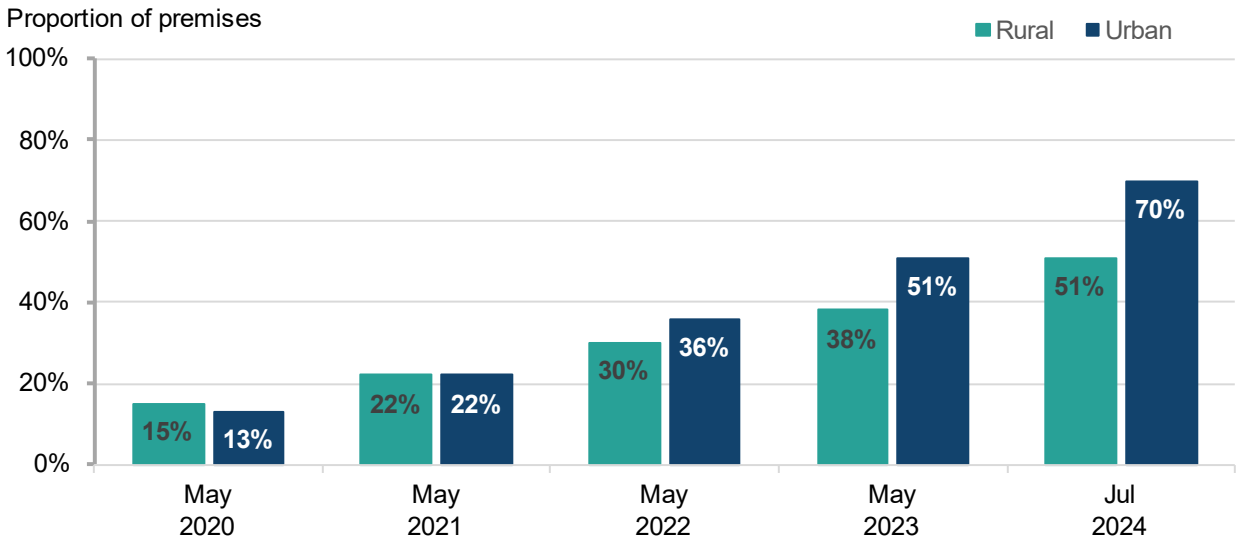
The legend is presented in the same order and orientation as the clusters of bars. Annual data is shown for May, except for the final year, 2024, where data is shown for July.



The bar chart in Figure A-5 shows that since May 2022 the availability of full fibre broadband is better and improving faster in urban areas than in rural areas. Before that, proportions were similar in rural and urban areas (15% and 13% availability for rural and urban respectively for May 2020). In July 2024, around half (51%) of all premises in rural areas have access to full fibre broadband compared with 70% in urban areas. This shows that between May 2020 and July 2024 access to full fibre broadband has gone up around 3 times in rural areas and around 5 times in urban areas.

Figure A-5: Bar chart showing proportion of premises able to access full fibre broadband by Ofcom Rural Urban Classification, England, May 2020 to July 2024

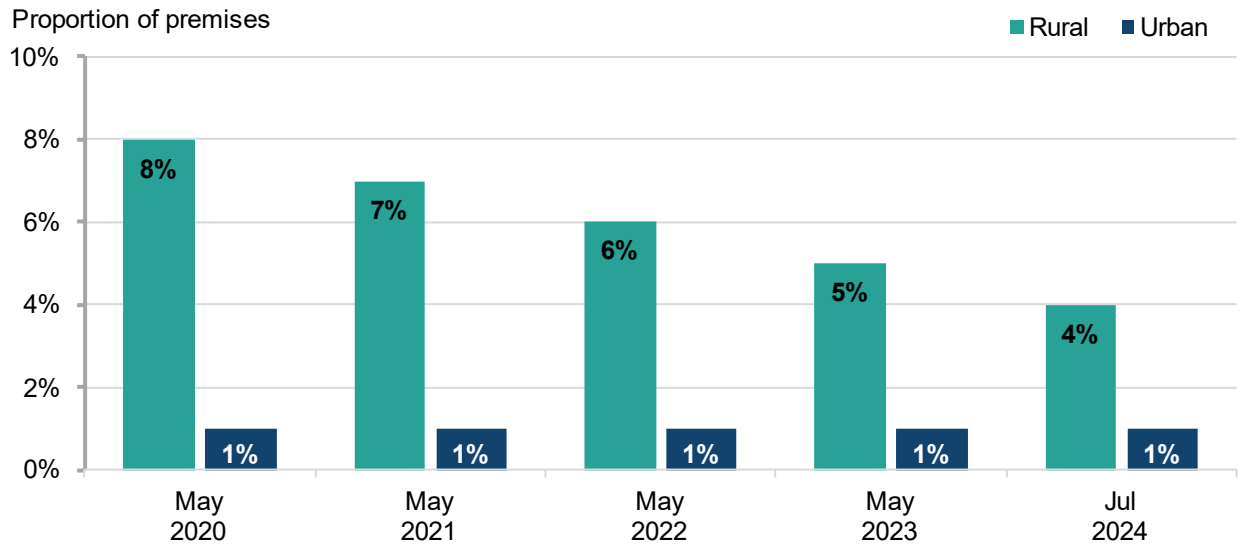
The legend is presented in the same order and orientation as the clusters of bars. Annual data is shown for May, except for the final year, 2024, where data is shown for July.



The bar chart in Figure A-6 shows there is a greater proportion of premises unable to access Decent broadband (at least 10Mbit/s download speed) in rural areas than urban areas, but the numbers are falling. In rural areas the proportion of premises has fallen by 4 percentage points to 4% between May 2020 and July 2024, while urban areas have remained at 1% over the same time period.

Figure A-6: Bar chart showing proportion of premises unable to access Decent (at least 10 Mbit/s download speed) broadband by Ofcom Rural Urban Classification, England, May 2020 to July 2024

The legend is presented in the same order and orientation as the clusters of bars. Annual data is shown for May, except for the final year, 2024, where data is shown for July.



Broadband coverage – detailed analysis using Official Statistics Rural-Urban Classification

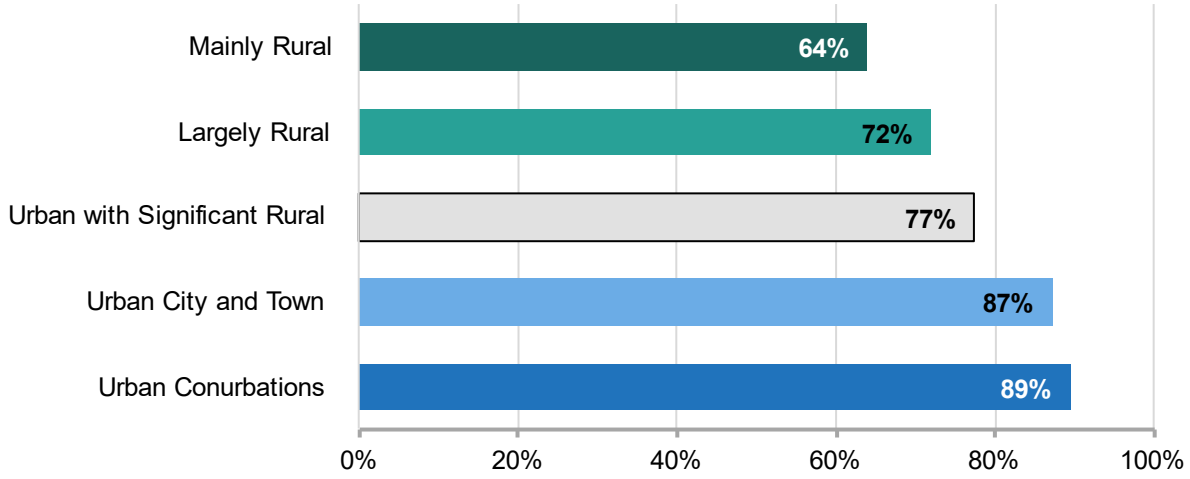
The following section uses Parliamentary Constituency level data released by Ofcom. These data have had the Official Statistics Rural-Urban Classifications attached rather than the Ofcom definition. These differing methods of classifying Rural and Urban areas and how they affect the analysis are detailed in the earlier section 'Rural Urban Classification – different definitions used by Defra and Ofcom'.

Gigabit capable broadband

In July 2024, 68% of premises had coverage from a gigabit capable broadband service in Predominantly Rural areas, which is lower than the 88% found in Predominantly Urban areas (see worksheet AA in the Connectivity and Accessibility' supplementary data tables). The bar chart in Figure A-7 shows that generally, the more rural an area is the poorer the gigabit capable coverage is, ranging from 64% of premises having coverage from a gigabit capable service in Mainly Rural areas up to 89% with coverage in Urban Conurbations. Within Rural areas there are noticeable

differences with gigabit capable coverage in Largely Rural areas being 8 percentage points higher than that for Mainly Rural areas.

Figure A-7: Bar chart showing proportion of premises that have coverage from a gigabit capable broadband service by Parliamentary Constituency area Official Statistics Rural-Urban Classification, England, July 2024



The maps in Figure A-8 and Figure A-9 show the proportion of premises that have coverage from gigabit capable broadband by Parliamentary Constituency. Predominantly Rural areas are mapped in Figure A-8 which shows that out of 121 Predominantly Rural Parliamentary Constituencies, there were 14 constituencies where 50% or fewer premises had access to gigabit capable broadband, 80 constituencies where the proportion of premises with access was between 50% and 80% and 27 constituencies where at least 80% of premises had access to gigabit capable broadband. North Norfolk was the Predominantly Rural constituency with the lowest percentage of coverage for gigabit capable broadband at just 34% while Selby (North Yorkshire) was the best with 93%. The map hi-lights 3 clusters of constituencies all with good coverage which fall around East Yorkshire, Cambridgeshire and Oxfordshire with Northamptonshire.

Figure A-9 shows the situation for Predominantly Urban and Urban with Significant Rural constituencies, covering a total of 422 constituencies. This shows there are just 3 constituencies where 50% or fewer premises had access to gigabit capable broadband (Southport, in Merseyside, was the worst, with 31% of premises having access to gigabit capable broadband). There were 75 constituencies where the proportion of premises with access was between 50% and 80%, 229 constituencies where the proportion of premises with access was between 80% and 93% and 115 constituencies where at least 93% of premises had access to gigabit capable broadband, with nearly all of these (112 of the 115) being Predominantly Urban constituencies. There were no Predominantly Rural constituencies where at least 93% of premises have access to gigabit capable broadband.

Figure A-8: Map showing proportion of premises that have coverage from a gigabit capable broadband service by Parliamentary Constituency area Official Statistics Rural-Urban Classification, in Predominantly Rural areas in England, July 2024 (Note A-1, Note A-6)

White areas on the map represent Predominantly Urban and Urban with Significant Rural areas.

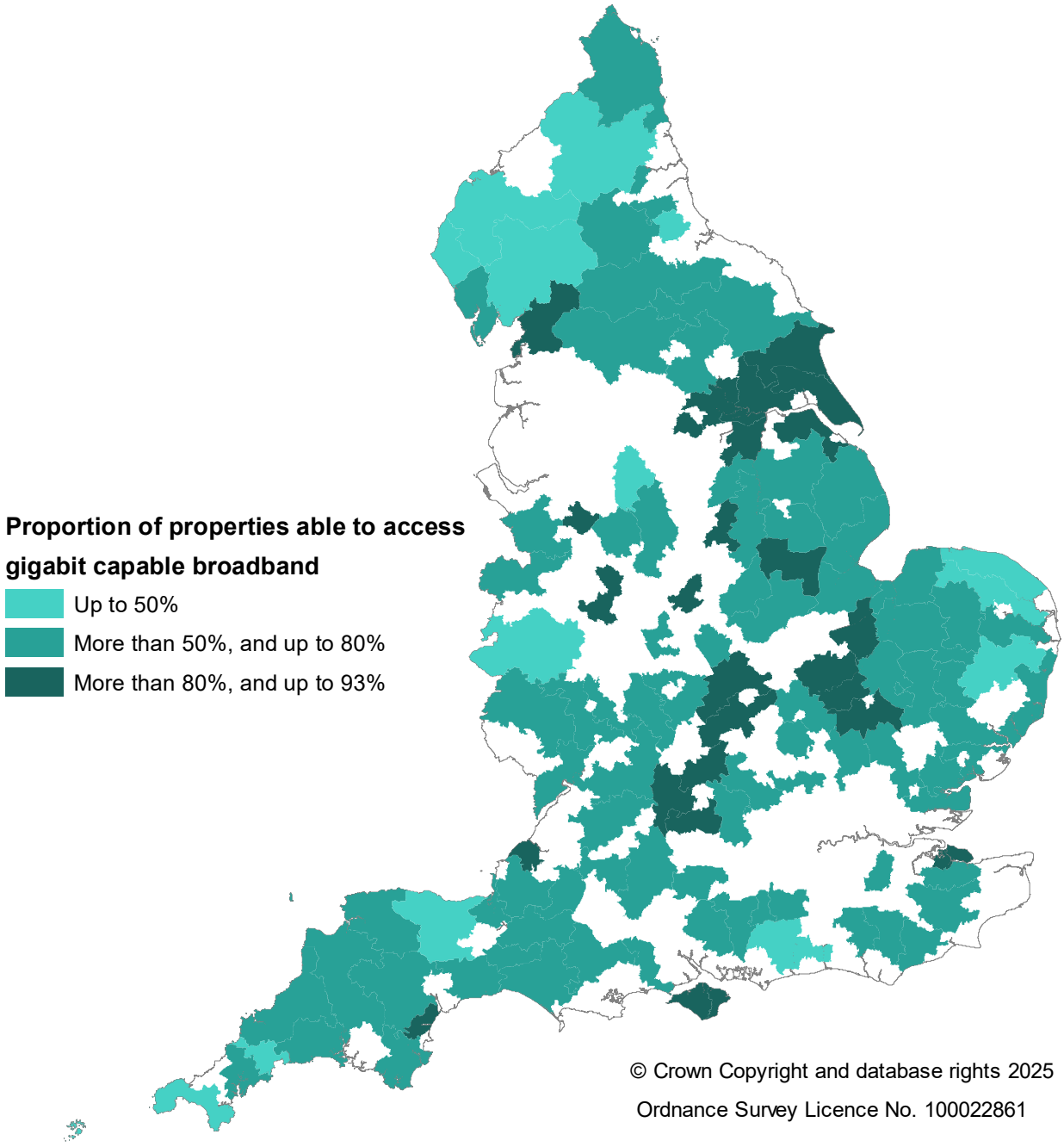
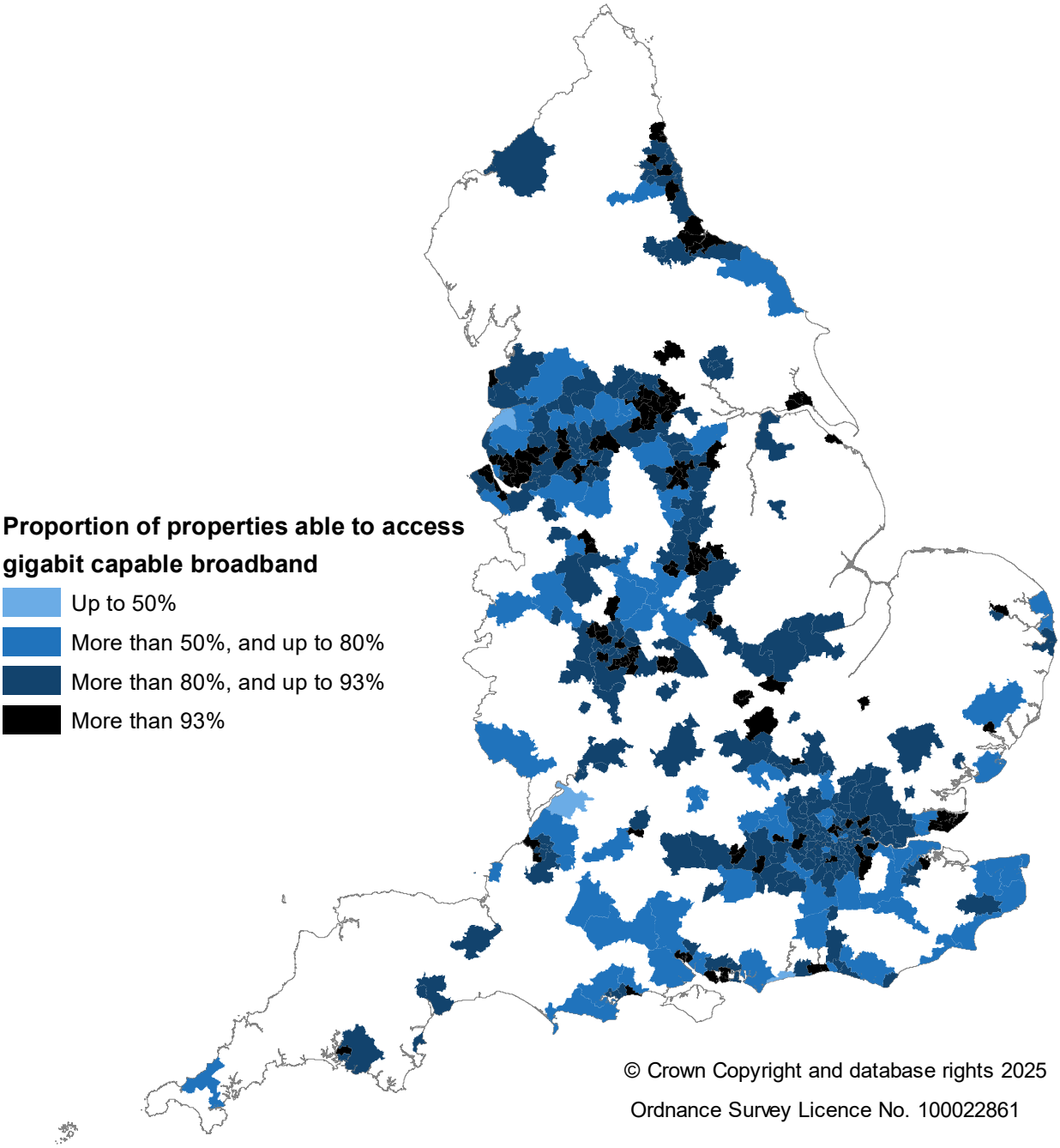


Figure A-9: Map showing proportion of premises that have coverage from a gigabit capable broadband service by Parliamentary Constituency area Official Statistics Rural-Urban Classification, in Predominantly Urban and Urban with Significant Rural areas in England, July 2024 (Note A-1, Note A-6*)*

White areas on the map represent Predominantly Rural areas.

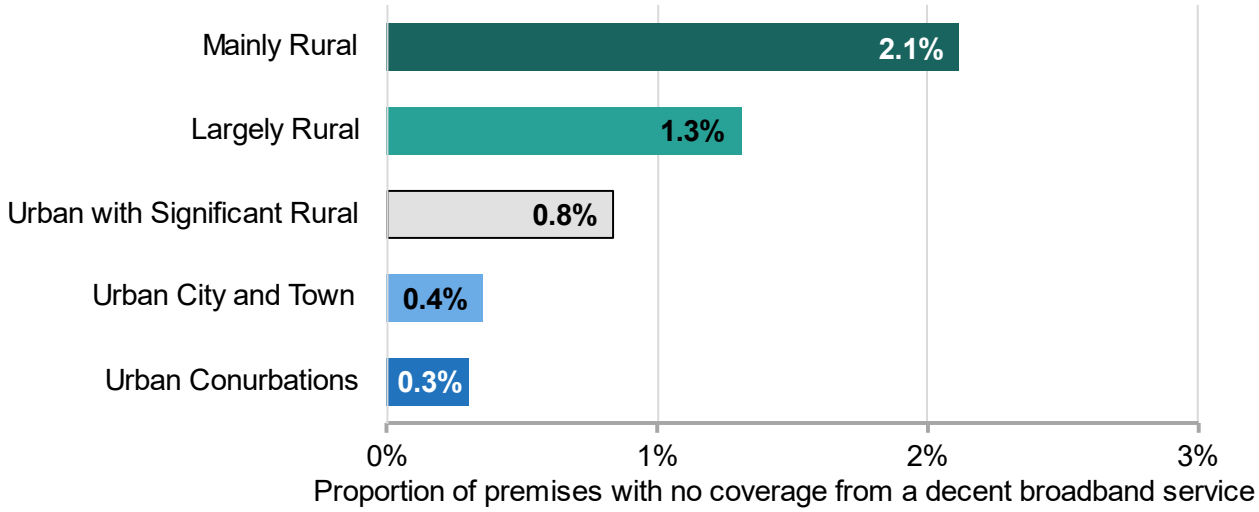


Unable to access Decent broadband

A Decent broadband service is defined in Ofcom's latest Connected Nations report as a speed of at least 10Mbit/s.

In July 2024, 1.7% of premises were unable to access a Decent broadband service (at least 10 Mbit/s) in Predominantly Rural areas, which is higher than the 0.3% found in Predominantly Urban areas (see worksheet AB in the Connectivity and Accessibility supplementary data tables). The bar chart in Figure A-10 shows that generally, the more rural an area is the greater the proportion of premises unable to access a Decent broadband service, ranging from 0.3% of premises in Urban Conurbations to 2.1% of premises in Mainly Rural areas. Within rural areas the proportion of premises unable to access a Decent broadband service ranges from 1.3% in Largely Rural areas up to 2.1% in Mainly Rural areas.

Figure A-10 Bar chart showing proportion of premises that are unable to access a Decent broadband service by Parliamentary Constituency area Official Statistics Rural-Urban Classification, England, July 2024



The maps in Figure A-11 and Figure A-12 show the proportion of premises that are unable to access a Decent broadband service by Parliamentary Constituency. Predominantly Rural areas are mapped in Figure A-11 which shows that out of 121 Predominantly Rural Parliamentary Constituencies, there were 8 constituencies where between 4% and 10% of premises were unable to access a Decent broadband service, with 3 out of the 5 worst constituencies in Devon. There were 64 constituencies where the proportion of premises was between 1% and 4% and 49 constituencies where 1% or fewer of premises were unable to access a Decent broadband service. This shows that in over half of all Predominantly Rural Parliamentary Constituencies more than 1% of premises were unable to access a Decent broadband service. Torridge and Tavistock, in Devon, was the Predominantly Rural constituency with the greatest percentage of premises not able to access Decent broadband at 8.7% while Farnham and Bordon, (covering parts of Hampshire and Surrey), had the lowest with 0.2%.

Figure A-12 shows the situation for Predominantly Urban and Urban with Significant Rural constituencies, covering a total of 422 constituencies. This shows there are no constituencies where the proportion of premises that were unable to access a Decent broadband service is greater than 4%. There were 37 constituencies where the proportion of premises was between 1% and 4%, of which 18 were Urban with Significant Rural and 19 were Predominantly Urban constituencies. The vast majority of Predominantly Urban and Urban with Significant Rural

constituencies (385 constituencies out of 422) have 1% or fewer of premises that are unable to access a Decent broadband service.

Figure A-11 Map showing proportion of premises that are unable to access a Decent broadband service by Parliamentary Constituency area Official Statistics Rural-Urban Classification, in Predominantly Rural areas in England, July 2024 (Note A-1, Note A-7)

White areas on the map represent Predominantly Urban and Urban with Significant Rural areas.

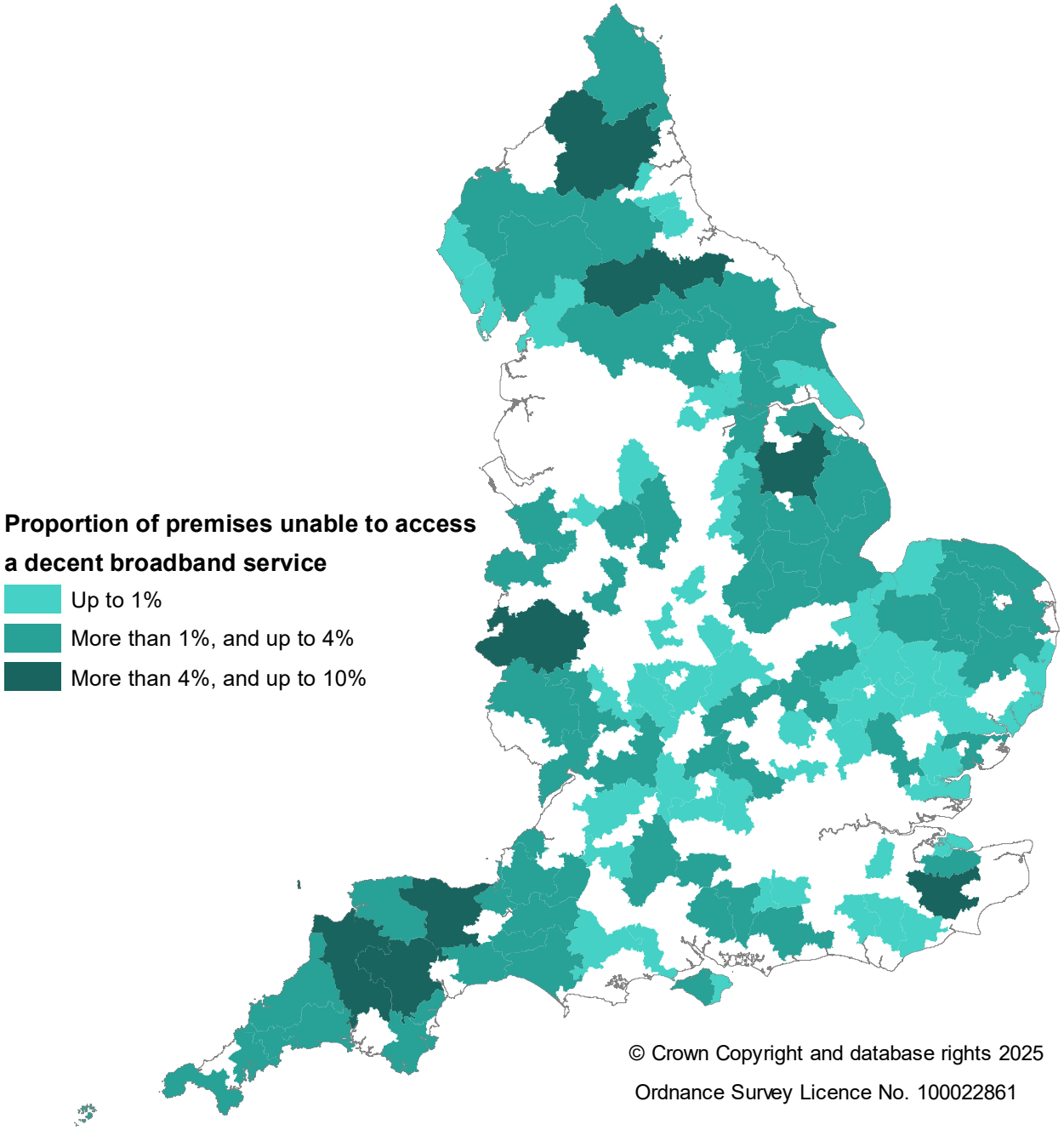
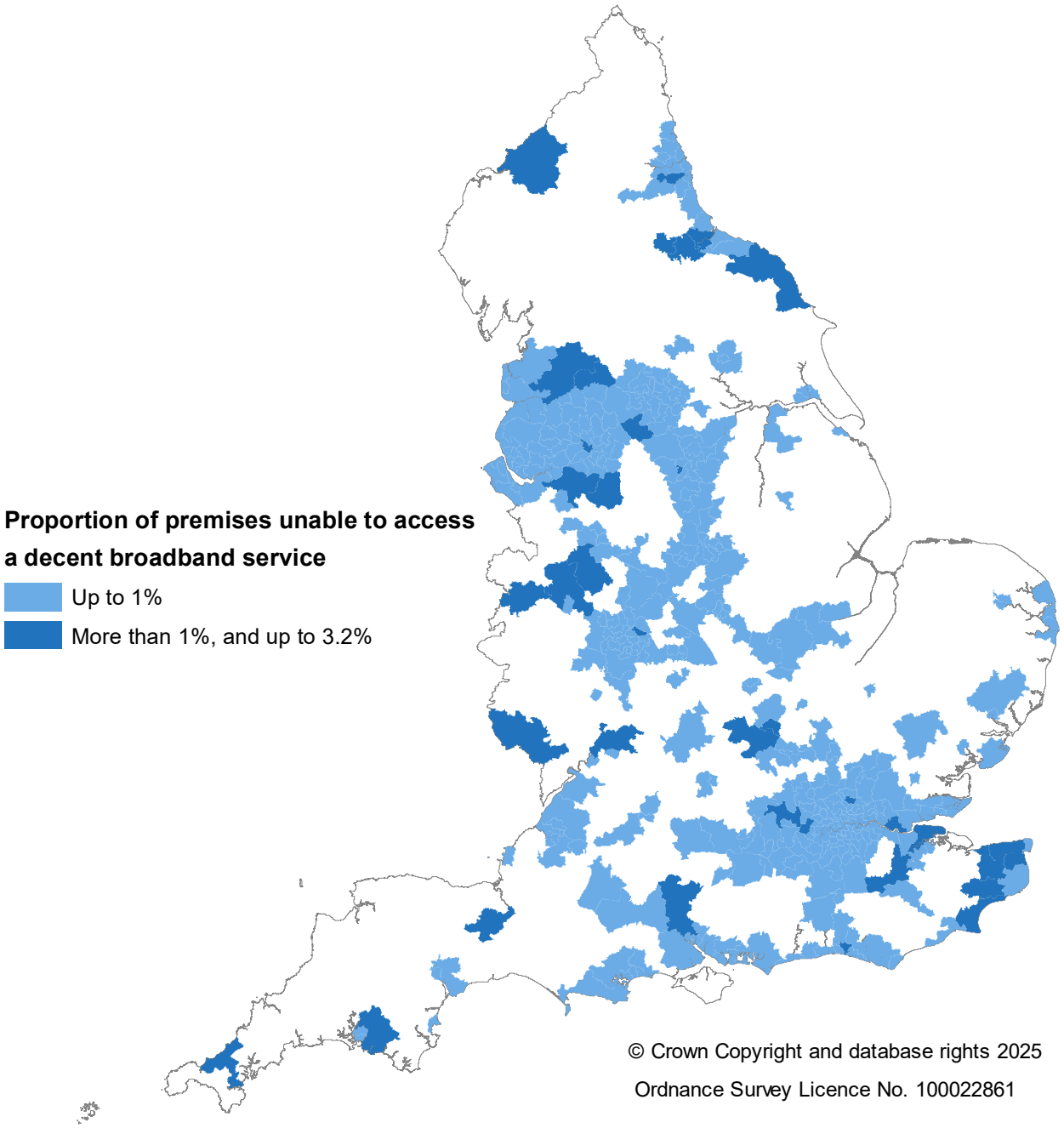


Figure A-12 Map showing proportion of premises that unable to access a Decent broadband service by Parliamentary Constituency area Official Statistics Rural-Urban Classification, in Predominantly Urban and Urban with Significant Rural areas in England, July 2024 (Note A-1, Note A-7)

White areas on the map represent Predominantly Rural areas.



Mobile coverage - Rural Urban headlines from Ofcom Connected Nations report

Data within this section comes from the Ofcom 'Connected Nations 2024' publication which reports on fixed broadband and mobile networks. The section 'Rural Urban Classification – different definitions used' explains how Ofcom and Defra use different methods to define rural and urban areas. See notes Note A-8 and Note A-9 for definitions of 4G and 5G technology, and a list of the four main Mobile Network operators.

Key findings for rural and urban areas taken from latest Ofcom Connected Nations report 2024. They relate to September 2024.

- In rural areas of England, 98% of the landmass has good geographic 4G mobile coverage from at least one operator, this rises to 100% coverage for urban areas.
- Coverage availability from all four operators for 4G mobile is lower than from at least one operator, with a coverage of 88% landmass in rural areas, compared with 99% for urban areas.
- When considering the proportion of landmass that has no 4G mobile coverage this is highest in rural areas at 2% of the rural landmass (there is no urban area that does not have 4G mobile coverage from at least one operator).
- 5G coverage is lower than 4G coverage for both rural and urban areas, with around 82% of premises in rural areas being able to get a 5G signal outdoors from at least one operator (figures reported with a high degree of confidence), rising to 98% for urban areas.
- Coverage availability from all four operators for 5G is lower than from at least one operator, with a coverage of just 5% of premises in rural areas, compared with 45% for urban areas.
- When considering the proportion of premises that has no outdoor 5G mobile coverage from at least one operator this is highest in rural areas at 18%, falling to 2% in urban areas.

Table A-3: Proportion of landmass able to access 4G mobile coverage, by Ofcom Rural Urban Classification, September 2024

Operator availability	Rural	Urban	England
All operators	88%	99%	90%
At least one operator	98%	100%	99%
No operators	2%	0%	1%

Table A-4: Proportion of premises able to access 5G mobile coverage outdoors, by Ofcom Rural Urban Classification, September 2024

Operator availability	Rural	Urban	England
All operators	5%	45%	40%
At least one operator	82%	98%	96%
No operators	18%	2%	4%

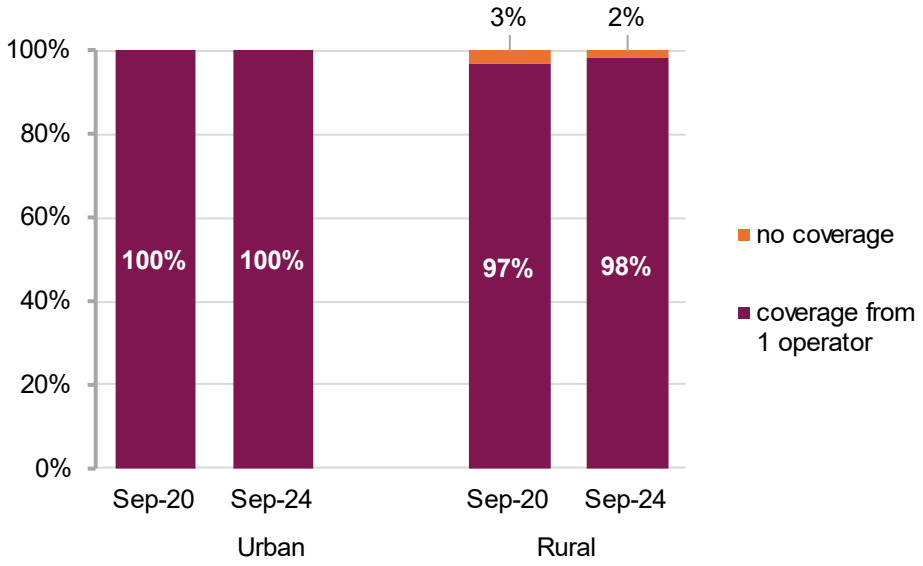
Figure A-13 to Figure A-15 show the progress made towards 4G and 5G coverage for the latest periods available, as provided in the Connected Nations 2024 report. Data was previously

collected every January, May and September; however, no data has been made available for May 2024, skipping straight to September 2024. Also, the time spans differ for 4G and 5G reporting, with 4G data presented from May 2020 while 5G data is presented from May 2022 as 5G was only launched in the UK in 2020.

There has been no change in the proportion of landmass able to access 4G coverage from at least one operator for urban areas, and very little change for rural areas between September 2020 and September 2024, as can be seen in the stacked bar chart shown in Figure A-13. Proportions for rural areas have increased from 97% to 98% while they have remained at 100% for urban areas. The same is true for the proportion of landmass with no 4G mobile coverage with rural areas seeing a small drop from 3% to 2%, and no urban areas that do not have 4G mobile coverage from at least one operator.

