Accessibility

1. Transport Access to Local Essential Facilities

1.1. Gloucestershire has 3,326 miles of road[1], over 600,000 residents and over a quarter of a million households with over 40,000 of these households without a car or van[2] 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.

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[1] Taken from: http://www.gloucestershire.gov.uk/article/120548/365-days-in-the-life-of-Gloucestershires-roads
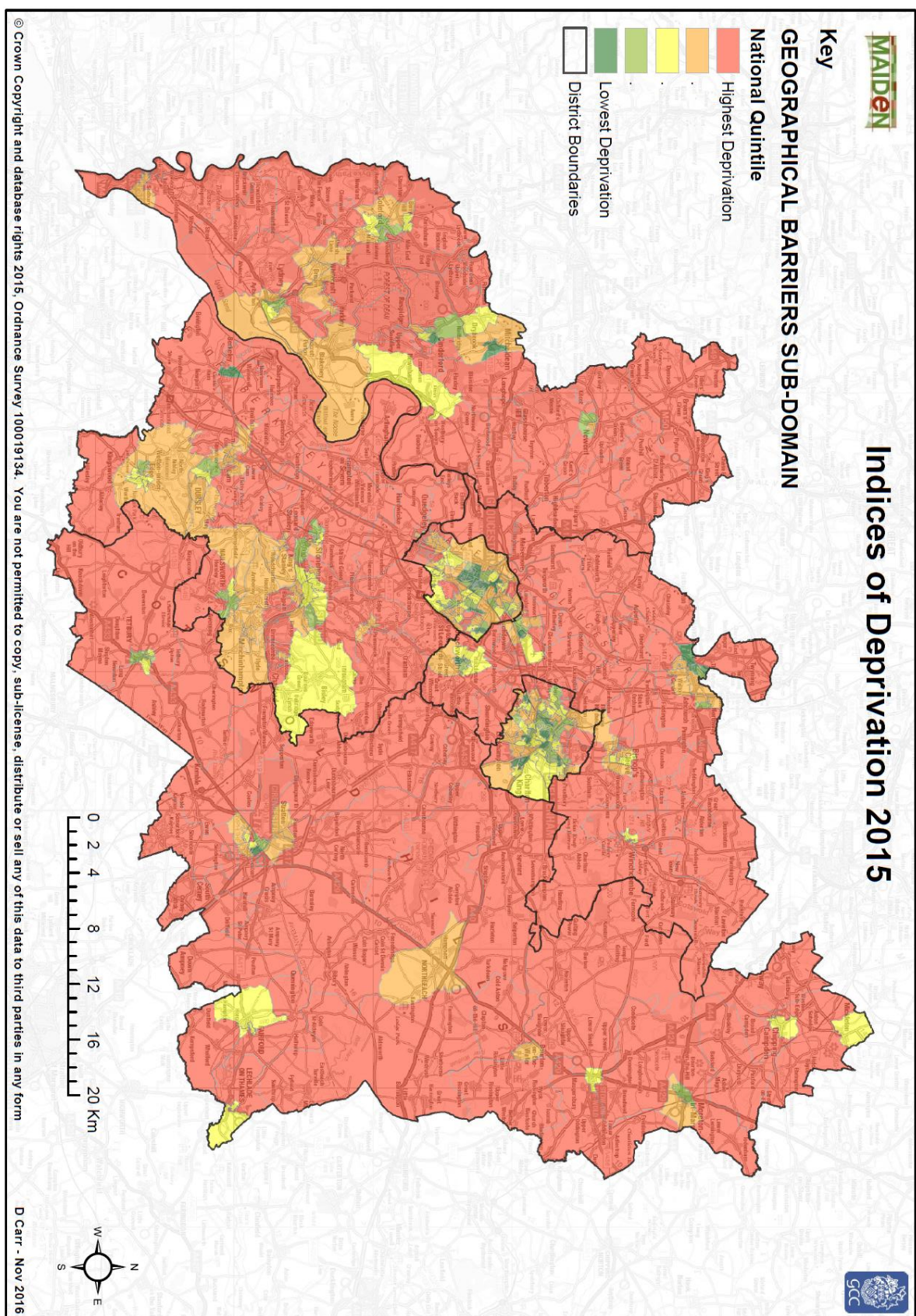[2] 2011 Population Census – Table KS404EW

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 37th (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[3] 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[4] 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 2016[5] 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 summer of 2016.

