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Methodologies used in surveys of road freight transport in Member States and Candidate Countries

2011 edition

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INTRODUCTION

The present document contains the methodologies used by Member States, candidate and EFTA countries for their surveys on road freight transport statistics.

This document, published in the "Methodologies and working papers" collection as volume 2 of "Road freight transport methodology", provides a quite extensive coverage of what is available on road transport statistics methodology.

It is set out as following:

Part A describes national methodology for data collection. Information presented there is based on questionnaires completed by the reporting countries. These questionnaires updated the existing information up to the first quarter of 2010.

Part B includes summary tables, with the basic information on sampling, response rate, register quality and precision of results of the surveys.

Data on the register used to draw the sample and the sampling methodology is relevant to the surveys conducted in the first quarter of 2010, while the main figures given for each country refer to the years 2008 and 2009, according to data availability. Out of all the yearly figures, only the total number of statistical units is calculated as the average of the quarterly data, whereas for all the others sums are considered .The results presented in the summary tables have been calculated from the supplementary B-tables.

Concepts and definitions used in road freight transport statistics can be found in volume 1 of "Road freight transport methodology", i.e. the Reference Manual for the implementation of the Council Regulation No 1172/98 on statistics on the carriage of goods by road.

Further information on road freight transport statistics

Detailed data and metadata are available in the Eurostat dissemination database under the collection "Road freight transport measurement (road_go)"
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Road freight transport methodology, vol. 1 Reference Manual for the implementation of the Council Regulation No 1172/98 on statistics on the carriage of goods by road
http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-RA-07-029

I

Methodologies used in surveys of road freight transport in Member States, EFTA and Candidate Countries

BELGIUM

Organisation responsible for the conducting the survey: Statistics Belgium
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Parc et Immatriculation des véhicules utilitaires à moteurs neufs et d'occasion

Name of organisation who maintains the register: Ministry of Mobility and Transport

Frequency of update: Every month

Frequency of access to draw the samples: Every week

Arrangements for accessing the register: We obtain the files monthly on CD

Information obtained from the register:

Name, address, OCR number, license plate number, registration number, VAT number, load capacity, type of vehicle, type of body, brand and unladen weight.

Stratification: load capacity and type of body

Procedure for reminders: 1 reminder is sent.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

Agricultural vehicles, military vehicles, public administration and public service vehicles and vehicles not destined to the transport of goods

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

All tractors are surveyed. The sample for lorries is stratified according to 2 criteria: load capacity (14 classes) and type of body (8 classes); this gives 112 strata.

Recording of weight of goods

Gross weight of goods is collected, i.e. containers swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Multi stop: The distance taken into account for the calculation of the tonne-kilometres is the half of the total course in loading.

Collection/delivery: The distance taken into account for the calculation of the tonne-kilometres is the half of the total course in loading.

Calculation of weighting factors:

Weighting factor $= 13 * \dfrac{N}{S}$

N = number of vehicles in the register (in a stratum)
S = number of questionnaires used in analysis (in A1 dataset)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Variables related to environmental impact: None.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	110 051	95 044
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	56 737	49 747
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	9 806	10 414
Number of cases classified as non-respondents	13 759	13 973
Number of cases where sample register information was wrong and response could not be used	9 322	8 762
Number of questionnaires used in analysis	23 754	21 758

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detaile d&sb=Title)

BULGARIA

Organisation responsible for the conducting the survey: National Statistical Institute

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Register of Motor Vehicles

Name of organisation who maintains the register: The Ministry of Interior

Frequency of update: Quarterly updated

Frequency of access to draw the samples: Once a quarter

Arrangements for accessing the register:

> Bilateral inter-institutional agreement between the NSI and the Ministry of Interior for providing statistical information.

Information obtained from the register:

> Vehicles' registration number, type of vehicle, year of first registration, maximum permissible laden weight, load capacity, number of axes, region, name and address of the owner, model gross weight.

Procedure for reminders:

> *First reminder:* 2 weeks after the end of the surveyed week
>
> *Second reminder:* 4 weeks after the end of the surveyed week

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Vehicle with maximum permissible laden weight under 6 tonnes, military vehicles, vehicles of the Ministry of Interior and other public administrations, agriculture tractors and other motor vehicles not designed to carry goods, vehicles with weight and dimensions exceeding the normal permitted limits of the country.

