Department for Transport

Road freight statistics: Methodology change

Summary

Between 2011 and 2012, a number of changes were made to how the three DfT road freight surveys were processed. While these changes will have different implications for different publication tables (depending on the survey from which the statistics are derived, and the contents of the table), caution should be used when making comparisons over time for statistics based on Continuing Survey of Road Goods Transport Great Britain, Continuing Survey of Road Goods Transport Northern Ireland or International Road Haulage Survey.

Our estimates of the impacts of these processing changes on the figures presented in:

- the Domestic Activity of GB Registered Heavy Goods Vehicles publication; and
- the International Activity of UK Registered Heavy Goods Vehicles, and the UK Activity of Foreign Registered Heavy Goods Vehicles publication

can be seen in the table below.

	Estimated impact of processing change when comparing 2011 to 2010			Estimated impact of processing change when comparing 2012 to 2011		
	km	tonnes	Tonnes-km	km	tonnes	Tonnes-km
CSRGT GB	5.7% ↑	1.5% ↑	5.4% ↑	1.8% ↑	0.5% ↑	1.7% ↑
CSRGT NI	7.6% ↑	9.0% ↓	0.9% ↓	2.3% ↑	2.8% ↓	0.3% ↓
IRHS	N/A	N/A	N/A	1.8% ↓	1.4% ↑	1.5% ↓

Percentage increase ↑ Percentage decrease ↓

Road Freight Surveys

The Department for Transport runs three continuous road freight surveys:

- The Continuing Survey of Road Goods Transport Great Britain (CSRGT GB). This survey measures the UK activity of GB-registered heavy goods vehicles.

- The Continuing Survey of Road Goods Transport Northern Ireland (CSRGT NI). This survey measures the UK and international activity of NI-registered heavy goods vehicles.

- The International Road Haulage Survey (IRHS). This survey measures the international activity of GB-registered heavy goods vehicles.

The data from all three surveys are collected via paper questionnaires, which are returned to the Road Freight Statistics Team for processing. In order to analyse the results of these surveys, the data collected via the paper surveys has to be entered into a database and then validated.

What has changed?

Previously, all the validation, imputation and coding of the data collected was completed manually at the point of data entry. These activities were completed on a case by case basis, for each row on each form. This was a very time consuming process for each form, and required a large number of staff to maintain the throughput of forms.

Under the new system, the validation, imputation and coding processes have been moved so that they occur after data entry, with as much of these processes as possible being automated. However, rather than these activities being completed on a row or form basis, all the forms are validated, imputed and coded en masse. The lists of standard codes for these processes will continue to grow over time, meaning that manual interventions for anything written by hauliers that are new or unusual should gradually decrease with each year.

Under the old system each form was coded and validated on a consistent basis, but a similar form could have been coded differently by different people at different times. However, under the new system, all similar forms should be coded and validated in the same way but there may be instances where individual forms may be coded or validated in a way that is internally inconsistent. When found and if possible, additional checks have been introduced to prevent inconsistencies within individual forms.

Why has this change been made?

These changes were necessary to allow DfT to continue to produce statistics with fewer members of staff following the staffing reductions made in 2010/11. The new system enables a lot more data entry to be completed quickly and the validations to be automated as much as possible.

The new system also means that statisticians have a better understanding of the quality of data returned by fleet operators and are therefore better able to take into account such factors when analysing and reporting on the data. In addition, the new system also allows us to better standardise the processes of validation, imputation and coding, and provides more flexibility as coding frames can be updated and applied retrospectively if required.

What has been the result of this change?

While the new processes should allow DfT to produce more timely statistics in the future, developing the new processes has been more challenging than originally expected, leading to a delay in the production and publication of the Road Freight Statistical series.

Furthermore, due to this change in processing and the subsequent delay in publication of Road Freight Statistics, the DfT Head of Profession for Statistics wrote to the UK Statistics Authority recommending the suspension of National Statistics Status for the Road Freight Statistical series until the series can undergo re-assessment in 2015. The response from the UKSA can be found: http://www.statisticsauthority.gov.uk/reports---correspondence/correspondence/index.html

What is the impact of this change?

Our assessment is that this change in methodology resulted in the changes presented in Table 1. These estimates are based on a small number of forms which have been processed under both the old and new system.

Overall, the impact of the processing changes on CSRGT GB estimates is an increase across the three key estimates, although to varying degrees. The impact of the processing changes on IRHS estimates are small: less than 2% difference across the three key estimates. The impact of the processing changes on CSRGT NI estimates are the largest and the most varied across the three key estimates, but this is likely due to the small sample size involved in this analysis.

[1] For CSRGT GB and CSRGT NI, the overlap period consisted of five sample weeks in Q2 2011. For IRHS the overlap period consisted of all sample weeks in Q4 2012

Table 1: Impact of processing change

	Impact of processing change: new system compared to old		
	km	tonnes	tonnes-km
CSRGT GB[2]	7.6% ↑	2.0% ↑	7.2% ↑
CSRGT NI[3]	10.1% ↑	12.0% ↓	1.1% ↓
IRHS[4]	1.8% ↓	1.4% ↑	1.5% ↓

DfT Statisticians have looked in detail at the differences between the old and new processing systems and have concluded that the new system is producing robust statistics.

What does this mean when looking at Road Freight Statistics?

IRHS processing moved to the new system in Q1 2012 (January 2012). Therefore, the change will be observed when comparing 2012 to 2011. However, because CSRGT GB and CSRGT NI processing moved to the new system in Q2 2011 (April 2011), the change will be seen when comparing 2011 to 2010 and 2012 to 2011. Table 2 presents the expected impact of this processing change when looking across different time periods.

For example, Table 2 shows that when comparing 2011 CSRGT GB estimates of tonnes-km to 2010 CSRGT GB estimates of tonnes-km, processing changes alone are expected to produce an increase of 5.4%. In 2010, the amount of goods moved was 139 billion tonnes-km, as a result of the aforementioned processing changes, we would expect this figure to increase to 146 billion tonnes-km. The equivalent 2011 figure is 145 billion tonnes-km, once the expected impact of the processing change has been taken into account, goods moved in 2011 is 1 billion tonnes-km less than in 2010.

Please note that, throughout the publication, estimates prior to 2011 have not been adjusted.

[2] Based on 641 vehicles

[3] Based on 91 vehicles

[4] Based on 400 trips

Therefore, caution must be used when looking at trends over time. These methodological changes are highlighted in the output tables by break lines and footnotes.

Please also note that these changes only affect statistics derived from CSRGT GB, CSRGT NI and IRHS. Some tables are more affected than others, for example, when new coding frames have been used. The tables affected will also have footnotes highlighting this. All statistics in the publication that have been taken from other data sources are unaffected.

Table 2: Estimated impact of processing change on different time periods

	Estimated impact of processing change when comparing Q2 2011 to Q1 2011			Estimated impact of processing change when comparing 2011 to 2010			Estimated impact of processing change when comparing 2012 to 2011		
	km	tonnes	tonnes-km	km	tonnes	tonnes-km	km	tonnes	tonnes-km
CSRGT GB	7.6% ↑	2.0% ↑	7.2% ↑	5.7% ↑	1.5% ↑	5.4% ↑	1.8% ↑	0.5% ↑	1.7% ↑
CSRGT NI	10.1% ↑	12.0% ↓	1.1% ↓	7.6% ↑	9.0% ↓	0.9% ↓	2.3% ↑	2.8% ↓	0.3% ↓
IRHS	N/A	N/A	N/A	N/A	N/A	N/A	1.8% ↓	1.4% ↑	1.5% ↓

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