GP Surgery	*Population who live OVER 45 minutes away %*	*Population who live UNDER 45 minutes away %*
Cheltenham	*0.2%*	*99.8%*
Cotswold	*16.7%*	*83.3%*
Forest of Dean	*4.6%*	*95.4%*
Gloucester	*0.1%*	*99.9%*
Stroud	*2.6%*	*97.4%*
Tewkesbury	*4.8%*	*95.2%*
Gloucestershire	*4.2%*	*95.8%*

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

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[3] 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.gloucestershire.gov.uk/viewpage.aspx?c=page&page=GeographyandBoundaries-BoundaryAtlas
[4] http://www.gloucestershire.gov.uk/ltp3
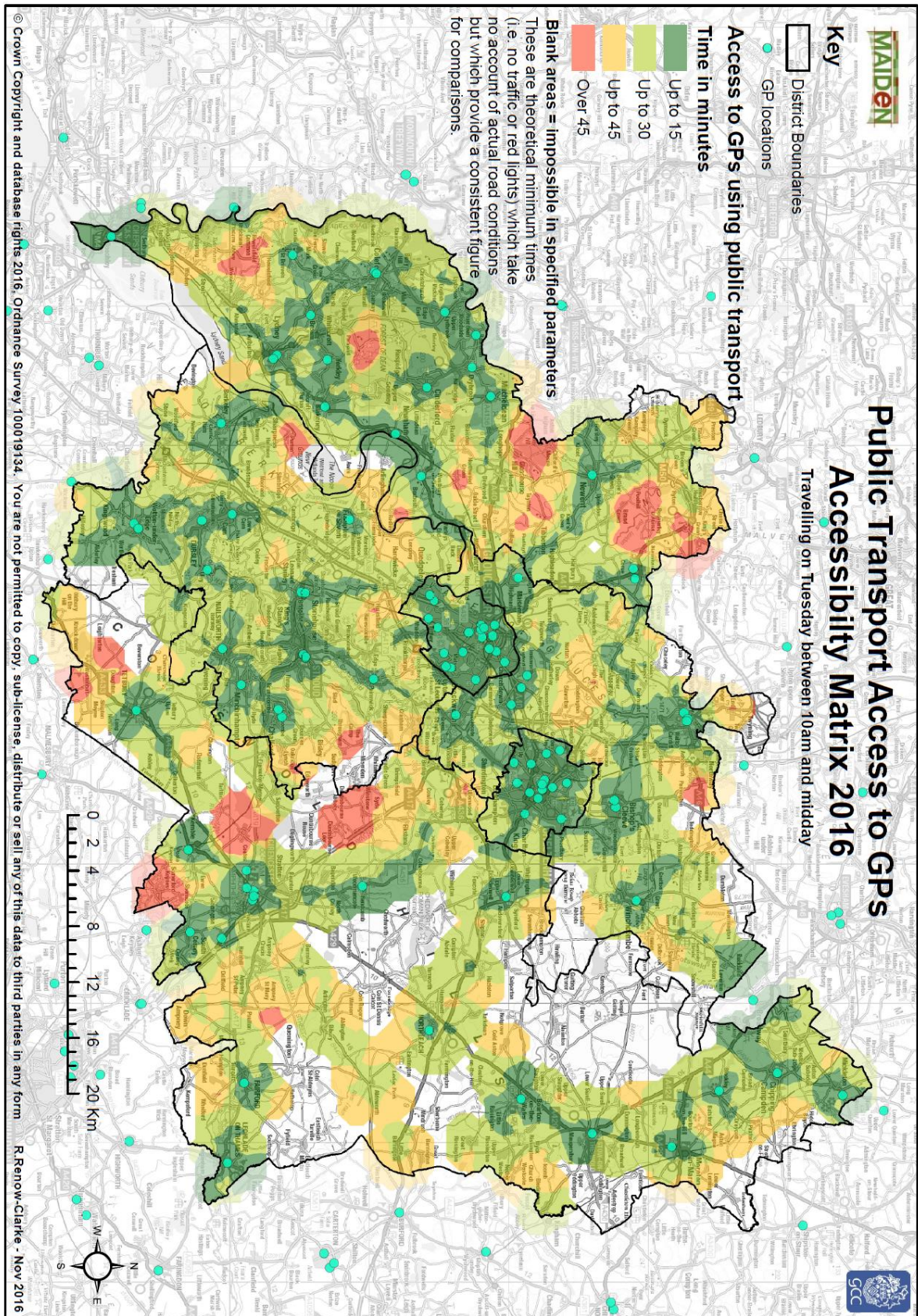[5] https://inform.gloucestershire.gov.uk/viewpage.aspx?c=page&page=Accessibility-Transport

