Accessibility

- Monitoring accessibility is important because it can help identify who has access to and therefore benefits from services and who might be disadvantaged. One way of measuring accessibility is the time taken to travel to particular service locations.
- Generally, people living in *rural* settlements have lower overall levels of accessibility to key service locations compared with people living in *urban* settlements, while people living in *rural areas in a sparse setting* have the lowest overall accessibility.
- The **average number** of key service locations within a 'reasonable' time by **public transport or walking**:
    - was highest for centres of employment (concentrations of jobs) in both *rural* areas (5.1 centres) and *urban* areas (7.1 centres)
    - was lowest for hospitals and town centres (both 0.3) in *rural* areas, while hospitals were also the least accessible service locations in *urban* areas (0.7)
- The **percentage** of people with 'reasonable' access to key service locations by **public transport or walking**:
    - was highest for centres of employment in both *rural* areas *(*76 per cent of users) and *urban areas* (85 per cent of users)
    - was lowest for hospitals in both *rural* areas (19 per cent of users) and *urban* areas (36 per cent of users)
- Overall the **percentage** of users with access within a reasonable time by **public transport or walking** (taking account of all service location types) was lowest for people living in *rural villages and dispersed sparse areas*, with only 37 per cent having reasonable access. This increased to 60 per cent when travelling by car.

Measuring accessibility

'Accessibility' has been calculated from Department for Transport's (DfT's) accessibility indicators for eight key service locations: **primary and secondary schools, further education institutions, General Practitioners (GPs), hospitals, town centres, food stores, centres of employment** (based on concentrations of jobs)**.** These are vital locations or services which offer health services, job and education opportunities and basic retail services. For each service location DfT calculate the percentage of target users within the resident area for the relevant service who have 'reasonable' access to the given service location by different modes of transport. 'Reasonable access' is a measure of accessibility which takes into account the sensitivity of users to the travel time for each. It therefore takes into account how likely they are to travel to the given service location by different modes of transport, given the time it will take and users' willingness to undertake the journey. This gives an estimate of the accessibility of services from any given type of area. **The accessibility figures in this publication are for travel by public transport or walking (PT/W) and by car.**

These calculations are based on the actual travel time multiplied by a factor which indicates how likely someone is to make the journey. People are generally more willing to undertake a longer journey for essential services that they need to access, such as for their work. Service locations in rural settlements are likely to serve a larger geographical area than for those in urban settlements, in part due to the fact that rural areas have low population densities. This in turn is likely to impact on travel time and the likelihood of people making the journey.

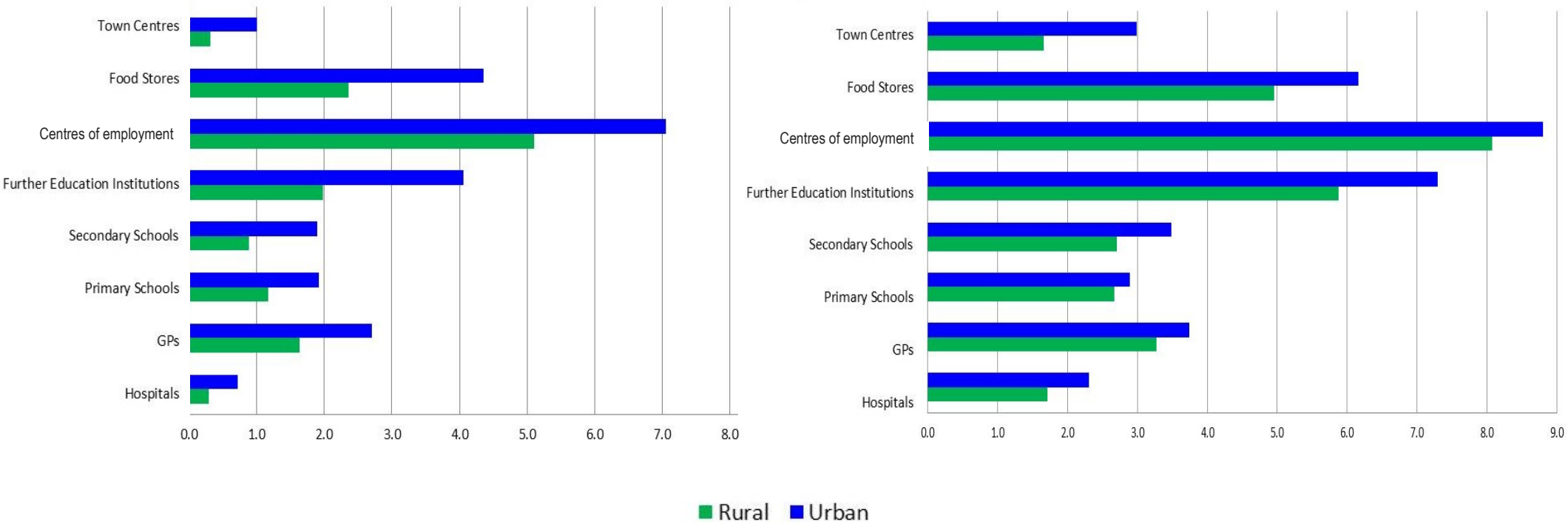
Composite measures have been calculated by dividing the number of users likely to be willing to access the service location by the potential populations that could be served by the service location. This gives a broad indication of the overall accessibility. Composite measures have been produced individually for journeys taken by public transport or walking and by car**.**