Figure A-13: Stacked bar chart showing proportion of landmass with 4G mobile coverage from at least one operator and proportion of landmass with no 4G coverage, by Ofcom Rural Urban Classification, England, September 2020 and September 2024

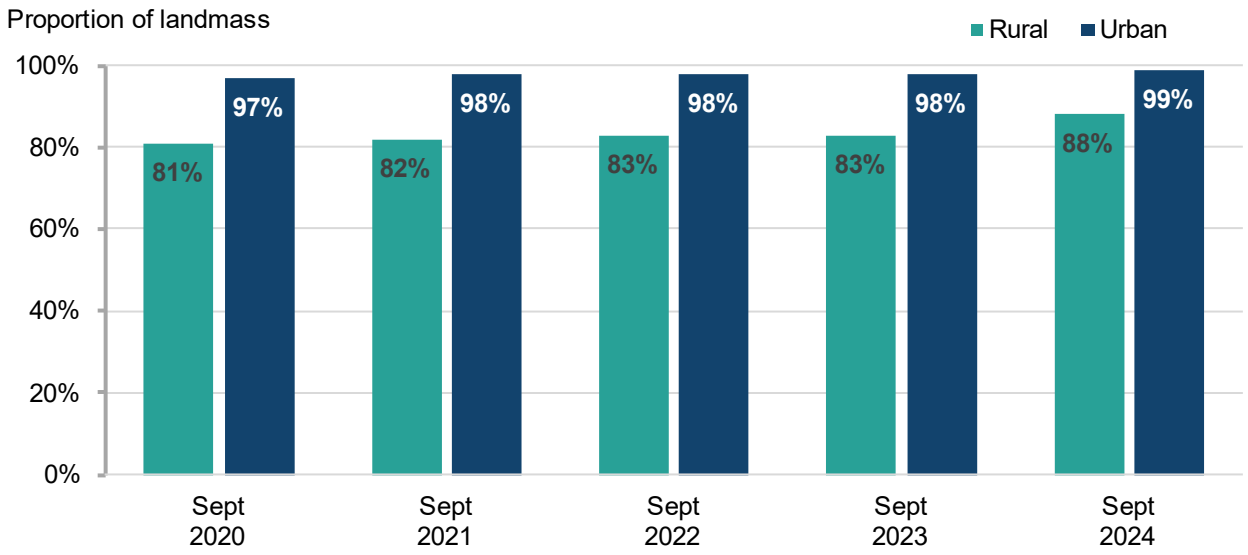
The stacked bars are presented in the same order and orientation as the legend.



The bar chart in Figure A-14 shows that the proportion of landmass with good geographic 4G mobile coverage from all four operators is consistently lower in rural areas than urban areas. In May 2020 the proportion of landmass with good geographic 4G mobile coverage from all four operators in rural areas was 81%, 16 percentage points lower than in urban areas. Coverage in rural areas has improved across the period, to 88% in September 2024. In Urban areas coverage has shown less change, increasing by just 2 percentage points to 99% in September 2024. By September 2024, coverage in rural areas was 11 percentage points lower than that for urban areas at 88%.

Figure A-14: Clustered bar chart showing the proportion of landmass with good geographic 4G mobile coverage from all four operators, by Ofcom Rural Urban Classification, England, September 2020 to September 2024

The legend is presented in the same order and orientation as the clusters of bars.

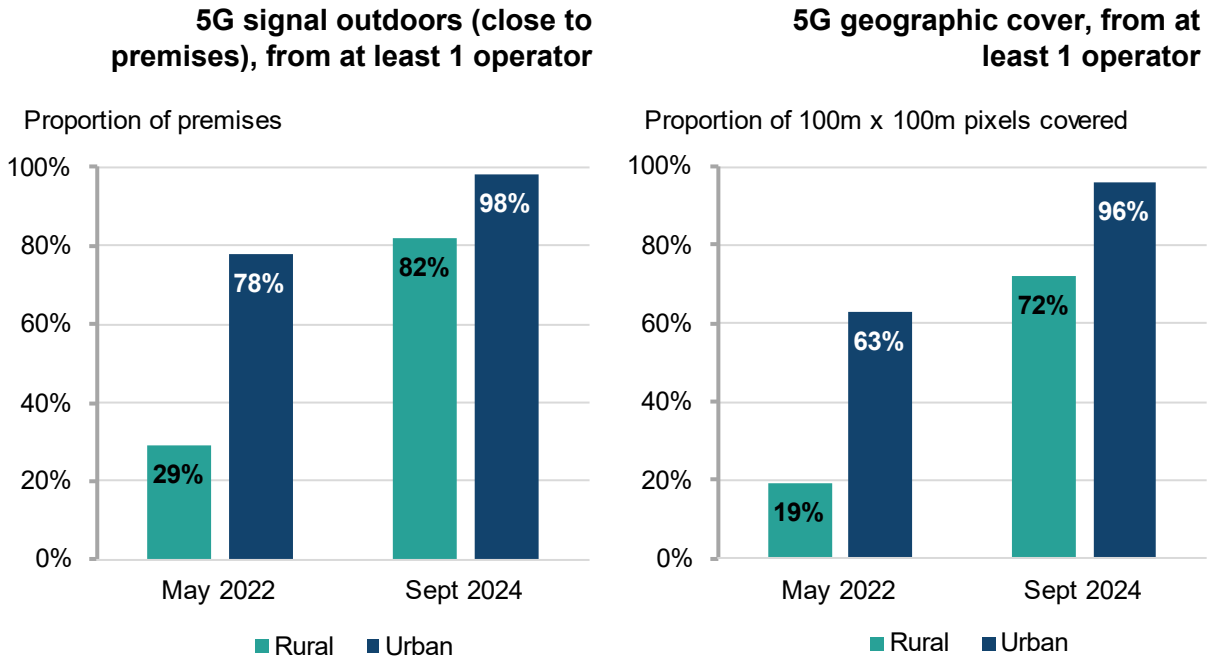


The bar charts in Figure A-15 look at 5G mobile coverage, showing both the proportion of premises able to get a 5G signal outdoors (close to premises) and overall geographic cover (a sufficiently strong signal to provide a good service outside). Both measures are for coverage from at least 1 operator. The charts show that 5G coverage is highest when considering the proportion of premises able to get a signal outdoors, rather than for full geographic coverage, with urban areas consistently having higher coverage rates than rural areas. In May 2022, the proportion of premises able to get a 5G signal outdoors was 49 percentage points lower in rural areas compared with urban areas (29% and 78% respectively). By September 2024 this gap had narrowed to 16 percentage points with rural areas having a coverage rate of 82% compared with 98% for urban areas.

Coverage rates for 5G geographic coverage are lower than for 5G outdoors (close to premises) in both rural and urban areas. In May 2022 the proportion of landmass with 5G geographic coverage was 44 percentage points lower in rural areas compared with urban areas (19% and 63% respectively). By September 2024 this gap had narrowed to 24 percentage points with a coverage rate of 72% in rural areas compared with 96% for urban areas.

Figure A-15: Bar charts showing 5G coverage, as a proportion of premises able to get a 5G signal outdoors and as a proportion of landmass with coverage, by Ofcom Rural Urban Classification, England, May 2022 and September 2024

There are two charts with the left-hand chart showing the proportion of premises able to get a 5G signal close to premises, and the right-hand chart showing the proportion of landmass with 5G coverage. Both are reporting for provision from at least 1 operator.
The bars are presented in the same order and orientation as the legend.



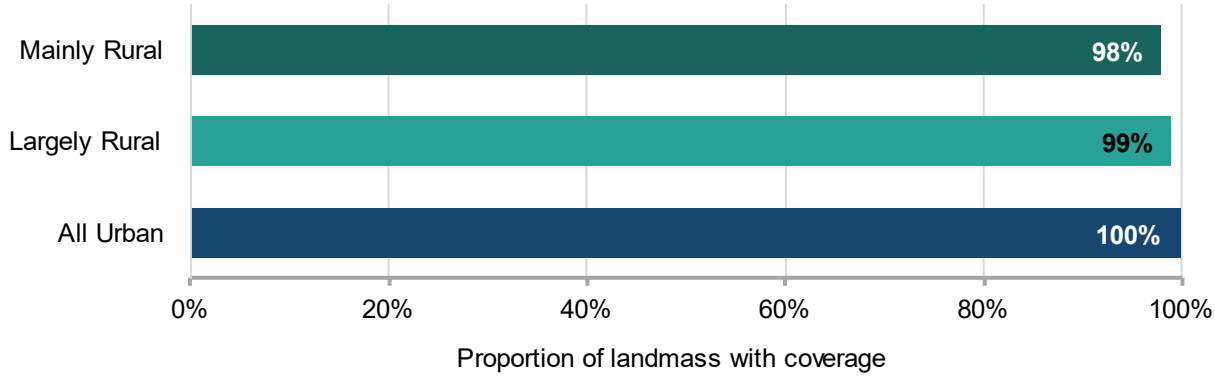
Mobile coverage – detailed analysis using Official Statistics Rural-Urban Classification

The following section uses Parliamentary Constituency level data released by Ofcom. These data have had Official Statistics Rural-Urban Classifications attached rather than the Ofcom definition. These differing methods of classifying Rural and Urban areas and how they affect the analysis are detailed in the earlier section 'Rural Urban Classification – different definitions used by Defra and Ofcom'.

4G mobile coverage from at least one operator

In September 2024, 4G mobile coverage was close to full geographic coverage for England (99%) however some rural areas are still slightly behind. The bar chart in Figure A-16 shows that Mainly Rural areas have 4G coverage for 98% of landmass, rising to 99% for Largely Rural areas. Overall, 4G coverage for Urban areas is 100% but there are likely to be small areas within this that do not experience the full 100% coverage (see worksheet AF in the Connectivity and Accessibility supplementary data tables).

Figure A-16: Bar chart showing the proportion of landmass with 4G mobile coverage from at least one operator by Parliamentary Constituency area Official Statistics Rural-Urban Classification, September 2024

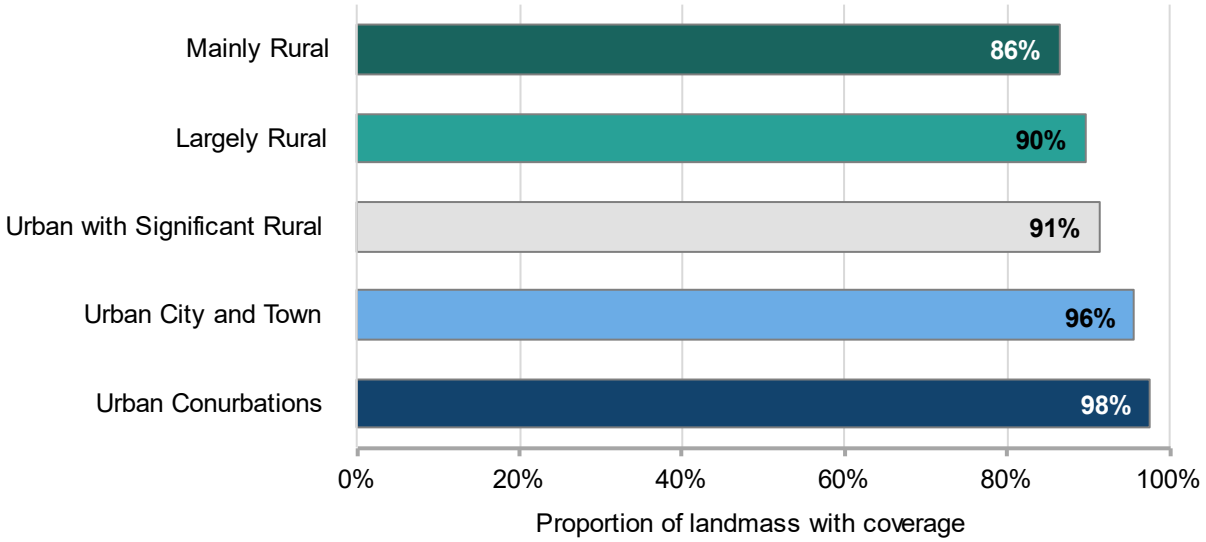


4G mobile coverage from all four operators

When considering coverage availability from all four operators for 4G mobile there is more variation in coverage across England than seen for provision from just one operator.

In September 2024, 87% of landmass in Predominantly Rural areas had 4G mobile coverage availability from all four operators (see worksheet AF in the Connectivity and Accessibility supplementary data tables). This compares with 96% landmass coverage for Predominantly Urban areas. The bar chart in Figure A-17 shows that generally the more rural an area is the smaller the proportion of landmass that has 4G mobile coverage availability from all four operators, ranging from 86% of landmass for Mainly Rural areas to 98% of landmass in Urban Conurbations. Within rural areas the proportion of landmass that has 4G mobile coverage availability from all four operators ranges from 86% in Mainly Rural areas to 90% in Largely Rural areas.

Figure A-17: Bar chart showing the proportion of landmass with 4G mobile coverage availability from all four operators by Parliamentary Constituency area Official Statistics Rural-Urban Classification, September 2024



The maps in Figure A-18 and Figure A-19 take the opposite view to that shown in Figure A-17 and show the proportion of landmass that does **not yet have coverage availability** from all four operators by Parliamentary Constituency. Predominantly Rural areas are mapped in Figure A-18 which shows that out of 121 Predominantly Rural Parliamentary Constituencies, there were 79 constituencies where up to 10% of the landmass does not yet have coverage availability from all four operators, 26 constituencies where the proportion was between 10% and 20%, and 16 constituencies where at least a fifth of the landmass (20%) does not yet have coverage availability from all four operators. The poorest levels of coverage tend to be concentrated in the North and the South West. Skipton and Ripon (North Yorkshire) was the Parliamentary Constituency with the greatest proportion of landmass not yet having coverage availability from all four operators at 32% of landmass.

Figure A-19 shows the situation for Predominantly Urban and Urban with Significant Rural constituencies, covering a total of 422 constituencies. This shows there were 6 constituencies where at least a fifth of the landmass (20%) does not yet have coverage availability from all four operators, with Scarborough and Whitby in North Yorkshire being the worst, at 33% of landmass (an Urban with Significant Rural area). There were 399 constituencies where the proportion of landmass without coverage availability was up to 10%, and 17 constituencies where the proportion was between 10% and 20%.

Figure A-18: Map showing the proportion of landmass not yet having 4G mobile coverage availability from all four operators by Parliamentary Constituency area Official Statistics Rural-Urban Classification, in Predominantly Rural areas in England, September 2024 (Note A-1, Note A-11)

White areas on the map represent Predominantly Urban and Urban with Significant Rural areas.

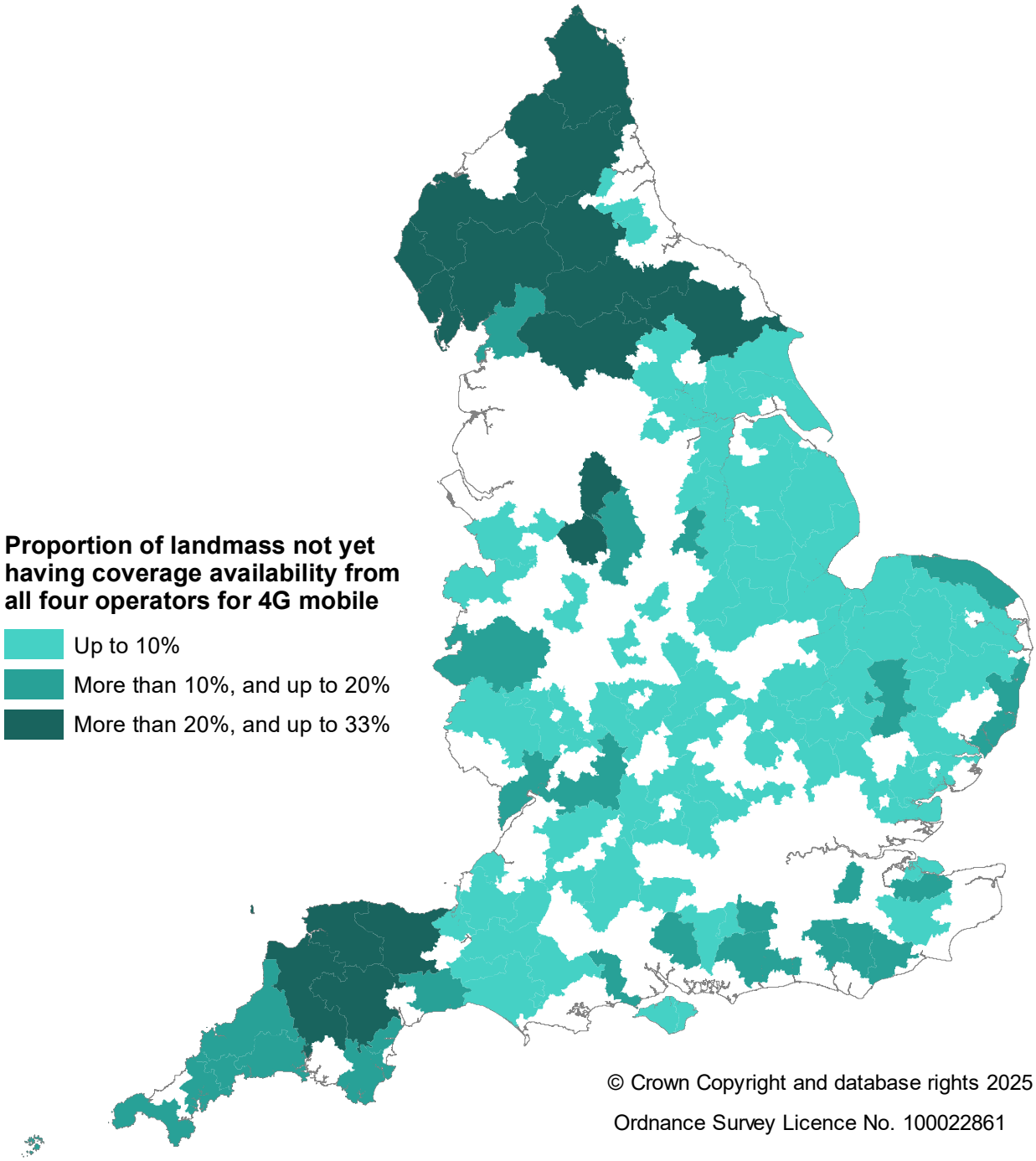
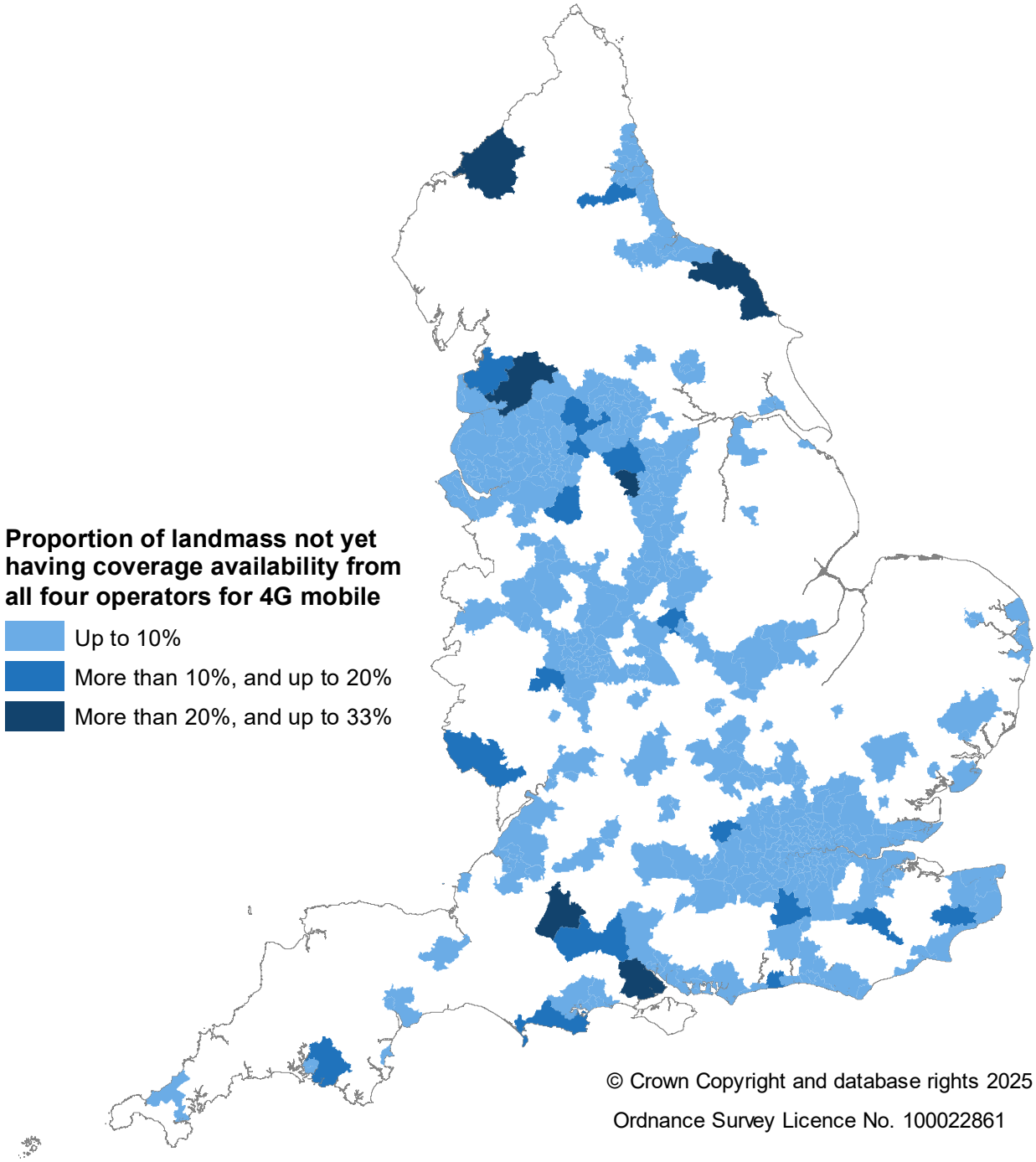


Figure A-19: Map showing the proportion of landmass not yet having 4G mobile coverage availability from all four operators by Parliamentary Constituency area Official Statistics Rural-Urban Classification, in Predominantly Urban and Urban with Significant Rural areas in England, September 2024 (Note A-1, Note A-11)

White areas on the map represent Predominantly Rural areas.

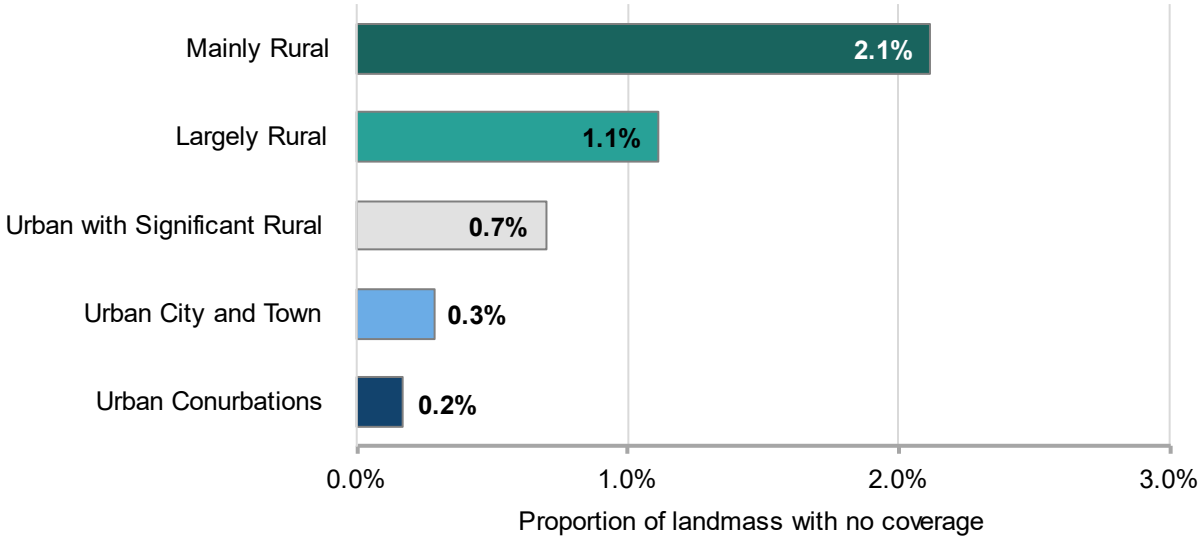


Landmass with no 4G mobile coverage

The proportion of landmass with no 4G mobile coverage from at least one operator is small, however there is still variation between Predominantly Rural and Predominantly Urban areas.

In September 2024, 1.8% of landmass in Predominantly Rural areas had no 4G mobile coverage from at least one operator, which is higher than the 0.2% of landmass for Predominantly Urban areas (see worksheet AG in the Connectivity and Accessibility supplementary data tables). The bar chart in Figure A-20 shows that generally the more rural an area is the greater the proportion of landmass with no 4G mobile coverage from at least one operator, ranging from 2.1% of landmass for Mainly Rural areas to 0.2% of landmass for Urban Conurbations. Within rural areas the proportion of landmass with no 4G mobile coverage from at least one operator ranges from 1.1% of landmass for Largely Rural areas to 2.1% of landmass for Mainly Rural areas.

Figure A-20: Bar chart showing the proportion of landmass with no 4G mobile coverage from at least one operator by Parliamentary Constituency area Official Statistics Rural-Urban Classification, September 2024
Please note, the scale for this chart differs from that used in Figure A-16 and Figure A-17.



The maps Figure A-21 and Figure A-22 show the proportion of landmass with no 4G mobile coverage from at least one operator by Parliamentary Constituency. Predominantly Rural areas are mapped in Figure A-21 which shows that out of 121 Predominantly Rural Parliamentary Constituencies, there were 68 constituencies where 0.1% of landmass had no 4G mobile coverage from at least one operator. There were 38 constituencies where the proportion of landmass was between 0.1% and 2%. The remaining 15 Predominantly Rural constituencies have at least 2% of landmass with no 4G mobile coverage from at least one operator, with 2 constituencies having a proportion of landmass greater than 10% (Barrow and Furness in Cumbria at 10.2%, and Skipton and Ripon in North Yorkshire at 10.5%). As before, the poorest levels of coverage tend to be concentrated in the North and the South West.

Figure A-22 shows the situation for Predominantly Urban and Urban with Significant Rural constituencies, covering a total of 422 constituencies. This shows there were just 8 constituencies where at least 2% of the landmass had no 4G mobile coverage from at least one operator (Sheffield Hallam in South Yorkshire was the worst with 5.6% of landmass having no 4G mobile

coverage from at least one operator). There were 371 constituencies where the proportion of landmass with no 4G mobile coverage from at least one operator was 0.1% or less, and 43 constituencies where the proportion was between 0.1% and 2% of landmass.

Figure A-21: Map showing the proportion of landmass with no 4G mobile coverage from at least one operator by Parliamentary Constituency area Official Statistics Rural-Urban Classification, in Predominantly Rural areas in England, September 2024 (Note A-1, Note A-12)

White areas on the map represent Predominantly Urban and Urban with Significant Rural areas.

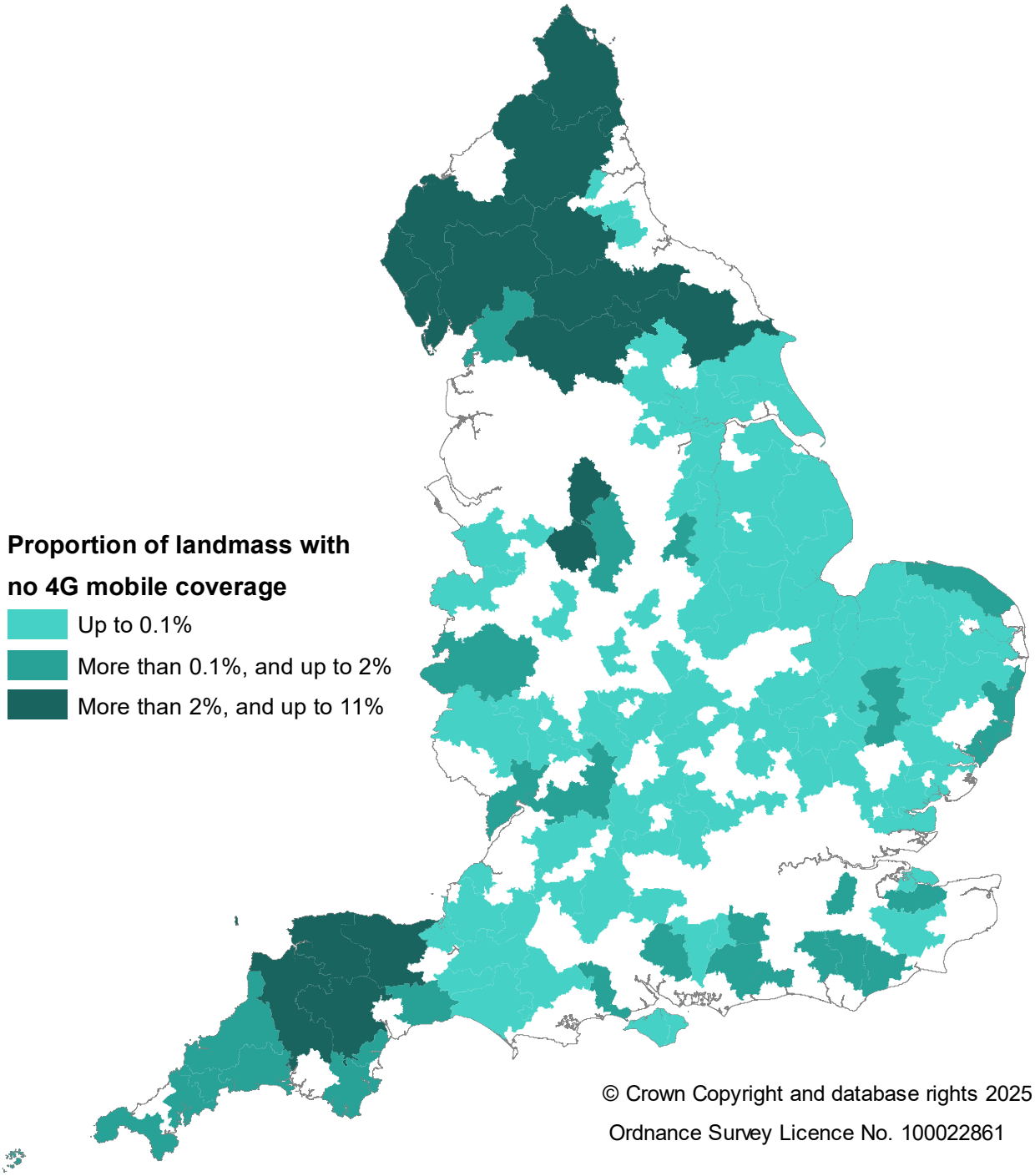
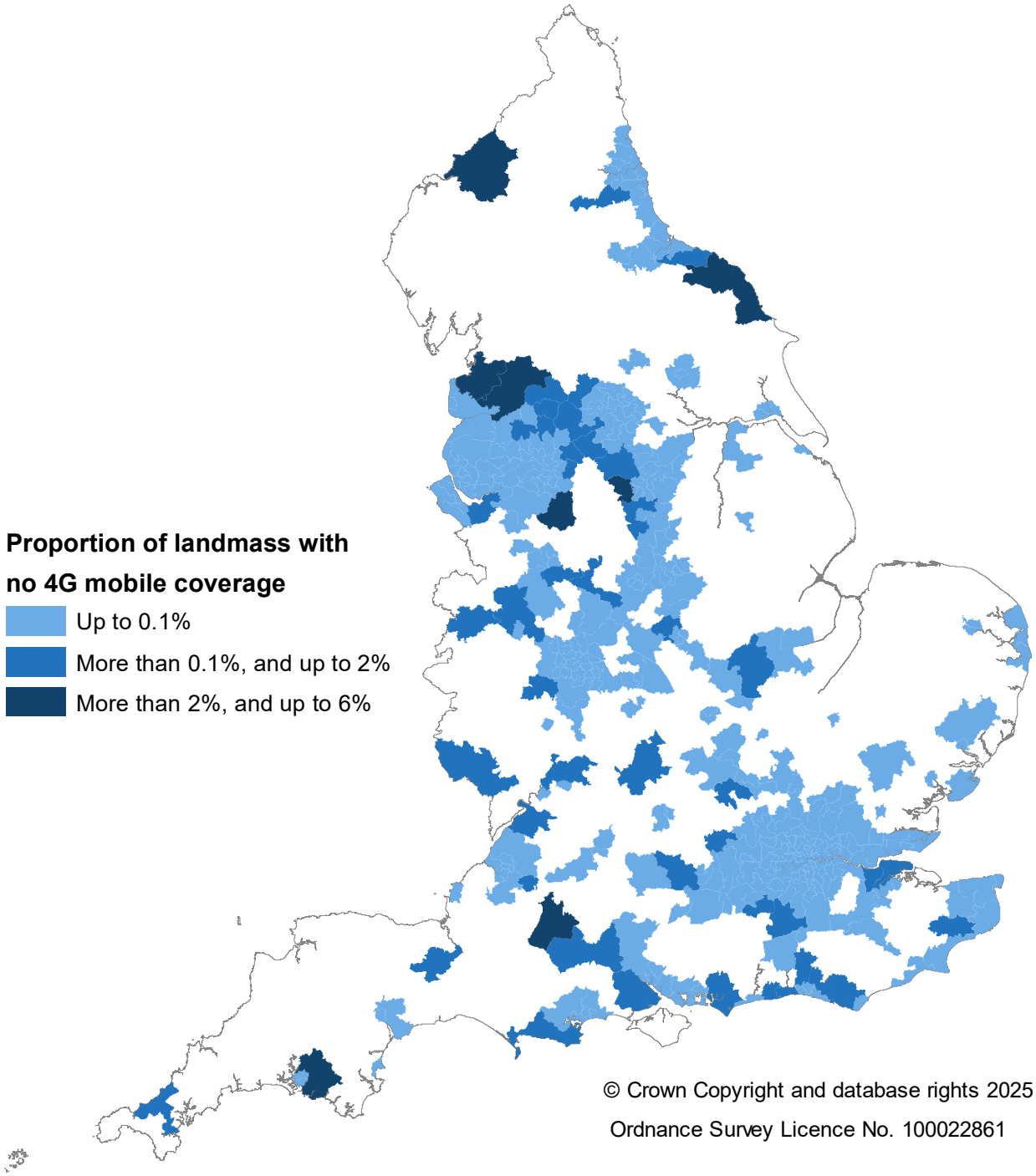


Figure A-22: Map showing the proportion of landmass with no 4G mobile coverage from at least one operator by Parliamentary Constituency area Official Statistics Rural-Urban Classification, in Predominantly Urban and Significant Rural areas in England, September 2024 (Note A-1, Note A-12)

White areas on the map represent Predominantly Rural areas.



Broadband and mobile explanatory notes

- **Note A-1**

Data used in this section are at Parliamentary Constituency level. Some caution should be used when considering these results as the data will not distinguish where within a constituency the better broadband coverage is and makes no distinction between the Rural and Urban areas within each constituency. The Parliamentary Constituency boundaries used in this analysis relate to the current set of 543 constituencies for England used for the 2024 UK general election.

- **Note A-2**

The Connected Nations report uses the Locale classification (a third-party data source based on analysis of 2011 census output areas) which defines Rural areas as those settlements with a population under 2,000. Further information can be found in the methodology document here: https://www.ofcom.org.uk/__data/assets/pdf_file/0031/249286/connected-nations-methodology.pdf

- **Note A-3**

Analysis in this section covers all premises (both residential and commercial) that are in scope for the location.

- **Note A-4**

See the Policy paper 'Project Gigabit Delivery Plan: winter update' from February 2022 for more information https://www.gov.uk/government/publications/project-gigabit-delivery-plan-winter-update/project-gigabit-winter-update.

- **Note A-5**

Department for Culture, Media and Sport publish quarterly Broadband Performance Indicators, which are available online: www.gov.uk/government/collections/broadband-performance-indicators. They show the number of premises covered per £million of broadband delivery programme expenditure.

- **Note A-6**

A list showing the proportion of premises able to access gigabit capable broadband for all parliamentary constituencies can be found in worksheet AC of the Connectivity and Accessibility' supplementary data tables.

- **Note A-7**

A list showing the proportion of premises that are unable to access a decent broadband service for all parliamentary constituencies can be found in worksheet AD of the Connectivity and Accessibility' supplementary data tables.

- **Note A-8**

Ofcom definitions for various levels of broadband service:

  - Gigabit capable - Broadband services that can deliver 1 Gbit/s download speeds.
  - Full fibre - A fixed access network technology that consists of a fibre optic cable from the exchange to the end user's home or office.
  - Superfast broadband - data service or connection that can deliver download speeds of at least 30 Mbit/s.

- **Note A-9**

4G: Fourth generation of mobile systems, launched in the UK in 2012. It is designed to provide faster data download and upload speeds on mobile networks and can also support VoIP services.
5G: Fifth generation of mobile technology standards, launched in the UK in 2020 and used to deliver higher speed data services.