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 – 16.7%.

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[6]. 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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[6] https://inform.gloucestershire.gov.uk/viewpage.aspx?c=page&page=Accessibility-Transport

A&E or MIUs	Population who live OVER 45 minutes away %	Population who live UNDER 45 minutes away %
Cheltenham	0.2%	99.8%
Cotswold	30.8%	69.2%
Forest of Dean	10.2%	89.8%
Gloucester	0.8%	99.2%
Stroud	15.3%	84.7%
Tewkesbury	8.4%	91.6%
Gloucestershire	9.9%	90.1%

Table 2: Proportion of Residents Accessing Hospital Services When Using Public Transport[7]

Pharmacy	Population who live OVER 45 minutes away %	Population who live UNDER 45 minutes away %
Cheltenham	0.2%	99.8%
Cotswold	17.2%	82.8%
Forest of Dean	6.3%	93.7%
Gloucester	0.1%	99.9%
Stroud	4.9%	95.1%
Tewkesbury	5.1%	94.9%
Gloucestershire	4.9%	95.1%

Table 3: Proportion of Residents Accessing Pharmacy Services When Using Public Transport[8]

Fitness Facilities	Population who live OVER 45 minutes away %	Population who live UNDER 45 minutes away %
Cheltenham	0.2%	99.8%
Cotswold	16.1%	83.9%
Forest of Dean	7.7%	92.3%
Gloucester	0.1%	99.9%
Stroud	2.9%	97.1%
Tewkesbury	3.3%	96.7%
Gloucestershire	4.3%	95.7%

Table 4: Proportion of Residents Accessing Fitness Facilities When Using Public Transport[9]

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[7] Catching bus on a Tuesday between 10am and midday.

[8] *Ibid.*

[9] *Ibid.*

Primary School	*Population who live OVER 45 minutes away %*	*Population who live UNDER 45 minutes away %*
Cheltenham	*0.2%*	*99.8%*
Cotswold	*9.7%*	*90.3%*
Forest of Dean	*2.7%*	*97.3%*
Gloucester	*0.1%*	*99.9%*
Stroud	*0.9%*	*99.1%*
Tewkesbury	*2.2%*	*97.8%*
Gloucestershire	*2.2%*	*97.8%*

Table 5: Proportion of Residents Accessing Primary Schools When Using Public Transport[10]

Secondary School	*Population who live OVER 45 minutes away %*	*Population who live UNDER 45 minutes away %*
Cheltenham	*0.2%*	*99.8%*
Cotswold	*19.7%*	*80.3%*
Forest of Dean	*6.4%*	*93.6%*
Gloucester	*0.1%*	*99.9%*
Stroud	*1.9%*	*98.1%*
Tewkesbury	*5.5%*	*94.5%*
Gloucestershire	*4.8%*	*95.2%*

