

Use of the Strategic Road Network

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Department
for Transport

What is the Strategic Road Network?

The Strategic Road Network (SRN) comprises approximately 4,300 miles of motorways and major 'trunk' A-roads in England, and it is managed by the Highways Agency. The length of the SRN represents only around 2% of the total length of England's road network, but it carries roughly one-third of the total motor vehicle traffic in England. A map of the SRN can be found in Annex A.

England residents used the SRN more frequently than those living in Wales or Scotland (Figure 1). This difference is expected, given that the SRN only covers roads in England. Trunk roads in Wales and Scotland are managed by the Welsh Government and Transport Scotland, respectively. Due to this, the data in the first half of this paper (Figures 2 to 5) include England residents only.

Main Findings: More than 95% of England residents used the SRN at least once per year; either as a driver or passenger. Nearly half (47%) of England residents used the network at least twice per week.

- The frequency of use of the SRN varied by the respondents' region of residence:
 - 88% of those living in the North West used the network at least once per month; compared to 71% of London residents.
- HGVs are frequent users of the SRN:
 - 71% of HGVs in the DfT in-vehicle GPS sample were 'Frequent' users of the SRN; using the network at least twice per week, compared to 62% of LGVs, and just two in five (43%) of the cars in the sample.
- Trip lengths varied by SRN road type:
 - Of trips involving the SRN Motorway, 60% covered more than 10 miles on the SRN Motorway.
 - While 20% of trips that included SRN 'A' roads travelled more than 10 miles on SRN 'A' roads.
- Of trips that used the SRN at some point, the proportion of the journey that was driven on SRN roads increased as the total journey length increased.



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About this release:

This paper brings together research from the Office for National Statistics (ONS) Opinions and Lifestyle Survey, and analysis of Department for Transport (DfT) held in-vehicle GPS data (provided by Trafficmaster), to provide information about use of the Strategic Road Network (SRN).

How frequently do people use the SRN?

Frequency Definitions

Frequent – At least twice per week

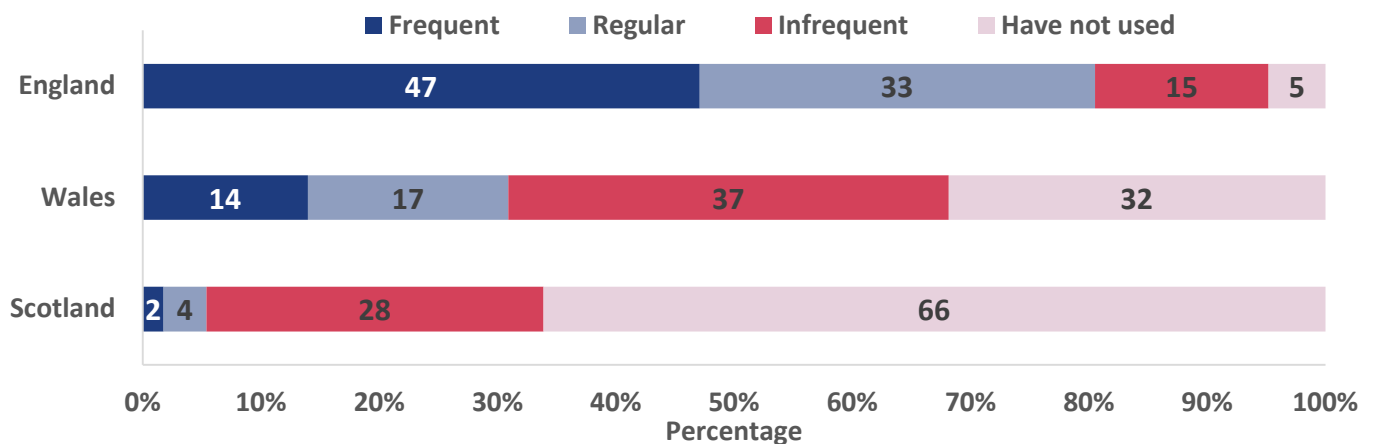
Regular – At least once per month, but less than twice per week

Infrequent – At least once per year, but less than once per month

Have not used – Less than once per year, or not used at all

The frequency of use of the SRN varied by region within Great Britain. Those living in England used the SRN more frequently than those living in Wales, or Scotland. This is because the SRN is an England-wide network, therefore, those living in England would be expected to use the SRN more frequently.

