

## Accessibility

### 1. Transport Access to Local Essential Facilities

- 1.1. Gloucestershire has 3,326 miles of road<sup>1</sup>, over 600,000 residents and over a quarter of a million households with over 40,000 of these households without a car or van<sup>2</sup> to enable them to access essential services.
- 1.2. Cheltenham, Gloucester and the larger market towns in Gloucestershire have the broadest range of frequent bus services available enabling access to essential food retail, education facilities and health services. Approximately 25 smaller towns are also linked up to the bus transport network maintaining links to the larger conurbations in the county as well as just over the borders to towns such as Evesham, Swindon and Chepstow. The area furthest away from services or a key town is in the mid-Cotswolds around Coln Valley including villages such as Bibury.
- 1.3. The National Indices of Deprivation 2015 includes a measurement of accessibility that gives a consistent comparison of transport access across England. The country is divided up into similar population areas of, on average, 1,600 residents – there are 32,844 of these neighbourhoods in England (known as Lower Super Output Areas/LSOAs) with 373 of these areas in Gloucestershire. Each neighbourhood in England has had distance measurements calculated and ranked to the following services:
  - Post office
  - Primary school
  - General store/supermarket
  - GP Surgery
- 1.4. Figure 1 shows how Gloucestershire's neighbourhoods (LSOAs) fare when compared against all areas in England – the red coloured areas on the map are neighbourhoods that are in the most deprived quintile of “Geographical Barriers” in England. Most of the land area of Gloucestershire falls within this quintile with the exceptions of the urban areas of the county.

<sup>1</sup> Taken from: <http://www.goucestershire.gov.uk/article/120548/365-days-in-the-life-of-Gloucestershires-roads>

