TTSAC - Scottish Household Survey update

2012 Data

1. The data relating to 2012 is the first available following significant changes to the Scottish Household Survey (SHS).

2. As part of the changes, a number of changes were made to the (SHS) questions. An outline of the question changes relating to Transport included can be found at the following link:


3. Additionally, a new sampling strategy was introduced as part of attempts to coordinate across the major Scottish population surveys. The new sampling strategy for the SHS reduced the overall sample but is designed to produce representative at a local level each year.

4. The SHS previously operated on a 2 year cycle ie every 2 years the data could be combined and be used to provide Local Authority level statistics and more detailed breakdowns of characteristics. Individual years were not representative for all but the largest local authorities.

5. However, the changes came into effect mid-cycle and we have one year each of data collected under the old and new methodology. Keeping to the usual schedule we should be publishing detailed Travel Diary and the combined 2 year local area level statistics this Autumn.

   In line with others publishing SHS data, due to issues of comparability, we do not intend to combine data from 2011 and 2012. Responses will be published for 2012 as a standalone.

Questions asked of the full sample

6. Table 1 (overleaf) shows illustrative figures for likely precision of estimates for questions asked of the full sample for 1 year and provides a comparison with the two-year sample.
Table 1 - SHS Local Authority level confidence interval (CI) estimates for 2009 and 2010 combined data and for 2012 estimates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Local Authority</th>
<th>2009-10 level (%)</th>
<th>2009 and 2010 actual sample size</th>
<th>2009 and 2010 95% CI - (%)</th>
<th>2012 target sample (achieved sample in brackets)</th>
<th>2012 target sample estimate (%)</th>
<th>95% CI - 2012 estimate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of households with no access to a car</td>
<td>Aberdeenshire</td>
<td>15</td>
<td>1,308</td>
<td>±2.7</td>
<td>335 (312)</td>
<td>±4.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dundee City</td>
<td>44</td>
<td>777</td>
<td>±3.6</td>
<td>260 (257)</td>
<td>±6.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moray</td>
<td>21</td>
<td>611</td>
<td>±4.1</td>
<td>265 (248)</td>
<td>±5.0</td>
<td></td>
</tr>
</tbody>
</table>

7. This shows that lower levels of precision will result. However, such full sample figures will be available annually and if higher levels of precision are needed, then from 2012 onwards, it will be possible to combine two or more years’ data at a LA level, or potentially on a rolling basis as required.

Partial sample questions

8. Not all (transport) questions are asked of the full sample. Those that are not, fall into 2 categories:
   - those that are asked of the whole sample that qualify. For instance, respondents must have indicated that they qualify for a concessionary pass in order to be asked whether they use a concessionary travel card
   - Alternatively, a number of questions are purposefully asked over the span of two years, either to produce local or national figures

9. For the former, achieved sample sizes suggest that virtually all will have sufficient samples to be published at local level from 2012 data alone. For the latter, these will only be available every 2 years, being published in Autumn 2014 for the first time.
QA of data and timetable for release

10. The SHS Household level data and Random Adult datasets has been provided by the contractor for quality assurance. This is broadly on schedule and we expect to receive the Travel Diary data shortly - we are in very early days of quality assuring the data although we have not yet identified any problems.

11. We have recently announced the Transport and Travel in Scotland publication for release on Wednesday 28th August, which is consistent with the publication timing in previous years. It is anticipated that other publications will also be in line with previous years.

Weighting and NTS comparisons

Weighting

12. Currently the Travel Diary weighting uses the Random Adult weight as a starting point. The Random Adult weight is determined by the gender and age of the respondent. To derive the Travel Diary weight the Random Adult weight a scale factor is applied to the random adult weight based on employment status and day of interview. This produces a travel diary weight for each respondent rather than per journey.

13. This approach produces a large range of travel diary weighting values, and we have observed significant effects of ‘outliers’ where high Random Adult weights are compounded by high Travel Diary scaling.

14. Comparing the weighting between the NTS and SHS, the SHS shows greater variability in weighting. An as yet unpublished research report suggested possibly reducing the number of variables that feed into the Travel Diary weight. This “would correct for fewer types of sampling bias, and trade this loss off against the gain of yielding fewer weights that are very large, thus rendering it less sensitive to outlier datapoints and thus more stable.”

15. We will be working with the survey methodology team in OCSP to consider any changes.

Table 2: Journey weight values, NTS and SHS (abbreviated version of table from car, rail and bus travel trends in Scotland report)

<table>
<thead>
<tr>
<th>Year</th>
<th>NTS Standard Deviation</th>
<th>NTS Minimum</th>
<th>NTS Maximum</th>
<th>SHS Standard Deviation</th>
<th>SHS Minimum</th>
<th>SHS Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>0.17</td>
<td>0.63</td>
<td>2.21</td>
<td>0.80</td>
<td>0.04</td>
<td>16.76</td>
</tr>
<tr>
<td>2007</td>
<td>0.20</td>
<td>0.63</td>
<td>2.65</td>
<td>0.87</td>
<td>0.05</td>
<td>25.14</td>
</tr>
<tr>
<td>2008</td>
<td>0.22</td>
<td>0.64</td>
<td>2.69</td>
<td>0.85</td>
<td>0.05</td>
<td>10.53</td>
</tr>
</tbody>
</table>
NTS Business/Holiday trips

16. Due to the one day nature of the travel diary (it is always asked of ‘the previous day’) certain types of journeys will be under-reported. For instance, it is unlikely that the Travel Diary will pick up journeys to an overnight stay and will categorically not pick up journeys to a stay of more than one night. This is less of an issue for the NTS, as it is asked of a seven day period.

17. One area of particular interest in the past has been business trips, and the figures do suggest differences in what the two surveys pick up. Business trips account for a higher proportion of journeys in the NTS compared to SHS (3.2% in the NTS 2009/2010 and 1.2% in 2009 and 0.9% in 2010 according to the SHS).

18. One solution may be the inclusion of an additional question covering long distance trips over a longer period of time than ‘the previous day’. This would come closer to establishing the true frequency of business trips and trips of longer duration.

2014 Question Changes

19. A number of changes were made to the transport question set at the time of the SHS methodological changes (linked above). We have only just received the first year’s data for QA so are yet to fully see the data produced as a result of the changes. Accordingly, the intention is not to make any changes until the questionnaire being asked from January 2014.

20. Some of the areas that have been raised already within Transport Scotland are as follows:

- Business trips – additional question
- Question(s) on the state of the roads
- Increased questions on cycling

21. As previously, there is limited space in the survey so questions will likely have to drop out to make way for new additions.

Suggestions for other areas of interest or specific questions are welcome.