Figure 1: Frequency of use of the SRN; England, Scotland and Wales residents



Source: Combined results from ONS Omnibus Survey, February, March and April 2013 ¹

Base Size: 2,114 GB households; England residents (1856), Wales residents (97), Scotland residents (161).

Even within England, the use of the SRN varied by region of residence. 88% of those living in the North West used the SRN at least once per month, compared to 73% living in Yorkshire & Humber, and 71% of those living in London. This reflects the distribution of SRN roads across England. There are many SRN routes in the North West, and relatively few in London.

Figure 2: Proportion of adult residents who used the SRN at least once per month, by region

North West (272)	88%	South East (331)	80%
East of England (236)	86%	South West (226)	79%
North East (86)*	84%	Yorkshire & Humber (193)	73%
West Midlands (181)	84%	London (148)	71%
East Midlands (183)	83%		

Source: Combined results from ONS Omnibus Survey, February, March and April 2013 ¹

(Base sizes for each region in brackets; *North East has a lower sample size than the other regions and as a result will have a wider confidence interval surrounding this estimate)

¹ "How frequently have you travelled on the Strategic Road Network in England [as a driver or passenger] in the past 12 months?"

Who uses the SRN?

Frequency Definitions

Frequent – At least twice per week

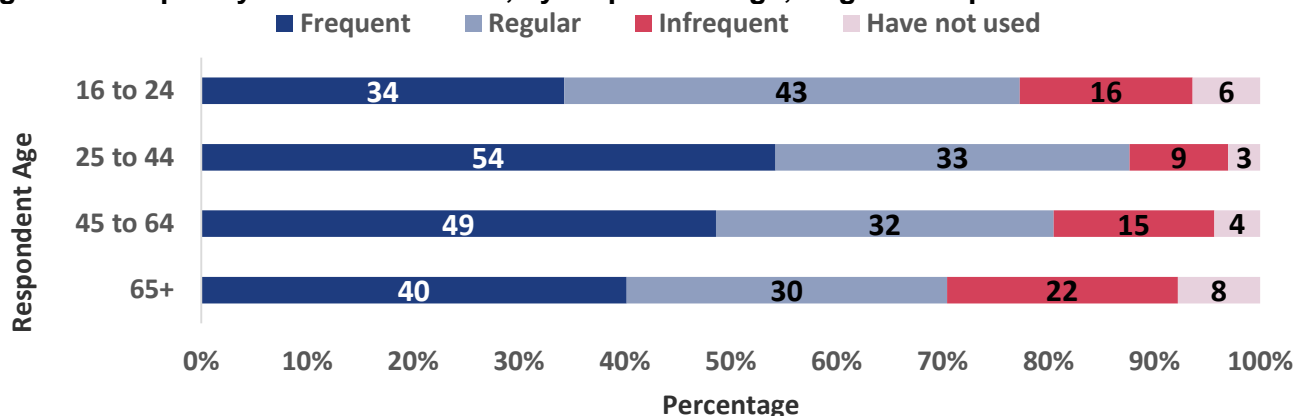
Regular – At least once per month, but less than twice per week

Infrequent – At least once per year, but less than once per month

Have not used – Less than once per year, or not used at all

In England, those aged 25 to 44 and 45 to 64 used the SRN more frequently than the younger (16-24), and older (65+) age groups. This is likely to be associated with work related journeys.

Figure 3: Frequency of use of the SRN, by respondent age; England respondents



Source: Combined results from ONS Omnibus Survey, February, March and April 2013 ¹

Base Sizes: 16-24 (125), 25-44 (571), 45-64 (661), 65+ (499); England residents only.

The frequency of use of the SRN varied by occupation level of the respondent. 88% of those at a Managerial/Professional level used the SRN at least once per month as either a driver or passenger, compared to 77% of those at a Routine/Manual level. 72% of those at a 'Not Classified' level (which includes those who are students, unemployed and those who have never worked) used the SRN at least once per month. However, these levels are still relatively high; this suggests that the majority of people across occupation levels have access to and use the SRN.