Table 6: Proportion of Residents Accessing Secondary Schools When Using Public Transport[11]

FE College	*Population who live OVER 45 minutes away %*	*Population who live UNDER 45 minutes away %*
Cheltenham	*0.2%*	*99.8%*
Cotswold	*29.4%*	*70.6%*
Forest of Dean	*25.1%*	*74.9%*
Gloucester	*0.1%*	*99.9%*
Stroud	*2.9%*	*97.1%*
Tewkesbury	*7.0%*	*93.0%*
Gloucestershire	*9.1%*	*90.9%*

Table 7: Proportion of Residents Accessing Further Education Colleges When Using Public Transport[12]

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[10] Catching bus on a Tuesday between 7am and 9am.

[11] *Ibid.*

[12] *Ibid.*

Library	Population who live OVER 45 minutes away %	Population who live UNDER 45 minutes away %
Cheltenham	0.2%	99.8%
Cotswold	16.2%	83.8%
Forest of Dean	4.6%	95.4%
Gloucester	0.1%	99.9%
Stroud	4.3%	95.7%
Tewkesbury	4.9%	95.1%
Gloucestershire	4.4%	95.6%

Table 8: Proportion of Residents Accessing Libraries When Using Public Transport[13]

Post Office	Percentage of population who live OVER 45 minutes away	Percentage of population who live UNDER 45 minutes away
Cheltenham	0.2%	99.8%
Cotswold	12.4%	87.6%
Forest of Dean	4.7%	95.3%
Gloucester	0.1%	99.9%
Stroud	3.6%	96.4%
Tewkesbury	2.8%	97.2%
Gloucestershire	3.5%	96.5%

Table 9: Proportion of Residents Accessing Post Offices When Using Public Transport[14]

Major Supermarkets	Population who live OVER 45 minutes away %	Population who live UNDER 45 minutes away %
Cheltenham	0.2%	99.8%
Cotswold	17.5%	82.5%
Forest of Dean	7.9%	92.1%
Gloucester	0.1%	99.9%
Stroud	4.7%	95.3%
Tewkesbury	5.2%	94.8%
Gloucestershire	5.1%	94.9%

Table 10: Proportion of Residents Accessing Major Supermarkets When Using Public Transport[15]

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[13] Catching bus on a Tuesday between 10am and midday.
[14] *Ibid.*
[15] *Ibid.*

1.12.   It is noticeable from these results out of the six council areas of Gloucestershire that Cotswold District Council area has the highest 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, 18.6% or almost 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. Just 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 (3 in every 10 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[16]

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[16] 2011 Population Census – Table KS404EW