- **Note A-10**

The four main Mobile Network operators referred to in this report are BT/EE, Three, Virgin Media O2 and Vodafone.

- **Note A-11**

A list showing the proportion of landmass not yet having 4G coverage from all four operators for all parliamentary constituencies can be found in worksheet AH of the Connectivity and Accessibility' supplementary data tables.

- **Note A-12**

A list showing the proportion of landmass with no 4G coverage from at least one operator for all parliamentary constituencies can be found in worksheet AI of the Connectivity and Accessibility' supplementary data tables.

B. Travel behaviours

The more Rural the area the more likely the population is to travel by car or van than by public transport or walking, and the further they are likely to travel.

Summary

Measuring the difference in travel behaviours between those who live in Rural areas and those in Urban areas can provide useful context to potential transport issues. For example, those living in Rural areas typically travel further per year to commute to work than people living in Urban areas. For more information regarding accessibility issues, see D. Access to services.

People living in Rural Villages, Hamlets and Isolated Dwellings travelled further and for longer in 2021 compared with any other settlement type. In 2021, each resident travelled 6,450 miles on average; this is 2,000 miles more per person than those living in Urban City and Town areas (4,460 miles) and 2,800 miles more per person than those living in Urban Conurbations (3,660 miles).

A greater total distance was travelled per person in Rural areas than in Urban areas in 2021 for all purposes; the greatest difference was shopping, for which people living in Rural areas travelled on average 360 miles more per person than in Urban areas. This greater total difference was mostly driven by travel as a car or van driver or passenger; people living in Rural Villages, Hamlets and Isolated Dwellings travelled more than double the distance of those in Urban Conurbations by car or van in 2021, with an average of 4,000 miles and 1,500 miles per person respectively. However, for all other modes of transport (walking, rail, local bus, etc.) people living in Urban areas travelled more miles per person in 2021 compared to those living in Rural areas.

Generally, people living in Rural areas travelled further per trip than those in Urban areas in 2021 when travelling by public transport or a car/van. The greatest average trip lengths were highest in Rural Villages, Hamlets and Isolated Dwellings, where people travelled 6.6 miles by local bus and 25.1 miles by rail on average. The shortest average trip lengths when taking public transport were seen in Urban Conurbation areas: 4.0 miles when travelling by local bus and 17.1 miles when travelling by rail.

People made more trips by car or van than by any other mode of transport in 2021. For those living in the most Rural areas, 75% of trips were made by car or van (as a driver or passenger), compared to 51% in the most Urban areas. Between 2018/19 and 2020, all settlement types saw a vast decrease in the average number of trips made due to the COVID-19 pandemic.

The average journey length to school in 2021 was longer for pupils living in Rural areas than for those living in Urban areas; 11 to 16-year olds in the most Rural areas were travelling at least twice as far as those in the most Urban areas to get to school. In Rural areas, it was more common for pupils to get to school via car/van or by ‘other’ means (including the private school bus), whereas in Urban areas it was most common for pupils to walk to school.

Disclaimer

As a result of the coronavirus (COVID-19) pandemic, there were changes in travel behaviour, a reduction of data collected and changes in the methodology of data collection. The Department for Transport recommend that care should be taken when interpreting and comparing this data.

Travel behaviour

There are several different ways to measure travel behaviour across England. Table B-1 shows that people living in Rural Villages, Hamlets and Isolated Dwellings travelled further and for longer in 2021 compared with any other area within the Rural-Urban Classification. Per person, on average, they:

- made 6 more trips than those in Urban City and Town areas and 20 more trips than those living in Urban Conurbations per year
- travelled 2,000 miles more than those in Urban City and Town areas and 2,800 miles more than those living in Urban Conurbations per year
- travelled 36 hours more than those in Urban City and Town areas and 15 hours more than those in Urban Conurbations per year
- went 2.5 miles further per trip than those in Urban City and Town areas and 3.5 miles further per trip than those in Urban Conurbations per year (see Note B-5).

Table B-1: Average number of trips and total distance travelled per person per year, time spent travelling and average trip length in 2021, by settlement type, in England (Note B-5)

Rural-Urban Classification	Trips per person	Distance travelled per person (miles)	Travelling time per person (hours)	Trip length (miles)
Rural Village, Hamlet and Isolated Dwelling	770	6,450	300	8.4
Rural Town and Fringe	750	4,940	260	6.6
Urban City and Town	760	4,460	260	5.8
Urban Conurbation	750	3,660	280	4.9
England	**760**	**4,330**	**270**	**5.7**

Notes:

- Trips include those made on foot, by private car or van as both a driver and passenger, by bicycle, motorcycle, private hire bus and other modes of private transport, by local bus, by rail and London Underground, and by non-local bus, taxi / minicab, and other modes of public transport (air, ferries and light rail).
- Figures in Table B-1 are rounded to the nearest 10 trips/10 miles/10 hours/0.1 miles respectively.

Average distance travelled

Figure B-1 shows that a greater total distance was travelled per person in Rural areas than in Urban areas in 2021, for all modes of transport. The highest average total distance travelled per person was in Rural Villages, Hamlets and Isolated Dwellings. A greater distance was travelled per person by car or van in 2021 than any other mode of transport for all settlement types.

Figure B-1: Bar chart showing average total distance travelled, per person per year, by mode and settlement type, in England, 2021 (Note B-3, Note B-5)
The legend is presented in the same order and orientation as the stacked columns.

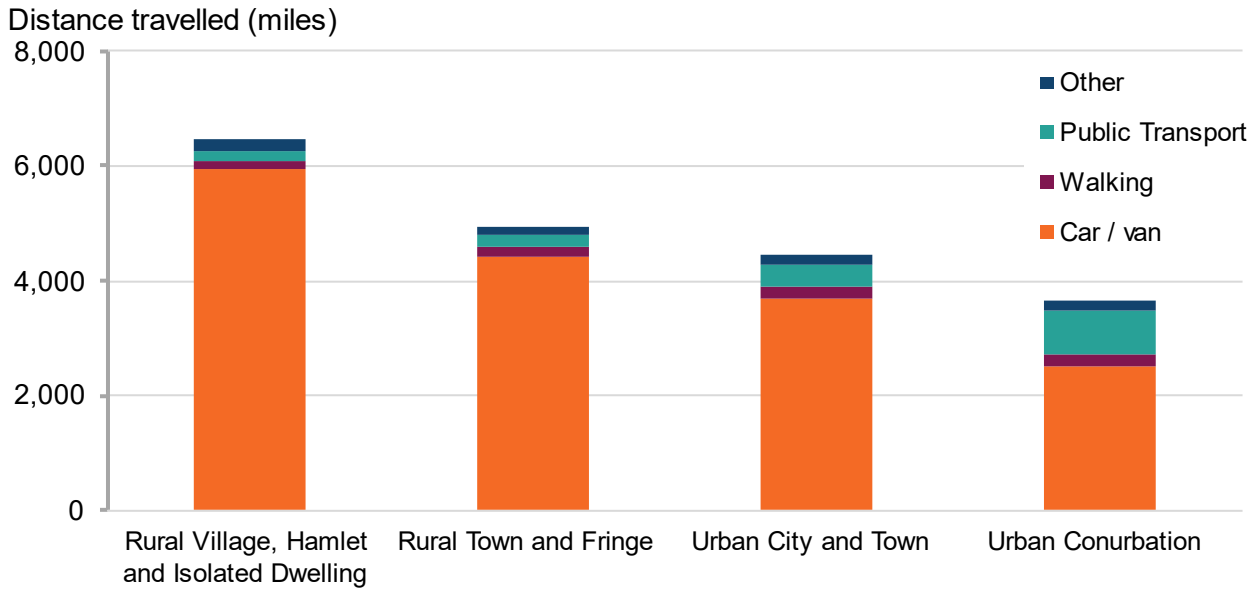


Table B-2 shows that whilst a greater distance was travelled by car or van than any other mode of transport in 2021, and people in Rural areas travelled more miles by car than those in Urban areas, for other modes of transport the Urban population covered a greater distance, in particular public transport. People living in Rural Villages, Hamlets and Isolated Dwellings travelled more than double the distance of those in Urban Conurbations by car or van in 2021, with an average of 4,000 miles and 1,500 miles per person respectively. When taking the local bus, people living in Urban Conurbations travelled more than four times the distance of those in Rural Villages, Hamlets and Isolated Dwellings, travelling on average 180 miles and 40 miles per person respectively.

Table B-2: Average total distance travelled, per person per year, by mode and settlement type, 2021 (Note B-3, Note B-5)

Miles per person per year

Rural-Urban Classification	Walk	Car/van driver	Car / van passenger	Local bus	Rail	Other	All modes
Rural Village, Hamlet and Isolated Dwelling	140	3,970	1,990	40	130	180	**6,450**
Rural Town and Fringe	160	3,210	1,230	90	120	130	**4,940**
Urban City and Town	210	2,380	1,320	110	270	170	**4,460**
Urban Conurbation	230	1,540	960	180	570	180	**3,660**
England	**210**	**2,230**	**1,220**	**130**	**370**	**170**	**4,330**

Figure B-2 shows that those living in Rural areas travelled more miles for work/school than those in Urban areas. People living in Rural areas travelled a greater distance on average than those in Urban areas when commuting (150 miles more) or travelling for business (160 miles more) in 2021. When travelling for education, people in Rural areas travelled 30 miles further than those in Urban areas. Overall, the greatest distance travelled per person was for commuting.

Figure B-2: Bar chart showing average distance travelled for work, per person per year, by Rural-Urban Classification, in England, 2021 (Note B-3, Note B-5, Note B-6, Note B-7)
The legend is presented in the same order and orientation as the columns.

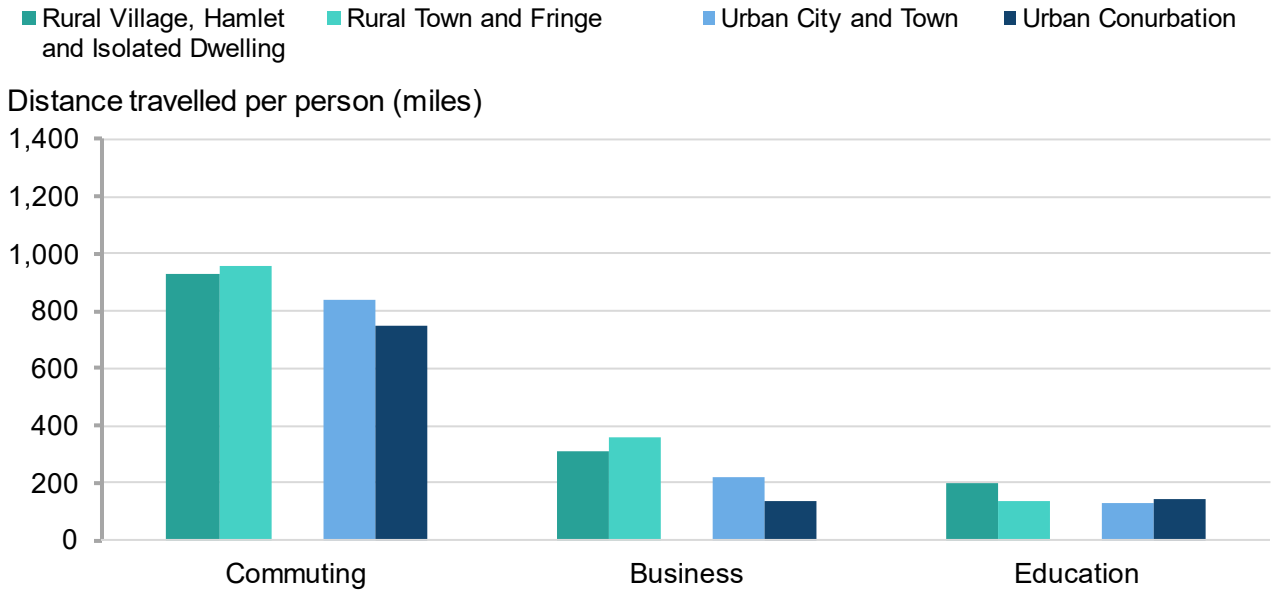


Figure B-3 shows the average distance travelled for leisure per person in 2021. People living in Rural areas travelled a greater distance on average than those in Urban areas when visiting friends (210 miles more), travelling for a holiday or day trip (220 miles more), or travelling for sport or entertainment (70 miles more). The greatest distance travelled per person was for visiting friends.

Figure B-3: Bar chart showing average distance travelled for leisure, per person per year, by Rural-Urban Classification, in England, 2021 (Note B-3, Note B-5, Note B-6, Note B-7)
The legend is presented in the same order and orientation as the columns.

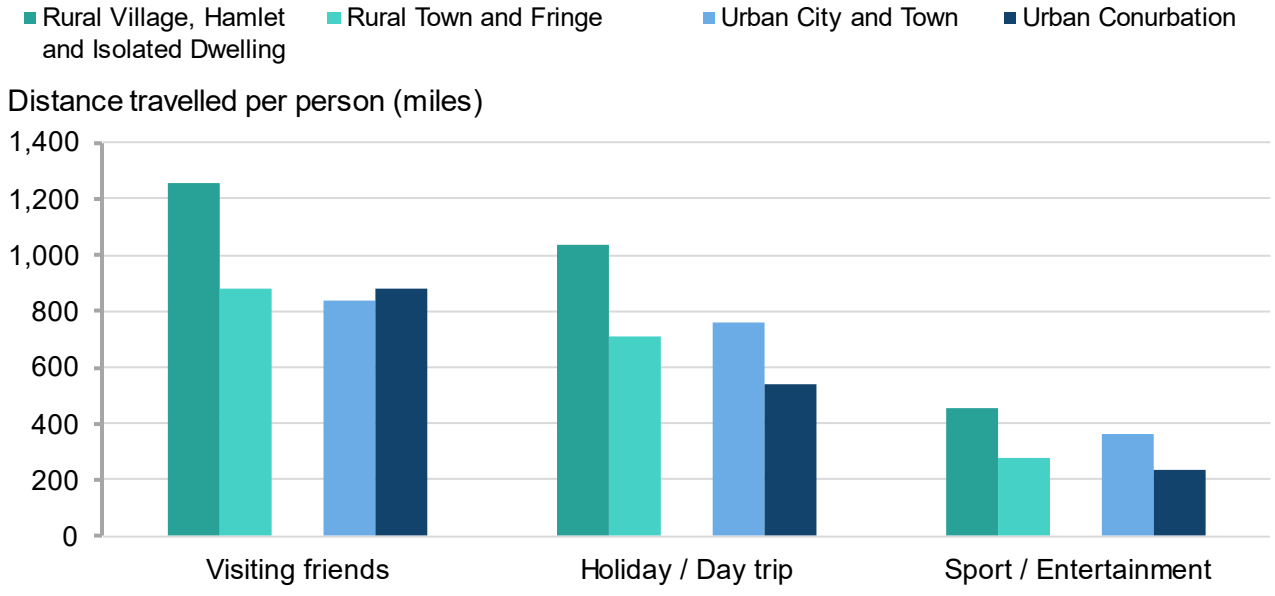
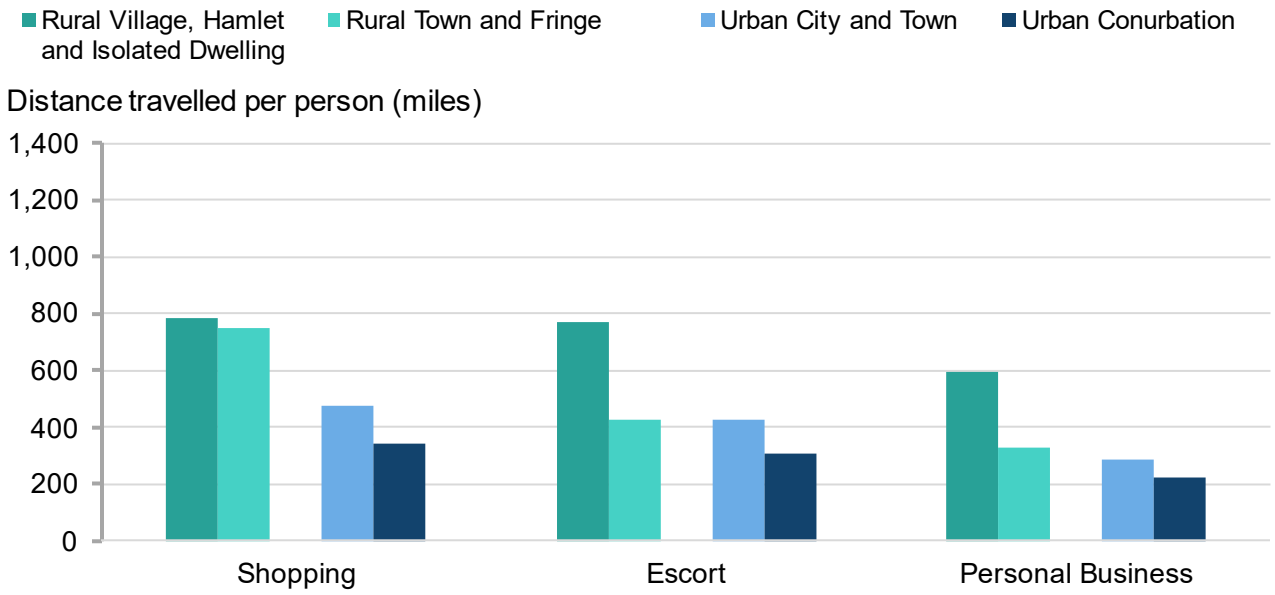


Figure B-4 shows the average distance travelled for essential purposes per person in 2021. People living in Rural areas travelled a greater distance on average than those in Urban areas when shopping (360 miles more), escorting (230 miles more), or travelling to conduct personal business (210 miles more). Across all settlement types, a greater distance was travelled per person for shopping than for escorting or conducting personal business.

Figure B-4: Bar chart showing average distance travelled for essential purposes, per person per year, by Rural-Urban Classification, 2021 (Note B-3, Note B-5, Note B-6, Note B-7)
The legend is presented in the same order and orientation as the columns.



For almost all purposes, people living in Rural Villages, Hamlets and Isolated Dwellings travelled a greater distance than those in any other settlement type; people living in Urban Conurbations travelled the fewest miles in 2021.

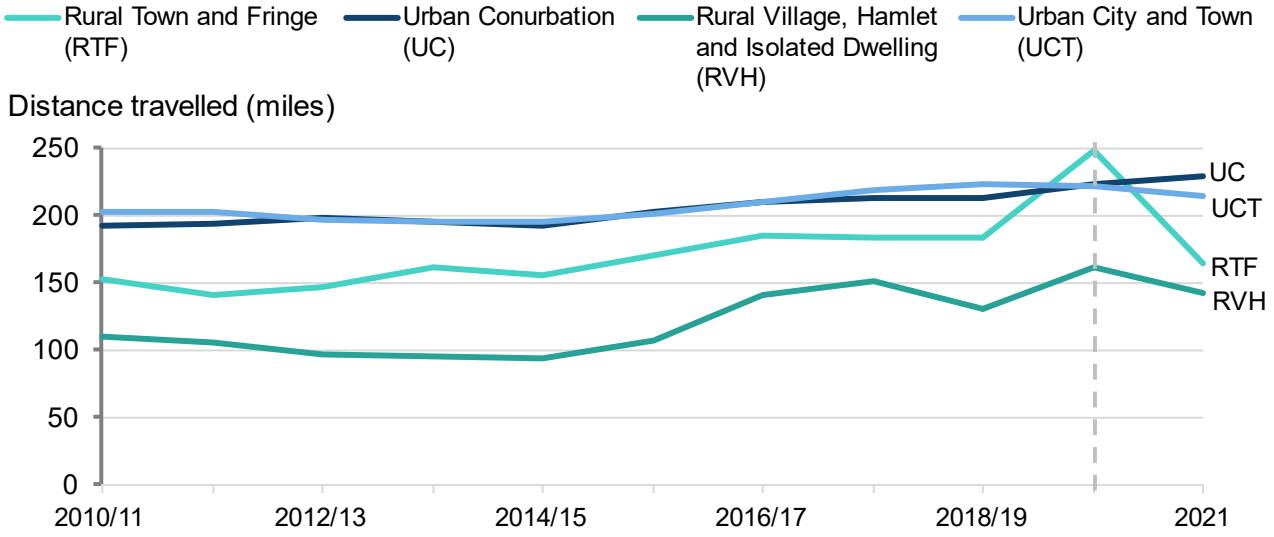
Notes:

- In Table B-2, "Car / van" includes drivers and passengers. "Public Transport" refers to both rail and local bus. "Other" means all modes of transport not already mentioned, including walking.
- In Figure B-4, the "escort" category contains both escorting to education institutions and other escorting. The "visiting friends" category contains both visiting friends at a private home and visiting friends elsewhere.
- Average total distance travelled per person concerns the total population, and not just the service users.

Average distance travelled – long-term trends

Figure B-5 shows the average distance travelled by **walking** between 2010/11 and 2021. Distance travelled by walking has been consistently lower in Rural areas than in Urban areas until 2020; this change is likely to be a result of the COVID-19 enforced lockdowns increasing the amount of recreational and other walking in Rural areas. In 2021, the distance travelled by walking returned to pre-pandemic levels in Rural areas, whereas in Urban Conurbations it continued to increase.

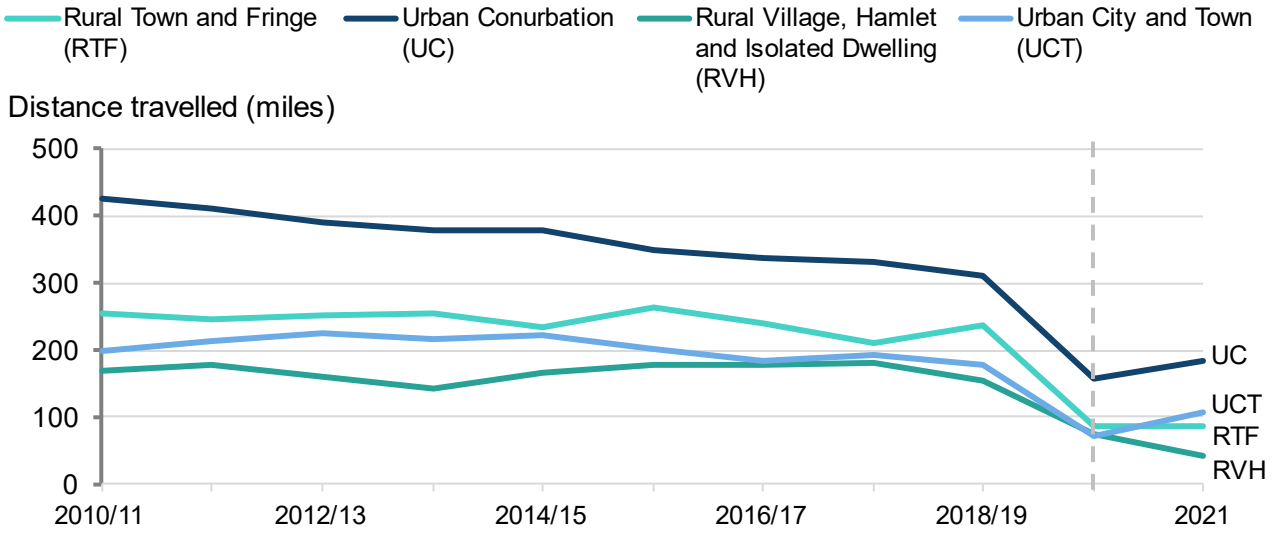
Figure B-5: Line chart showing average total distance travelled by walking, per person per year, by settlement type, in England, 2010/11 to 2021 (Note B-1, Note B-3, Note B-5)



Average distance travelled by walking by those from Rural Villages, Hamlets and Isolated Dwellings increased by 31 miles (22%) and those living in Rural Town and Fringe by 11 miles (7%) between 2010/11 and 2021. More miles were walked in 2018/19 than in 2010/11, and there were further sharp increases in Rural areas between 2018/19 and 2020. The average distance travelled by walking in Urban Conurbations increased between 2018/19 and 2020, whereas it decreased slightly in Urban City and Town areas. In Rural Villages, average distance travelled by walking decreased by 19 miles from 2020 to 2021, and by 84 miles in Rural Town and Fringe areas over the same period. Urban City and Town areas saw a small decrease of 9 miles, whilst people living in Urban Conurbations travelled 5 miles more on average in 2021 compared with 2020.

Figure B-6 shows the average total distance travelled by **local bus** between 2010/11 and 2021.

Figure B-6: Line chart showing average total distance travelled by local bus, per person per year, by settlement type, in England, 2010/11 to 2021 (Note B-1, Note B-3, Note B-5)



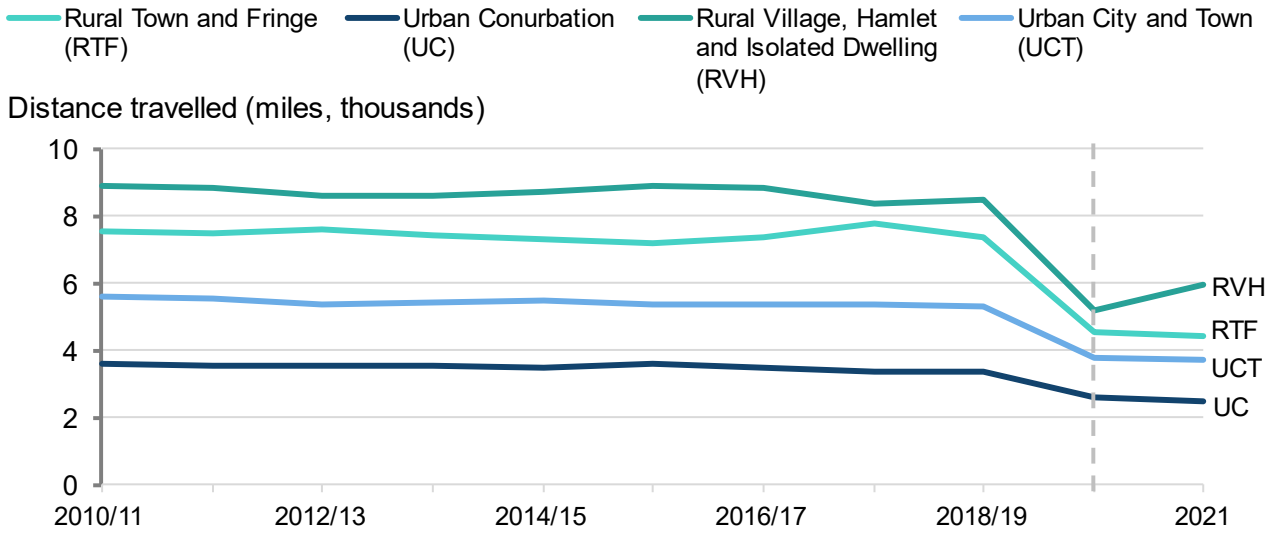
The average total distance travelled by local bus declined sharply between 2018/19 and 2020 in all areas due to the COVID-19 pandemic. In 2020 there were enforced lockdowns which restricted mobility resulting in large numbers of people working from home [see section D. Home working] and not using bus services; in some Rural areas bus services have not recovered. Between 2020

to 2021, the distance travelled by local bus decreased in Rural Villages, Hamlets and Isolated Dwellings, and remained the same in Rural Town and Fringe areas. In comparison, people living in Urban areas travelled further by local bus in 2021 than in 2020.

The average distance travelled by Local Bus prior to the COVID-19 pandemic (2010/11 to 2018/19) still saw a slight decrease in Urban areas, whereas Rural areas remained relatively consistent. The average distance travelled by Local Bus decreased by 115 miles per person per year in Urban Conurbations between 2010/11 and 2018/19, and decreased by 15 miles per person in Rural areas. Urban City and Town areas, however, followed a similar trend to Rural areas, since the average distance travelled by Local Bus decreased by just 19 miles per person between 2010/11 and 2018/19 – considerably less than in Urban Conurbation areas.

Figure B-7 shows the average distance travelled by **car or van** between 2010/11 and 2021. Note that the scale on this chart is different to the charts showing distance travelled by walking and by local bus. This is because a much greater total distance was travelled by car or van than by any other means.

Figure B-7: Line chart showing average total distance travelled as a car/van driver or passenger, per person per year, by settlement type, in England, 2010/11 to 2021 (Note B-1, Note B-3, Note B-5)

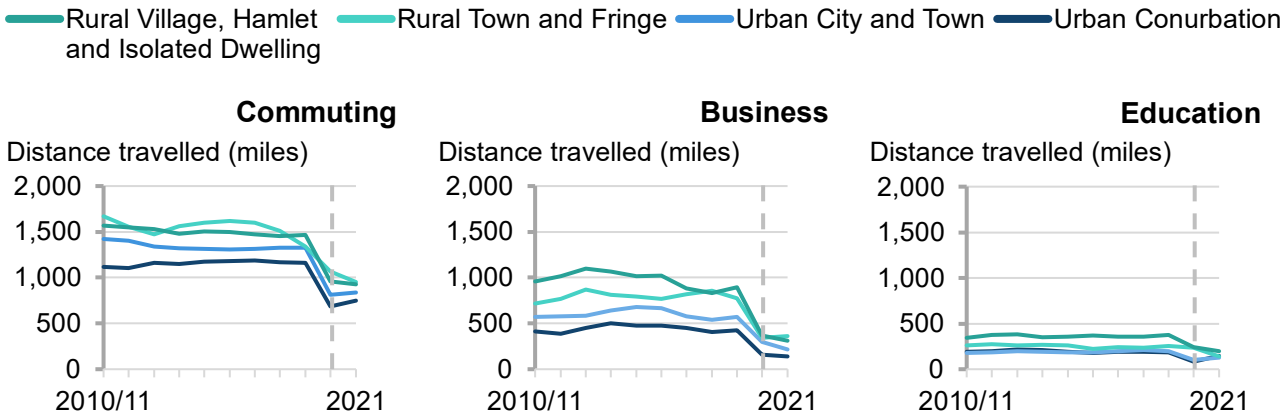


Since 2010/11, people living in Rural areas travelled further per year as a car / van driver or passenger than those in Urban areas, indicating the Rural population's reliance on private rather than public transport. The distance travelled by car or van changed little between 2010/11 and 2018/19 in Urban areas. The same can be said for Rural areas, although there was a slight fluctuation around 2017/18 when more miles were covered by people living in Rural Town and Fringe areas, and fewer miles were covered by those in Rural Villages, Hamlets and Isolated Dwellings.

All areas saw a decrease between 2018/19 and 2020 owing to the COVID-19 pandemic, although there was a larger decrease in Rural areas than in Urban areas. This was followed by further decreases in 2021 in all areas besides Rural Villages, Hamlets and Isolated Dwellings, for which there was an average increase of 760 miles per person.

For all purposes and settlement types, the average distance travelled per person in 2021 was lower than it was prior to the COVID-19 pandemic (i.e., in 2018/19). Figure B-8 shows the average distance travelled per person per year when travelling for work between 2010/11 and 2021.

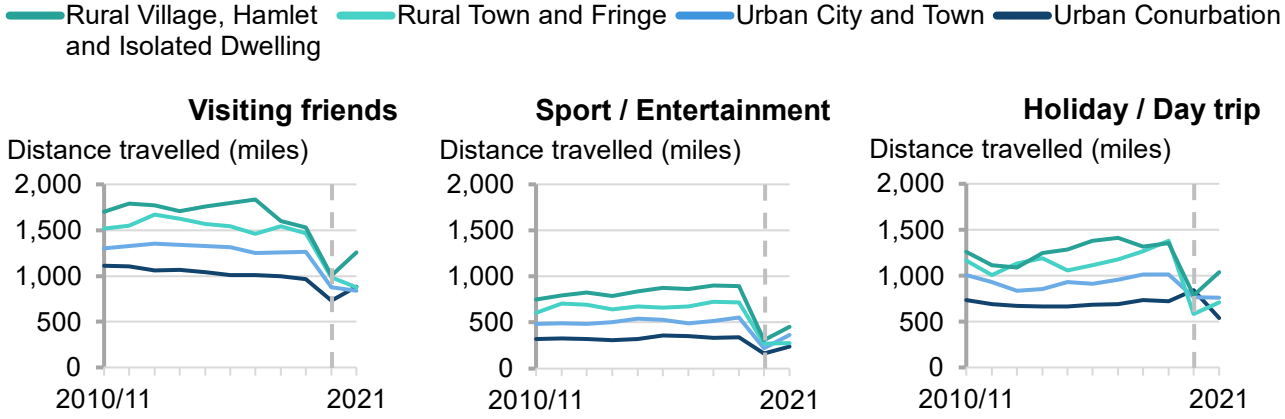
Figure B-8: Line charts showing average total distance travelled for work, per person per year, by settlement type, 2010/11 to 2021 (Note B-1, Note B-3, Note B-5, Note B-6, Note B-7)
There are three charts represented under one shared legend. The left-hand chart concerns distance travelled to commute, the middle chart concerns distance travelled for business, and the right-hand chart concerns distance travelled for education.



There was little variation in the average total distance travelled per person for work between 2010/11 and 2018/19. Between 2018/19 and 2020, the average total distance travelled per person decreased sharply in all settlement types when travelling for business, education or commuting purposes due to the COVID-19 pandemic; due to the implementation of the stay-at-home orders throughout the pandemic, many workplaces and education centres adopted home working. This became normalised in many cases, such that the average total distance travelled per person either increased only slightly or remained the same between 2020 and 2021 for all settlement types when travelling for work.

Figure B-9 shows the average distance travelled per person per year when travelling for leisure between 2010/11 and 2021.

Figure B-9: Line charts showing average total distance travelled for leisure, per person per year, by settlement type, 2010/11 to 2021 (Note B-1, Note B-3, Note B-5, Note B-6, Note B-7)
There are three charts represented under one shared legend. The left-hand chart concerns distance travelled to visit friends, the middle chart concerns distance travelled for sport or entertainment, and the right-hand chart concerns distance travelled for holidays or day trips.

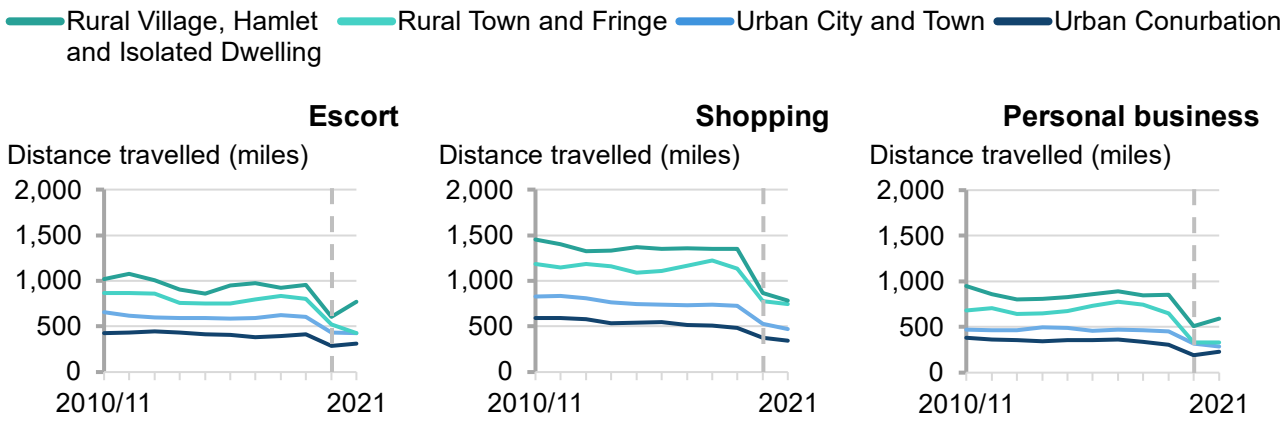


There was little variation in the average total distance travelled per person for sports and entertainment purposes or visiting friends between 2010/11 and 2018/19. When travelling for holidays or day trips, there was a slight increase in the total distance travelled per person between 2010/11 and 2018/19. Between 2018/19 and 2020, the average total distance travelled per person decreased sharply in all settlement types when travelling for sport/entertainment purposes, visiting friends, or travelling for holidays/day trips due to the COVID-19 pandemic. Due to the introduction of stay-at-home orders, there were fewer opportunities for leisure activities. Post-COVID, there has been an increase in the total distance travelled for leisure in Rural areas and some Urban areas between 2020 and 2021.