Figure 4: Proportion of adults who used the SRN at least once per month, by occupation level

	Percentage
% used SRN at least once per month	
Managerial/Professional (602)	88
Intermediate (376)	83
Routine/Manual (402)	77
Not Classified (472)	72

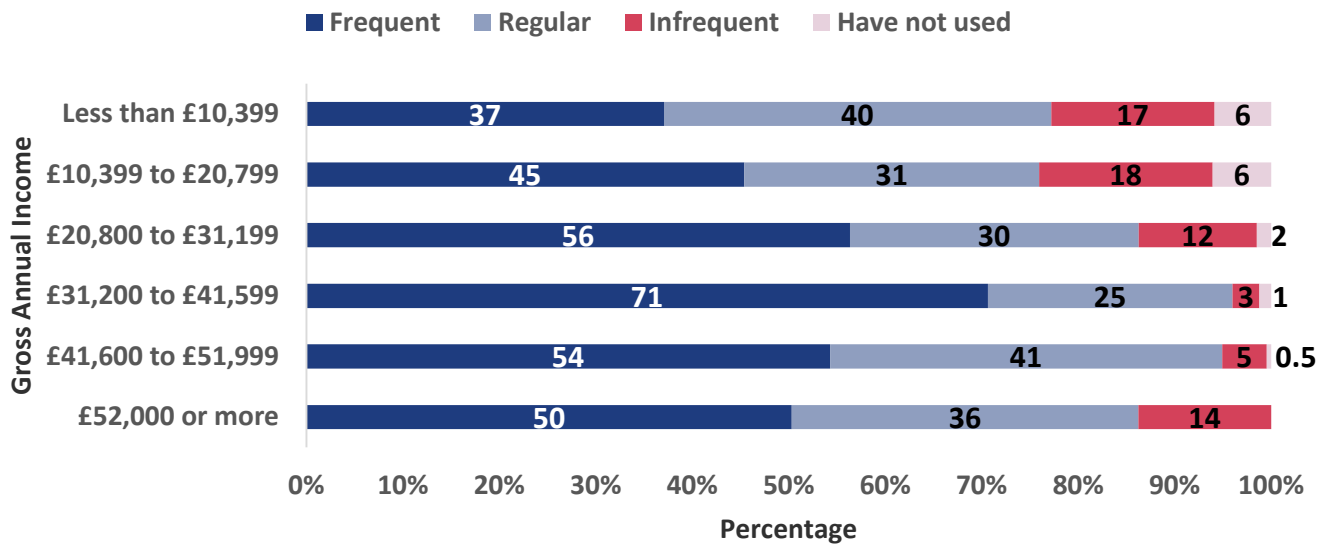
Source: Combined results from ONS Omnibus Survey, February, March and April 2013 ¹

Base Sizes for each occupation level are in brackets; England residents only.

For England residents, the frequency of SRN use increased with an increasing respondent gross income level, peaking at a middle-high income level (between £31,200 and £41,599). The SRN use frequency then decreased for those on higher incomes.

¹ "How frequently have you travelled on the Strategic Road Network in England [as a driver or passenger] in the past 12 months?"

Figure 5: Frequency of use of the SRN, by respondent gross annual income; England respondents



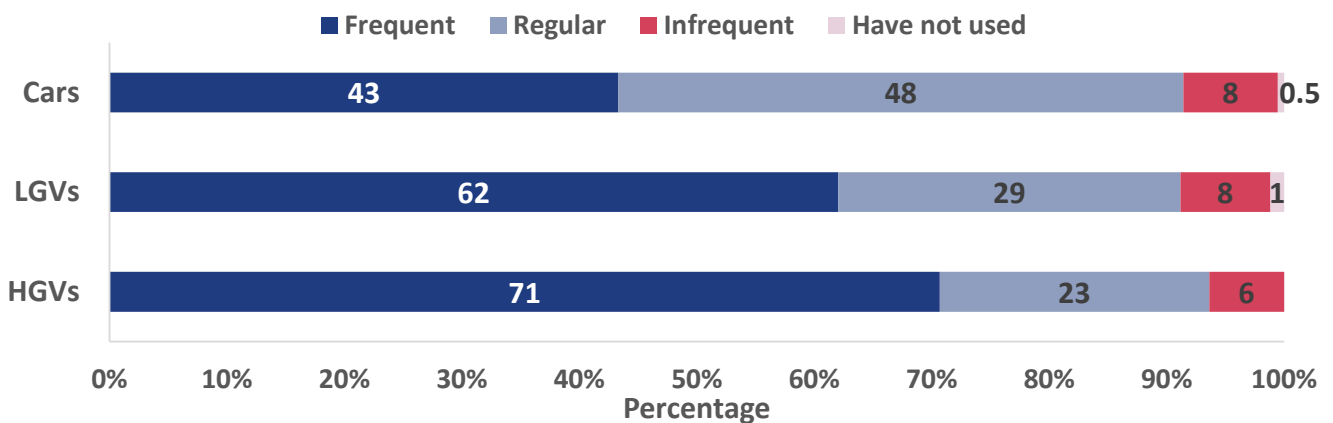
Source: Combined results from ONS Omnibus Survey, February, March and April 2013 ¹
 Base Sizes: <£10,399 (483), £10,399-£20,799 (534), £20,800-£31,199 (342), £31,200-£41,599 (125), £41,600-£51,999 (78)*, £52,000+ (91)*. *£41,600-£51,999 and £52,000+ have small sample sizes and therefore will have larger confidence intervals.

