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

<table>
<thead>
<tr>
<th></th>
<th>Town Centres</th>
<th>Food Stores</th>
<th>Centres of employment</th>
<th>Further Education Institutions</th>
<th>Secondary Schools</th>
<th>Primary Schools</th>
<th>General Practitioners</th>
<th>Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PT/W</td>
<td>Car</td>
<td>PT/W</td>
<td>Car</td>
<td>PT/W</td>
<td>Car</td>
<td>PT/W</td>
<td>Car</td>
</tr>
<tr>
<td>Rural</td>
<td>0.3</td>
<td>1.7</td>
<td>2.4</td>
<td>5.0</td>
<td>5.1</td>
<td>8.1</td>
<td>2.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Urban</td>
<td>1.0</td>
<td>3.0</td>
<td>4.4</td>
<td>6.2</td>
<td>7.1</td>
<td>8.8</td>
<td>4.1</td>
<td>7.3</td>
</tr>
</tbody>
</table>

Rural ▪ Urban
Percentage of users with access within a reasonable time:

- by public transport or walking
- by car

### Town Centres
- Rural: 21%
- Urban: 39%

### Food Stores
- Rural: 48%
- Urban: 63%

### Centres of employment
- Rural: 49%
- Urban: 61%

### Further Education Institutions
- Rural: 76%
- Urban: 85%

### Secondary Schools
- Rural: 49%
- Urban: 69%

### Primary Schools
- Rural: 77%
- Urban: 84%

### General Practitioners
- Rural: 39%
- Urban: 58%

### Hospitals
- Rural: 45%
- Urban: 52%

### 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

<table>
<thead>
<tr>
<th>Service Location</th>
<th>PT/W</th>
<th>Car</th>
<th>PT/W</th>
<th>Car</th>
<th>PT/W</th>
<th>Car</th>
<th>PT/W</th>
<th>Car</th>
<th>PT/W</th>
<th>Car</th>
<th>PT/W</th>
<th>Car</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town Centres</td>
<td>21</td>
<td>48</td>
<td>49</td>
<td>65</td>
<td>76</td>
<td>88</td>
<td>49</td>
<td>77</td>
<td>39</td>
<td>69</td>
<td>45</td>
<td>58</td>
</tr>
<tr>
<td>Food Stores</td>
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<td>Centres of employment</td>
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<td>Further Education Institutions</td>
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<tr>
<td>Secondary Schools</td>
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<td>Primary Schools</td>
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<tr>
<td>General Practitioners</td>
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<tr>
<td>Hospitals</td>
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</tr>
</tbody>
</table>
Percentage of users with access to key service locations, 2013

by public transport / walking

- 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.

by car
### 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

<table>
<thead>
<tr>
<th>2011 Rural-Urban Classification of Lower Super Output Areas</th>
<th>Average number of services accessible</th>
<th>Percentage of people with reasonable access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By PT/W</td>
<td>By car</td>
</tr>
<tr>
<td>Rural town and fringe</td>
<td>15</td>
<td>32</td>
</tr>
<tr>
<td>Rural town and fringe in a sparse setting</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>Rural village and dispersed</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>Rural village and dispersed in a sparse setting</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Urban major conurbation</td>
<td>27</td>
<td>40</td>
</tr>
<tr>
<td>Urban minor conurbation</td>
<td>23</td>
<td>38</td>
</tr>
<tr>
<td>Urban city and town</td>
<td>22</td>
<td>36</td>
</tr>
<tr>
<td>Urban city and town in a sparse setting</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td>All Rural (Rural England)</td>
<td>14</td>
<td>31</td>
</tr>
<tr>
<td>All Urban (Urban England)</td>
<td>24</td>
<td>38</td>
</tr>
<tr>
<td>England Overall</td>
<td>22</td>
<td>37</td>
</tr>
</tbody>
</table>

- 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.

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.