Figure B-10 shows the average distance travelled per person per year when travelling for essential purposes between 2010/11 and 2021.

Figure B-10: Line charts showing average total distance travelled for essential purposes, per person per year, by settlement type, 2010/11 to 2021 (Note B-1, Note B-3, Note B-5, Note B-6, Note B-7)

There are three charts represented under one shared legend. The left-hand chart concerns distance travelled to escort, the middle chart concerns distance travelled to shop, and the right-hand chart concerns distance travelled for personal business.



There was little variation in the average total distance travelled per person when travelling for personal business, shopping or to escort between 2010/11 and 2018/19. Between 2018/19 and 2020, the average total distance travelled per person decreased sharply in all settlement types when travelling for essential purposes due to the COVID-19 pandemic. Due to the introduction of stay-at-home orders, many people opted to shop online rather than visit in-store, and the need for escorting others or conducting personal business decreased. Post-COVID, there has been an increase in the total distance travelled for essential purposes in some Rural areas between 2020 and 2021, whereas there was little change in Urban areas.

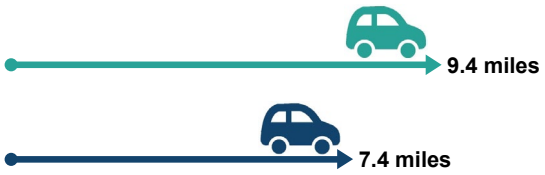
Notes:

- In Figure B-5, Figure B-6 and Figure B-7 the scales (y-axes) differ and this should be considered when making cross-modal comparisons.
- Data collection processes changed in 2020 due to the COVID-19 pandemic, so data for 2020 and 2021 are presented as a single year. This change is denoted by a vertical dashed line.
- Distance by mode is based on stage distance. Local Bus includes London buses. Rail includes London Underground. Other includes: bicycle, motorcycle, private hire bus, other modes of private transport, non-local bus, taxi / minicab and other modes of public transport (air, ferries, light rail).
- Distance by purpose covers all modes of transport.

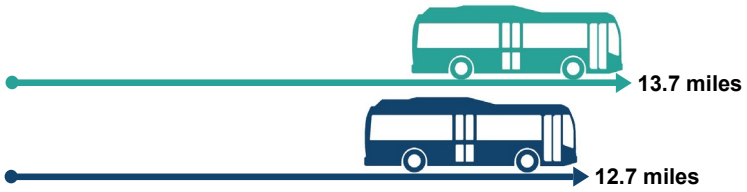
Average trip length

Generally, people living in Rural areas travelled further per trip than those in Urban areas in 2021 when travelling by public transport or a car/van; this is shown in Figure B-11, and is explored in more detail in Table B-3.

Figure B-11: Infographic showing average trip length in 2021, by car/van or public transport



Average trip lengths were longer in **Rural** areas than **Urban** areas in 2021 when travelling by car/van or public transport



The average trip length when walking was just under a mile in both Rural and Urban areas, as shown in Table B-3. Furthermore, once a trip exceeds a mile, most people switched to a different mode of transport in 2021.

The greatest average trip lengths were highest in Rural Villages, Hamlets and Isolated Dwellings, where people travelled 6.6 miles by local bus and 25.1 miles by rail on average. The shortest average trip lengths when taking public transport were seen in Urban Conurbation areas: 4.0 miles when travelling by local bus and 17.1 miles when travelling by rail. This means people living in the most Rural areas travelled 2.6 miles further by local bus and 8.0 miles further via rail than those in the most Urban areas.

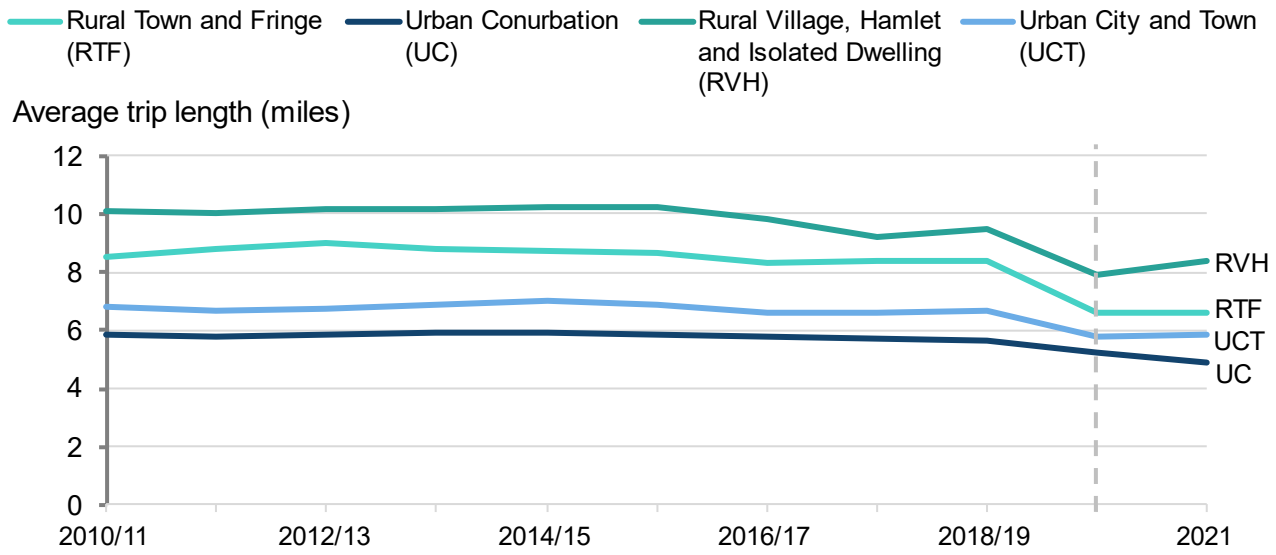
Table B-3: Average trip length, by selected modes of transport and settlement type, 2021 (Note B-3, Note B-5)

Rural-Urban Classification	Walk	Car/van driver	Car / van passenger	Local bus	Rail	All modes
Rural Village, Hamlet and Isolated Dwelling	0.9	9.9	11.3	6.6	25.1	8.4
Rural Town and Fringe	0.8	9.0	7.3	5.9	17.1	6.6
Urban City and Town	0.8	7.4	8.6	6.4	23.2	5.8
Urban Conurbation	0.8	6.3	7.2	4.0	17.1	4.9
England	**0.8**	**7.4**	**8.2**	**4.5**	**19.0**	**5.7**

Average trip length – long-term trends

The average trip length can be considered to determine how travel behaviours have changed over time. Figure B-12 shows the change in average trip length by all modes of transport between 2010/11 and 2021, by settlement type.

Figure B-12: Line chart showing average trip length, by settlement type, in England, 2010/11 to 2021 (Note B-1, Note B-3, Note B-5)



Since 2010/11, the average trip length has been consistently higher for those living in Rural areas than in Urban areas. The longest average trip length was for those in Rural Villages, Hamlets and Isolated Dwellings, which has consistently been around 50% greater than the average trip length for people in Urban Conurbations. A contributing factor to this is that people living in the most Rural areas often need to travel further to reach key services [see section D. Access to Services].

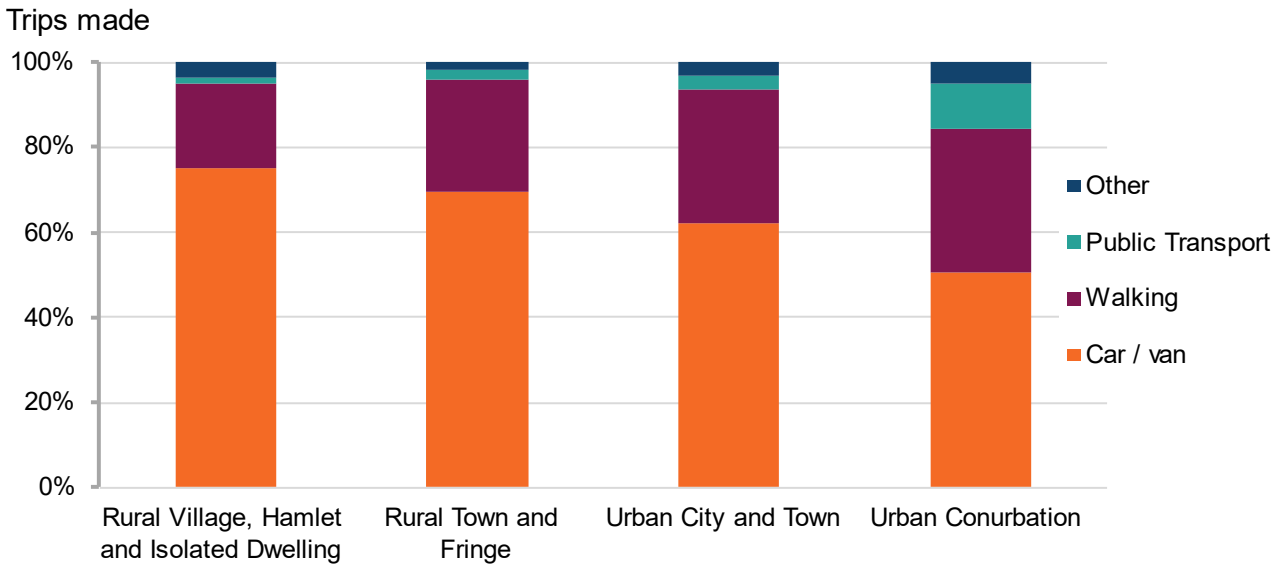
The average trip length was lower in 2021 than in 2018/19 (i.e., prior to the COVID-19 pandemic) across all areas, however in Rural Villages, Hamlets and Isolated Dwellings there has been a slight increase of 0.5 miles between 2020 and 2021. The average trip length remained the same between 2020 and 2021 in Urban City and Town, and Rural Town and Fringe areas. In Urban Conurbations, the average trip length decreased by 0.4 miles between 2020 and 2021.

Prior to the COVID-19 pandemic, there was little variation over time in the average trip length; in Rural Villages, Hamlets and Isolated Dwellings, there were slight decreases between 2015/16 and 2017/18, but the average trip length was relatively stable for all other settlement types.

Number of trips made

Another metric we can investigate is the number of trips people are making. Results are presented for 2021, although the after-effects of the COVID-19 pandemic should be considered. Figure B-13 shows that people living in all settlement types made more trips by car or van than by any other mode of transport in 2021.

Figure B-13: Bar chart showing proportion of trips made by mode of transport, per person per year, Rural-Urban Classification, in England, 2021 (Note B-3, Note B-5)
The legend is presented in the same order and orientation as the stacked columns.



In Rural areas, the least common mode of transport in 2021 was public transport (i.e., local bus or rail), since this accounted for just 2% of trips made; in Urban areas, public transport accounted for 7% of trips made.

People living in Rural areas were less likely to use walking as their mode of transport than those in Urban areas. In 2021, walking accounted for 20% of trips in Rural Villages and Hamlets, compared with 34% in Urban Conurbations.

There were more trips made in 2021 by car or van by people living in Rural Villages, Hamlets and Isolated Dwellings (75%) compared to other settlement types (51% for Urban Conurbations); for all other modes of transport, there were fewer trips made than the national average.

Table B-4 shows that rail was the least frequently used mode of transport in 2021 across all areas in England, with an average of only 6 trips made per person living in Rural areas. The average number of trips by local bus and rail were also low in 2021. Walking and driving a car or van were the two most frequently used modes of transport across England, with a national average of 235 trips and 300 trips respectively.

Table B-4: Average number of trips made, per person per year, by mode and settlement type, in England, 2021 (Note B-3, Note B-5)

Trips per person per year

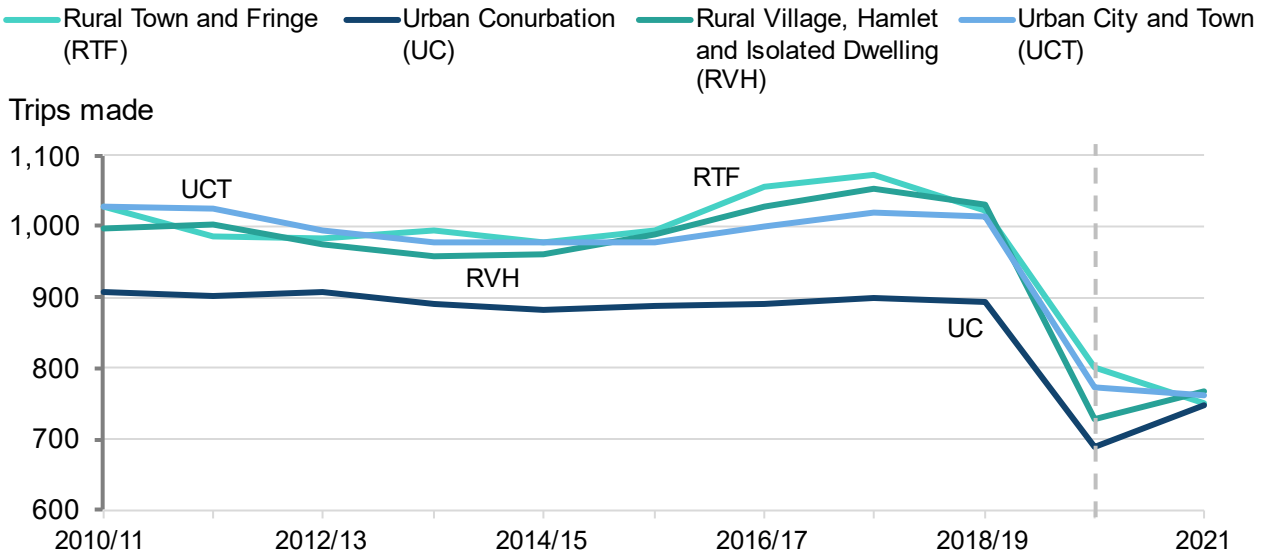
Rural-Urban Classification	Walk	Car/van driver	Car / van passenger	Local bus	Rail	Other	All modes
Rural Village, Hamlet and Isolated Dwelling	152	401	175	6	6	29	**769**
Rural Town and Fringe	197	355	167	12	6	14	**751**
Urban City and Town	239	321	152	16	8	25	**763**
Urban Conurbation	253	245	134	45	36	37	**748**
England	**235**	**300**	**148**	**26**	**19**	**29**	**757**

Number of trips made – long-term trends

The number of trips made, by settlement type, can be measured to determine how travel behaviours have changed over time. Figure B-14 shows the average number of trips made per person for all modes of transport between 2010/11 and 2021.

Since 2010/11, people in Urban Conurbations made fewer trips than in other settlement types. The settlement type making the most trips has fluctuated between 2010/11 and 2021.

Figure B-14: Line chart showing average number of trips made, per person per year, by settlement type, in England, 2010/11 to 2021 (Note B-1, Note B-3, Note B-5)



Between 2010/11 and 2018/19, there was fluctuation between 980 and 1,030 trips made per person in Rural Villages, Hamlets and Isolated Dwellings, Rural Town and Fringe areas, and Urban City and Town areas. In Urban Conurbations, the average number of trips made varied less, fluctuating between 890 and 910 trips per person.

Between 2018/19 and 2020, all settlement types saw a vast decrease in the average number of trips made, due to the COVID-19 pandemic. Between 2020 and 2021, a slight recovery towards pre-pandemic levels were seen in Rural Villages, Hamlets and Isolated Dwellings and Urban Conurbations, whilst the average number of trips made continued to decrease in Rural Town and Fringe areas and to a lesser extent in Urban City and Towns. However, there were still 25% fewer trips made per person in Rural Villages, Hamlets and Isolated Dwellings in 2021 compared to 2018/19 (i.e., prior to the COVID-19 pandemic), and 27% fewer trips made per person in Rural Town and Fringe areas.

Journey to School

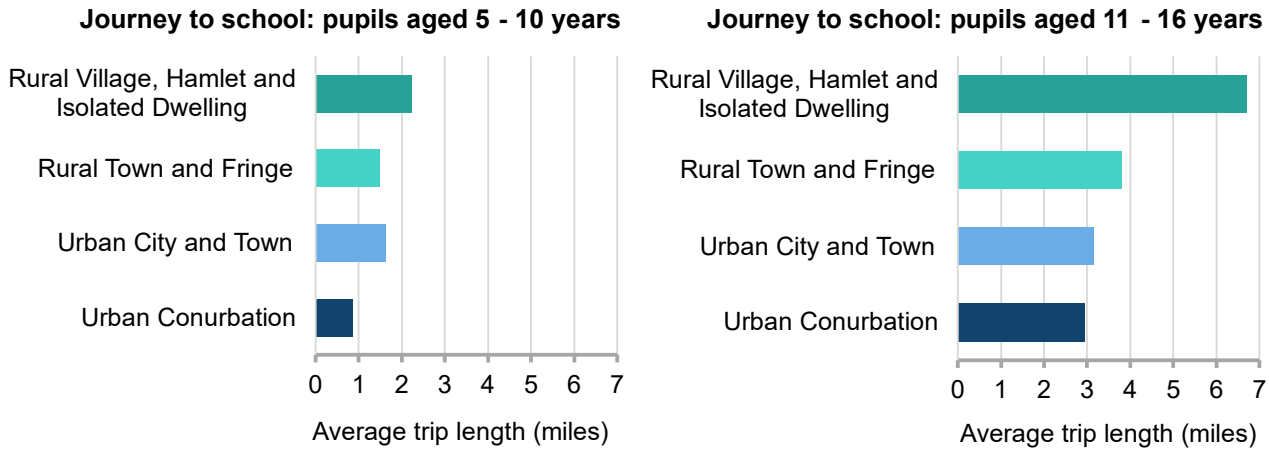
The COVID-19 pandemic affected school attendance and journeys to school. The introduction of stay-at-home orders in 2020 meant that the number of trips made was reduced in all areas, and continued to affect journeys to school into 2021.

The average journey length to school in 2021 was longer for pupils living in Rural areas than for those living in Urban areas. Figure B-15 shows that the group with the longest journey were 11 to 16-year olds living in Rural Villages, Hamlets and Isolated Dwellings who travelled 6.7 miles on average; this compares with a journey of 2.9 miles in an Urban Conurbation for the same age group. That means 11 to 16-year olds in Rural Villages, Hamlets and Isolated Dwellings were travelling at least twice as far as those in Urban Conurbations to get to school.

Pupils aged 5-10 years living in Rural Villages and Hamlets also had the longest journey length for their age group compared to other settlement types.

Figure B-15: Bar charts showing average journey length to school for pupils aged 5-16 years, Rural-Urban Classification, in England, 2021 (Note B-5)

There are two charts; the left-hand chart shows journey lengths for pupils aged 5-10 years, and the right-hand chart shows journey lengths for pupils aged 11-16 years.



Further detail of average school journey lengths of pupils is given in Table B-5. Pupils living in Rural Villages, Hamlets and Isolated Dwellings travelled further than the national average in 2021, whilst those living in Urban Conurbations travelled less. The average journey length for pupils to get to school is longer for those aged 11-16 years than those aged 5-10 years, since secondary schools tend to be much larger and accommodate for a much larger area.

Table B-5: Average journey length (miles) to school by pupils, by age group and settlement type, in England, 2021 (Note B-5)

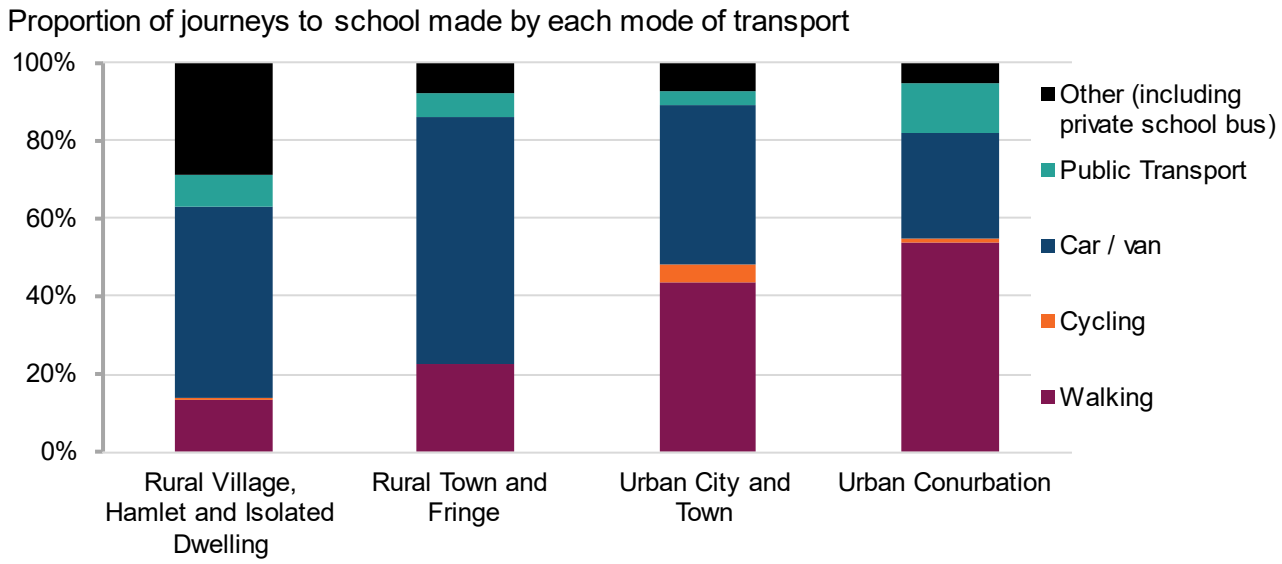
Average trip length (miles)

Rural-Urban Classification	Aged 5-10 years	Aged 11-16 years
Rural Village, Hamlet and Isolated Dwelling	2.2	6.7
Rural Town and Fringe	1.5	3.8
Urban City and Town	1.6	3.2
Urban Conurbation	0.9	2.9
England	**1.3**	**3.4**

Figure B-16 shows the proportions of pupils travelling to school by each mode of transport in 2021. In Rural areas, it was more common for pupils to get to school via car or van, or by 'other' means (including the private school bus), whereas in Urban areas it was most common for pupils to walk to school.

Figure B-16: Bart chart showing mode of transport used for journey to school by pupils, by settlement type, in England, 2021 (Note B-5)

The legend is presented in the same order and orientation as the stacked columns.



To summarise Figure B-16:

- 49% of students from Rural Villages, Hamlets and Isolated Dwellings and 64% of students from Rural Town and Fringe areas commuted to school via car or van, compared with 27% of those in Urban Conurbations.
- 13% of pupils living in Rural Villages, Hamlets and Isolated Dwellings walked to school, compared with 54% of those in Urban Conurbations.
- 8% of pupils in Rural Villages, Hamlets and Isolated Dwellings commuted to school via public transport, compared with 13% of pupils in Urban Conurbations.
- Cycling was the least common mode of transport to get to school in 2021, with just 1% of pupils in Rural Villages, Hamlets and Isolated Dwellings and 5% in Urban City and Town areas commuting this way.

Notes:

- Journeys to school include trips under 50 miles only.
- "Walking" to school includes when pupils ride in non-motorised wheelchairs, prams or pushchairs, toy bicycles/tricycles, roller-skates, skateboards, and non-motorised scooters.

Travel behaviour explanatory notes

- **Note B-1**

The sample size for one year is too small to produce robust results so the analysis within some sub-sections combines data from two years (i.e., reporting 2018/19) until 2020 and 2021, which have been reported as standalone years due to the effects of COVID.

- **Note B-2**

The results are weighted. Weights are applied to adjust for non-response to ensure the characteristics of the achieved sample match the population and for the drop off in trip recording. The survey results are subject to sampling error. Further information: https://www.gov.uk/government/collections/national-travel-survey-statistics.

- **Note B-3**

Tables of the data seen in this section are available in the connectivity and accessibility supplementary data tables.

- **Note B-4**

Sources: DfT National Travel Survey; Office for National Statistics (Population estimates).

- **Note B-5**

"Urban Conurbation" refers to the combination of two categories within the Rural-Urban Classification: "Urban with Minor Conurbation" and "Urban with Major Conurbation". "Rural Village, Hamlet and Isolated Dwelling" refers to the combination of "Rural Village" and "Rural Hamlet and Isolated Dwellings".

- **Note B-6**

Figures in the tables may not match those in the text due to rounding.
Distance by mode is based on stage distance. "Local Bus" includes London buses. "Rail" includes London Underground. "Other" includes: bicycle, motorcycle, private hire bus, other modes of private transport, non-local bus, taxi / minicab and other modes of public transport (air, ferries, light rail).

- **Note B-7**

Purposes for travel include:

Commuting - trips to a usual place of work from home, or from work to home

Business – personal trips in course of work, including all work trips by people with no usual place of work (e.g., site workers) and those who work from home

Education – trips to school or college by students

Escort – when a traveller has no purpose of their own, other than to accompany another person (e.g., taking a child to school)

Shopping – all trips to shops or from shops to home (with or without purchase or intention to buy)

Personal business – visits to services (e.g., hairdressers, launderettes, dry-cleaners, banks)

Sport / Entertainment – all types of entertainment or sport, clubs, etc.

Holiday / Day trip – trips within Great Britain to or from any holiday, or trips for pleasure within a single day.

C. Access to personal transport

There are proportionally more electric plug-in cars in Rural areas compared to Urban areas, but less infrastructure to support those who own them.

Summary

Having access to (or owning) a car is important in Rural areas for accessing services, work, and other activities since public transport is less widely available. Choosing vehicles powered by electricity rather than petrol or diesel is becoming more popular, particularly in the last few years.

The more rural an area is, the higher the average number of cars per household; 95% of households in the most Rural areas (Rural Village, Hamlet and Isolated Dwelling) had one or more cars/vans, comprising of 37% having one vehicle and 58% having two or more. In comparison, 44% of households in the most Urban areas (Urban Conurbation) had one car/van and 23% had two or more.

Petrol engines have consistently been the most popular for new cars, but since 2020 diesel has been replaced by electric as the second most common. In 2023 in Predominantly Rural areas, 53% of newly licensed privately owned cars had petrol engines, 40% were electric and only 7% had diesel engines. The proportion of newly licenced electric cars has grown from just 1% in 2011 while there has been a decline in diesel cars. The trends in fuel types of newly licensed cars are similar between Predominantly Rural and Predominantly Urban areas.

There were around 40 privately owned electric plug-in cars per 1,000 households in Predominantly Rural areas at the end of 2023, compared to approximately 28 per 1,000 households in Predominantly Urban areas. The number of electric vehicles on the road is increasing every year, and this increased uptake of electric vehicles results in an increased demand for public charging points. As of April 2024, there were on average 2 publicly available electric vehicle charging devices per 1,000 car/van-owning households in Predominantly Rural areas, and just over 3 chargers per 1,000 households in Predominantly Urban areas. In Predominantly Rural areas, 74% of these public charging devices had a power rating of less than 50kW (resulting in slower charging times). In Predominantly Urban areas, a larger proportion of these public electric vehicle chargers (84%) had a power rating of less than 50kW in April 2024.

Car availability

Having access to (or owning) a car is important in Rural areas for accessing services, work, and other activities since public transport is less widely available; some Rural areas are too far away from the main rail network, meaning journeys via public transport would only be possible using buses. Where rail can be accessed, the frequency of trains is often much lower (as with buses) and therefore travel via car can be more practicable.

Figure C-1: Bar chart showing percentage of households by number of cars/vans and settlement type, England, 2021 (Note C-1, Note C-4, Note C-6)
The legend is presented in the same order and orientation as the stacked bars.

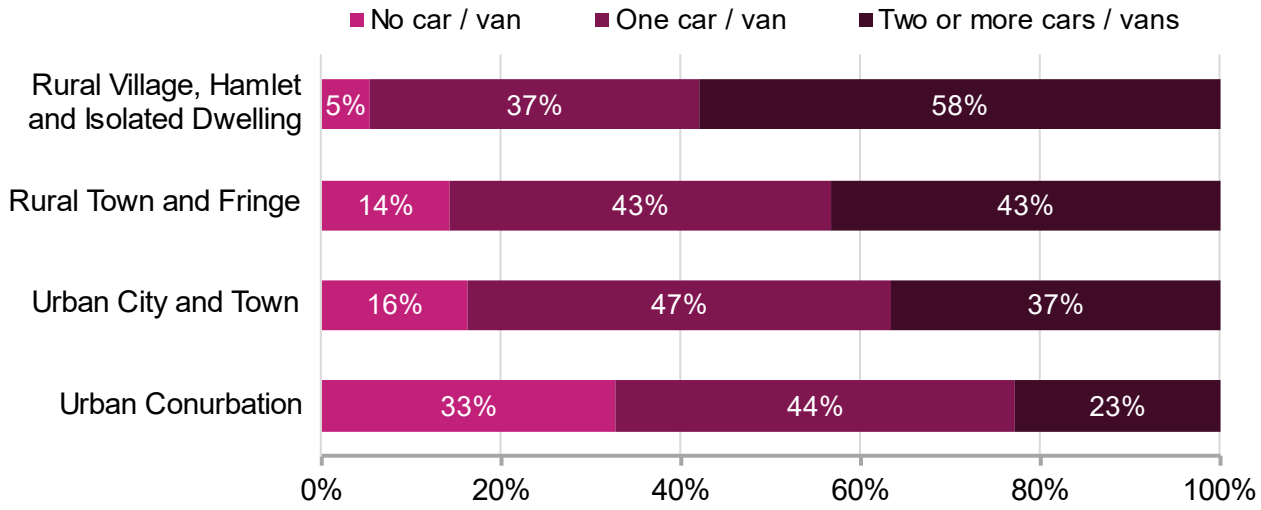


Figure C-1 shows that the less Rural/more Urban an area is, the greater the proportion of households with no car or van; 33% of households in the most Urban areas (Urban Conurbation) did not have a car/van in 2021, compared to just 5% of households in the most Rural areas (Rural Villages, Hamlets or Isolated Dwellings).

Similarly, the more Rural an area is, the greater the proportion of households with multiple cars/vans; 58% of households in the most Rural areas (Rural Villages, Hamlets or Isolated Dwellings) had two or more cars and/or vans in 2021, compared to 23% in the most Urban areas (Urban Conurbation).

Figure C-2: Line chart showing average number of cars or vans per household, by settlement type, England, 2010/11 to 2021 (Note C-4, Note C-5, Note C-6)

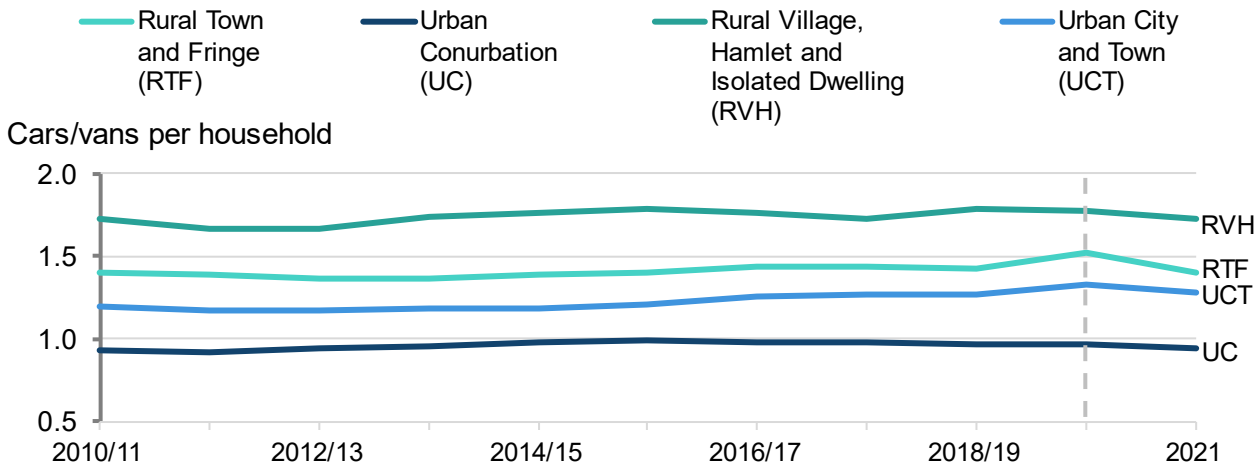
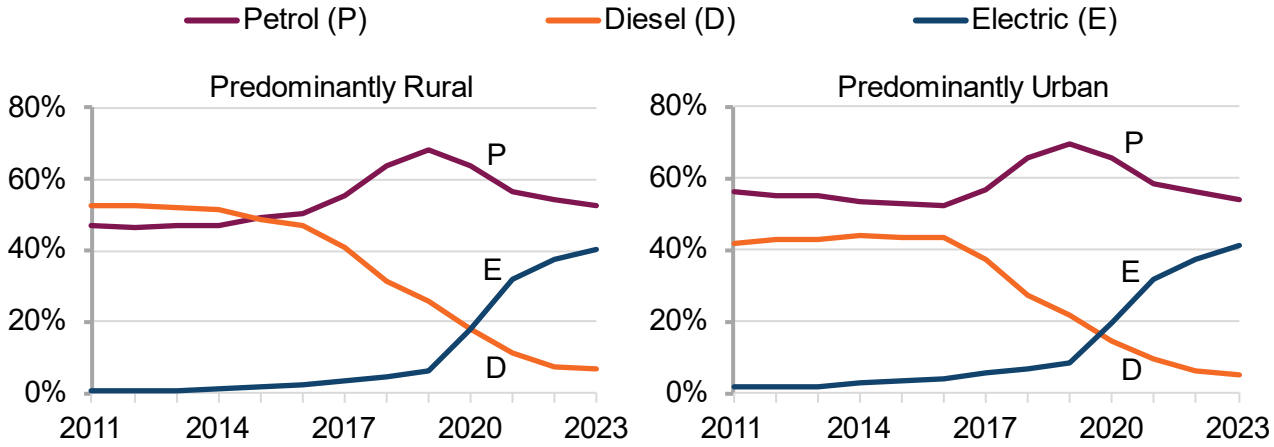


Figure C-2 shows the average number of cars or vans per household between 2010/11 and 2021. There was little change in this average value over time across all settlement types. The more Rural an area is, the higher the average number of cars per household. In the most Rural areas (Rural Village, Hamlet and Isolated Dwellings), there were 1.7 cars per household on average in 2021; this means that households typically had multiple cars. In comparison, in the most Urban areas (Urban Conurbation), there were 0.9 cars per household on average in 2021.

Fuel types

Measuring the change in the types of cars people are buying helps to determine whether there needs to be changes in infrastructure. The line charts in Figure C-3 highlight the changes in the proportion of each fuel type for newly licensed private cars between 2011 and 2023.

Figure C-3: Line charts showing the proportion of newly registered private cars by fuel type for Predominantly Rural areas (left-hand chart) and Predominantly Urban areas (right-hand chart), 2011 to 2023 (Note C-1, Note C-4)
"Other fuel types" are not included on the line charts, but represented less than 1% of newly registered cars between 2011 and 2023.



Petrol has consistently been the most common fuel type in all areas since 2015, except for in Predominantly Rural areas between 2011 and 2014, where cars with diesel engines were slightly more common. In 2023, around half of newly licensed privately owned cars had petrol engines (53% in Predominantly Rural areas vs. 54% in Predominantly Urban areas). This is similar to the proportion of cars in 2011 having petrol engines, at 47% and 56% respectively.

In Predominantly Rural areas, just 7% of new privately owned cars registered in 2023 had diesel engines; this is a decrease of 45 percentage points since 2011 (when 52% of new cars had diesel engines). In Predominantly Urban areas, the proportion of newly registered cars having diesel engines was slightly lower, at 5%; this is a decrease of 37 percentage points since 2011.