The following analyses use data from in-vehicle GPS units. Unlike the preceding charts, based on the ONS Opinions & Lifestyle Survey, the GPS data sample has not been weighted to be nationally representative of traffic on the roads. However, we believe the sample is robust enough to allow genuine trends and patterns to be identified. The sampling unit in the GPS data is the vehicle itself, while that of the survey is the person responding. Further information about can be found in the Background Information section of this paper.

Which vehicles use the SRN?

The frequency of use of the SRN varies by vehicle type – HGVs travelled more often on the SRN than LGVs, and Cars. 94% of HGVs travelled on the SRN at least once per month. The same proportion of LGVs and Cars (91%) used the SRN at least once per month, but the percentage of ‘Frequent’ user LGVs (62%, at least twice a week) was higher than that for cars (43%).

Figure 6: Frequency of use of the SRN, by vehicle type



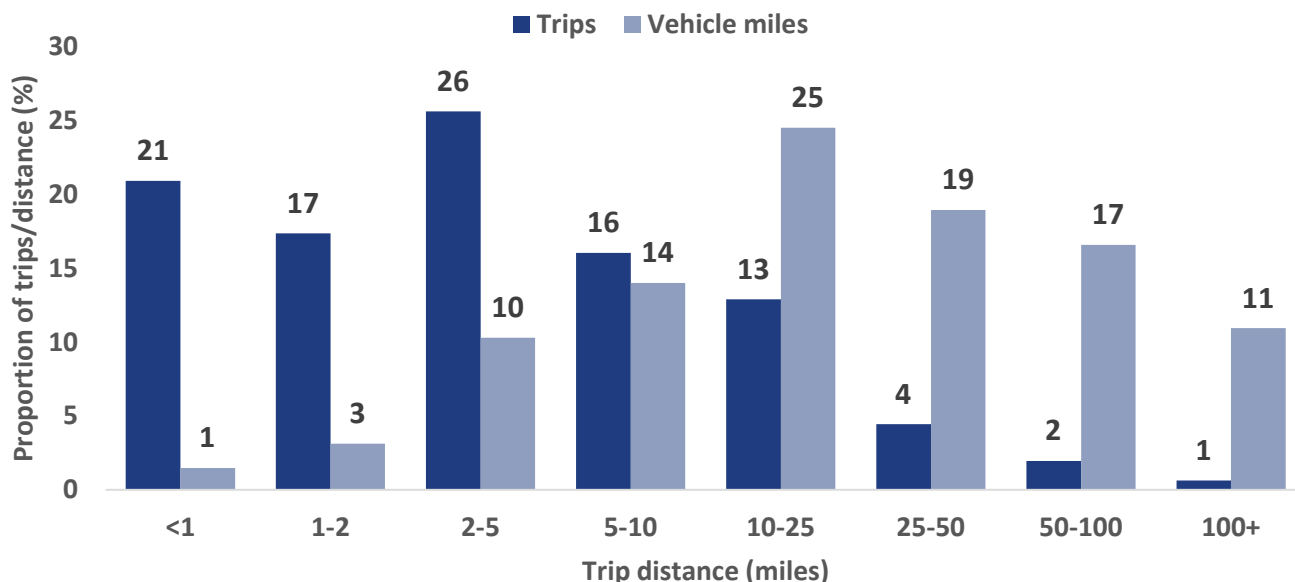
Source: DfT in-vehicle GPS data, 54,018 vehicles (Sep 2011 to Aug 2012); GB vehicle coverage.

How far do people drive on the SRN?

The majority of trips across **all road types** were short journeys - almost two-thirds (64%) of trips were less than 5 miles in length. However, nearly half (47%) of the vehicle miles driven were covered by vehicles making trips of more than 25 miles.

The trip length pattern in the chart below is broadly comparable with the results of the 2012 DfT National Travel Survey, more details about this comparison can be found in the Background Information section of this paper.