Service accessibility

- The **average number** of key service locations accessible to people living in *rural areas* and *urban areas* within a 'reasonable' travel time by **public transport or walking** was highest for centres of employment (locations of jobs), with 5.1 and 7.1 centres of employment respectively.
- For travel by **car,** the same applied for *rural* and *urban* areas, with the average number of key service locations highest for centres of employment, with 8.1 and 8.8 centres of employment, respectively.
- In *rural areas* on average, there were fewer than one town centre or hospital accessible within a reasonable time by **public transport or walking**.
- In *urban areas* on average the service locations with the lowest level of accessibility were hospitals with fewer than one within a 'reasonable' travel time by **public transport or walking**.
- For the **percentage of users** with access to service locations in a 'reasonable' time, it was a similar situation to the number of service locations available. Around 19 per cent of people living in *rural areas* had reasonable access to hospitals by **public transport or walking**, compared with 36 per cent of people living in *urban areas*.
- Travelling by car is important where public transport links are limited, which can be especially true of *rural areas*. In *rural areas* in 2013 there were on average five times more town centres and hospitals accessible by **car** than were accessible by **public transport or walking**. Census 2011 results showed that 48.9 per cent of rural households had 2 or more cars or vans, compared with 28.5 per cent of urban households.

Average number of key service locations accessible within a reasonable time:

by public transport or walking ***by car***

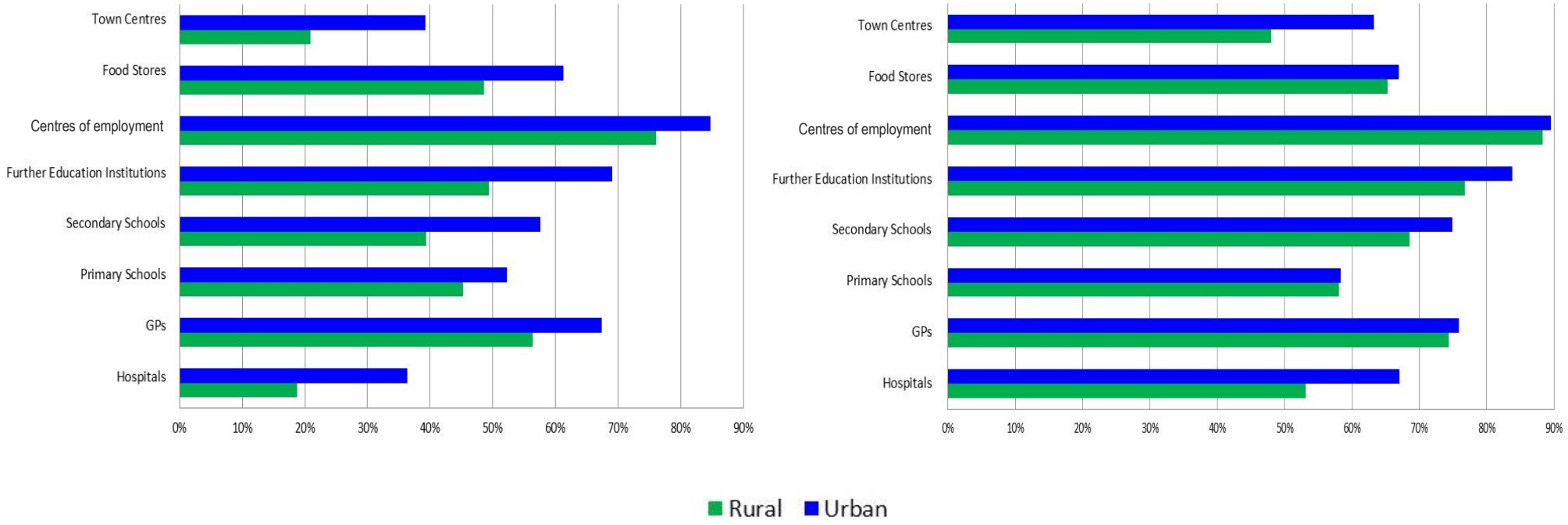


Average number of key service locations accessible within a 'reasonable' time by public transport or walking (PT/W) or by car, in England, 2013

	Town Centres		Food Stores		Centres of employment		Further Education Institutions		Secondary Schools		Primary Schools		General Practitioners		Hospitals	
	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car
Rural	0.3	1.7	2.4	5.0	5.1	8.1	2.0	5.9	0.9	2.7	1.2	2.7	1.6	3.3	0.3	1.7
Urban	1.0	3.0	4.4	6.2	7.1	8.8	4.1	7.3	1.9	3.5	1.9	2.9	2.7	3.7	0.7	2.3

Percentage of users with access within a reasonable time:

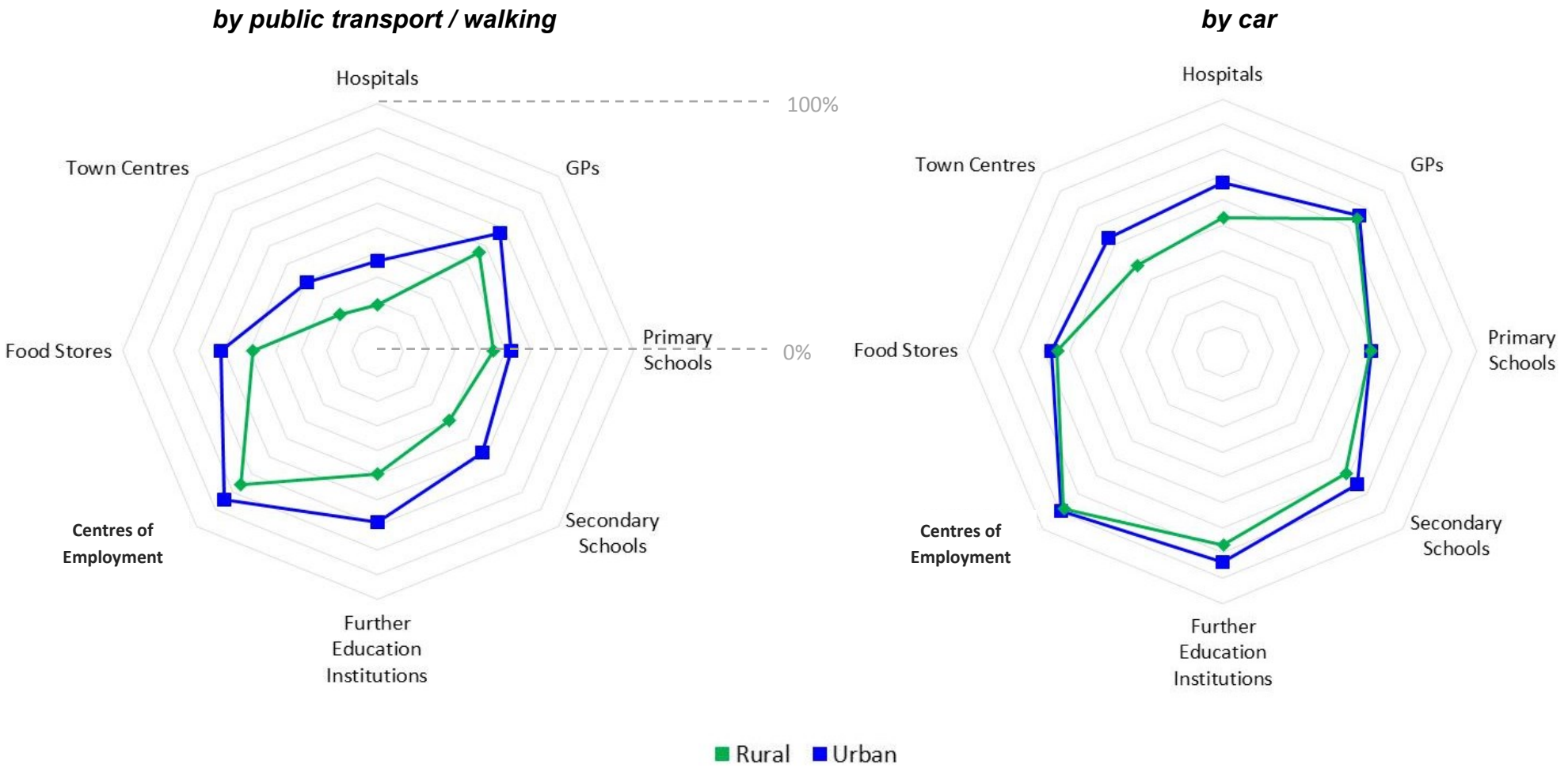
by public transport or walking ***by car***