<sup>2</sup> 2011 Population Census – Table KS404EW

Key

## National Quintile

Highest Deprivation

Lowest Deprivation

District Boundaries

## GEOGRAPHICAL BARRIERS SUB-DOMAIN

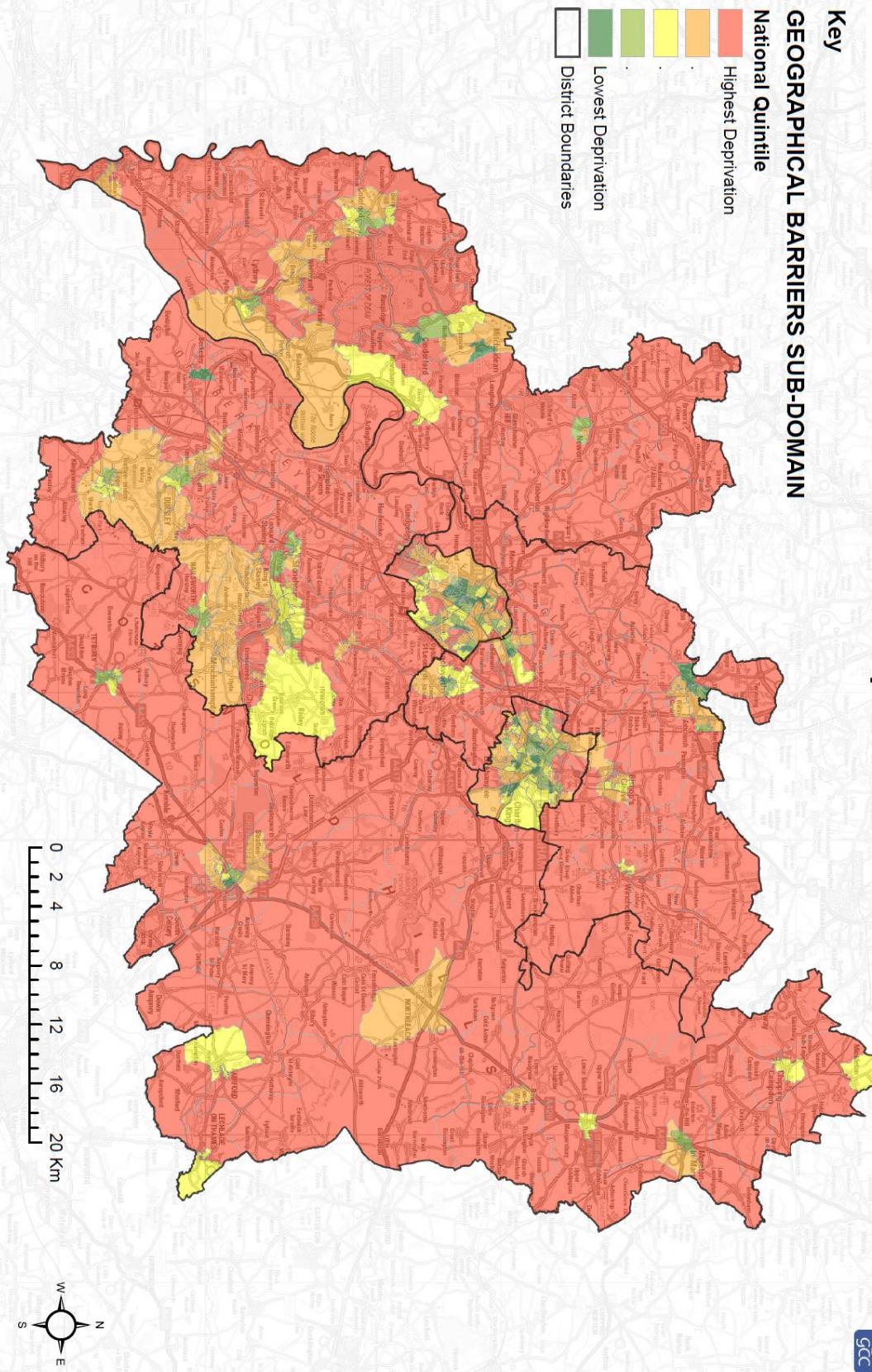


Figure 1: Indices of Deprivation 2015 “Geographical Barriers” Sub Domain

1.5. According to the results from the Indices of Deprivation, the neighbourhood of Ermin is the 37<sup>th</sup> (out of 32,844) most deprived neighbourhood in England for Geographical Barriers. Ermin is a relatively large area located to the south of Leckhampton in Cheltenham and to the east of Brockworth and Stroud<sup>3</sup> with a section of the A417 running through it starting from the Air Balloon roundabout at Birdlip through to the north of Cirencester.

1.6. Gloucestershire's Local Transport Plan 2015-2031<sup>4</sup> contains one indicator – “Maintain bus passenger access (LTP PI-10)” – which focusses on public transport access to GP Surgeries within 45 minutes. The target is to maintain a level of access to GP services by public transport within 45 minutes.

1.7. To monitor this indicator, the county council uses transport modelling software (TRACC) to measure access to GPs and a range of other essential services from every postcode in Gloucestershire. Detailed results are available in the Accessibility Matrix 2019<sup>5</sup> and the following tables summarise the results into proportion of residents that can and cannot access GP services within 45 minutes based on bus service provision during the autumn of 2018.

<b><u>GP Surgery</u></b>	<b><i>Population who live OVER 45 minutes away %</i></b>	<b><i>Population who live UNDER 45 minutes away %</i></b>
Cheltenham	0.2%	99.8%
Cotswold	17.7%	82.3%
Forest of Dean	6.1%	93.9%
Gloucester	0.0%	100.0%
Stroud	3.5%	96.5%
Tewkesbury	4.8%	95.2%
Gloucestershire	4.6%	95.4%

Table 1: Proportion of Residents Accessing GP Services When Using Public Transport

<sup>3</sup> To view the boundary of Ermin LSOA (which is also the same boundary as Ermin Ward) download the Cotswold Ward Boundary map from:

<https://inform.goucestershire.gov.uk/viewpage.aspx?c=page&page=GeographyandBoundaries-BoundaryAtlas>

<sup>4</sup> <http://www.goucestershire.gov.uk/ltp3>

<sup>5</sup> <https://inform.goucestershire.gov.uk/viewpage.aspx?c=page&page=Accessibility-Transport>