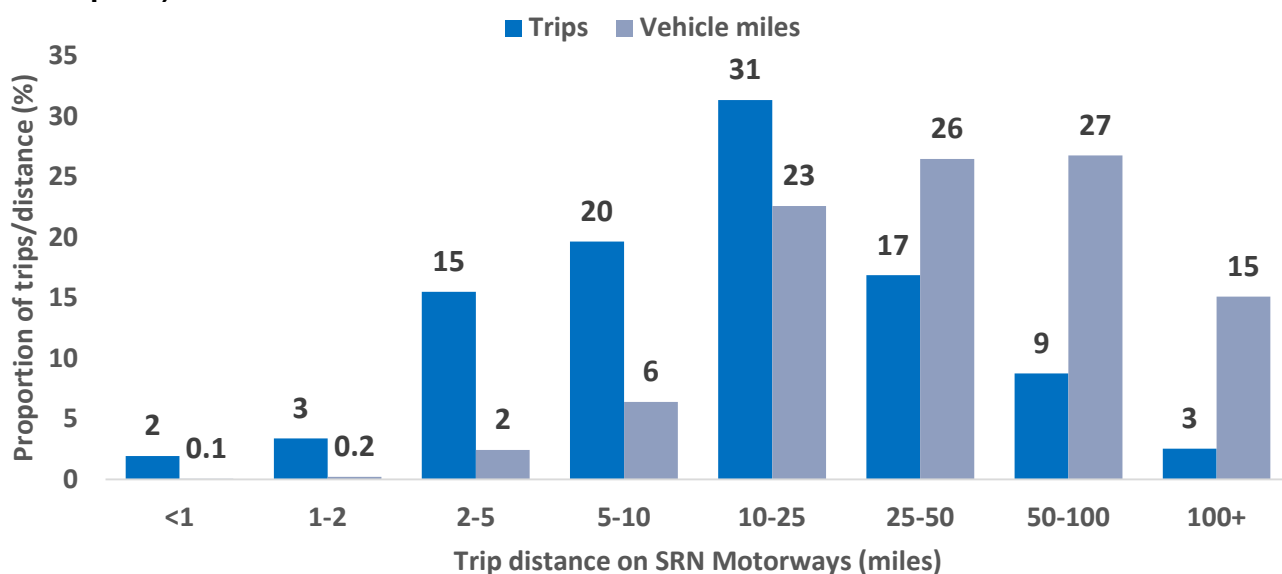
Figure 7: Trip distance for all trips, across all road types



Source: DfT in-vehicle GPS data, 78.6 million trips between Sep 2011 and Aug 2012; GB vehicle coverage.

Just looking at trips involving the SRN Motorway network at some point, more than one in four trips (28%) used the SRN Motorway for more than 25 miles. These trips accounted for around two-thirds (68%) of the vehicle miles (traffic) on the SRN Motorway.

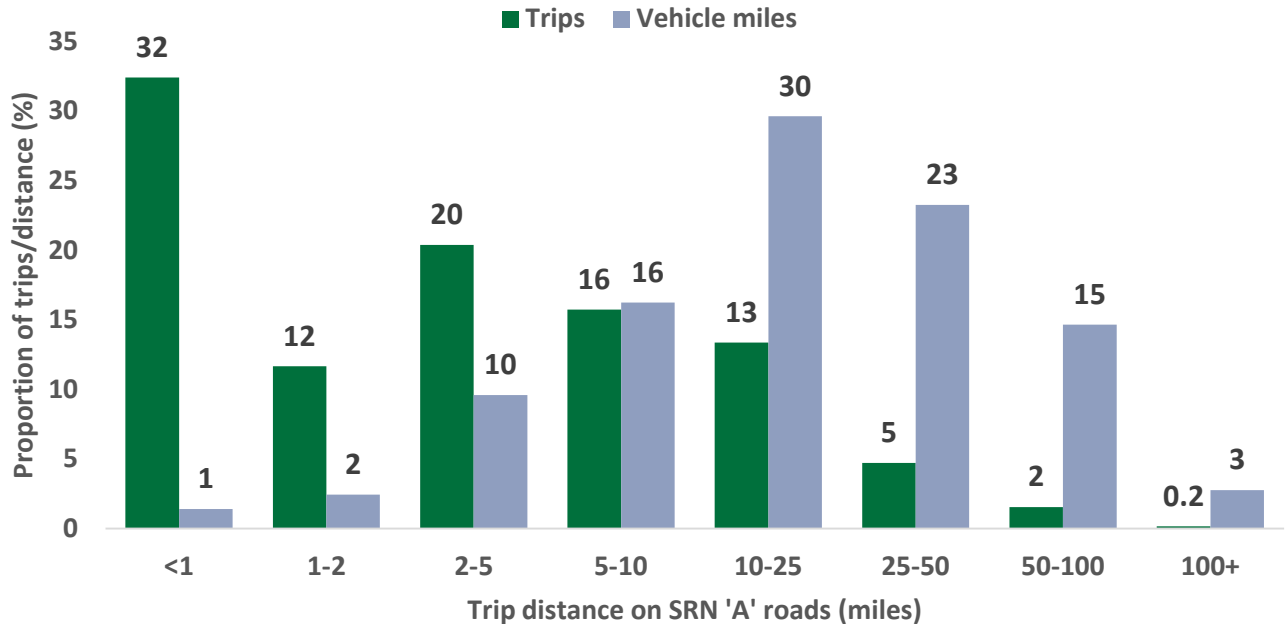
Figure 8: Trip distance on SRN motorway sections of the trip (for trips that used SRN motorways at some point)