Percentage of the target population with 'reasonable' access to key service locations by public transport or walking (PT/W) or by car, in England, 2013

	Town Centres		Food Stores		Centres of employment		Further Education Institutions		Secondary Schools		Primary Schools		General Practitioners		Hospitals	
	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car	PT/W	Car
Rural	21	48	49	65	76	88	49	77	39	69	45	58	56	74	19	53
Urban	39	63	61	67	85	90	69	84	58	75	52	58	67	76	36	67

Percentage of users with access to key service locations, 2013



- The points in the radar charts represent the percentage of users with access to each service location; these are joined to give a boundary line representing the area or range of access to key services. The larger the area inside the boundary line, the greater accessibility to services.
- The percentage of rural users with access to key services is lower compared with urban people for both modes of transport, but the difference is greatest for access by public transport or walking.

Average overall accessibility

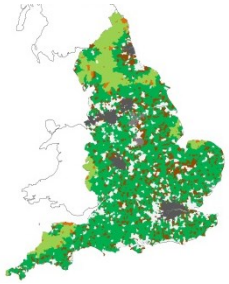
Composite measure for the percentage of the target population with 'reasonable' access to key service locations by public transport or walking (PT/W) or by car, and the number of key service locations accessible, by rural urban classification, 2013

2011 Rural-Urban Classification of Lower Super Output Areas	Average number of services accessible		Percentage of people with reasonable access	
	By PT/W	By car	By PT/W	By car
Rural town and fringe	15	32	52	70
Rural town and fringe in a sparse setting	13	25	55	67
Rural village and dispersed	12	30	43	68
Rural village and dispersed in a sparse setting	8	22	37	60
Urban major conurbation	27	40	63	75
Urban minor conurbation	23	38	60	74
Urban city and town	22	36	60	74
Urban city and town in a sparse setting	15	26	60	72
All Rural (Rural England)	14	31	48	69
All Urban (Urban England)	24	38	61	75
England Overall	22	37	59	73

- A composite measure has been derived which combines the average accessibility of each of the eight key service types to give an overall figure for each mode of transport.
- People living in *rural villages and dispersed sparse areas* have access to the fewest service locations by both public transport or walking and by car (8 and 22 service locations respectively).
- Fewer than 40 per cent of users living in *rural villages and dispersed sparse areas* have access within a reasonable time by public transport or walking to key services.