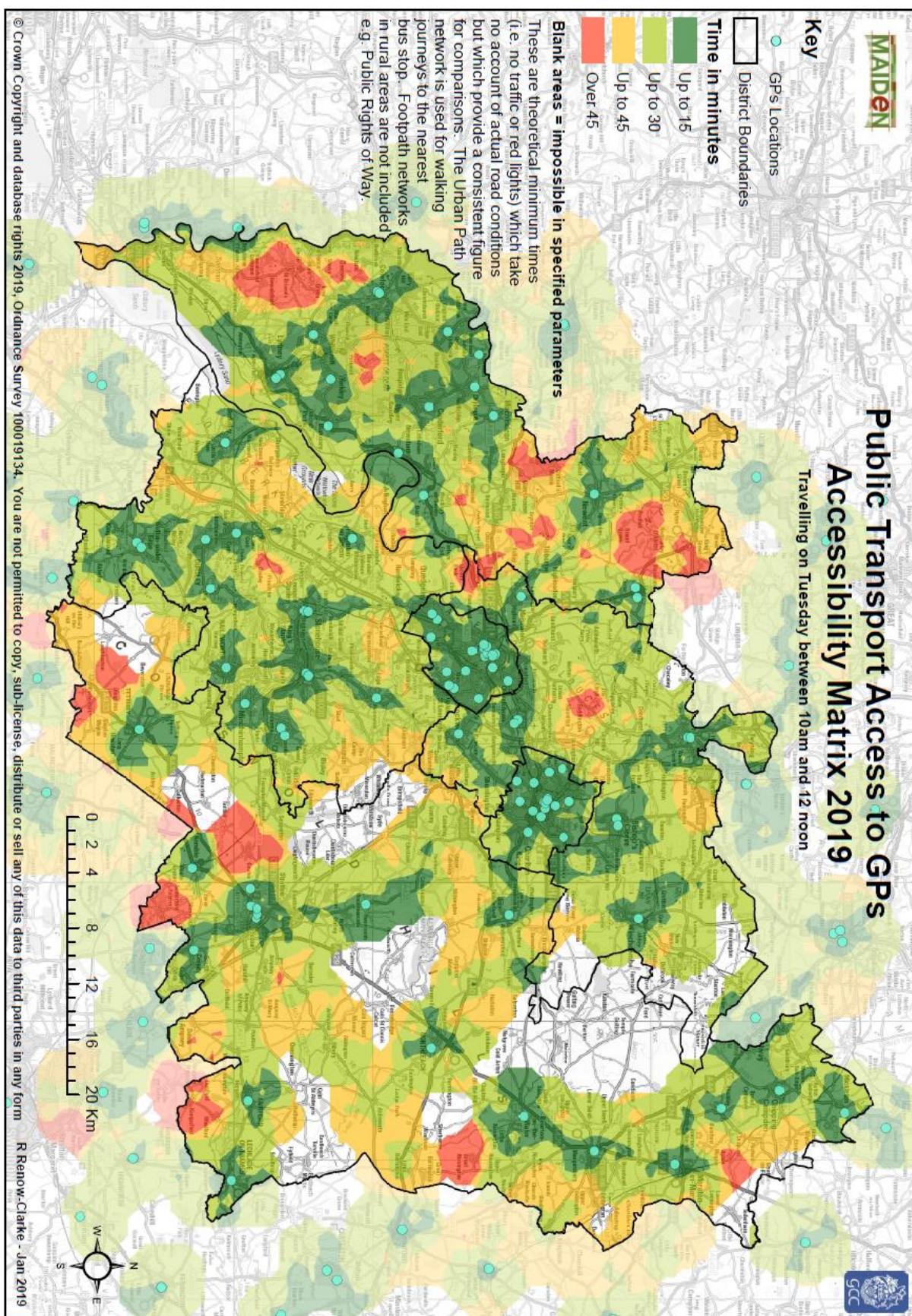


Figure 2: Public Transport (Bus) Access to a GP Surgery

- 1.8. All county council transport modelling calculations are done on a Tuesday morning during peak hours using the public transport timetables that are available at this time (educational establishments are calculated between 7am and 9am). Table 1 shows clearly that the largest proportion of residents that cannot access a GP on this given time reside in Cotswold District Council area – 17.7%.
- 1.9. As expected, the urban areas of Cheltenham and Gloucester are well connected with a higher concentration of GP services than in rural areas. It is important to note that calculations are modelled predominantly to the nearest GP which may not necessarily be the GP the resident is registered to.
- 1.10. Figure 2 breaks down the result from Table 1 into greater detail showing access to GPs using the available public transport. Access is broken down into 15 minute splits and the areas in red take over 45 minutes to access a GP. Blank areas on the map show that it is impossible from these areas to access any GP within the 2 hour timeframe. Combining the red and blank areas together gives the total proportions of residents without public transport access to a GP. The turquoise points on the map are GP service locations – out of county services are taken into account in all calculations as people residing on the fringes of Gloucestershire's border may find it quicker/easier to access out of county services.
- 1.11. The following tables summarise the proportion of residents able to access certain key services if reliant on public transport. Detailed maps on each are available on the Inform Gloucestershire site<sup>6</sup>. As well as GP Surgeries those key services are:
  - Accident and Emergency Departments/Minor Injury Units
  - Pharmacies
  - Fitness Facilities
  - Primary Schools
  - Secondary schools
  - Further Education Colleges
  - Libraries
  - Post Offices
  - Major Supermarkets

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<sup>6</sup> <https://inform.goucestershire.gov.uk/viewpage.aspx?c=page&page=Accessibility-Transport>

<b><u>A&amp;E or MIUs</u></b>	<b><i>Population who live OVER 45 minutes away %</i></b>	<b><i>Population who live UNDER 45 minutes away %</i></b>
Cheltenham	0.3%	99.7%
Cotswold	36.1%	63.9%
Forest of Dean	11.0%	89.0%