Source: DfT in-vehicle GPS data, 7.5 million trips between Sep 2011 and Aug 2012; GB vehicle coverage.

Almost two-thirds of trips (64%) involving the SRN 'A' road network used the SRN 'A' road network for less than 5 miles. However, trips using the network for more than 25 miles made up more than 40% of vehicle miles travelled on the SRN 'A' road network.

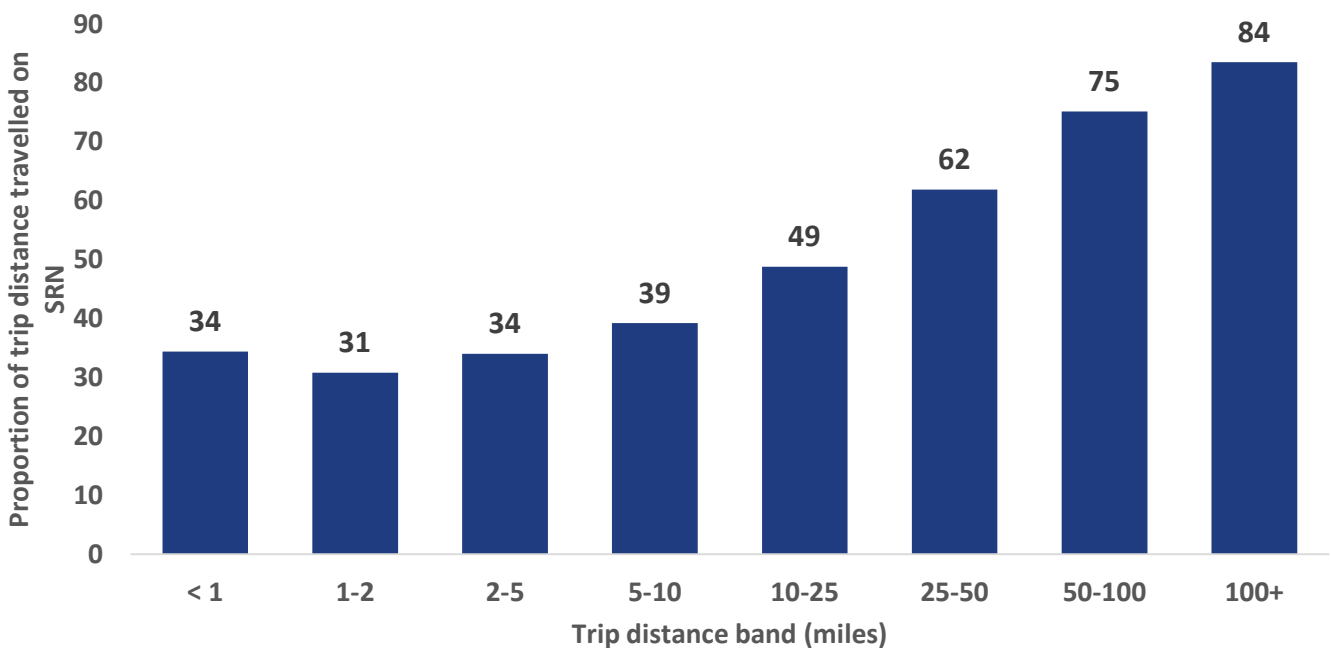
Figure 9: Trip length distribution on SRN 'A' road sections of the trip only (for trips that used SRN 'A' roads at some point)



Source: DfT in-vehicle GPS data, 11.6 million trips between Sep 2011 and Aug 2012; GB vehicle coverage.