2. Internet Access

2.1.   The Office for National Statistics have been producing statistics around internet users in the United Kingdom and the following figure shows the age groups using the internet the most and least.
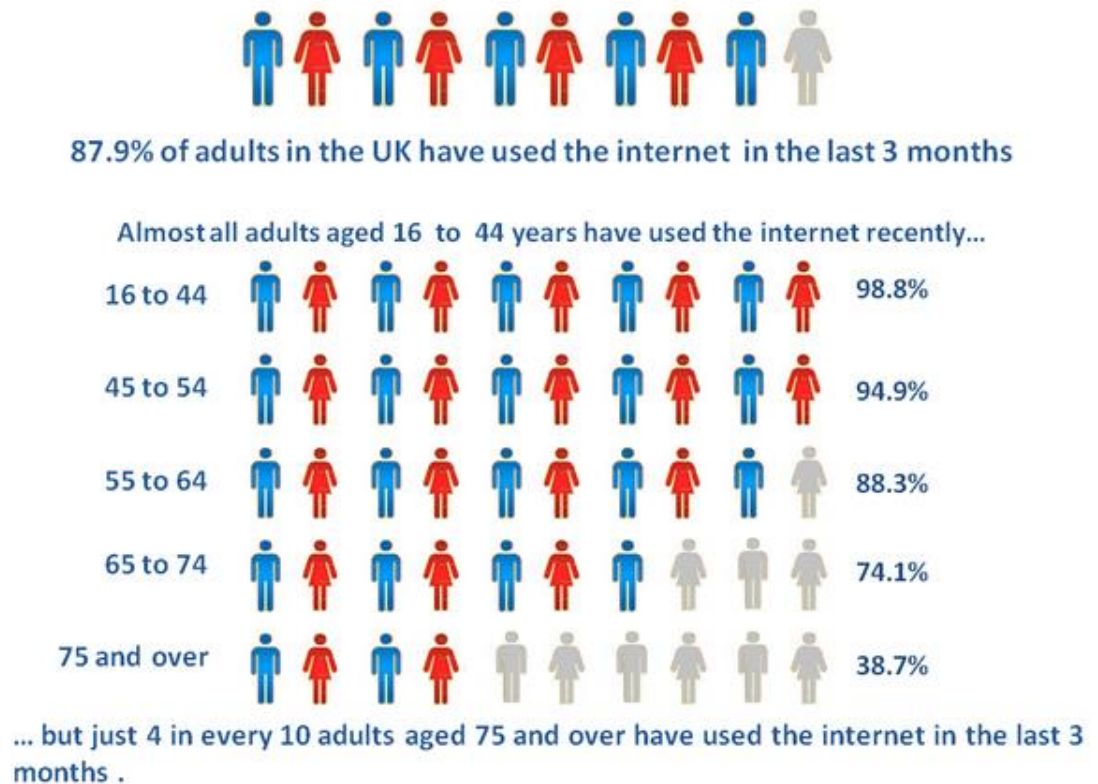

Figure 3: Recent internet users by age group, UK, 2016[17]

2.2.   When comparing Gloucestershire to the South West region and U.K. the county measures up favourably, especially from 2014 onwards where the gap seems to widen considerably. The following figure is taken from ONS studies into the proportion of people surveyed who are NOT using the internet – specifically those who last used the internet over 3 months ago and those who have never used the internet. Nationally, regionally and locally the percentages of people are declining due to more people using the internet and the increase in smart phone usage among many other factors. 7.9% of respondents in Gloucestershire admit to not having used the internet in over 3 months (or never used) compared against 12% in the U.K. and 10.1% in the South West region.

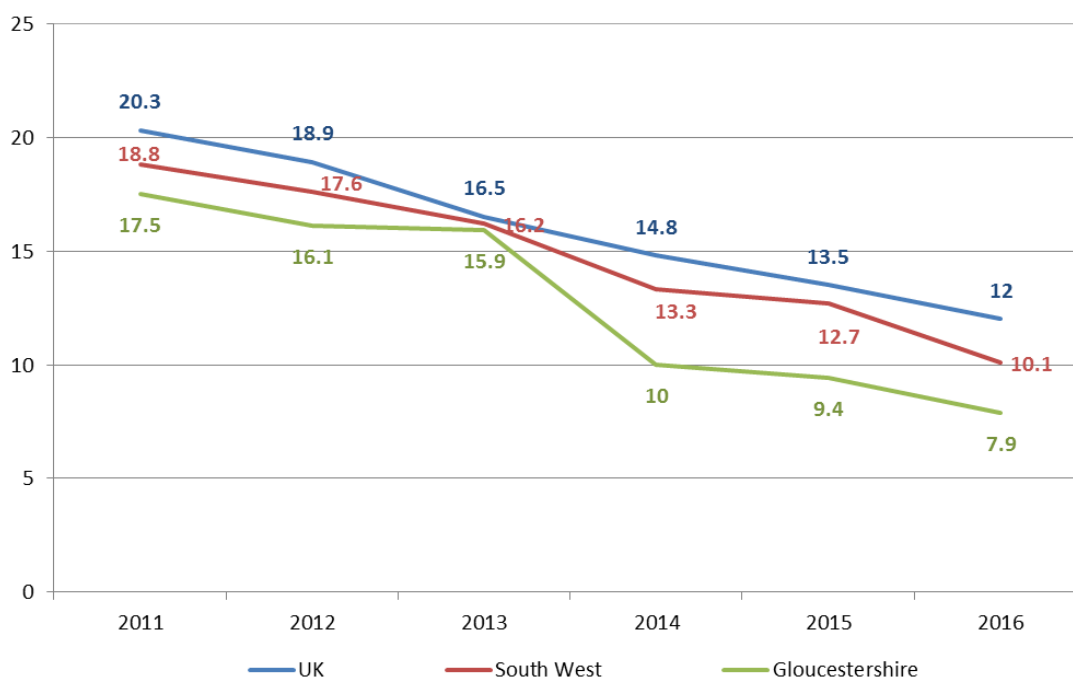[17] Source: Office for National Statistics