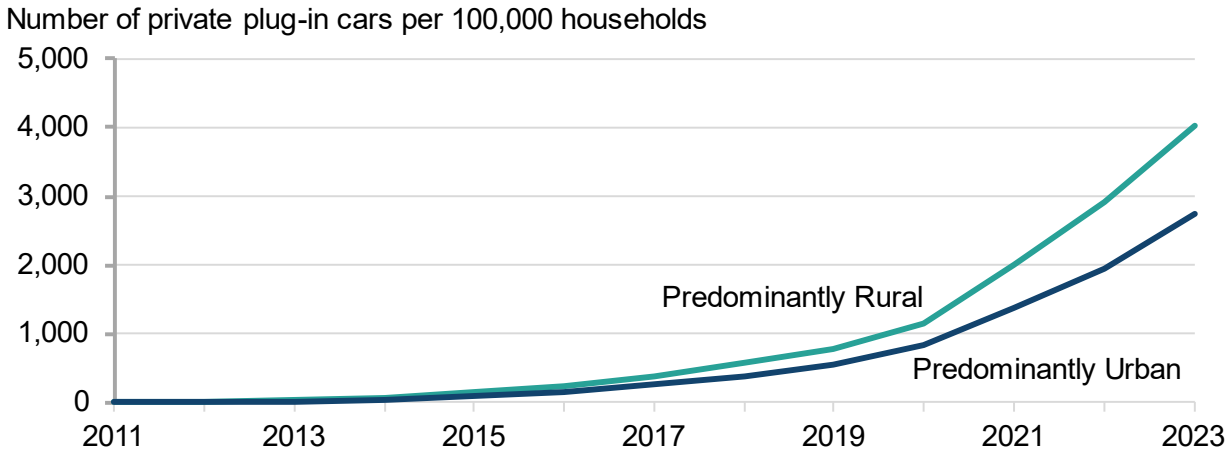
Electric cars in Figure C-3 includes those which are battery electric, hybrid electric or plug-in electric. In 2023, 40% of newly registered private cars were electric in Predominantly Rural areas. This compares to 1% in 2011. The rates in Predominantly Urban areas were similar, where 41% of cars registered in 2023 were electric, compared to 2% in 2011.

Electric vehicles

The uptake of electric vehicles is increasing every year. There have consistently been more privately owned electric plug-in cars registered per household in Predominantly Rural areas than in Predominantly Urban areas, and the proportion in Predominantly Rural areas is growing at a faster rate. Plug-in vehicles include those that are battery electric, hybrid diesel/petrol, or range extended electric; see Note C-4 for more information.

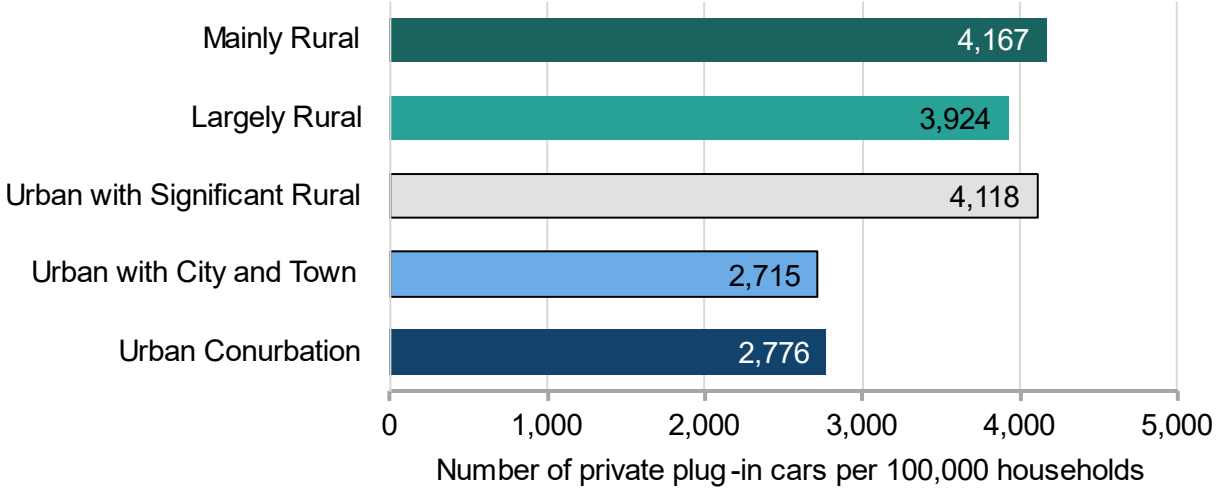
At the end of 2023, there were 1,270 more privately owned plug-in cars per 100,000 households in Predominantly Rural areas than in Predominantly Urban areas (4,020 cars per 100,000 households vs. 2,750 cars per 100,000 households respectively). In other words, there were on average 40 private plug-in cars per 1,000 households in Predominantly Rural areas at the end of 2023, compared to around 28 cars for every 1,000 households in Predominantly Urban areas.

Figure C-4: Line chart showing the number of private plug-in electric cars per 100,000 households, by broad Rural-Urban Classification, England, Q4 2011 to Q4 2023 (Note C-4)



The line chart in Figure C-4 shows that the proportion of privately owned plug-in cars has increased considerably since the end of 2011, rising from just 6 plug-in cars per 100,000 households in Predominantly Rural areas and 9 per 100,000 households in Predominantly Urban areas. In particular, there were 1,095 more private plug-in cars owned per 100,000 households in Predominantly Rural areas at the end of 2023 compared to the end of 2022; this compares to an increase of 803 private plug-in cars per 100,000 households in Predominantly Urban areas.

Figure C-5: Bar chart showing the number of private plug-in electric cars per 100,000 households, by detailed Rural-Urban Classification, England, Q4 2023 (Note C-4, Note C-6)



The bar chart in Figure C-5 shows that generally, the more Rural an area is, the higher the proportion of privately owned plug-in cars (as at the end of December 2023). In the most Rural areas (Mainly Rural), there were 4,167 privately-owned plug-in cars per 100,000 households at the end of December 2023; this was the highest of all settlement types. In comparison, there were 2,776 private plug-in cars per 100,000 households in the most Urban areas (Urban Conurbation).

Table C-1: Local Authorities with the lowest and highest number of private plug-in electric cars per 100,000 households, by broad Rural-Urban Classification, Q4 2023
"Value" represents the number of plug-in cars per 100,000 households.

	Lowest proportion of plug-in cars		Highest proportion of plug-in cars	
Rural-Urban Classification	Local Authority	Value	Local Authority	Value
Predominantly Rural	Allerdale	1,834	Waverley	8,647
Urban with Significant Rural	Barrow-in-Furness	1,282	Mole Valley	7,362
Predominantly Urban	Kingston upon Hull	852	Elmbridge	8,509

Table C-1 shows the Local Authorities with the lowest and highest number of privately owned plug-in cars per 100,000 households at the end of 2023, by broad Rural-Urban Classification. In Predominantly Rural areas, Allerdale had the lowest proportion of privately owned plug-in cars, at 1,834 cars per 100,000 households. Comparatively, Waverley had the highest proportion of private plug-in cars, at 8,647 cars per 100,000 households. In other words, there were just 18 private plug-in cars per 1,000 households in Allerdale, compared to 86 cars per 1,000 households in Waverley.

In England overall, Kingston upon Hull (Predominantly Urban) was the Local Authority with the lowest proportion of plug-in cars at the end of 2023, at 852 cars per 100,000 households. Waverley had the highest proportion of plug-in cars overall, but in Predominantly Urban areas it was Elmbridge with 8,509 privately owned plug-in cars per 100,000 households.

The three authorities with the highest number of private plug-in vehicles per 100,000 households are all located in Surrey, which has good transport connections and electric vehicle infrastructure. However, the authorities with the lowest number of plug-ins per 100,000 households tend to be located in the coastal regions of the North of England, which may be less well-connected.

Note:

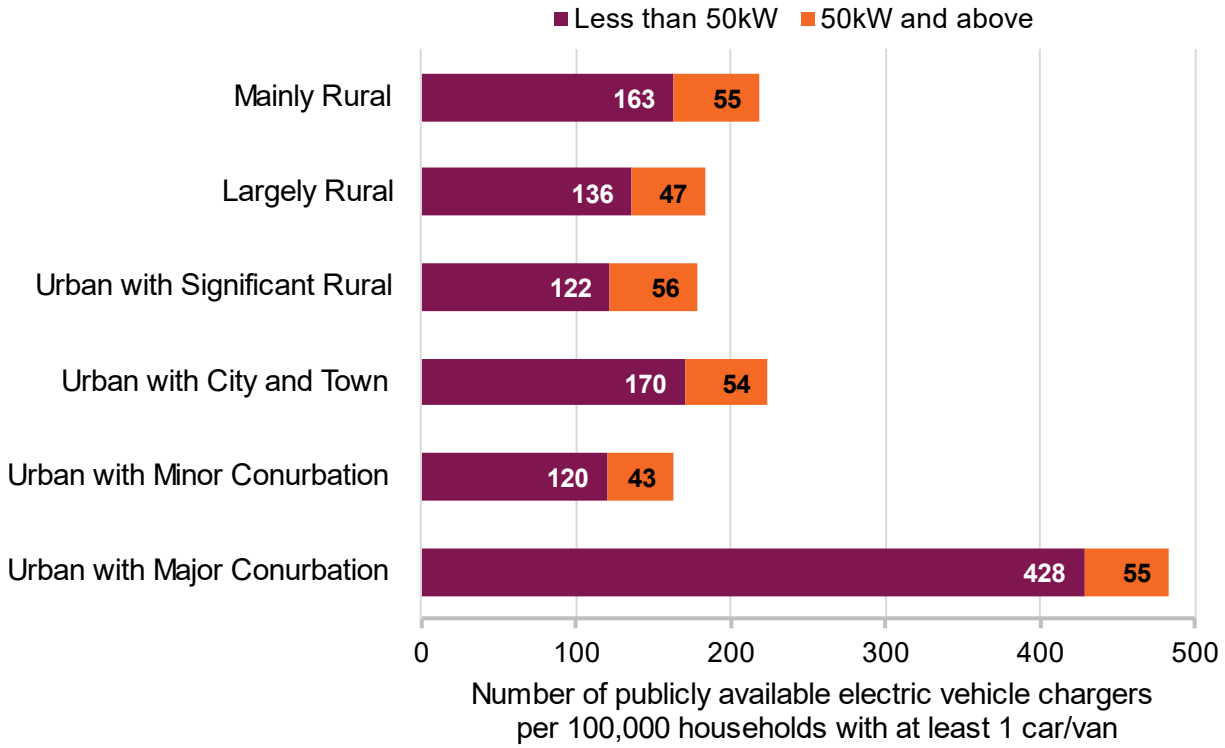
- Some of the Local Authorities in Table C-1 no longer exist; as of the 2023 boundary changes, "Allerdale" now forms part of the "Cumberland" authority, and "Barrow-in-Furness" forms part of the "Westmorland and Furness" authority.

Electric vehicle infrastructure

The increased uptake of electric vehicles results in an increased demand for EV charging points. Overall, there were proportionally more publicly available electric vehicle chargers in Predominantly Urban constituencies than in Predominantly Rural areas in April 2024 (345 and 202 chargers per 100,000 car/van-owning households, respectively).

The highest proportion was in Urban with Major Conurbation constituencies, where there were 483 publicly available electric vehicle chargers per 100,000 households with at least one car or van. Mainly Rural constituencies had proportionally more publicly available chargers than Largely Rural constituencies, with 218 and 183 chargers per 100,000 households with at least one car or van, respectively. This is seen in the bar chart in Figure C-6.

Figure C-6: Bar chart showing the number of publicly available electric vehicle charging devices per 100,000 households with at least one car or van, by Rural-Urban Classification of Westminster Parliamentary Constituencies in England, April 2024 (Note C-2, Note C-3)
The legend is presented in the same order and orientation as the bar stacks.



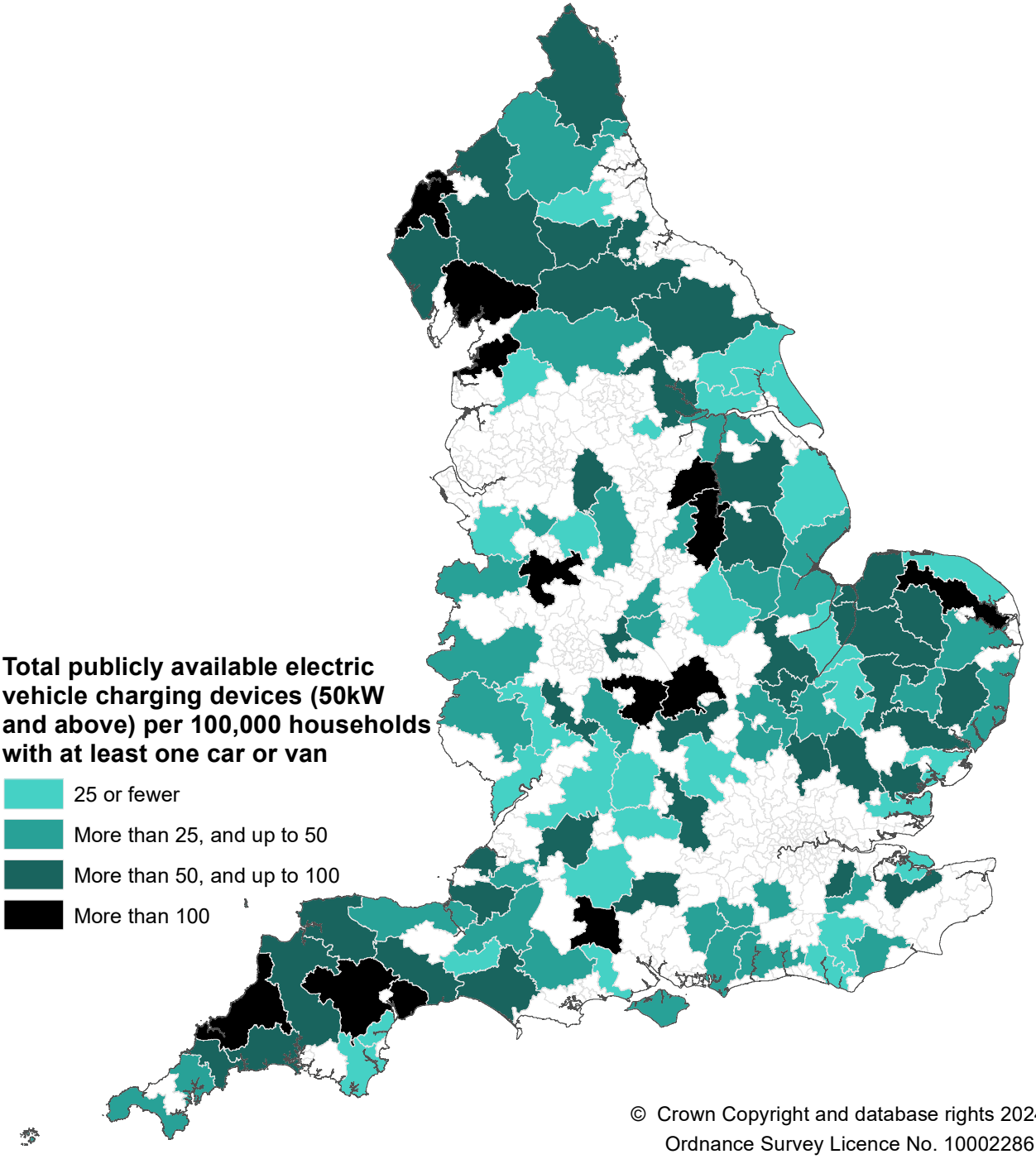
In the most Rural constituencies, there were 55 publicly available 50kW or above chargers per 100,000 households with at least one car or van, as of April 2024. This means that 75% of the publicly available chargers in Mainly Rural areas had a power rating of less than 50kW. Similarly, 74% of public chargers in Largely Rural constituencies had a power rating of less than 50kW (47 public 50kW and above chargers per 100,000 households with at least one car or van).

According to Zapmap, 50kW chargers can typically charge a plug-in vehicle to 80% in 20 minutes to 1 hour depending on the battery capacity and starting state of charge; after 80%, charging speeds tail off significantly in order to maximise charging efficiency and protect the battery. There are ultra-rapid chargers on motorway services and such which can supply 100kW and more, and these can charge to 80% in as little as 10 minutes in some cases. Therefore, using lower power public chargers can result in longer charging times, although this is still typically much faster than the speeds available from home chargers.

East Devon (Largely Rural) had proportionally more 50kW and above chargers than any other Predominantly Rural constituency in England, with 200 publicly available chargers per 100,000 households with at least one car or van. This is equivalent to around 2 chargers per 1,000 car/van-owning households. However, there is no real pattern as to where the highest and lowest proportions of public chargers are; a full map showing the number of 50kW and above electric

vehicle chargers per 100,000 Predominantly Rural households with at least one car or van is shown in Figure C-7.

Figure C-7: Map showing the number of publicly available electric vehicle charging devices (50kW and above) per 100,000 households with at least one car or van, in Predominantly Rural Westminster Parliamentary Constituencies, April 2024 (Note C-2, Note C-3, Note C-7)
White areas on the map represent Predominantly Urban and Urban with Significant Rural areas.

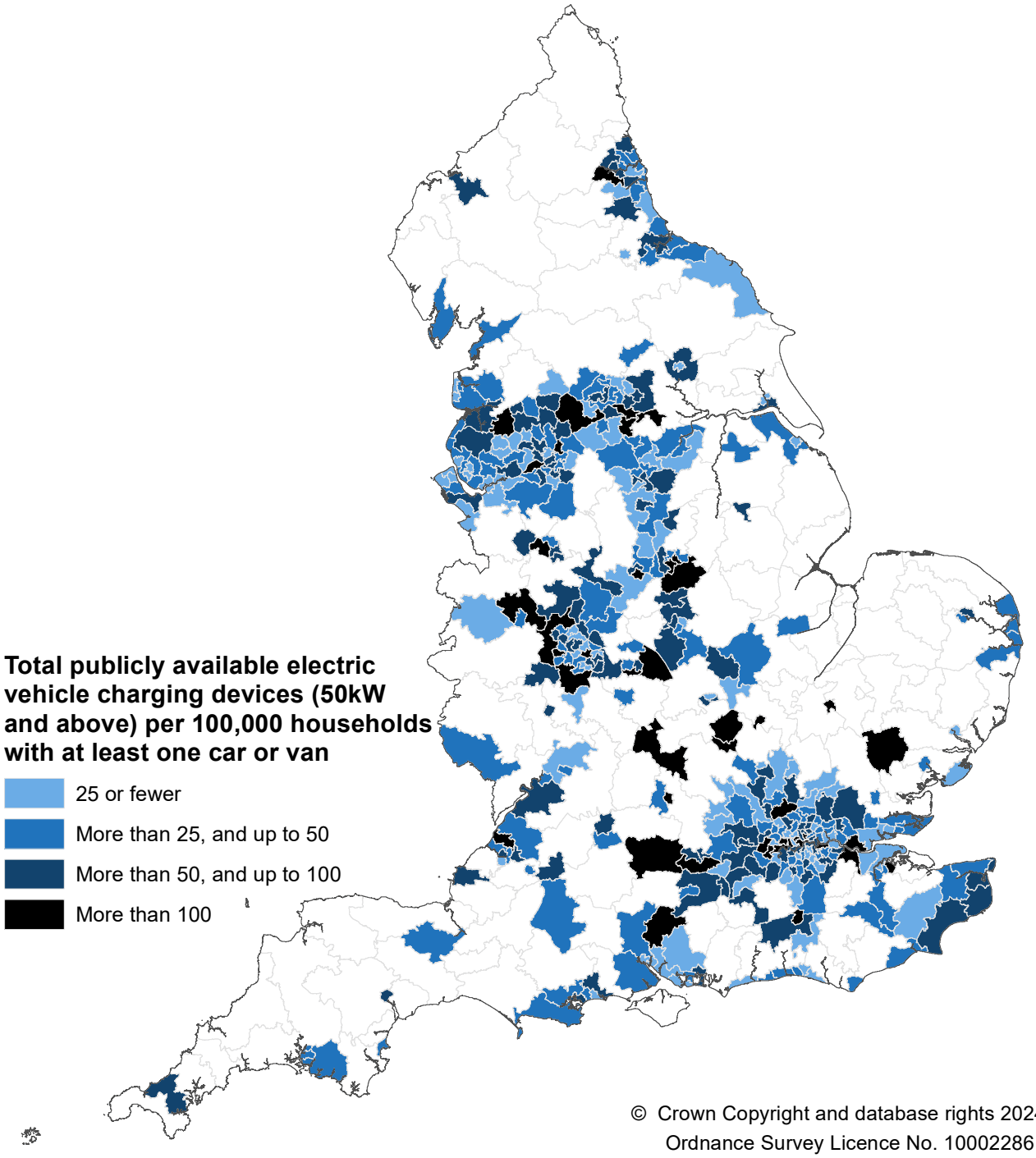


Outside of London, the “Filton and Bradley Stoke” constituency (Urban with City and Town) had proportionally more 50kW and above chargers than anywhere else in England, with 305 publicly available chargers per 100,000 households with at least one car or van in April 2024. This is equivalent to around 3 chargers per 1,000 car/van-owning households. A full map showing the

number of 50kW and above electric vehicle chargers per 100,000 Predominantly Urban or Urban with Significant Rural households with at least one car or van is shown in Figure C-8.

Figure C-8: Map showing the number of publicly available electric vehicle charging devices (50kW and above) per 100,000 households with at least one car or van, in Predominantly Urban or Urban with Significant Rural Westminster Parliamentary Constituencies in England, April 2024 (Note C-2, Note C-3, Note C-7)

White areas on the map represent Predominantly Rural areas.



The number of publicly available 50kW and above electric vehicle chargers per 100,000 car/van-owning households is mapped for Predominantly Rural constituencies in Figure C-6, and for both Predominantly Urban and Urban with Significant Rural constituencies in Figure C-7. Data is as at the start of April 2024. For more information regarding the data used, see Note C-3.

As of April 2024, in Predominantly Rural areas there were:

- 29 constituencies with 25 or fewer chargers (50kW and above) per 100,000 car/van-owning households,
- 36 constituencies with between 25 and 50 chargers (50kW and above) per 100,000 car/van-owning households,
- 38 constituencies with between 50 and 100 chargers (50kW and above) per 100,000 car/van-owning households,
- 13 constituencies with more than 100 chargers (50kW and above) per 100,000 car/van-owning households.

Similarly, in Predominantly Urban and Urban and Significant Rural areas, there were:

- 102 constituencies with 25 or fewer chargers (50kW and above) per 100,000 car/van-owning households,
- 145 constituencies with between 25 and 50 chargers (50kW and above) per 100,000 car/van-owning households,
- 125 constituencies with between 50 and 100 chargers (50kW and above) per 100,000 car/van-owning households,
- 45 constituencies with more than 100 chargers (50kW and above) per 100,000 car/van-owning households.

In summary, 25% of Westminster Parliamentary Constituencies had 25 or fewer 50kW and above chargers per 100,000 car/van-owning households, resulting in poorer accessibility due to slower charging times; rates are similar between rural and non-rural areas.

Constituencies with the proportionally highest and lowest numbers of 50kW and above charging devices are given in Table C-2. In England, there were two constituencies with no 50kW and above chargers in April 2024, both of which were Urban: “Sheffield Hallam”, and “South Basildon and East Thurrock”.

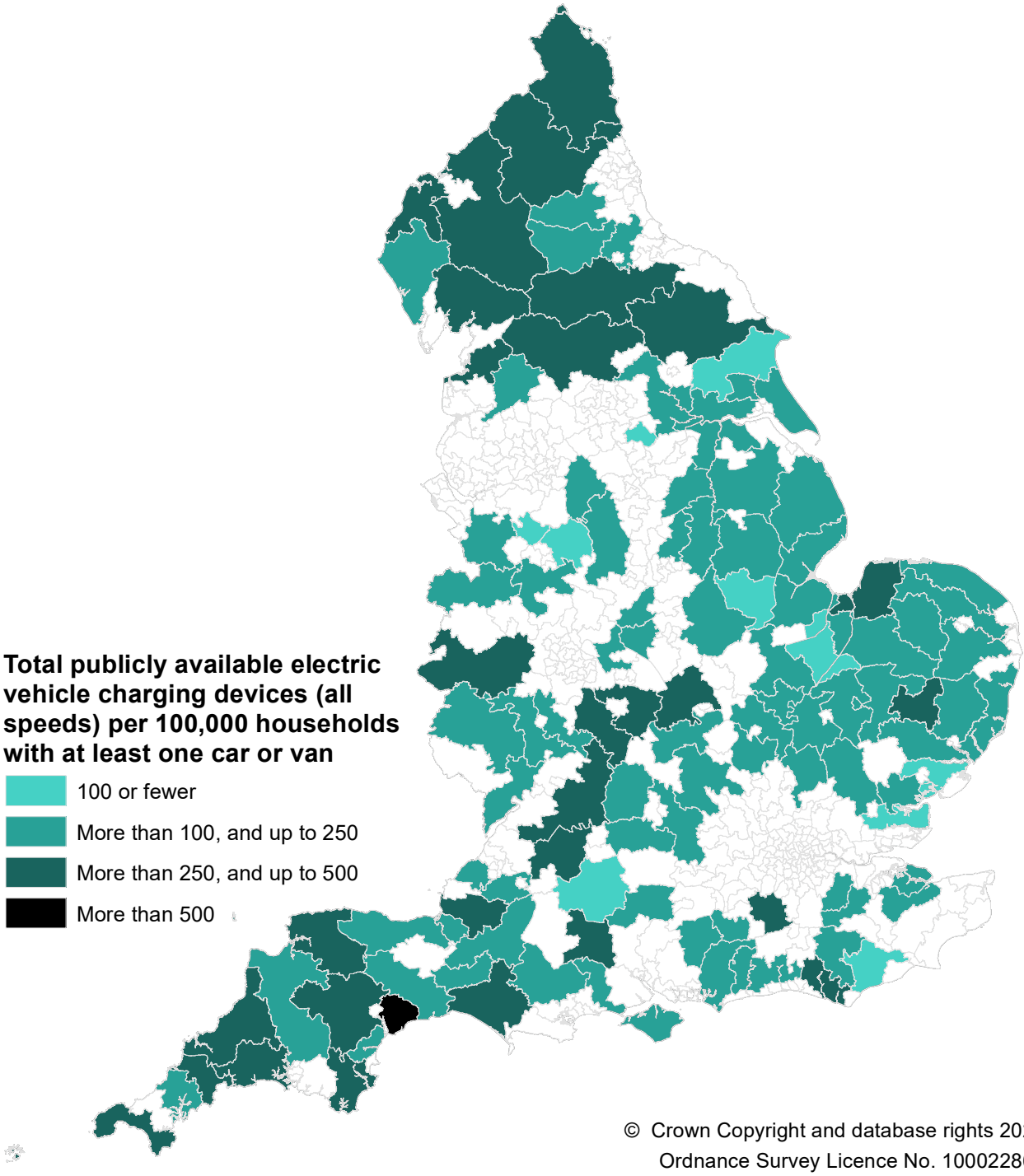
Table C-2: Westminster Parliamentary Constituencies with the lowest and highest number of publicly available electric vehicle charging devices (50kW and above) per 100,000 households with at least one car or van, by broad Rural-Urban Classification, April 2024
“Value” represents the number of public chargers per 100,000 car/van-owning households.
Does not include constituencies without 50kW chargers.

	Lowest proportion of chargers		Highest proportion of chargers	
Rural-Urban Classification	Constituency	Value	Constituency	Value
Predominantly Rural	Devizes	2.7	East Devon	200.2
Urban with Significant Rural	Ashford	18.3	Banbury	164.8
Predominantly Urban	Harrow East	3.5	Cities of London and Westminster	386.0

50kW and above chargers are more convenient due to their faster charging rate, however there are still plenty of other (slower) chargers in England that are available to use to the public.

East Devon (Largely Rural) had proportionally more electric vehicle chargers than any other Predominantly Rural constituency in England, with 558 chargers (all speeds) per 100,000 car/van-owning households. A full map showing the total number of electric vehicle chargers per 100,000 Predominantly Rural households with at least one car or van is shown in Figure C-9.

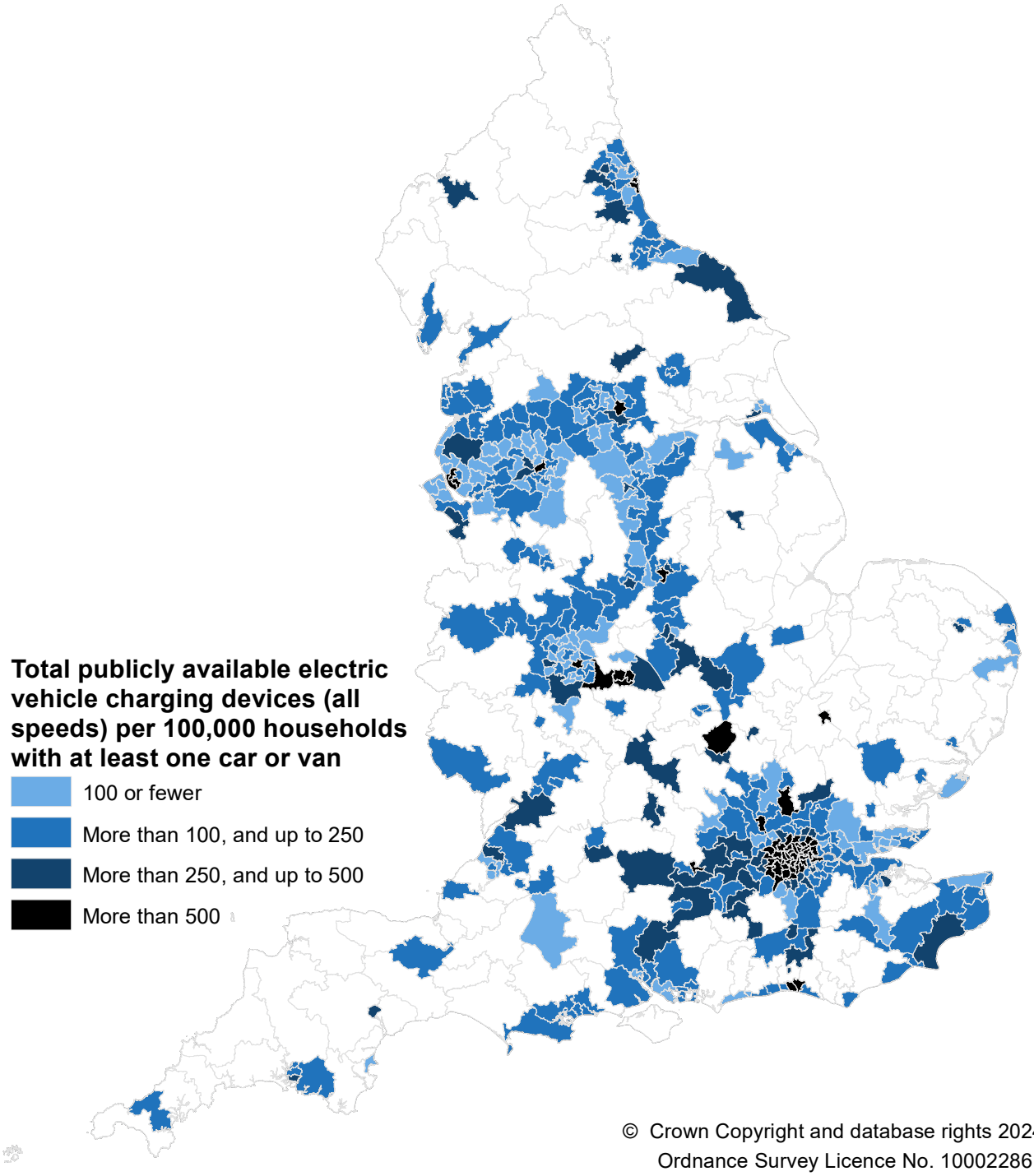
Figure C-9: Map showing the total number of publicly available electric vehicle charging devices (all speeds) per 100,000 households with at least one car or van, in Predominantly Rural Westminster Parliamentary Constituencies, April 2024 (Note C-2, Note C-3, Note C-7)
White areas on the map represent Predominantly Urban and Urban with Significant Rural areas.



Outside of London, the Coventry South constituency (Urban with City and Town) had proportionally more chargers than anywhere else in England, with 2,089 publicly available chargers (all speeds) per 100,000 households with at least one car or van in April 2024. A full map showing the total number of electric vehicle chargers per 100,000 Predominantly Urban and Urban with Significant Rural households with at least one car or van is shown in Figure C-10.

Figure C-10: Map showing the total number of publicly available electric vehicle charging devices (all speeds) per 100,000 households with at least one car or van, in Predominantly Urban and Urban with Significant Rural Westminster Parliamentary Constituencies in England, April 2024 (Note C-2, Note C-3, Note C-7)

White areas on the map represent Predominantly Rural areas.



The number of publicly available electric vehicle chargers (all speeds) per 100,000 car/van-owning households is mapped for Predominantly Rural constituencies in Figure C-8, and for both Predominantly Urban and Urban with Significant Rural constituencies in Figure C-9. For more information regarding the data used, see Note C-3.

As of April 2024, in Predominantly Rural areas there were:

- 10 constituencies with 100 or fewer chargers (all speeds) per 100,000 car/van-owning households,
- 75 constituencies with between 100 and 250 chargers (all speeds) per 100,000 car/van-owning households,
- 30 constituencies with between 250 and 500 chargers (all speeds) per 100,000 car/van-owning households,
- 1 constituency with more than 500 chargers (all speeds) per 100,000 car/van-owning households.

This means that 9% of Predominantly Rural constituencies had 1 or less chargers per 1,000 car/van-owning households, resulting in poorer electric vehicle accessibility.

Similarly, in Predominantly Urban and Urban and Significant Rural areas, there were:

- 99 constituencies with 100 or fewer chargers (all speeds) per 100,000 car/van-owning households,
- 199 constituencies with between 100 and 250 chargers (all speeds) per 100,000 car/van-owning households,
- 62 constituencies with between 250 and 500 chargers (all speeds) per 100,000 car/van-owning households,
- 57 constituencies with more than 500 chargers (all speeds) per 100,000 car/van-owning households.

This means that 24% of Predominantly Urban or Urban with Significant Rural constituencies had 1 or less chargers per 1,000 car/van-owning households, resulting in poorer accessibility.

Constituencies with the proportionally highest and lowest numbers of charging devices (all speeds, as of April 2024) are given in Table C-3.

Table C-3: Westminster Parliamentary Constituencies with the lowest and highest number of publicly available electric vehicle charging devices (all speeds) per 10,000 households with at least one car or van, by broad Rural-Urban Classification, April 2024
"Value" represents the number of public chargers per 10,000 car/van-owning households.

	Lowest proportion of chargers		Highest proportion of chargers	
Rural-Urban Classification	Constituency	Value	Constituency	Value
Predominantly Rural	Staffordshire Moorlands	3.4	East Devon	55.8
Urban with Significant Rural	Dewsbury	3.7	Banbury	41.8
Predominantly Urban	Sheffield Hallam	0.3	Westminster North	877.3

Personal transport explanatory notes

- **Note C-1**

Tables of the data seen in this section are available in the connectivity and accessibility supplementary data tables.

- **Note C-2**

Sources: DfT National Travel Survey; DfT Electric Vehicle charging infrastructure statistics; Household estimates, Annual population survey via NOMIS; Zap-Map.

- **Note C-3**

Represents devices reported as operational at midnight at the start of each quarter.
'Total devices' represent publicly available charging devices at all speeds. A device can have a number of connectors of varying speeds.
As of 1 October 2023, the speed categories changed to 50kW and above to be in line with industry.
Parliamentary Constituency data is sourced from the Office for National Statistics Geography Portal for 2021, and therefore may not reflect future changes to constituency boundaries.

- **Note C-4**

Includes privately-owned cars only; does not include company cars. Does not include any other vehicle type (e.g. buses and coaches, HGVs and LGVs, motorcycles, and other vehicles). Data is taken from Q4 of every year, i.e. end of December 2023. Data is for where the car is registered, and therefore does not necessarily reflect where it will be used. Household estimates are from each specified year, except from 2023, which uses 2022 estimates as this is the latest available. Source: Department for Transport (DfT) and Driver and Vehicle Licensing Agency (DVLA), Vehicle licensing statistics data tables - GOV.UK (www.gov.uk)

- **Note C-5**

The sample size for one year is too small to produce robust results so the analysis within some sub-sections combines data from two years (i.e., reporting 2018/19) until 2020 and 2021, which have been reported as standalone years due to the effects of COVID.

- **Note C-6**

"Urban Conurbation" refers to the combination of two categories within the Rural-Urban Classification: "Urban with Minor Conurbation" and "Urban with Major Conurbation". "Rural Village, Hamlet and Isolated Dwelling" refers to the combination of "Rural Village" and "Rural Hamlet and Isolated Dwellings".