Just considering journeys that used the SRN (both motorways and 'A' roads) at some point; very short journeys of less than one mile used the SRN for 34% of their journey distance. For journeys of a mile or more, the proportion of the journey that was driven on SRN roads increased as the total journey length increased. For long distance journeys of more than 100 miles, 84% of the distance was travelled on the SRN.

Figure 10: Proportion of distance travelled on the SRN (for journeys that used SRN)



Source: DfT in-vehicle GPS data, 14.6 million trips between Sep 2011 and Aug 2012; GB vehicle coverage.

Background Information

This release is an ad-hoc publication; there are no planned revisions or updates.

The two sources of data included in this release are:

1. Office of National Statistics (ONS) Opinions & Lifestyle Survey

The DfT recently commissioned research to try and find out about users of the SRN. The DfT included questions as part of the Opinions and Lifestyle Survey - run on a monthly basis by the ONS. These questions were asked in the February, March and April 2013 surveys, and the results from these three surveys were combined.

2. In-vehicle GPS data

This is provided by Trafficmaster to DfT, and used in the production of DfT congestion and reliability statistics. These data were analysed to establish SRN travel trends. The sample used in the analysis included 54,018 vehicles with in-vehicle GPS systems, using their travel over a period of one year (from September 2011 to August 2012), with Great Britain coverage.

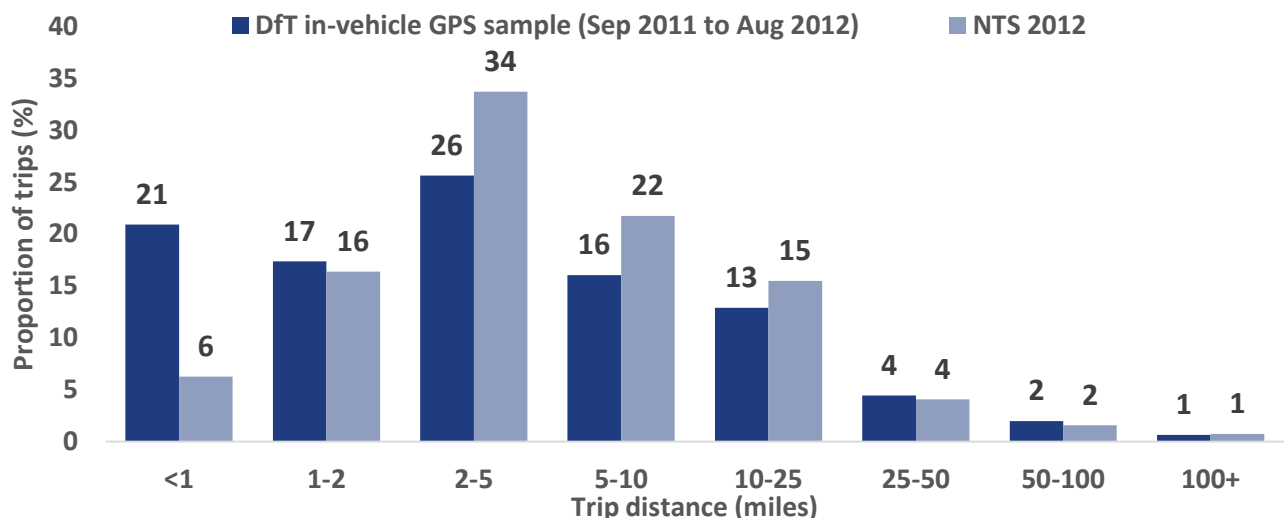
Further information about the data sources, including sampling frameworks, can be found in a separate annex to this document: 'Use of the Strategic Road Network: Sampling & Methodology'.

Comparison with the results from the DfT National Travel Survey 2012

Comparing the results of the DfT National Travel Survey (NTS) 2012 with the DfT in-vehicle GPS data, the proportions of trip lengths show a similar pattern. For journeys of at least 10 miles, the two data sources match very closely.