Composite number of key service locations accessible in a reasonable time *by public transport or walking*

LSOA rural urban classification 2011

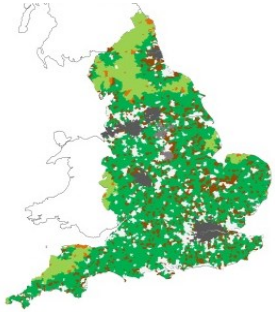


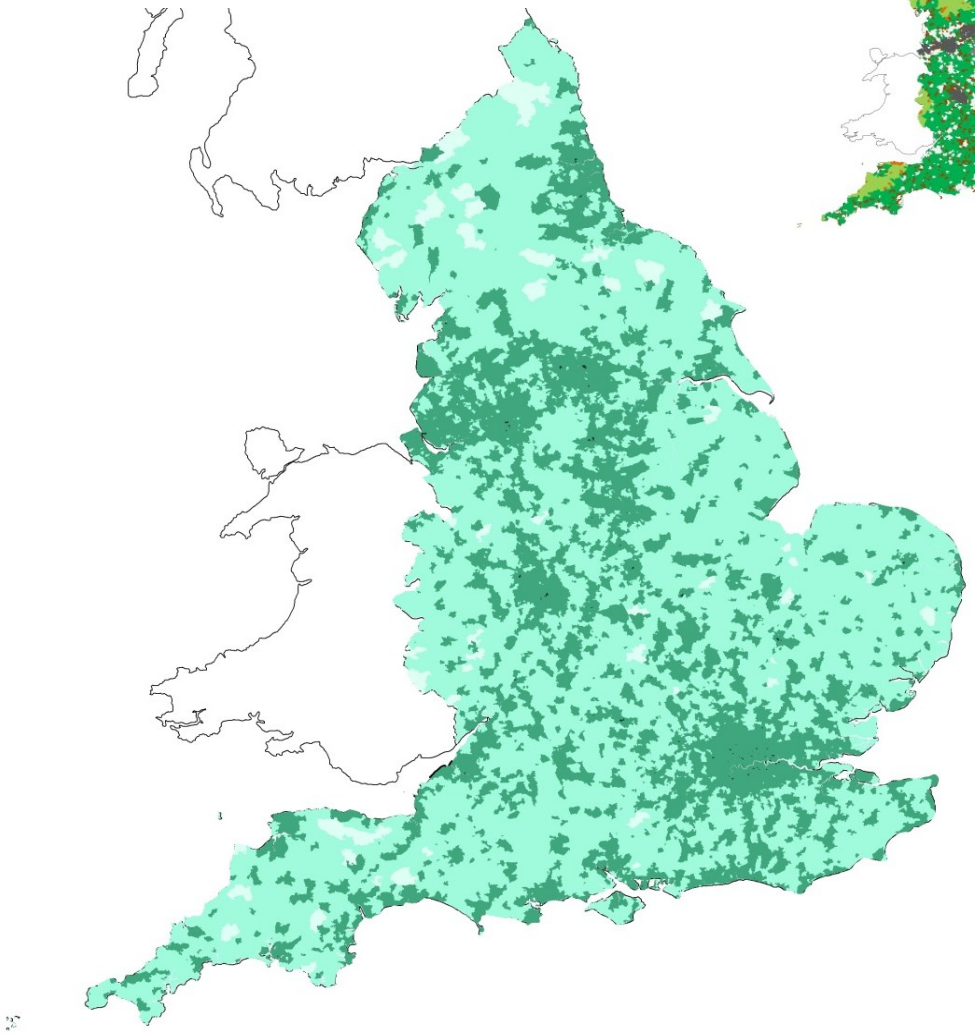
Composite number of key service locations accessible in a reasonable time *by car*