- **Note C-7**

The scales and legends differ between the "50kW and above" charger maps (Figure C-7 and Figure C-8) and the "all speeds" maps (Figure C-9 and Figure C-10).

D. Access to services

Rural areas tend to have poorer access to services than Urban areas, particularly when travelling by public transport.

Summary

Generally, people living in Rural areas have lower overall levels of accessibility to key service locations compared with people living in Urban areas, and people living in Rural areas in a sparse setting have the lowest overall accessibility. Being less able to access certain services is not only inconvenient for those living in Rural areas, but it can also highlight a lack of opportunities. For example, there may only be one further education college nearby for someone living in Rural areas, and therefore they would be restricted on their choice of courses to study.

When travelling by public transport/walking in Rural areas, the average minimum Rural travel times were around double the average minimum Urban travel times – particularly for hospitals and large employment centres. The average minimum travel time to a hospital was 66 minutes in Rural areas, compared with a little 36 minutes in Urban areas. The average travel time to centres of employment with 5,000 or more jobs was 55 minutes in Rural areas compared with 26 minutes in Urban areas. In Rural areas, travelling by car saves 37 minutes on average when travelling to the nearest hospital, and 30 minutes when travelling to the nearest large employment centre.

The more Rural an area is, the lesser the access to employment centres by public transport/walking; in the most rural areas, only 22% of people of employment age were able to access a small employment centre within 15 minutes travel time in 2019. This is 72 percentage points less than in Urban areas (94%). 25% of households in the most Rural areas could access a food store within 15 minutes, compared to 97% in Urban areas. 39% of children in the most Rural areas were able to access a primary school within 15 minutes, compared to 95% in Urban areas. 11% of households in the most rural areas were able to access a General Practice within 15 minutes, compared to 78% in Urban areas.

Rural areas typically had a larger proportion of people unable to access selected services within 30 minutes travel time compared to Urban areas, and where services were available, there was typically less variety. Only 4% of people of employment age could access more than one large employment centre within 30 minutes when travelling by public transport/walking in Rural areas; this compares to 46% in Urban areas. 15% of the Rural school-aged population could access more than one further education centre within 30 minutes travel time, compared to 74% in Urban areas. 94% of households in Rural areas did not have a Hospital within 30 minutes travel time, compared with 60% of households in Urban areas.

50% of the Rural population are living in areas that have the poorest accessibility to services (lowest 10% / decile 1) based on minimum travel times when travelling by public transport/walking, compared with 2% of the Urban population. In the most Rural areas, this rises to 96% for those living in sparse settlements and 80% if not.

Average minimum travel times

Generally, people living in Rural areas have lower overall levels of accessibility to key service locations compared with people living in Urban areas, and people living in Rural areas in a sparse setting have the lowest overall accessibility. More services were available on average for people living in Urban areas for all service types and all journey times compared with those for people living in Rural areas, when walking and using public transport.

Figure D-1 shows that average travel times to services were higher in Rural areas by public transport or walking. In Rural areas the services with the lowest level of accessibility were hospitals and centres of employment with 5,000 or more jobs. The average minimum travel time to a hospital was a little over one hour in Rural areas, compared with a little over half an hour in Urban areas. The average travel time to centres of employment with 5,000 or more jobs was 55 minutes in Rural areas compared with 26 minutes in Urban areas. For most key service types, the average minimum Rural travel times were around double the average minimum Urban travel times, however for places of employment with 100-499 jobs and food stores they were 2.5 times longer and for primary school they were 1.5 times longer.

Figure D-1: Bar chart showing average minimum travel time to reach the nearest key services by Walking and/or Public Transport, by Lower Super Output Area Rural-Urban Classification, in England, 2019

The legend is presented in the same order and orientation as the bars. Services are listed in order of average travel time, although centres of employment have been grouped for comparison.

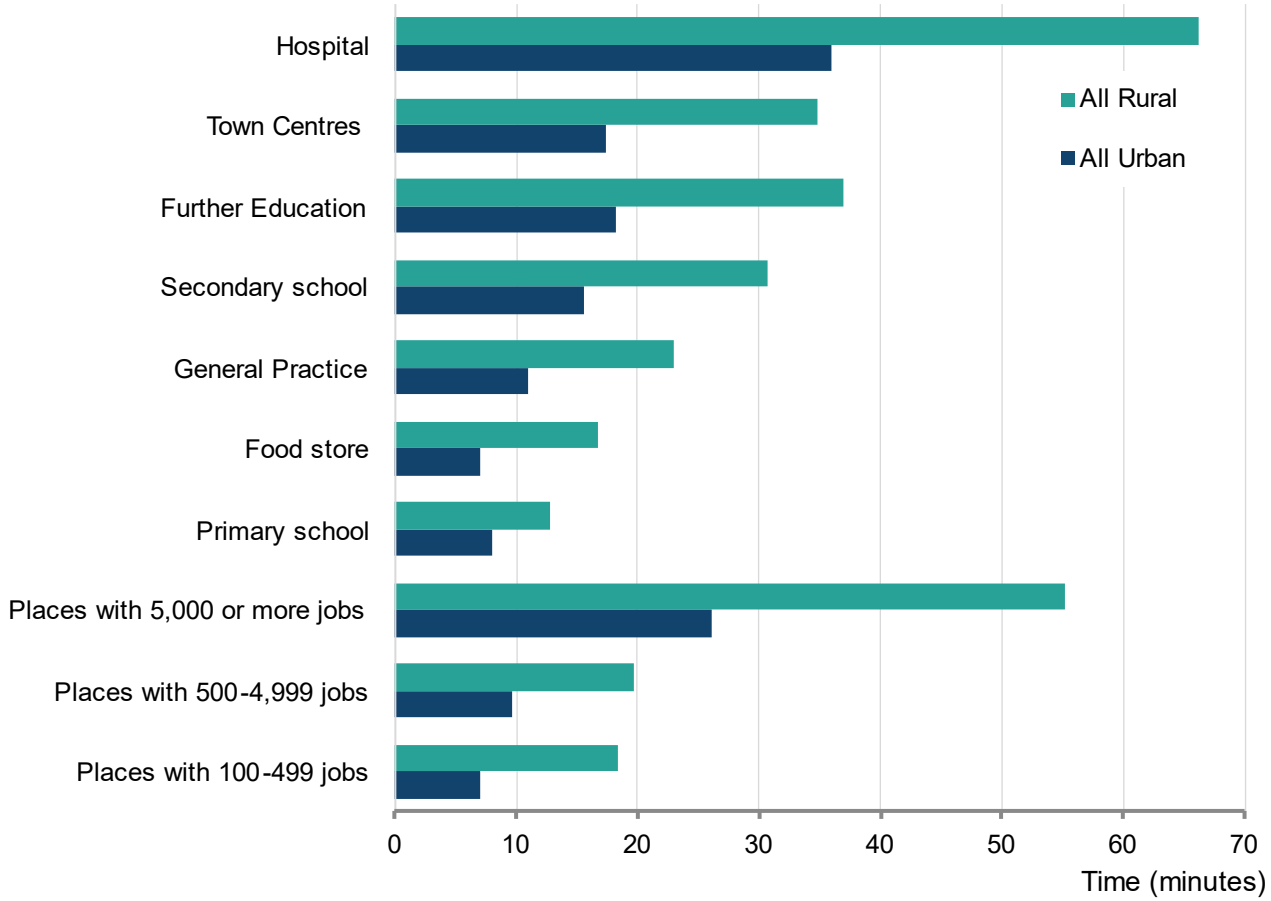
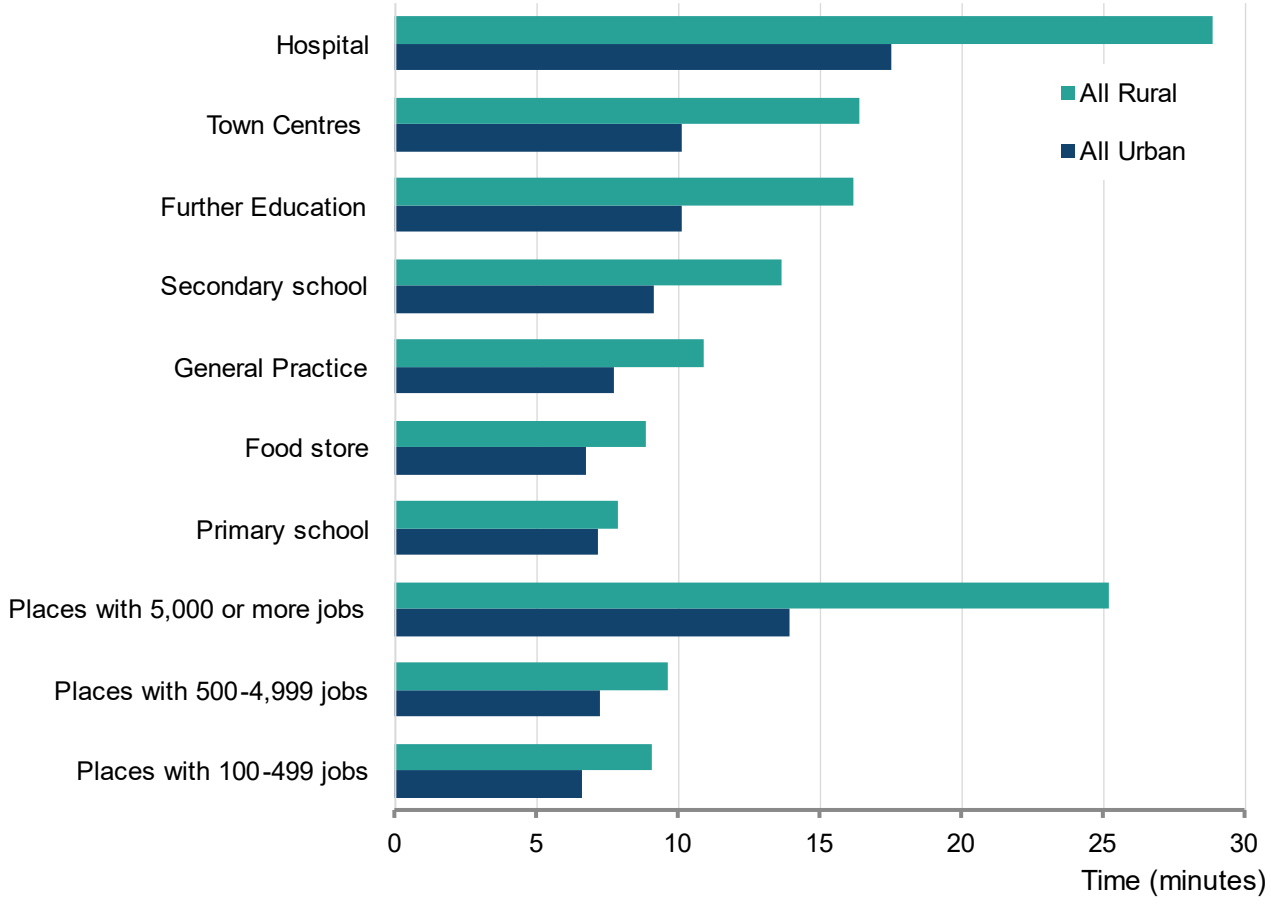


Figure shows that average travel times to services were higher in Rural areas when travelling by car, but differences compared with Urban areas were much reduced from the differences when travelling by public transport or walking. For people living in Rural areas, making the same journey

by car compared with using public transport or walking, had the effect of halving the average minimum journey times. Urban areas also saw a reduction in travel times when comparing travel by car with public transport or walking but the difference was less consistent, travel times to hospitals and centres of employment with 5,000 or more jobs were halved, but travel times to primary school, food stores and centres of employment with 100-499 jobs were similar.

In Rural areas, the biggest differences between walking/public transport and travelling by car are seen when evaluating average minimum travel times to hospitals, further education centres and places with 5,000 or more jobs; by car, it would take 29 minutes on average to travel to the nearest town centre in Rural areas – this compares with 66 minutes when travelling by public transport/walking. Therefore, travelling by car will save 37 minutes on average. In a similar way, it would take 25 minutes on average to travel to a centre of employment with 5,000 or more jobs by car, compared with 55 minutes by public transport/walking, indicating a saving of 30 minutes.

Figure D-2: Bar chart showing average minimum travel time to reach the nearest key services by Car, by Lower Super Output Area Rural-Urban Classification, in England, 2019
The legend is presented in the same order and orientation as the bars. Services are listed in order of average travel time, although centres of employment have been grouped for comparison.



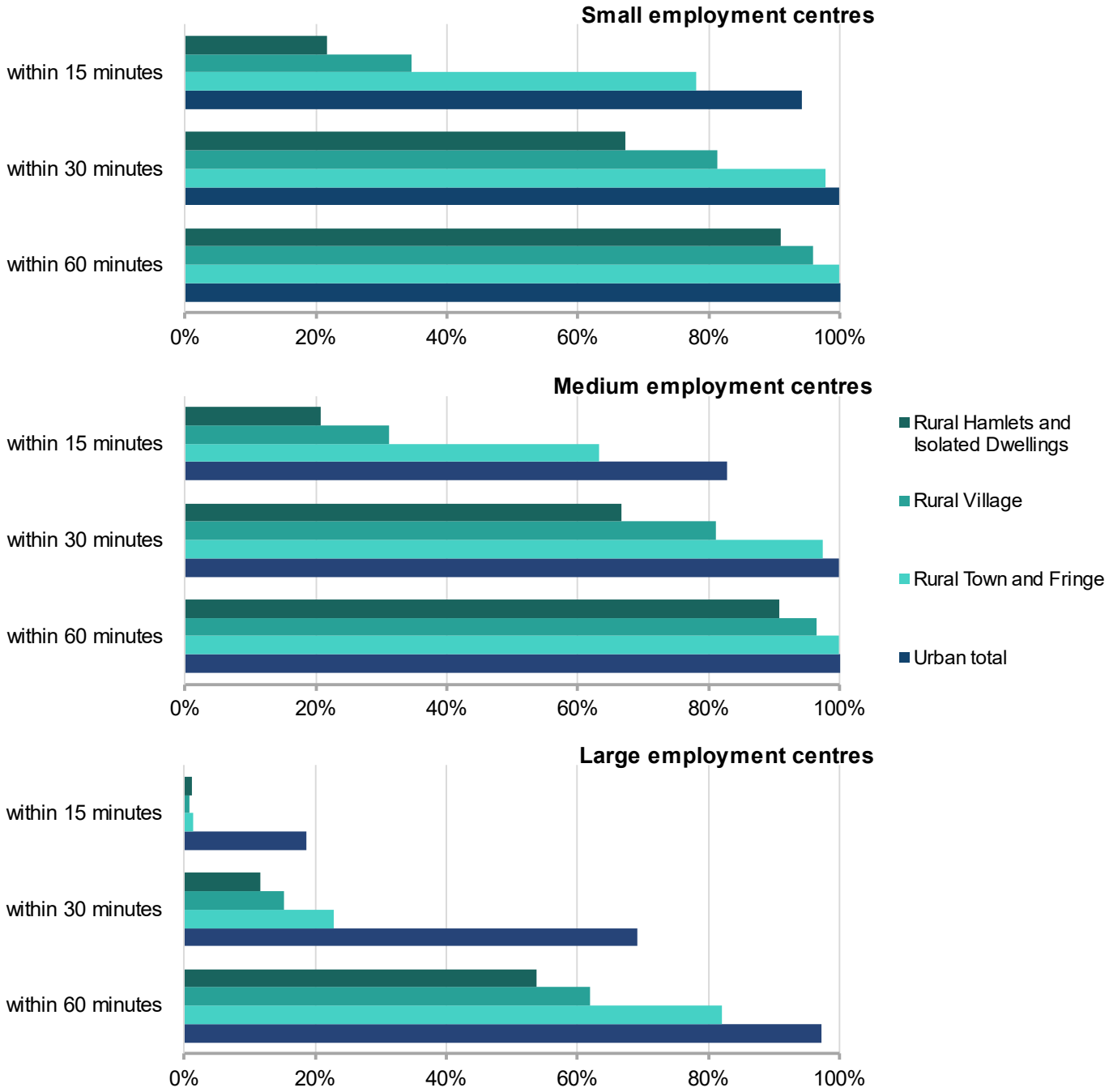
Notes:

- The average of selected services is calculated from the minimum journey times to medium sized centres of employment (500-4,999 jobs), primary and secondary schools, further education, General Practices, hospitals, food stores and town centres.
- The scales between Figure D-1 and Figure D-2 differ, so caution should be taken when making comparisons.

Access to key services

We can measure accessibility based on time thresholds, i.e., whether users can access key services within selected travel times. Figure D-3 shows the percentage of people of employment age that can access an **employment centre** by public transport and/or walking in 2019.

Figure D-3: Bar charts showing percentage of people of employment age able to access an employment centre within selected travel times, by Public Transport / Walking, 2019



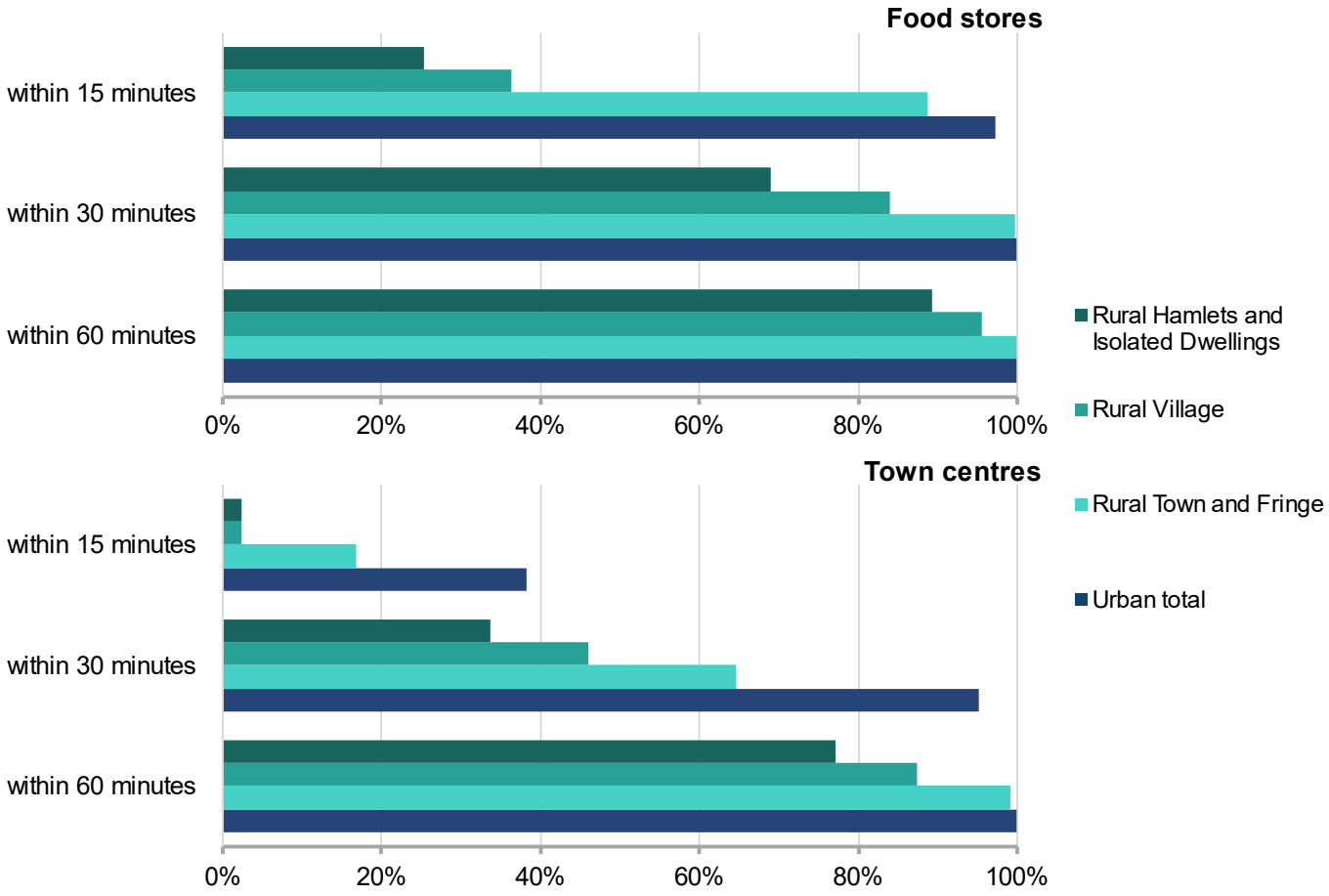
The more Rural an area is, the less there is access to employment centres by Public Transport/Walking. In the most rural areas (Rural Hamlets and Isolated Dwellings), only 22% of people of employment age were able to access a **small employment centre** within 15 minutes travel time in 2019. This is 72 percentage points less than in Urban areas (94%). Within 60 minutes travel time, all those in Urban areas could access a small employment centre, compared with 91% of those in Rural Hamlets and Isolated Dwellings.

21% of people of employment age in Rural Hamlets and Isolated Dwellings were able to access a **medium employment centre** within 15 minutes travel time in 2019 by public transport/walking. This compares with 63% in Rural Town and Fringe areas and 83% in Urban areas. Within 60 minutes travel time, 91% of people of employment age in Rural Hamlets and Isolated Dwellings were able to access a medium employment centre.

Within 60 minutes travel time by public transport/walking, 54% of people of employment age in Rural Hamlets and Isolated Dwellings were able to access a **large employment centre**, compared with 82% in Rural Town and Fringe areas and 97% in Urban areas.

Employment centres are not the only services where accessibility is poorer in the more Rural areas. Figure D-4 shows the percentage of households that could access a **food store** or **town centre** within a given travel time by public transport and/or walking in 2019.

Figure D-4: Bar charts showing percentage of households able to access a food store or town centre within selected travel times, by Public Transport / Walking, in England, 2019

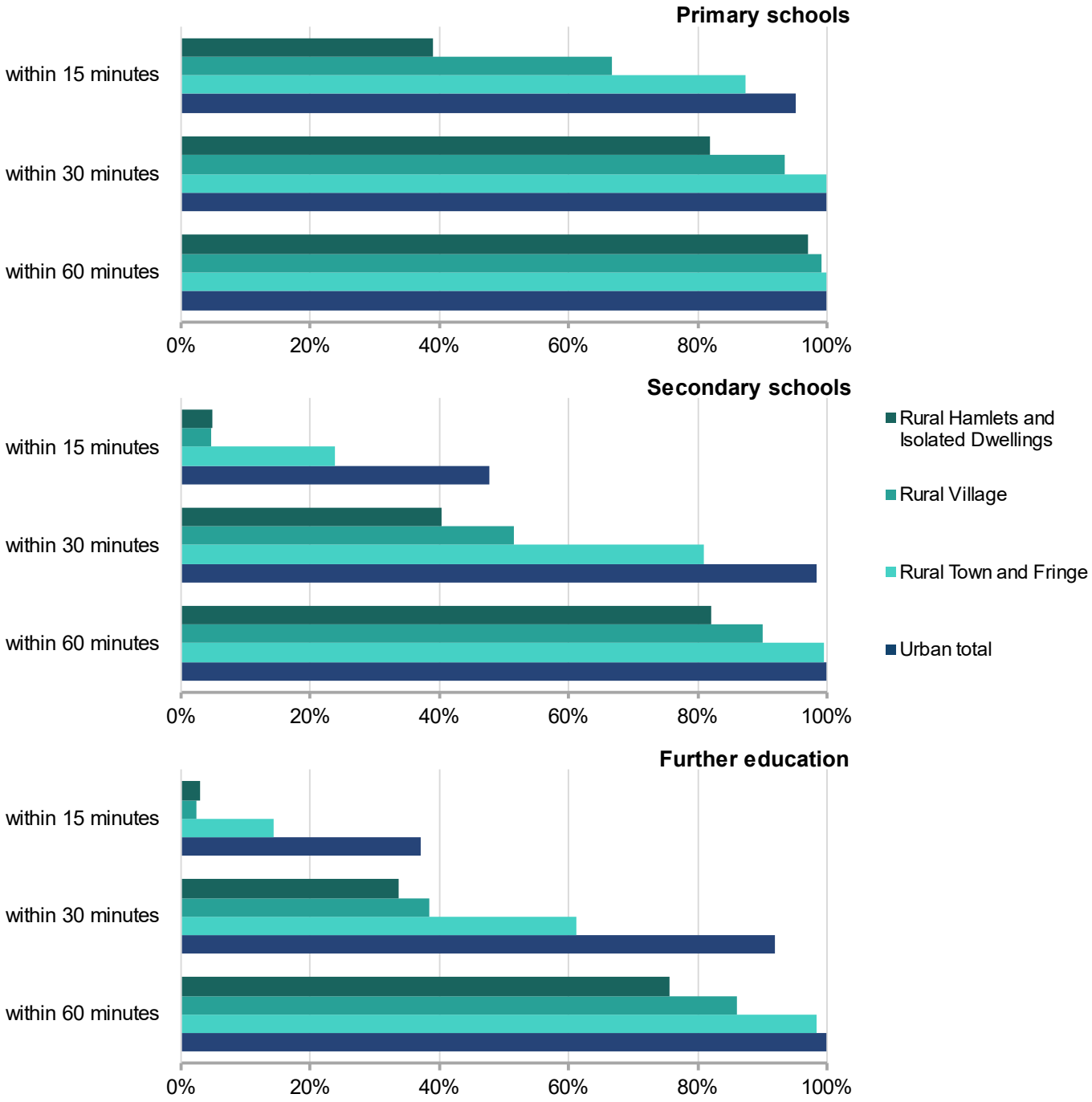


25% of households in Rural Hamlets and Isolated Dwellings could access a **food store** within 15 minutes travel time by public transport/walking in 2019, compared with 97% in Urban areas. Within 60 minutes travel time, all Urban households and 89% of those in Rural Hamlets and Isolated Dwellings could access a food store.

2% of households in Rural Hamlets and Isolated Dwellings could get to a **town centre** within 15 minutes travel time by public transport and/or walking in 2019, compared with 38% of those in Urban areas. Within 60 minutes travel time, all Urban households and 77% of those in Rural Hamlets and Isolated Dwellings could access a town centre.

Access to education institutions is poorer in Rural areas than in Urban areas, and more so for secondary schools and further education colleges than primary schools. Figure D-5 shows the percentage of students (school-age children or 16-19 year olds) that could access a **school or college** within a given travel time by public transport and/or walking in 2019.

Figure D-5: Bar charts showing percentage of students able to access a school or college within selected travel times, by Public Transport / Walking, in England, 2019



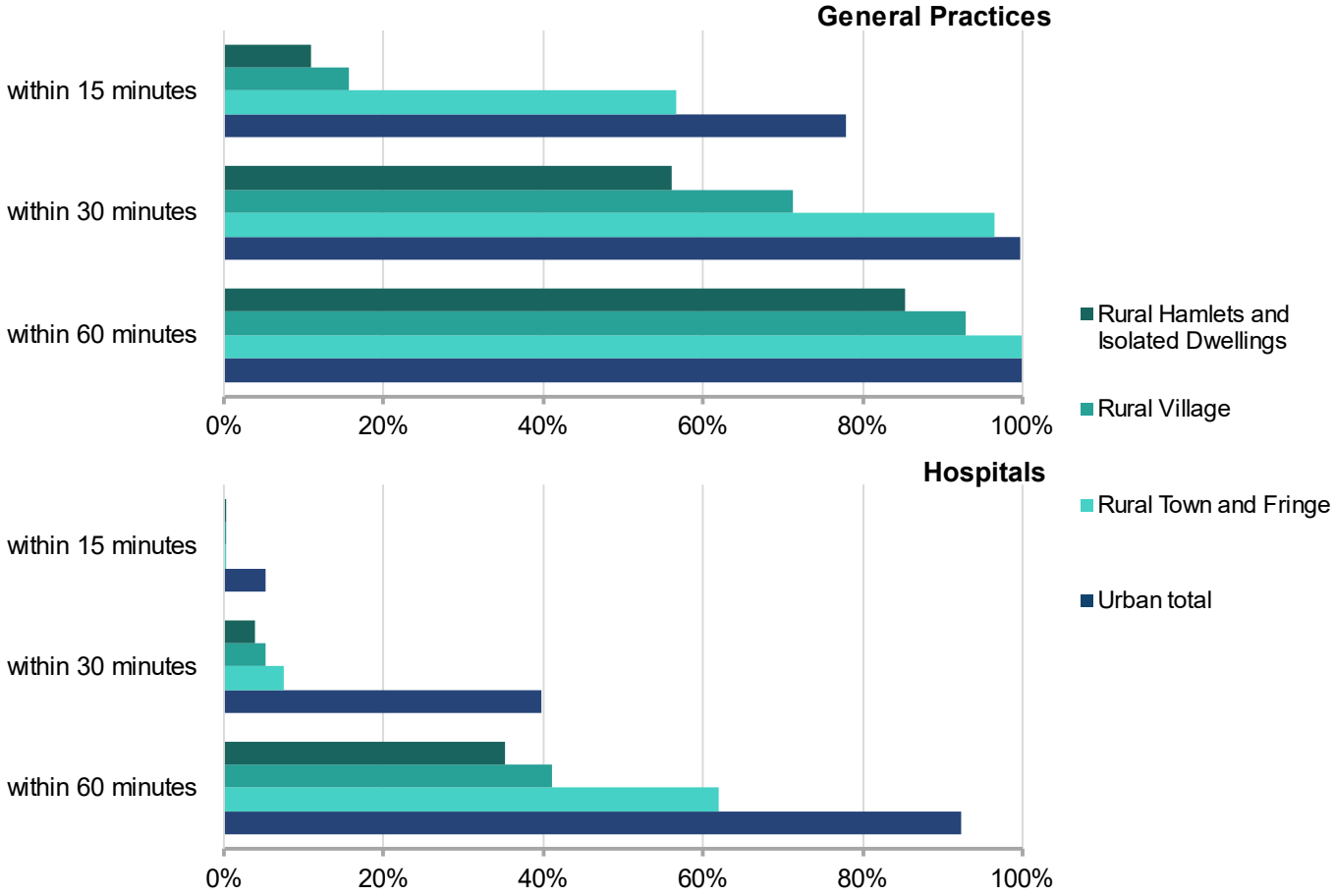
39% of school-age children in Rural Hamlets and Isolated Dwellings were able to access a **primary school** within 15 minutes travel time by public transport/walking, compared with 87% in Rural Town and Fringe areas and 95% in Urban areas. Within 60 minutes travel time, 97% of children in Rural Hamlets and Isolated Dwellings could access a primary school, compared with 100% in Rural Town and Fringe areas and in Urban areas.

5% of school-age children in Rural Hamlets and Isolated Dwellings were able to access a **secondary school** within 15 minutes travel time by public transport/walking, compared with 48% in Urban areas. Within 60 minutes travel time, 82% of school-age children could access a secondary school, compared with 100% in Rural Town and Fringe areas and in Urban areas.

3% of 16-19 year olds in Rural Hamlets and Isolated Dwellings were able to access a **further education college** within 15 minutes travel time by public transport/walking, compared with 37% in Urban areas. Within 60 minutes travel time, 76% of 16-19 year olds in Rural Hamlets and Isolated Dwellings could access a further education college, compared with 100% in Urban areas.

Health services are less accessible in Rural areas than in Urban areas. Figure D-6 shows the percentage of households that could access a **health service** within a given travel time by public transport and/or walking in 2019.

Figure D-6: Bar charts showing percentage of households able to access a health service within 30 minutes travel time, by Public Transport / Walking, by Rural-Urban Classification, in England, 2019



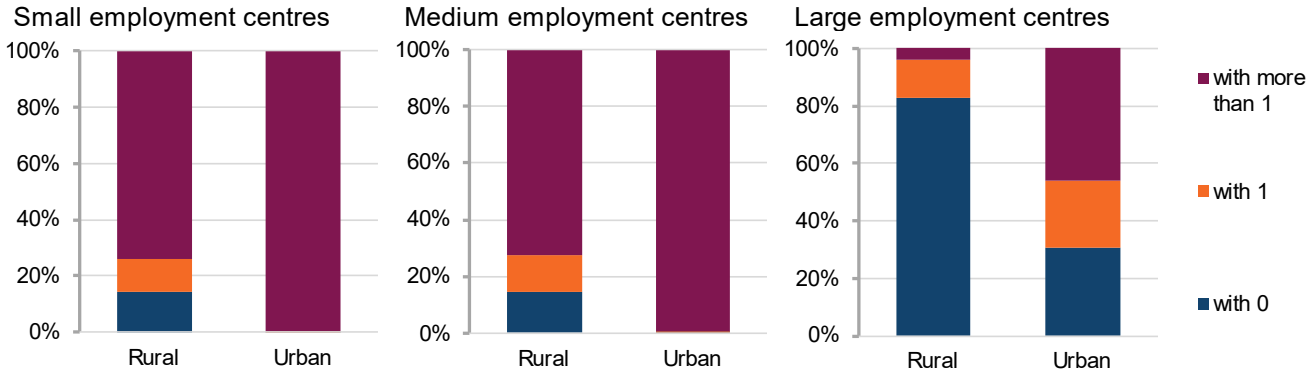
11% of households in Rural Hamlets and Isolated Dwellings were able to access a **General Practice** within 15 minutes travel time by public transport/walking, compared with 57% of households in Rural Town and Fringe areas and 78% in Urban areas. Within 60 minutes travel time, 85% of households in Rural Hamlets and Isolated Dwellings were able to access a General Practice, compared with 100% in Rural Town and Fringe areas and in Urban areas.

Within 60 minutes travel time by public transport/walking, 35% of households in Rural Hamlets and Isolated Dwellings could access a hospital, compared with 62% in Rural Town and Fringe areas and 92% in Urban areas.

Average number of key services available

More services were available on average for people living in Urban areas for all service types and all journey time thresholds compared with those for people living in Rural areas when travelling by public transport and/or walking. Figure D-7 shows the number of **employment centres** within 30 minutes travel time by public transport and/or walking in 2019.

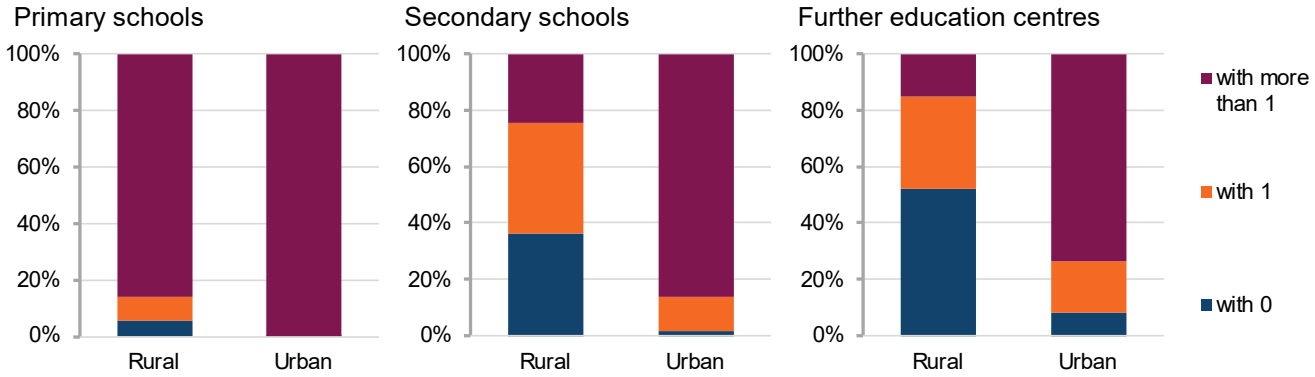
Figure D-7: Bar charts showing number of employment centres within 30 minutes travel time for people of employment age, by Public Transport / Walking, by Rural-Urban Classification, in England, 2019



In Rural areas, 15% of people of employment age did not have a small or medium employment centre within 30 minutes travel time by public transport/walking. In comparison, all of the Urban population of employment age could access at least one small or medium employment centre within 30 minutes travel time. 83% of the Rural population of employment age did not have a large employment centre within 30 minutes travel time, compared with 31% of the Urban population. There was less variety available in Rural areas compared to Urban areas; in 2019, only 4% of people of employment age could access more than one large employment centre within 30 minutes when travelling by public transport/walking. This compares to 46% in Urban areas.

Figure D-8 shows the number of **schools** or **education colleges** within 30 minutes travel time by public transport and/or walking in 2019.