Gloucester	0.0%	100.0%
Stroud	13.7%	86.3%
Tewkesbury	8.1%	91.9%
Gloucestershire	10.2%	89.8%

Table 2: Proportion of Residents Accessing Hospital Services When Using Public Transport<sup>7</sup>

<b><u>Pharmacy</u></b>	<b><i>Population who live OVER 45 minutes away %</i></b>	<b><i>Population who live UNDER 45 minutes away %</i></b>
Cheltenham	0.2%	99.8%
Cotswold	18.6%	81.4%
Forest of Dean	8.3%	91.7%
Gloucester	0.0%	100.0%
Stroud	5.0%	95.0%
Tewkesbury	5.7%	94.3%
Gloucestershire	5.5%	94.5%

Table 3: Proportion of Residents Accessing Pharmacy Services When Using Public Transport<sup>8</sup>

<b><u>Fitness Facilities</u></b>	<b><i>Population who live OVER 45 minutes away %</i></b>	<b><i>Population who live UNDER 45 minutes away %</i></b>
Cheltenham	0.2%	99.8%
Cotswold	18.8%	81.2%
Forest of Dean	7.0%	93.0%
Gloucester	0.0%	100.0%
Stroud	3.1%	96.9%
Tewkesbury	5.2%	94.8%
Gloucestershire	4.9%	95.1%

Table 4: Proportion of Residents Accessing Fitness Facilities When Using Public Transport<sup>9</sup>

<sup>7</sup> Catching bus on a Tuesday between 10am and midday.

<sup>8</sup> *Ibid.*

<sup>9</sup> *Ibid.*

<b><u>Primary School</u></b>	<b><i>Population who live OVER 45 minutes away %</i></b>	<b><i>Population who live UNDER 45 minutes away %</i></b>
Cheltenham	0.2%	99.8%
Cotswold	11.2%	88.8%
Forest of Dean	3.0%	97.0%
Gloucester	0.0%	100.0%
Stroud	1.1%	98.9%
Tewkesbury	2.5%	97.5%
Gloucestershire	2.5%	97.5%

Table 5: Proportion of Residents Accessing Primary Schools When Using Public Transport<sup>10</sup>

<b><u>Secondary School</u></b>	<b><i>Population who live OVER 45 minutes away %</i></b>	<b><i>Population who live UNDER 45 minutes away %</i></b>
Cheltenham	0.3%	99.7%
Cotswold	24.3%	75.7%
Forest of Dean	7.2%	92.8%
Gloucester	0.0%	100.0%
Stroud	2.6%	97.4%
Tewkesbury	4.7%	95.3%
Gloucestershire	5.5%	94.5%

Table 6: Proportion of Residents Accessing Secondary Schools When Using Public Transport<sup>11</sup>

<b><u>FE College</u></b>	<b><i>Population who live OVER 45 minutes away %</i></b>	<b><i>Population who live UNDER 45 minutes away %</i></b>
Cheltenham	0.2%	99.8%
Cotswold	33.4%	66.6%
Forest of Dean	28.9%	71.1%
Gloucester	0.0%	100.0%
Stroud	3.0%	97.0%
Tewkesbury	5.6%	94.4%
Gloucestershire	9.9%	90.1%

Table 7: Proportion of Residents Accessing Further Education Colleges When Using Public Transport<sup>12</sup>

<sup>10</sup> Catching bus on a Tuesday between 7am and 9am.