Source: ONS, Defra, DfT Accessibility statistics 2013 at LSOA level

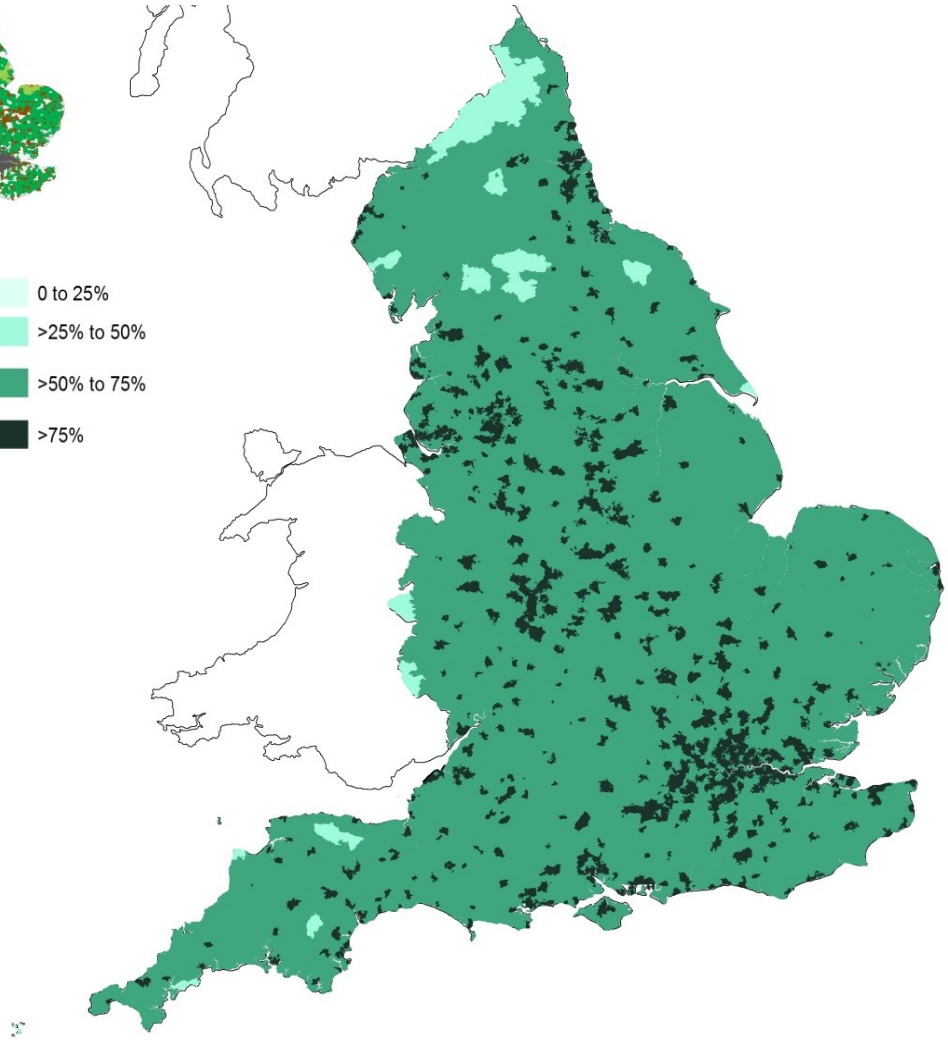
Composite percentage of users with access within a reasonable time *by public transport or walking*

LSOA rural urban classification 2011





Composite percentage of users with access within a reasonable time *by car*



Source: ONS, Defra, DfT Accessibility statistics 2013 at LSOA level

Notes: Only registered public transport services within the regional Traveline datasets are included in the accessibility statistics calculations. This means Demand Responsive Transport (DRT), other flexibly routed services, and school transport services are usually not included. Therefore, especially in rural areas, the accessibility statistics are likely to be an underestimate of actual accessibility. These measures are based on the sensitivity of users to the travel time for each service, i.e. the longer it takes to get to a particular service, the fewer people will go.

For example, the proportion of users in a local area who can access a service within set limits for primary schools is the percentage of 5 to 10 year olds who can get to the nearest primary school by public transport or walking in less than 15 minutes. The number of services accessible within set time limits to users of an area, for primary schools is the number of primary schools less than 15 minutes away by public transport or walking.

The number of services available within a set time is expressed as one of a range of numbers. For example, the number of hospitals within 30 minutes by public transport or walking will be between 0 and 5 where 5 represents 5 or more accessible hospitals. Centres of employment analysis is based on those with at least 500 jobs available. The numbers may not be shown as whole numbers because the published data are calculated by producing population-weighted averages of the LSOA.

Source: DfT core accessibility indicators at LSOA level (tables ACS0501-0508) at www.gov.uk/government/statistical-data-sets/acs05-travel-time-destination-and-origin-indicators-to-key-sites-and-services-by-lower-super-output-area-lsoa.
For further methodological information and guidance see www.dft.gov.uk/statistics/series/accessibility.
The RUC11 has been applied to the data at LSOA level.