Figure D-8: Bar charts showing number of education centres within 30 minutes travel time for the school-age population / 16-19 year olds, by Public Transport / Walking, by Rural-Urban Classification, in England, 2019

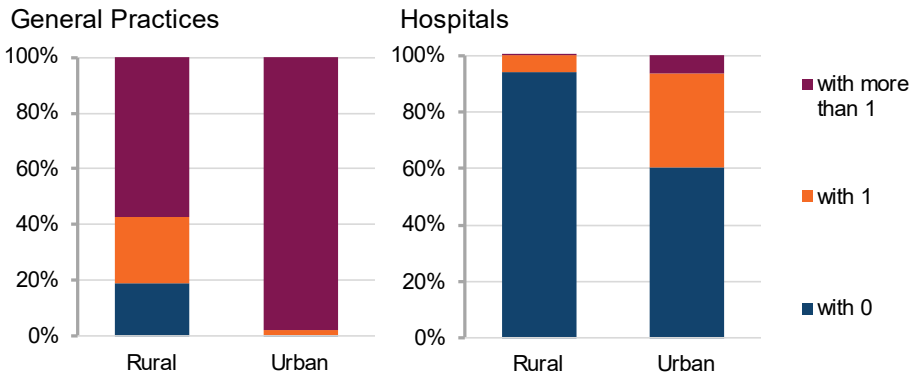


In Rural areas, 5% of school-age children did not have a primary school within 30 minutes travel time by public transport/walking. 36% of school-age children in Rural areas did not have a secondary school within 30 minutes travel time. In comparison, all school-age children in Urban areas could access at least one primary school, and 98% could access at least one secondary

school within 30 minutes travel time. 52% of 16-19 year olds in Rural areas did not have a further education centre within 30 minutes travel time, compared with 8% of those in Urban areas. In terms of variety, just 15% of the Rural school-aged population could access more than one further education centre within 30 minutes travel time, compared to 74% in Urban areas.

Figure D-9 shows the number of **health services** within 30 minutes travel time by public transport and/or walking in 2019.

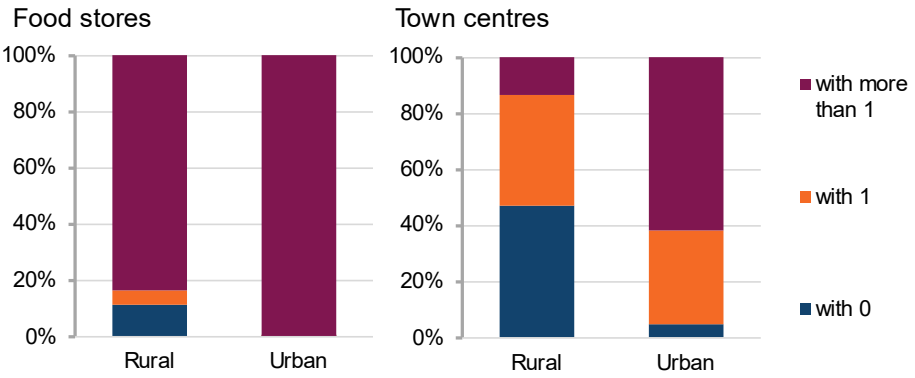
Figure D-9: Bar charts showing number of health services available within 30 minutes travel time for households, by Public Transport / Walking, by Rural-Urban Classification, in England, 2019



In Rural areas, 19% of households did not have a General Practice within 30 minutes travel time by public transport/walking. In comparison, all households in Urban areas could access at least one General Practice within 30 minutes. 94% of households in Rural areas did not have a Hospital within 30 minutes travel time, compared with 60% of households in Urban areas. In terms of variety, 57% of households could access more than one General Practice within 30 minutes travel time, compared to 98% of households in Urban areas.

Figure D-10 shows the number of **food stores** and **town centres** within 30 minutes travel time by public transport and/or walking in 2019.

Figure D-10: Bar charts showing number of food stores and town centres within 30 minutes travel time for households, by Public Transport / Walking, by Rural-Urban Classification, in England, 2019



In Rural areas, 11% of households did not have a food store within 30 minutes travel time by public transport/walking. In comparison, all households in Urban areas could access at least one food store. 47% of Rural households did not have a town centre within 30 minutes travel time, compared with 5% of Urban households. In terms of variety, just 13% of Rural households could access more than one town centre within 30 minutes travel time, compared to 62% in Urban areas.

Overall measure of accessibility to services

This measure of accessibility of services is determined by looking at average minimum travel times to key services, when travelling by either public transport and walking, or by car.

To get an assessment of service accessibility the average minimum travel time to the following nine types of service have been used: medium and large centres of employment (locations where over 500 people are employed across the businesses and services there, such that a range of jobs are likely to be available); primary school; secondary school; further education; General Practice; hospital; food store; town centre; post office (at the time of analysis, post office data were unavailable, so these calculations used 2016 data for post offices rather than 2019).

For each area an overall accessibility index has been calculated by indexing and weighting the minimum travel times to key services. Travel times were indexed in terms of relative travel times and weighted to take account of the frequency of use of each service. This means that infrequently used but important services (e.g., hospital) if distant do not disproportionately affect the overall index for an area (see technical note for more details).

Accessibility to services (derived from minimum travel times) has been presented on maps based on this overall index for travelling by public transport and walking, and for travelling by car. Rural areas are shown in green and Urban areas are shown in blue, the darker the area, the poorer the accessibility of services.

When using public transport and walking Rural areas generally have poorer accessibility to services based on minimum travel times than Urban areas. Unsurprisingly, travelling by car generally reduces travel times to key services, but overall differences in relative travel times are similar to those experienced when using public transport and walking, and Rural areas still tend to have poorer accessibility (in terms of minimum travel times), compared with Urban areas.

Overall Accessibility by Public Transport and Walking

Rural areas tend to have poorer accessibility to services based on minimum travel times than Urban areas when using public transport or walking as shown in Table D-1 and Figure D-11.

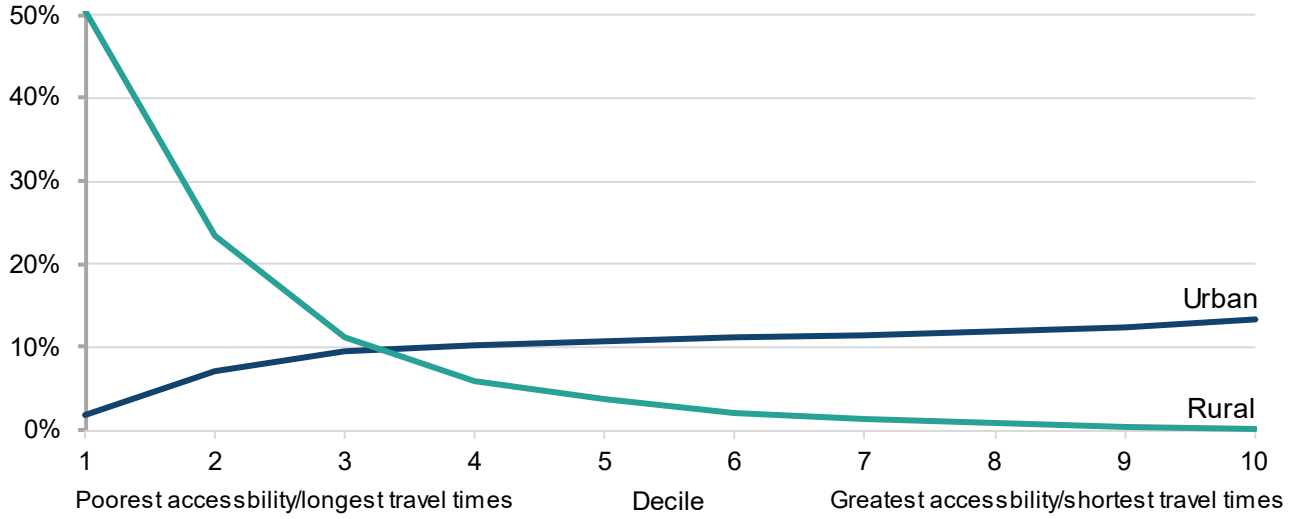
- 50% of the Rural population are living in areas that have the poorest accessibility to services (lowest 10% / decile 1) based on minimum travel times, compared with 2% of the Urban population).
- <1% of the Rural population are living in areas that have the greatest accessibility to services (highest 10% / decile 1) based on minimum travel times, compared with 13% of the Urban population.

Table D-1: Proportion of the population within each decile for accessibility of services based on minimum travel times by Public Transport and Walking, by broad Rural-Urban Classification, England, 2019

where decile 1 = poorest accessibility of services, and decile 10 = greatest accessibility of services

Decile	1	2	3	4	5	6	7	8	9	10
Rural	50%	23%	11%	6%	4%	2%	1%	1%	1%	<1%
Urban	2%	7%	9%	10%	11%	11%	11%	12%	12%	13%

Figure D-11: Line chart showing distribution of population within each decile of accessibility of services based on minimum travel times by Public Transport and Walking, by broad Rural-Urban Classification, England, 2019



As might be expected, sparsely populated areas tend to have poorer accessibility of services based on minimum travel times when using public transport or walking (as shown in Figure D-12).

- 26% of the population living in Rural Town and Fringe areas in a sparse setting have the poorest accessibility to services (lowest 10% / decile 1) based on minimum travel times compared with 24% of the population living in Rural Town and Fringe areas not in a sparse setting.
- 96% of the population living in Rural Village and Dispersed areas in a sparse setting have the poorest accessibility to services (lowest 10% / decile 1) based on minimum travel times compared with 80% of the population living in Rural Village and Dispersed areas not in a sparse setting.

Figure D-12: Line chart showing distribution of Rural population within each decile of accessibility of services based on minimum travel times by Public Transport and Walking, by detailed Rural-Urban Classification, England, 2019 (Note D-5)

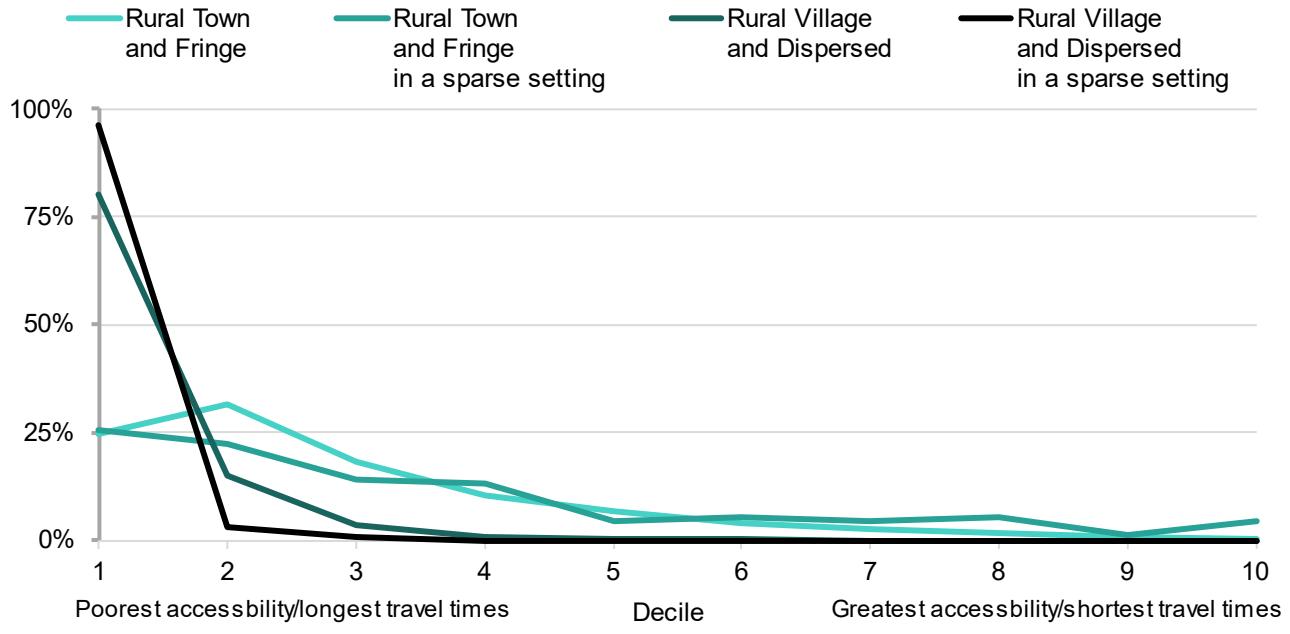
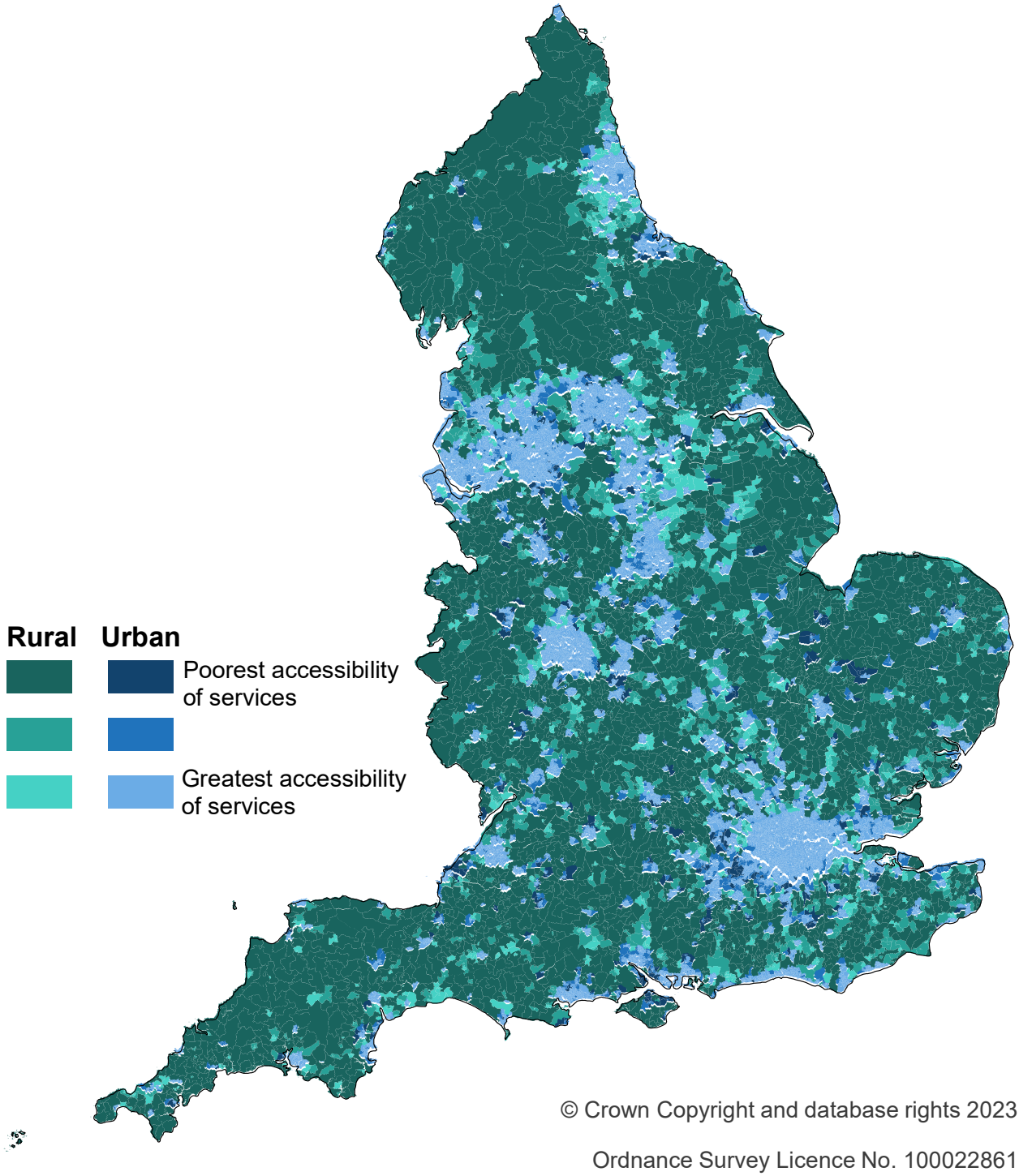


Figure D-13: Map showing accessibility of services based on minimum travel times by Public Transport and Walking, by LSOA Rural-Urban Classification, in England, 2019
The darker the colour, the lower the accessibility decile and therefore less accessible a place is.



Overall Accessibility by Car

Unsurprisingly travelling by car generally reduces travel times to key services compared with public transport and walking, but overall relative differences in travel times are similar, and Rural areas still tend to have poorer accessibility (in terms of minimum travel times), compared with Urban areas. This is seen in Table and Figure D-14.

Table D-2: Proportion of the population within each decile of accessibility of services based on minimum travel times by Car, by Rural-Urban Classification, England, 2019
where decile 1 = poorest accessibility of services, and decile 10 = greatest accessibility of services

Decile	1	2	3	4	5	6	7	8	9	10
Rural	49%	21%	11%	6%	4%	4%	2%	1%	1%	<1%
Urban	2%	8%	10%	10%	11%	11%	12%	12%	12%	13%

49% of the Rural population are living in areas that have the poorest accessibility to services (lowest 10% / decile 1) based on minimum travel times compared with 2% of the Urban population. Less than 1% of the Rural population are living in areas that have the greatest accessibility to services (highest 10% / decile 1) compared with 13% of the Urban population.

Figure D-14: Line chart showing distribution of population within each decile of accessibility of services based on minimum travel times by Car, by broad Rural-Urban Classification, England, 2019

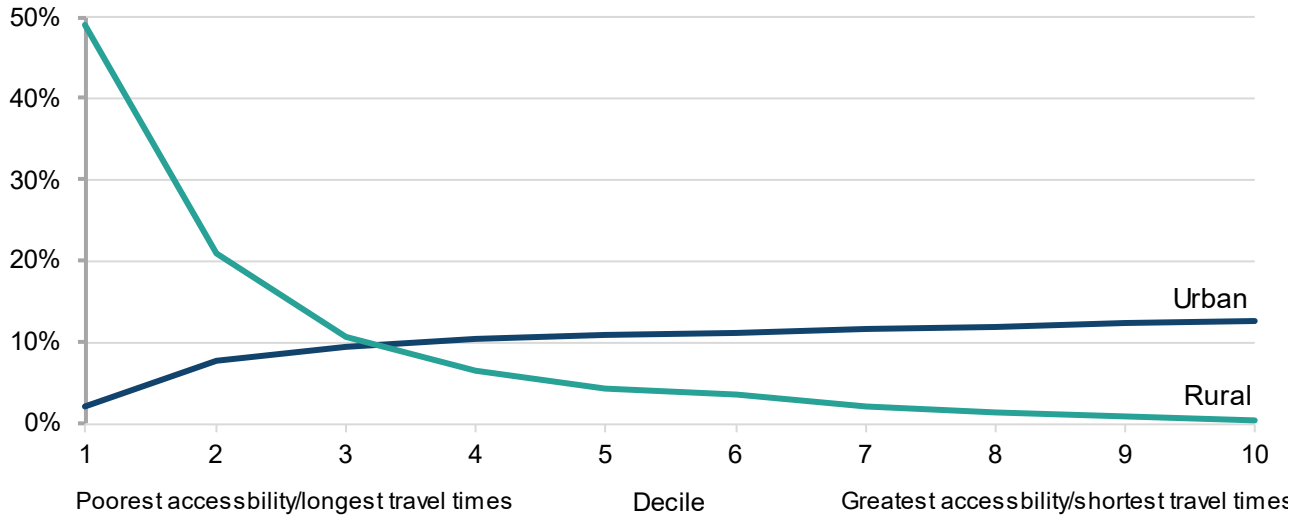
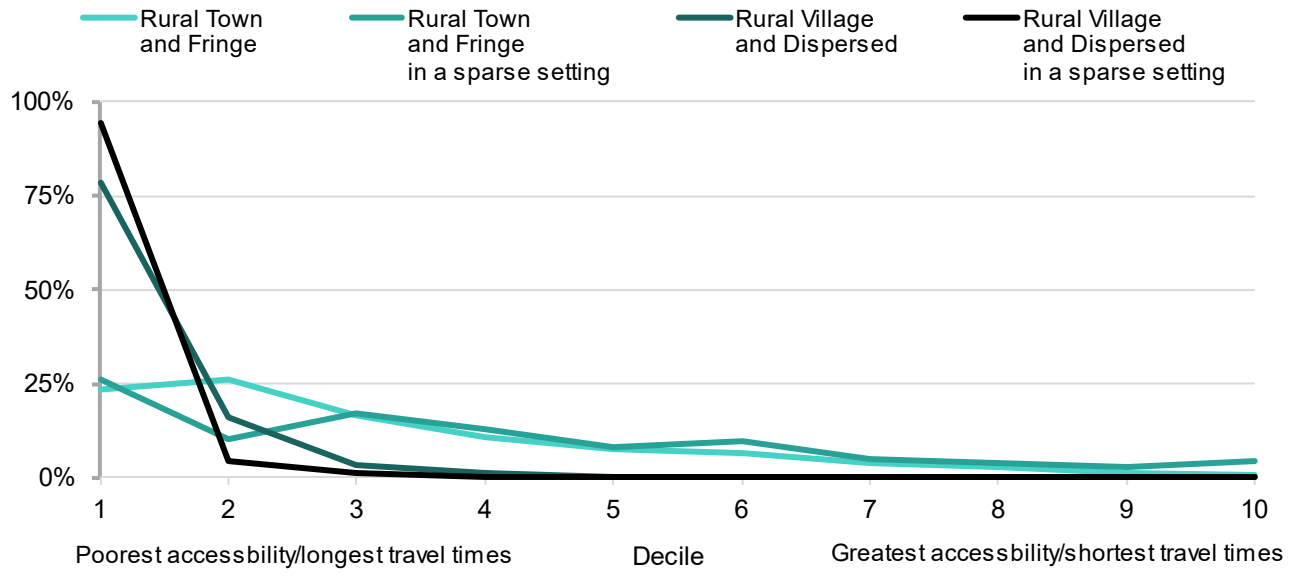


Figure D-15: Line chart showing distribution of Rural population within each decile of accessibility of services based on minimum travel times by Car, by detailed Rural-Urban Classification, England, 2019 (Note D-5)



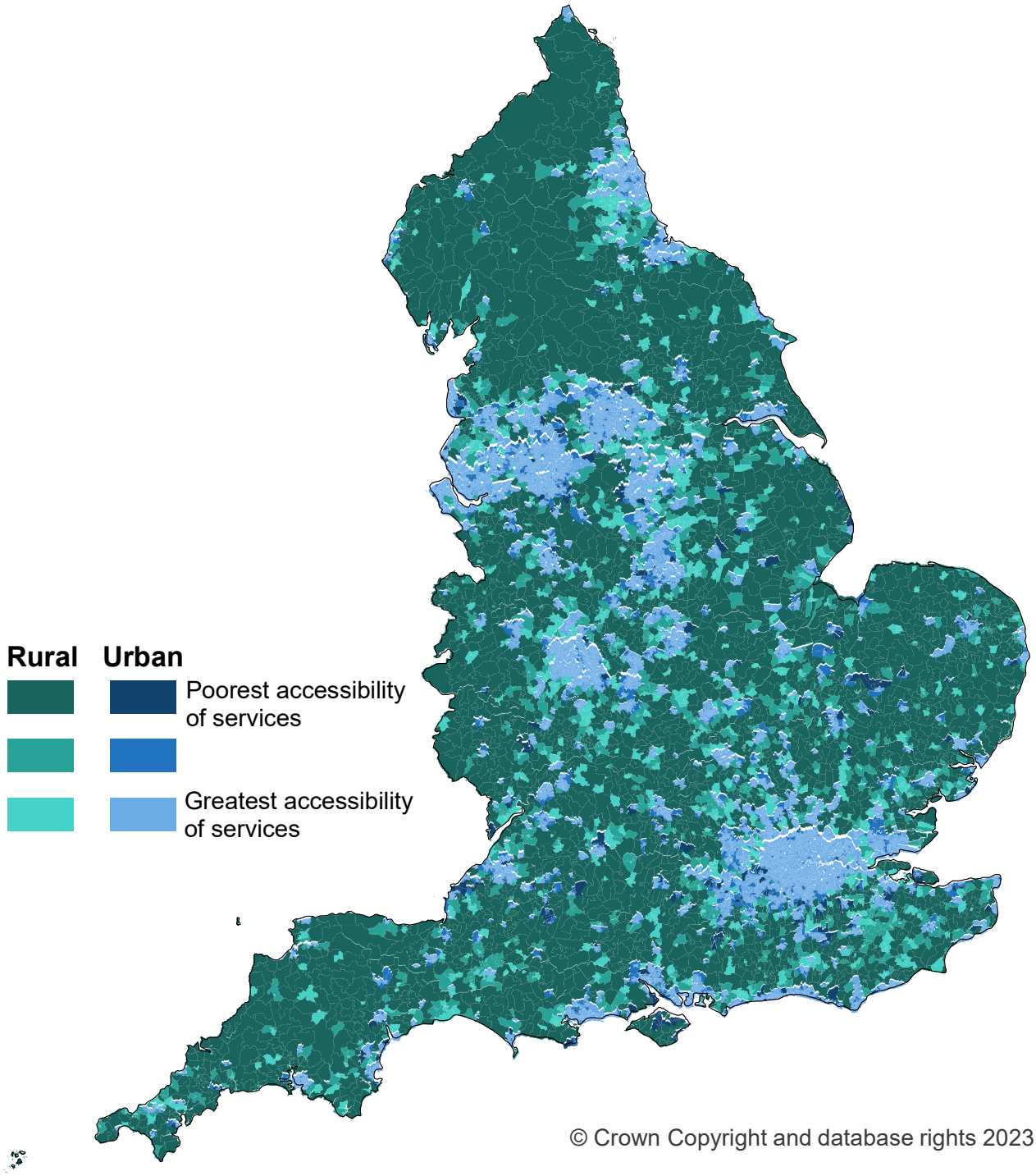
26% of the population living in Rural Town and Fringe areas in a sparse setting have the poorest accessibility to services (lowest 10% / decile 1) based on minimum travel times compared with 23% of the population living in Rural Town and Fringe areas not in a sparse setting.

94% of the population living in Rural Village and Dispersed areas in a sparse setting have the poorest accessibility to services (lowest 10% / decile 1) based on minimum travel times compared with 78% of the population living in Rural Village and Dispersed areas not in a sparse setting.

Figure D-16 maps the accessibility of services across England by car.

Figure D-16: Map showing accessibility of services based on minimum travel times using a car, by Rural-Urban Classification (Lower Super Output Areas), in England, 2019

The darker the colour, the lower the accessibility decile and therefore less accessible a place is.



Overall measure of accessibility to services: technical note

Table D-3 shows the weightings used for the nine services and the reasons these were chosen. Assumptions have had to be made that will not hold true for every individual. These weightings are simply an attempt at ensuring that services that are typically visited very infrequently although an important service (such as a hospital) do not have undue influence over the final measure if the travel times are much greater than for other services.

Table D-3: Explanation of weightings used for the nine services within the accessibility to services section

Service	Weighting	Reason
Medium and Large Employment Centre	0.22	Under the assumption of 240 working days per year, one journey per day
Primary School	0.18	Under the assumption of 190 school days per year, one journey per day
Secondary School	0.18	Under the assumption of 190 school days per year, one journey per day
Further Education	0.18	Under the assumption of 190 school days per year, one journey per day
General Practice	0.01	Under the assumption of 6 visits per year
Hospital	0.002	Under the assumption of 2.4 visits per year
Food Store	0.10	Under the assumption of 2 visits per week
Town Centre	0.10	Under the assumption of 2 visits per week
Post Office	0.05	Under the assumption of a weekly visit

In most cases the weightings are broadly of the same magnitude and hence their use does not result in significant adjustments. Where possible the weightings have been determined using statistical evidence but are otherwise based on best judgements, for example an average person will travel more frequently to their place of work or school than they would to some other services.

The weighted minimum travel times were indexed and then summed to give a single value which was then indexed again. This indexing process was used to ensure that infrequently used services did not disproportionately influence overall accessibility if travel times are large. As index an actual travel time has not been determined, the index is a relative measure.

Sources:
Lower layer Super Output Area population estimates, NHS statistics, facts and figures hosted on nhsconfed.org

Access to services explanatory notes

- **Note D-1**

A Lower Super Output Area (LSOA) is a geographic area built up from groups of Census Output Areas. LSOAs were developed (along with Middle Super Output Areas) to help improve the reporting of small area statistics, allowing for greater precision than reporting at Local Authority level. Each Local Authority will be built up of many LSOAs, therefore just because one LSOA scores poorly on accessibility of services it does not mean that this is an issue for the whole Local Authority.

- **Note D-2**

Tables of the data within this section are available in the connectivity and accessibility supplementary data tables.

- **Note D-3**

Technical information on Journey Time Statistics can be found at https://www.gov.uk/government/publications/journey-time-statistics-guidance

- **Note D-4**

Source: DfT Journey Time Statistics: www.gov.uk/government/collections/journey-time-statistics#data-tables (files JTS0102, JTS0202, JTS0302)

- **Note D-5**

“Rural Village and Dispersed” refers to the combination of “Rural Village” and “Rural Hamlet and Isolated Dwellings” from the Rural-Urban Classification.

E. Home working

Working from home is generally more common in Rural areas than Urban areas (34% and 30% respectively of all workers for each area type in 2022), but it is dependent on the type of sector people work in.

Summary

Home working is defined by the ONS for statistical purposes as those who usually spend at least half of their work time using their home, either within their grounds or in different places or using it as a base.

In 2022 there were an estimated 1.6 million home workers in Rural areas, accounting for 34% of all workers living in Rural areas. There were an estimated 6.9 million home workers in Urban areas, accounting for 30% of all workers living in Urban areas. The highest rate of home workers was found in Rural Hamlets and Isolated Dwellings, at 43%. There were more home workers in 2022 than at any other point in the last 10 years.

Home working is more common in some sectors than others. In 2022, the sector with the greatest proportion of the home-working population in both Rural and Urban areas was the professional, scientific and technical service sector (15% and 16% respectively). The sector which had seen the greatest change on the previous year was the 'Public administration and defence; compulsory social security' sector where it's proportion of the home-working population had increased in both Rural and Urban areas by 2 and 1 percentage points respectively.

Home working

Home working is defined as those who usually spend at least half of their work time using their home, either within their grounds or in different places or using it as a base.

The following analysis uses data from the Office for National Statistics Annual Population Survey. Data is provided as part of a bespoke data request under a data sharing agreement. 2022 survey results continue to show an increase in the number of homeworkers when compared with 2020. The anticipated increase in homeworking was not evident in the 2020 results as respondents were asked to consider where they would usually work in their main job prior to the COVID-19 pandemic, rather than the situation under COVID-19 restrictions. In 2021 the survey returned to the original question wording, simply asking respondents to record whether or not they work from home in their main job. This means it is not until 2021 that we started to see fully the anticipated increase in homeworking which came about as a result of the COVID-19 pandemic and its longer term implications for working patterns.

The Annual Population Survey estimated that of the 27.6 million people in work in England in 2022 (see Note E-1), 8.6 million (31%) were home workers. Of these 8.6 million home workers, 1.6 million were from Rural areas, and 6.9 million were from Urban areas, as shown in Figure E-1 (note, the sum of Rural and Urban figures do not match the England total exactly due to rounding).

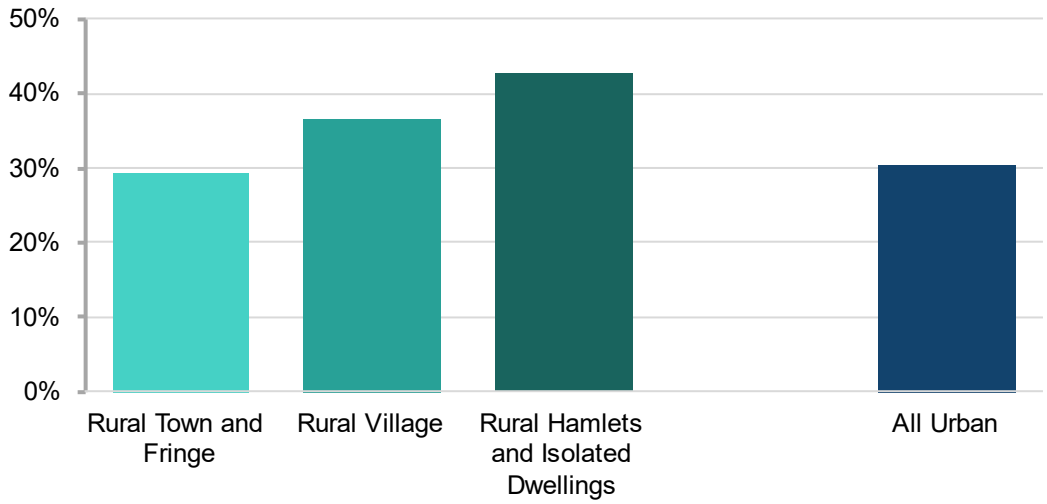
Figure E-1: Infographic to show the proportions of home workers by Rural-Urban Classification, 2022

The highest rate of home workers was found in Rural Hamlets and Isolated Dwellings, at 43%. Overall Rural areas had a higher rate of home working (34%) compared with Urban areas (30%). This is to be expected as those in Rural areas potentially have more to gain from home working. When considering average journey times those in Rural areas have further to travel to access key services, such as places of work. For example, the average journey time by car to places with 5,000 or more jobs is 25 minutes in Rural areas and 14 minutes in Urban areas. See Section D: Access to Services for more detail.

According to the Office for National Statistics, home workers are more likely to be working in higher skilled roles and hence earn on average a higher hourly wage, however this will vary across Rural areas (see Note E-3).

Figure E-2 is a bar chart showing that rates of home working tend to be higher the more Rural a settlement is; the highest for 2022 was 43% in Rural Hamlets and Isolated Dwellings. However, in more urbanised rural areas (Rural Town and Fringe) rates of homeworking are close to those in Urban areas (29% for Rural Town and Fringe and 30% for Urban areas).

Figure E-2: Bar chart showing home workers as a percentage of all those employed, based on where they live, by Rural-Urban Classification in England, 2022



Between 2013 and 2022 the rate of home working increased Rural and Urban areas, and as shown in the line chart Figure E-3, 2022 showed the highest rate of home workers for the period 2013 to 2022 (see Note E-4). Rates have showed the greatest increase between 2020 and 2021, potentially as a result of the COVID-19 pandemic The greatest increases have been seen in Urban areas where the proportion of home workers increased by 18 percentage points between 2013 and 2022, compared with an increase of 12 percentage points in Rural areas.

Figure E-3: Line chart showing home workers as a percentage of all those employed, based on where they live, by Rural-Urban Classification in England, 2013 to 2022

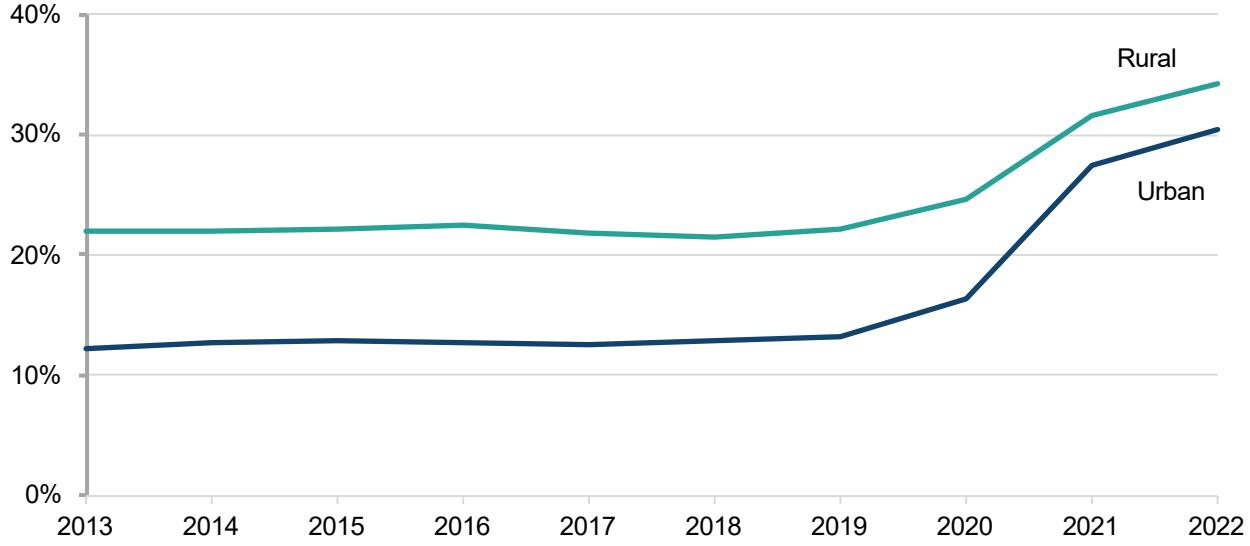


Figure E-4 and Figure E-5 are bar charts focussing on the increase in home-workers between 2020 and 2022. They show that while the Rural Hamlets and Isolated Dwellings classification continues to have the greatest proportion of home-workers (43% of the working population for the

area type in 2022, see Figure E-4), it is Urban areas that have seen the greatest increase in the level of home-workers with an increase of 14 percentage points between 2020 and 2022 (Figure E-5).