<sup>11</sup> *Ibid.*

<sup>12</sup> *Ibid.*

<u>Libraries</u>	<i>Population who live OVER 45 minutes away %</i>	<i>Population who live UNDER 45 minutes away %</i>
Cheltenham	0.2%	99.8%
Cotswold	19.5%	80.5%
Forest of Dean	6.7%	93.3%
Gloucester	0.0%	100.0%
Stroud	5.2%	94.8%
Tewkesbury	5.3%	94.7%
Gloucestershire	5.4%	94.6%

Table 8: Proportion of Residents Accessing Libraries When Using Public Transport<sup>13</sup>

<u>Post Office</u>	<i>Population who live OVER 45 minutes away %</i>	<i>Population who live UNDER 45 minutes away %</i>
Cheltenham	0.2%	99.8%
Cotswold	11.8%	88.2%
Forest of Dean	5.0%	95.0%
Gloucester	0.0%	100.0%
Stroud	2.5%	97.5%
Tewkesbury	3.2%	96.8%
Gloucestershire	3.3%	96.7%

Table 9: Proportion of Residents Accessing Post Offices When Using Public Transport<sup>14</sup>

<u>Major Supermarkets</u>	<i>Population who live OVER 45 minutes away %</i>	<i>Population who live UNDER 45 minutes away %</i>
Cheltenham	0.2%	99.8%
Cotswold	19.6%	80.4%
Forest of Dean	8.4%	91.6%
Gloucester	0.0%	100.0%
Stroud	5.3%	94.7%
Tewkesbury	5.7%	94.3%
Gloucestershire	5.7%	94.3%

Table 10: Proportion of Residents Accessing Major Supermarkets When Using Public Transport<sup>15</sup>

1.12. It is noticeable from these results out of the six council areas of Gloucestershire that Cotswold District Council area has the highest

<sup>13</sup> Catching bus on a Tuesday between 10am and midday.

<sup>14</sup> *Ibid.*

<sup>15</sup> *Ibid.*

proportion of its residents living in areas where it either takes over 45 minutes to access an essential service or that it is not possible within the timeframe given for the calculation – taking all proportions as an average, 21.1% or over 1 in 5 Cotswold residents are living in at least one of these areas. Some rural bus services are far more infrequent than urban services and some may only run once a week and if a particular bus runs outside of the calculation parameters then they will not be reflected in the results.

- 1.13. Other figures that stand out in these tables are the proportions of residents accessing Further Education (FE) Colleges. Over 1 in 4 Forest of Dean residents either live over a 45 minute bus drive away or cannot access an FE College and this ratio is marginally higher in the Cotswolds (1 in every 3 residents).
- 1.14. Understanding need for bus services is paramount to delivering an effective service for Gloucestershire residents. As mentioned at the beginning of this report, results from the last population census (2011) show that more than 40,000 households in Gloucestershire do not have access to a car or van – this equates to 17% of all households. The lowest proportion of households without access to a car or van is found in the Cotswolds – 4,573 or 12.6% of all households in Cotswold District Council area.
- 1.15. Analysing these proportions at a smaller geographic scale (local authority wards) show the highest proportions of “no car/van” households in Cheltenham, Gloucester and the market towns where bus services are more frequent.

Ward Name 2011	Local Authority	No Cars or Vans in Household %
Barton and Tredworth	Gloucester	40
Westgate	Gloucester	40
St Paul's	Cheltenham	39.4
Oakley	Cheltenham	34.8
Cirencester Park	Cotswold	34.2
Podsmead	Gloucester	33.9
Kingsholm and Wotton	Gloucester	33.8
Matson and Robinswood	Gloucester	33.5
Hesters Way	Cheltenham	30.2
St Mark's	Cheltenham	29.6

Table 11: Proportion of Households with No Cars or Vans<sup>16</sup>

<sup>16</sup> 2011 Population Census – Table KS404EW