Figure 4: Lapsed internet users/internet non-users[18]

2.3.   Moving council services online, the onset of Universal Credit and the move towards making all applications for any type of benefit online only, has prompted local authorities to explore and understand the need within their local areas.

2.4.   *Fastershire*, a partnership between the county councils of Gloucestershire and Herefordshire, aim to bring faster broadband to the two counties and the "ultimate aim is that by 2018 there will be access to fast broadband for all who need it"[19].

2.5.   Whilst the broadband infrastructure develops, Gloucestershire County Council have produced a report[20] around the likelihood of internet usage using ACORN[21] and have identified sites around the county where free and secure internet is available (as well as computer training in the use of the internet) for those not owning computer equipment[22]. Working in partnership with district councils and the housing associations that operate in Gloucestershire we have been able to identify those residents likely to be most at risk of not being able to apply for Universal Credit.

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[18] *Ibid*

[19] http://www.fastershire.com/about-fastershire/strategy#home

[20] Report - https://inform.gloucestershire.gov.uk/viewpage.aspx?c=page&page=InsightOurResidents-Internet and Interactive Atlas Report - https://inform.gloucestershire.gov.uk/App_Customers/other/CustomerSegmentation/Internet/IA2014/atlas.html

[21] CACI Limited 2014

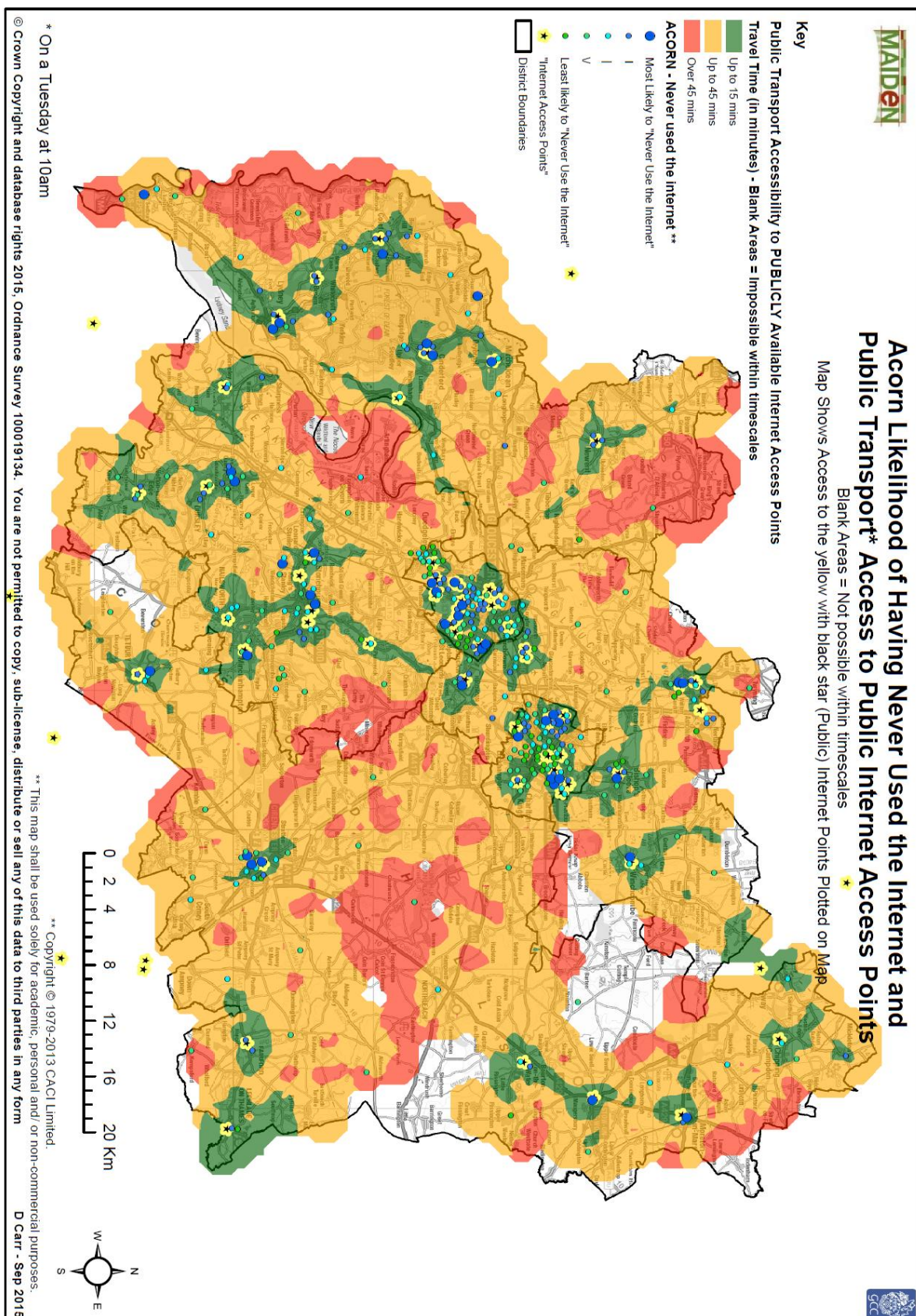[22] Google Map of Gloucestershire's Public Internet Access Points

Figure 5: Map showing Publicly Available Internet, ACORN likelihood of "Having Never Used the Internet" and Public Transport Access to Publicly Available Internet

2.6.   Figure 5 shows three layers of information:

- The location of publicly available *Internet Access Points* (yellow points with black star)

- ACORN customer segmentation information on likelihood of *having never used the internet* – the larger blue points are the centroids of the neighbourhoods that are most likely to never use the internet i.e. the most at risk group in this study.

- *Travel time* from all Gloucestershire postcodes to the nearest / quickest internet access point *using public transport*. Red areas are over 45 minutes away from their local internet access point and areas with no background colour are not able to get to their local internet access point using public transport.

2.7.   The map shows that the most at risk groups (those most likely to have never used the internet) in the larger blue points are generally located near to, or within a 45 minute bus journey of, an internet access point. If these groups are unlikely to have never used the internet then it can be assumed that they are unlikely to own a home computer. As some public services are trending towards being online, the majority of this group will be able to access a community centre within 15 minutes (green shaded areas). Neighbourhoods of Kings Stanley, Ruardean and Sedbury (near Chepstow) identifies as likely to have never used the internet can access their local internet access point within 45 minutes.

2.8.   Local internet access points include all public libraries and community centres where secure internet is available. Publicly available Wi-Fi points such as those found in cafes are excluded due to the nature of this study (applications for Universal Credit online) and Interpol's advice regarding the security risk of sharing personal/financial details using them[23].

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[23] BBC Article: http://www.bbc.co.uk/news/technology-26469598