Figure E-4: Bar chart showing home workers as a percentage of all those employed, by Rural-Urban Classification in England, 2020 to 2022

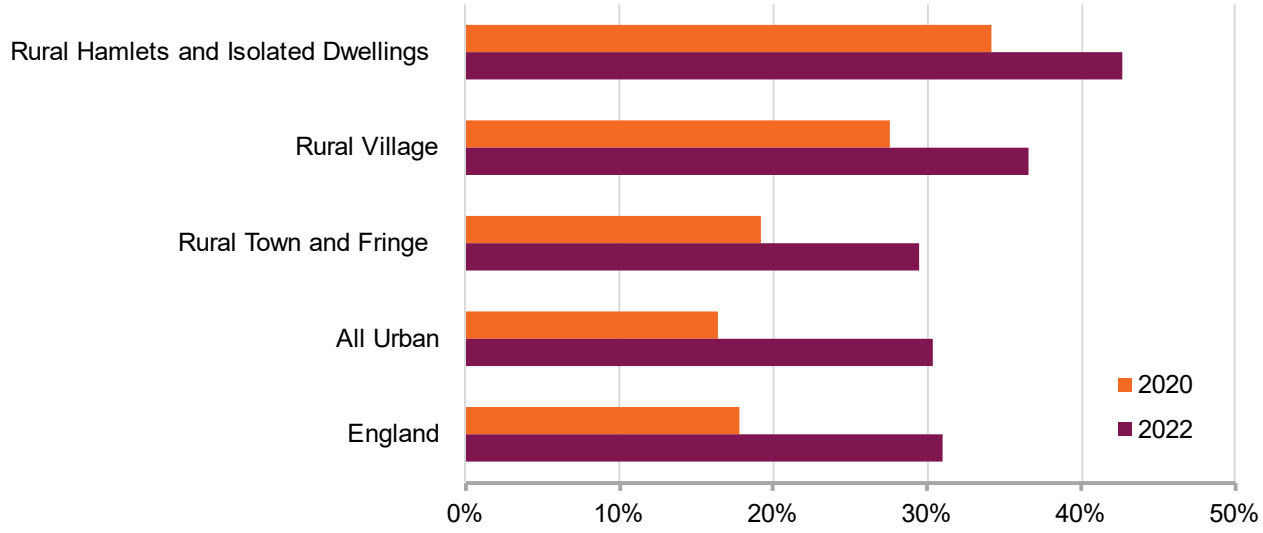


Figure E-5: Bar chart showing the size of increase (in percentage points) in levels of home working between 2020 and 2022, based on where they live, by Rural-Urban Classification in England

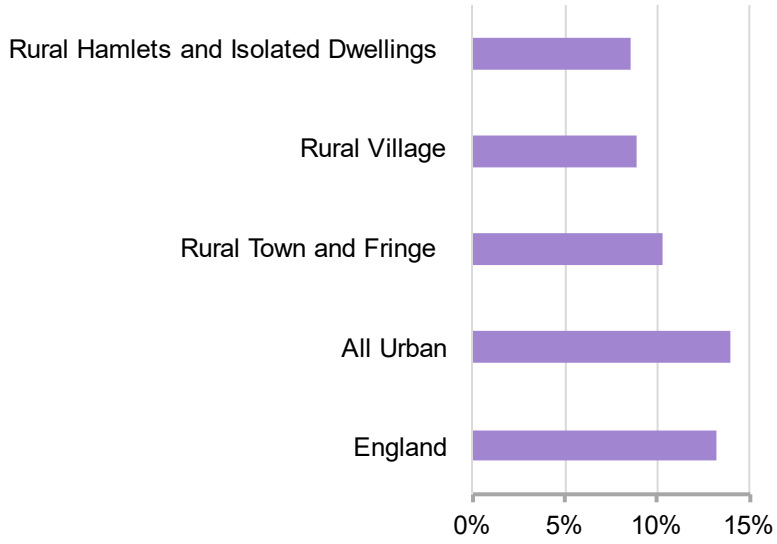
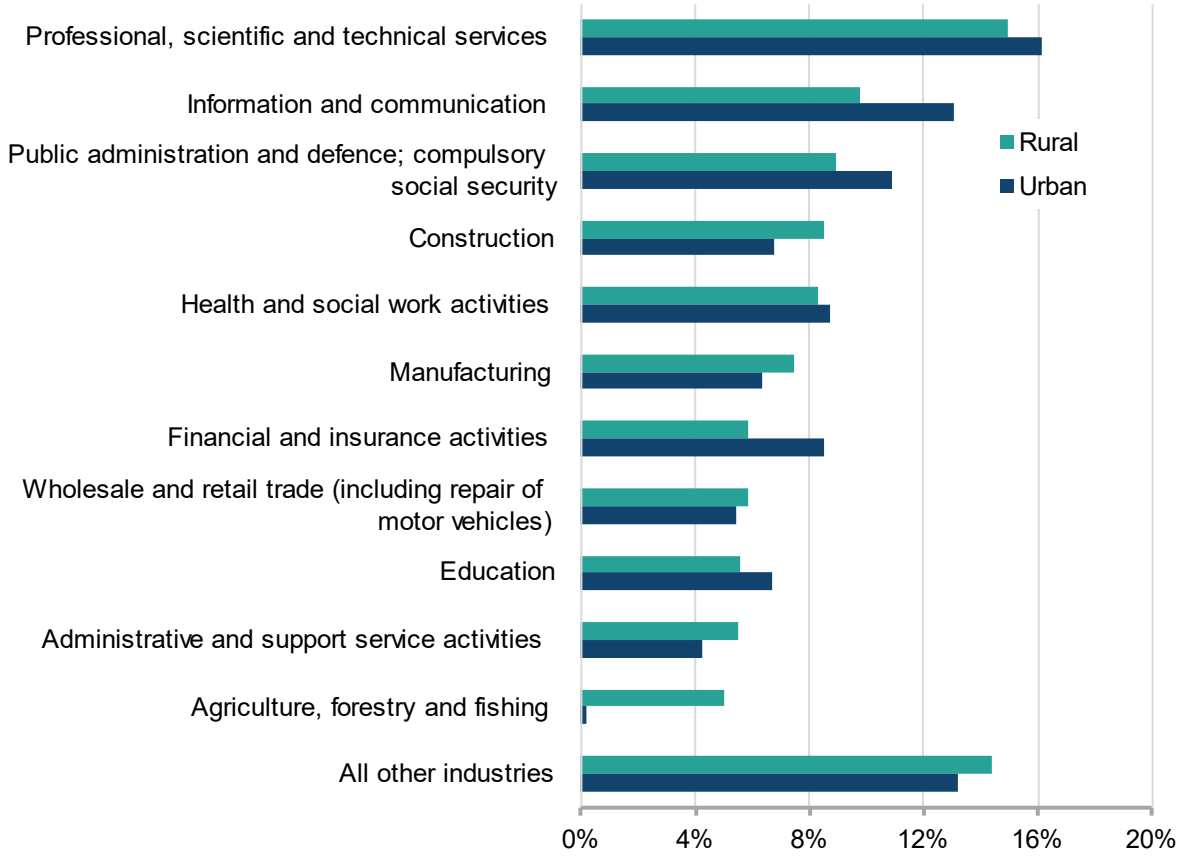


Figure E-6 is a bar chart showing how the home-working populations for Rural and Urban areas are split across the high-level sector groupings in 2022. Leaving aside the 'all other industries' grouping, Figure E-6 shows that the sector with the greatest proportion of the home-working population in both Rural and Urban areas is the Professional, scientific and technical service sector (15% and 16% respectively) followed by the Information and communication sector (10% and 13% respectively) and then the Public administration and defence sector (9% and 11% respectively). In Rural areas the sectors with the smallest proportions of homeworkers are the Education sector (6%), and the Administrative and support services sector and the Agriculture, forestry and fishing

sector (both with 5%). In Urban areas the sectors with the smallest proportions of homeworkers are the Wholesale and retail trade sector (5%), the Administrative and support services sector (4%) and the Agriculture, forestry and fishing sector (0.2%).

Figure E-6: Bar chart showing home-working population, by sector, based on where they live, and Rural-Urban Classification in England, 2022 (Note E-6)



Notes:

- "Employed" involves people aged 16 and over.
- All Urban category includes Urban City and Town, Urban Minor Conurbation and Urban Major Conurbation areas.

Home working explanatory notes

- **Note E-1**

This figure is for all those who reported their working status. It differs slightly from the total number employed as some respondents have not reported their home working status.

- **Note E-2**

Home workers are defined as those who usually spend at least half of their work time using their home, either within their grounds or in different places or using it as a base. Home workers will include both those who are employees of organisations and those who are self-employed. The category for home workers includes the following: those who work within their home, those who work in the same grounds or buildings of their home, and those who work in different places but use their home as a base.

- **Note E-3**

Further information can be found in the ONS document, Characteristics of Home Workers, 2014

- **Note E-4**

For Figure E-3: data from 2011 are classified using the Rural-Urban Classification 2011.

- **Note E-5**

A table of homeworking figures broken down by Rural-Urban Classification covering 2006 to 2021 is available in the supplementary data tables.

- **Note E-6**

All industries with less than 75 thousand home-workers in Rural areas have been grouped into the 'All other industries' category.

Appendix 1: The 8 thematic reports that make up the Statistical Digest of Rural England (and the topics included within them)

1. Population

A. Population level and change
B. Population age profile
C. Ethnicity
D. Internal migration
E. Local Authority population data

2. Housing

A. Housing stock: age and type
B. Housing stock: additions and affordable housing
C. Housing costs: purchases and rentals
D. House purchase affordability
E. Second and empty homes
F. Homelessness
G. Land use change for housing
H. Housing quality

3. Health and Wellbeing

A. Life expectancy
B. Wellbeing
C. NHS Dentistry provision
D. General Practices
E. Childcare provision
F. Loneliness
G. Volunteering and charity

4. Communities and Households

A. Deprivation
B. Poverty due to low income
C. Household expenditure
D. Police recorded crime and outcomes
E. Crime surveys: local police and businesses
F. Feelings about the local neighbourhood

5. Connectivity and Accessibility

A. Broadband and mobile
B. Travel behaviours
C. Access to personal transport
D. Access to services
E. Home working

6. Education, Qualifications and Training

A. Schools and their workforce
B. Class sizes
C. Secondary education attainment
D. School inspections
E. Free school meals - eligibility
F. Alternative and specialist education provision
G. Progression to higher education
H. Apprenticeships and on-the-job training
I. Workforce education level

7. Rural Economic Bulletin

A. Employment
B. Earnings
C. Redundancies
D. Claimant count - Jobseeker's Allowance
E. Output and productivity measured by Gross Value Added (GVA)
F. Business demographics
G. Businesses by industry
H. Business survival and growth
I. Innovation and investment

8. Energy

A. Fuel poverty
B. Energy Performance Certificates: average Energy Efficiency Score
C. Energy Performance Certificates: achieving energy efficiency category C
D. Energy Costs
E. Energy Consumption
F. CO2 emissions

Each of the 8 themes also has their own set of supplementary data tables that include the larger source data that could not be included in the presented document. The chapter headings above are hyperlinked to the home page for that specific digest theme. The supplementary tables can be accessed from these home pages.

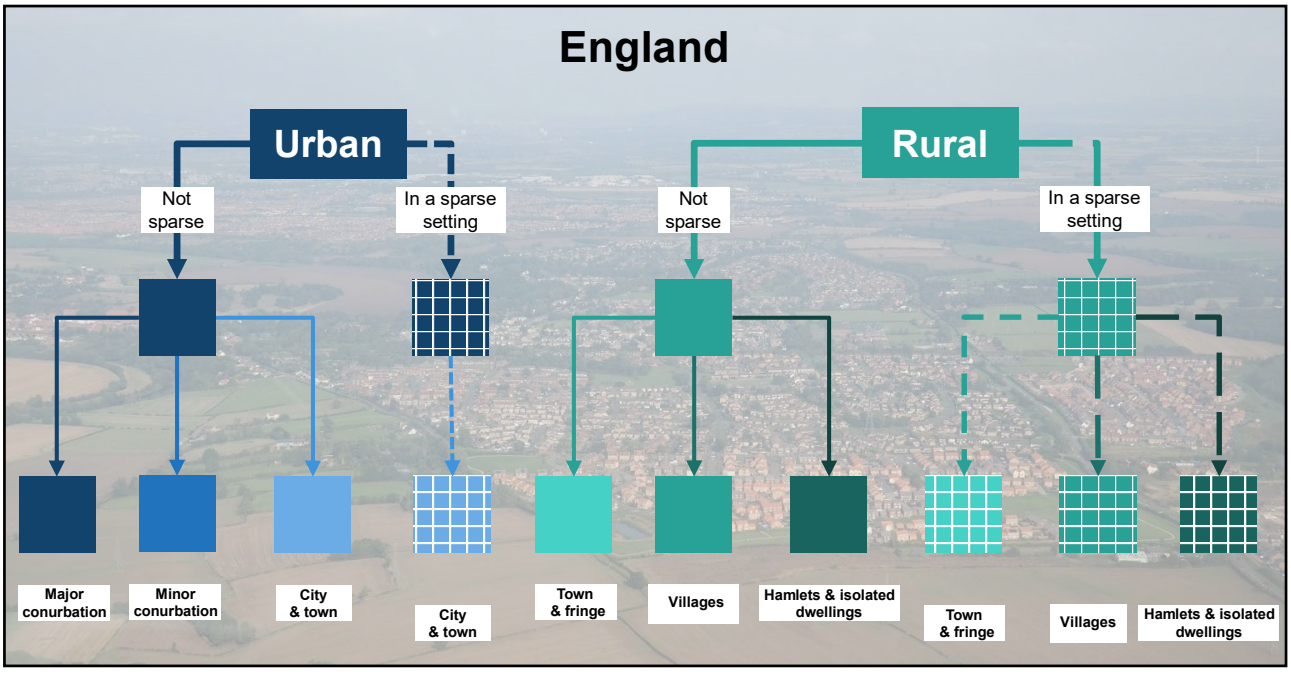
There is a further document including the individual Local Authority data tables, which have been separated for ease of use.

Appendix 2: Defining Rural areas

Wherever possible, the Rural-Urban Classification is used to distinguish Rural and Urban areas. The Classification defines areas as Rural if they fall outside of settlements with more than 10,000 resident population.

Census Output Areas are the smallest areas for which data are available from Censuses. These Census Output Areas are assigned to one of four Urban or six Rural categories (Figure X-1) based on dwelling densities. Those described as "in a sparse setting" reflect where the wider area is sparsely populated (again based on dwelling densities). From Census Output Areas, other small area geographies can be classified based on how they map to Census Output Areas (such as Lower Super Output Areas (LSOAs), Wards, and postcodes – Note 1).

Figure X-1: Classifying Rural and Urban areas for small geographical areas



A map showing the distribution of the Rural and Urban Census Output Areas is shown in Figure X-2.

When data are not available at a small geographical scale, it may be possible to apply the Rural-Urban Local Authority Classification or a similar classification for other larger geographies. This classification categorises districts and unitary authorities on a six-point scale from Rural to Urban. It is underpinned by Rural and Urban populations as defined by the Census Output Area Classification. A map of the geographical distribution of the Rural and Urban Local Authorities is shown in Figure X-3.

However, the Local Authority Classification also considers some Urban areas as Hub Towns (with populations of between 10,000 and 30,000). These Hub Towns have met statistical criteria (based on dwelling and business premise densities) to be considered hubs for services and businesses for a wider rural hinterland and their populations are therefore classified as effectively Rural for the purposes of determining the classification of the authority.

Figure X-2: Map of the 2011 Rural-Urban Classification for Census Output Areas in England

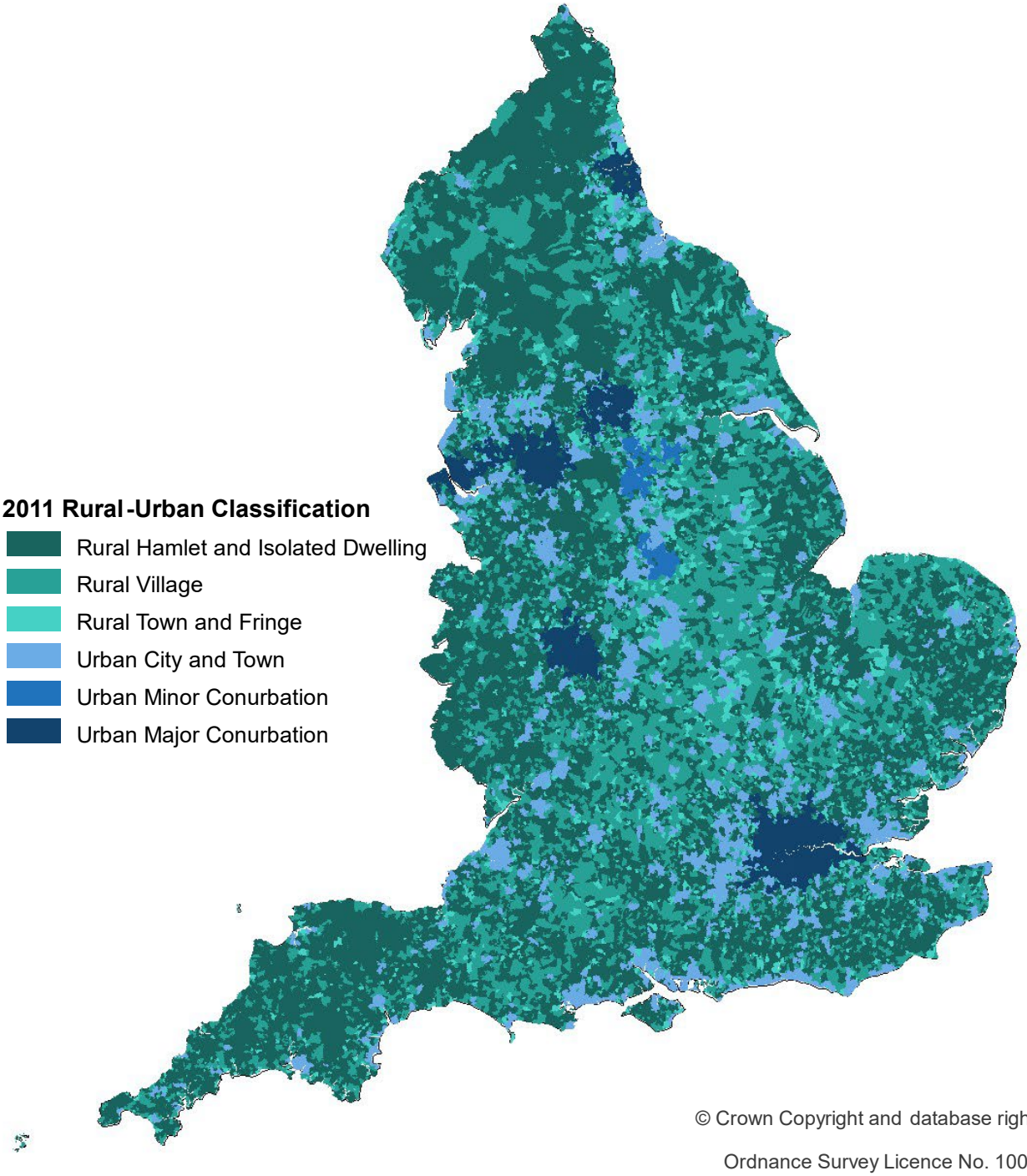
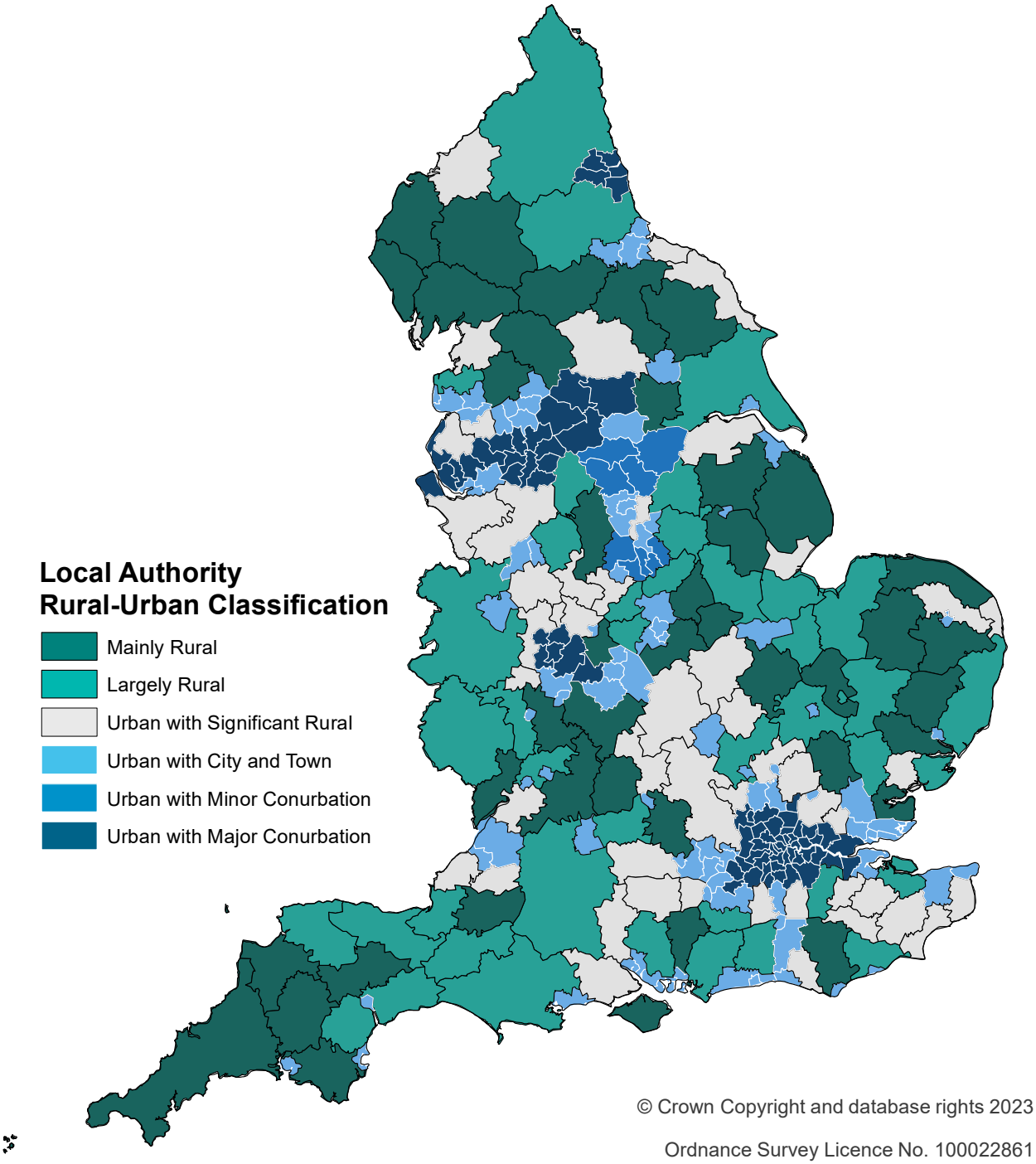
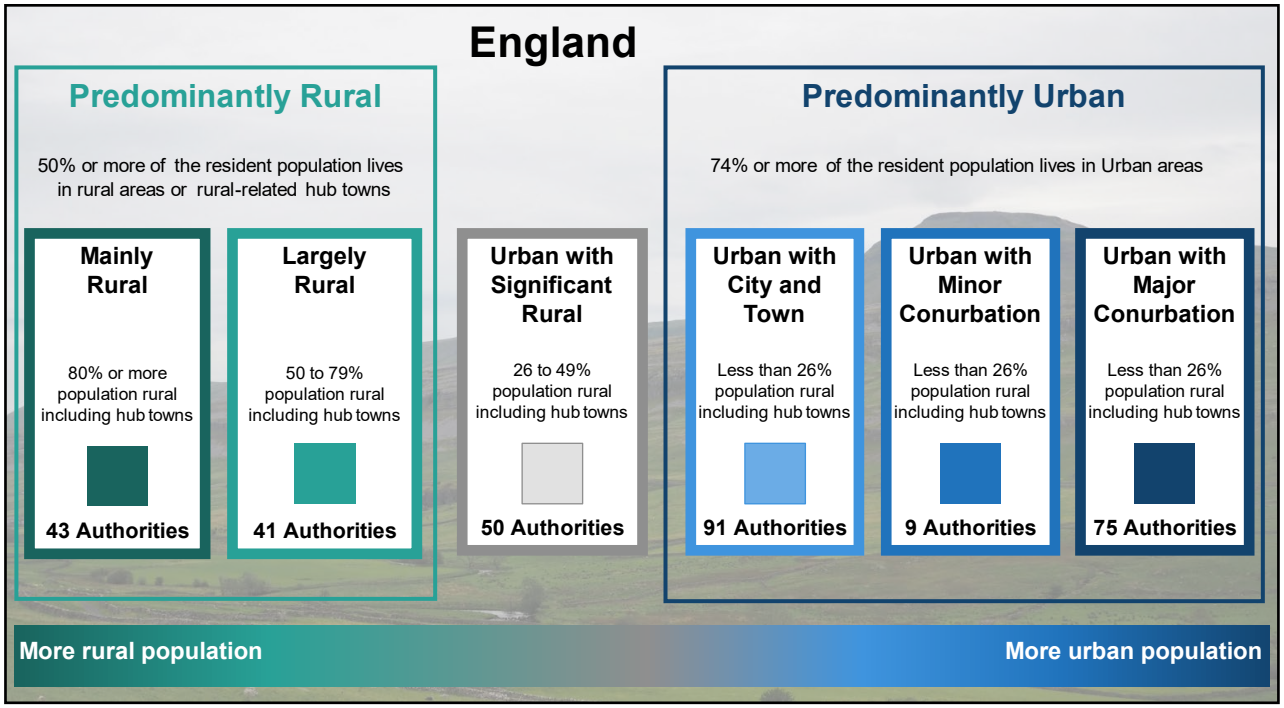


Figure X-3: Map of the 2011 Rural-Urban Classification for Local Authority Districts and Unitary Authorities in England



Under the classification, which is shown in Figure X-4, each Local Authority is assigned to one of six categories on the basis of the percentage of the total resident population accounted for by the combined Rural and Hub Town components of its population and its 'conurbation context'. The Local Authority Classification categories are frequently aggregated to ‘Predominantly Rural’, ‘Urban with Significant Rural’ and ‘Predominantly Urban’ as shown on Figure X-4.

Figure X-4: 2011 Rural-Urban Classification for Local Authorities in England



The Local Authority Rural-Urban Classification is based on populations and settlement patterns, not on how much countryside there is. Authorities classified as Urban may have wide areas of countryside and may have sizeable Rural populations. The classification has been made according to the proportions of the population residing in Urban settlements and outside Urban settlements. More information on the classifications can be found at: The Rural-Urban Definition.

A similar approach to that for Local Authorities was used to create a classification for Westminster Parliamentary Constituencies. Under this classification, which is shown in Figure X-5, each Parliamentary Constituency is assigned to one of six categories on the basis of the percentage of the total resident population accounted for by the combined Rural and Hub Town components of its population and its 'conurbation context'. A map of the geographical distribution of the Rural and Urban Westminster Parliamentary Constituencies is shown in Figure X-5. This map depicts a classification for the new rebalanced Parliamentary Constituencies that were introduced for 2024 General Election. The Parliamentary Constituency Classification categories are frequently aggregated to ‘Predominantly Rural’, ‘Urban with Significant Rural’ and ‘Predominantly Urban’ as shown on Figure X-6.

Figure X-5: Map of the 2011 Rural-Urban Classification for Westminster Parliamentary Constituencies in England

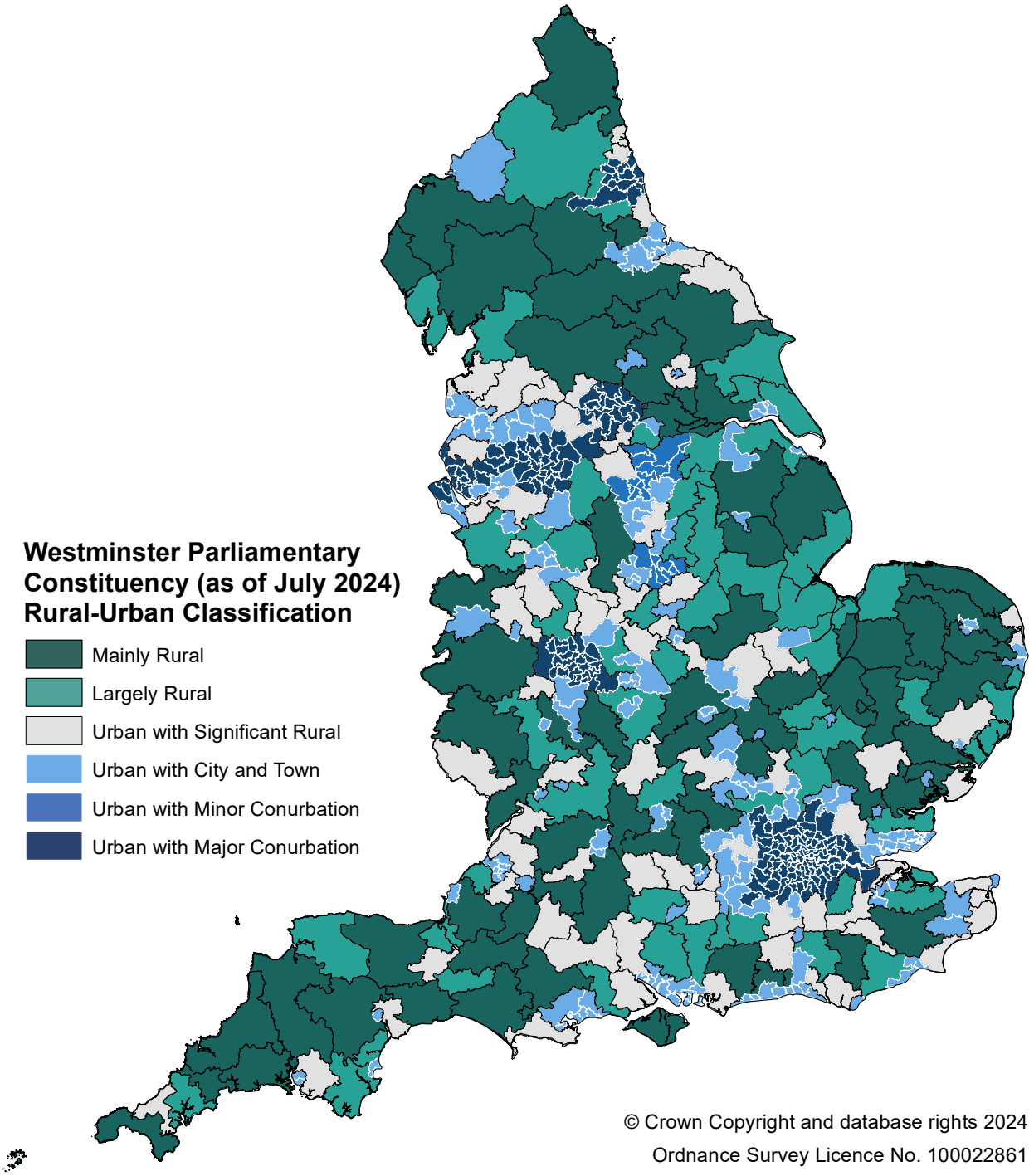
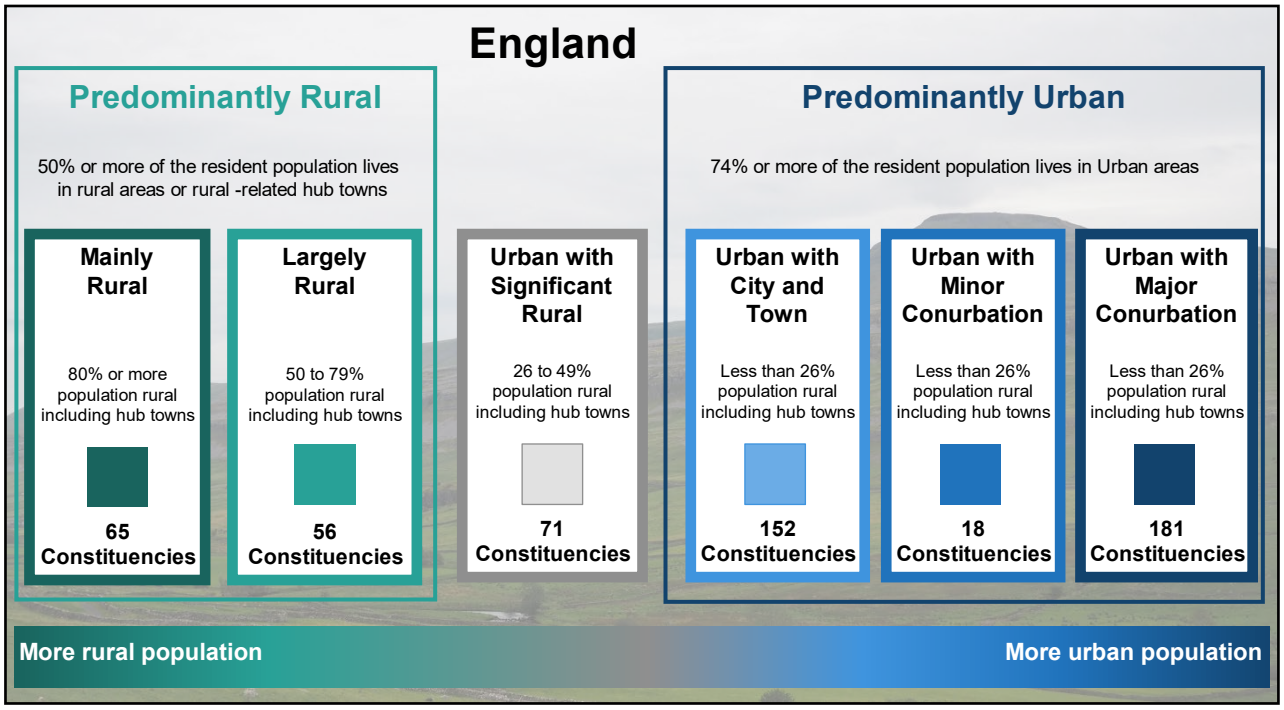


Figure X-6: 2011 Rural-Urban Classification for Westminster Parliamentary Constituencies in England



Defining Rural areas explanatory notes

- **Note 1:** Defining Super Output Areas and Wards

Census Output Areas (OAs) were created for publication of the results of the recent Censuses. They cover around 125 households. In practice few datasets are produced at OA level. However, other larger geographies can be built up from OAs. These include *Lower Layer Super Output Areas* (LSOAs) which typically contain 5 OAs, so contain approximately 625 households or a population of approximately 1,500 and a minimum 1,000. Their Rural-Urban Classification is based on the majority category of OAs they contain. Some other geographies, for example postcodes are classified based on the location of their central point and the classification of respective OA.

- **Note 2:** Accessibility of Figure X-2

We accept that this map might not be accessible for all users, but it is difficult to develop a map containing six colours that will provide enough contrast between all colours to enable every user to see them, especially when the shaded areas are small. Separate maps (showing only three levels of shading) for Rural and Urban areas are available on request from: rural.statistics@defra.gov.uk