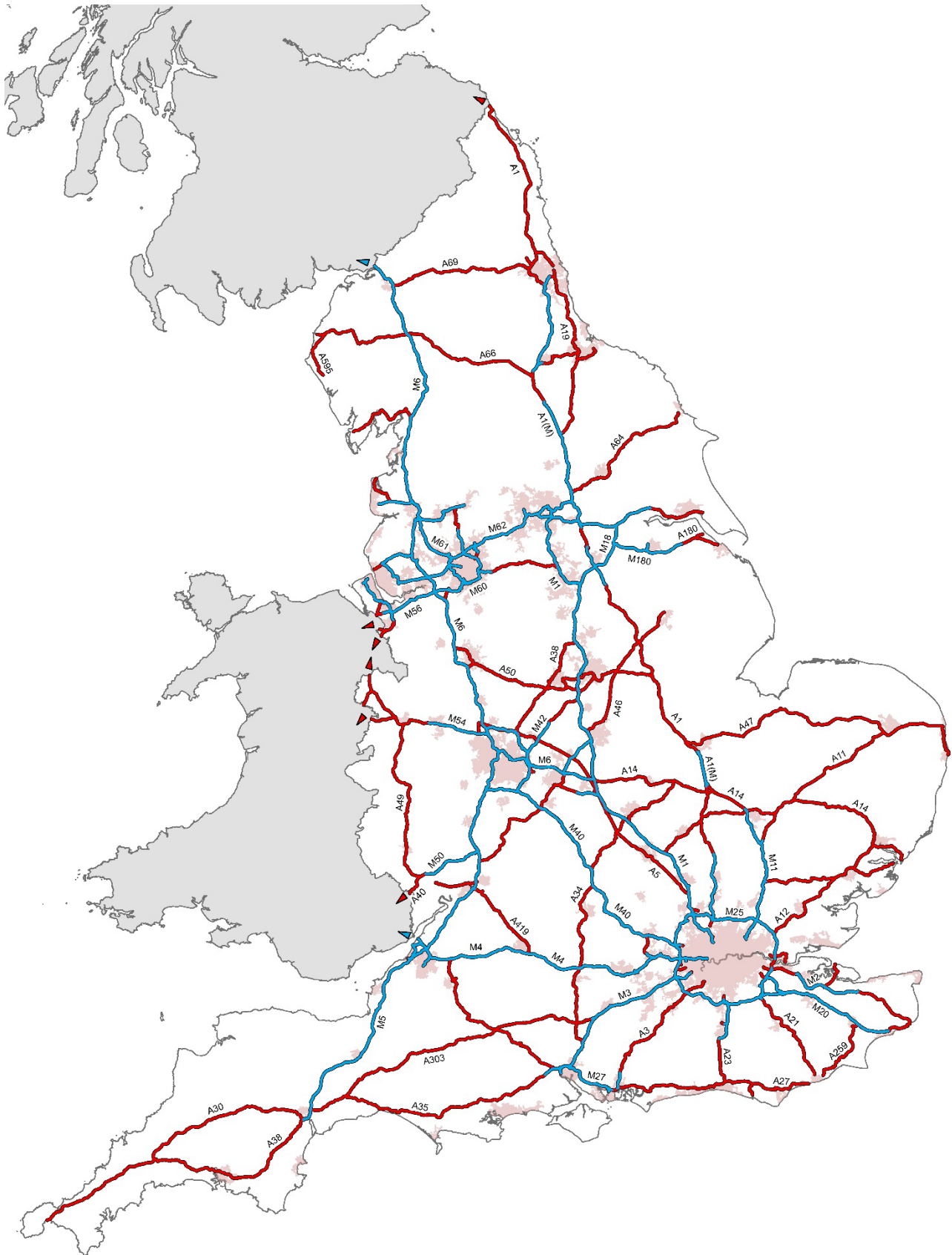
The GPS data shows a larger proportion of journeys of less than one mile when compared with comparable data from the NTS. NTS data is collected via a seven-day travel diary and this difference could be explained by respondents rounding short journeys to the nearest mile. NTS respondents could also be more accurate in recording longer-distance trips because they are more likely to use a GPS device, or online route planner for these trips; which would output an accurate trip distance.

Figure 11: Comparison of the DfT in-vehicle GPS data with the DfT National Travel Survey 2012



Sources: DfT in-vehicle GPS data, 78.6 million trips between Sep 2011 and Aug 2012 (GB vehicle coverage); DfT National Travel Survey 2012, 217,091 trips as 'Car/Van driver' and 'Car/Van passenger' (GB coverage)

Annex A – A map of the Strategic Road Network



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