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

> The sample for each quarter of the year is stratified by vehicles' gross weight (6 groups) and county's regions (28 regions), which give 168 strata.

> The annual size of the sample for 2010 is provided on the base of sample size, tonnes carried and tonne-kilometres performed in 2009 and is stratified by vehicles' gross weight into 6 groups.
> Group 1: Lorries and special vehicles with gross weight up to 7 499 kg;
> Group 2: Lorries and special vehicles with gross weight from 7 500 kg up to 14 999 kg;
> Group 3: Lorries and special vehicles with gross weight from 15 000 kg up to 16 999 kg;
> Group 4: Lorries and special vehicles with gross weight from 17 000 kg up to 24 999 kg;
> Group 5: Lorries and special vehicles with gross weight above 25 000 kg;
> Group 6: Road tractors.

Each quarter the 6 groups sample is distributed proportionally by the 28 regions.

Recording of weight of goods

Gross weight of goods is collected, i.e. containers swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop, multi stop and collection delivery: Respondents can record only one type of goods, i.e. goods of larger weight. If no type of goods is dominant, the commodity "Miscellaneous" is recorded.

Calculation of weighting factors:

Weighting factor $= 13 * \dfrac{N}{S + S'}$

N = number of vehicles in the register (in a stratum)
S = number of questionnaires used in analysis (in A1 dataset)
S' = number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: Type of fuel used and fuel consumption.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	133 154	135 336
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	14 000	14 000
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	3 304	4 601
Number of cases classified as non-respondents	3 874	3 884
Number of cases where sample register information was wrong and response could not be used	4 202	3 857
Number of questionnaires used in analysis	2 620	2 295

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

CZECH REPUBLIC

Organisation responsible for the conducting the survey: Transport Research Center
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

*Name of register***:** Central Register of Vehicles

*Name of organisation who maintains the register***:** Ministry of Transport

*Frequency of update***:** Continuously

*Frequency of access to draw the samples***:** Once a quarter

*Arrangements for accessing the register***:**

> Sample of road vehicles is being selected by the administrator of the Central Register of Vehicles following agreed criteria (according to territorial units and weight categories).

*Information obtained from the register***:**

> List of vehicles including assigned license plate, holders of vehicle firm, territorial unit (districts), type of body of goods road vehicle, weight category, vehicle type, year of manufacture, fuel used, load capacity, permissible weight and number of axles.

*Procedure for reminders***:**

> The questionnaire for a given period surveyed is sent one week in advance. The deadline for response is 12 days following the end of the period surveyed. The first reminder is sent 14 days following termination of the mentioned period. If no response is received within next 14 days, the second reminder is sent to the vehicles holder.

> If the Ministry of Transport is informed about the recent change of the ownership of a vehicle (not recorded in the register yet) or about leasing of an vehicle, then, if possible a questionnaire is sent once more to the real operator of the vehicle

SAMPLING METHODOLOGY

*Statistical unit***:** Tractive vehicle.

*Types of units excluded***:**

> Vehicles with a load capacity less than 2 tonnes and vehicles with oversized load, agriculture vehicles, military vehicles and public administration vehicles.

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

> The sample is stratified according to 4 weight categories and 8 territorial units.

> Weight categories:
> 1. 2 – 6 tonnes
> 2. 6 – 10 tonnes
> 3. More than 10 tonnes
> 4. Tractors

> Territorial units:
> 1. Prague

2. Central Bohemia
3. Southern Bohemia
4. Western Bohemia
5. Northern Bohemia
6. Eastern Bohemia
7. South Moravia
8. North Moravia

The stratum code consists of 2 numbers. The first is the code of the weight category and the second is the code of the territorial unit (e.g. 11, 12, ..., 18, 21, 22, ..., 28, ..., 41, ..., 48).

Recording of weight of goods

Gross weight of goods is collected; containers and swap bodies are excluded, but pallets might be included.

Recording of journey data sent to Eurostat:

Single stop: Respondents can record only one type of goods, i.e. goods of largest weight.

Collection/delivery: The first place of loading of the goods and the furthermost place of unloading is being used. Type 3 journeys are recorded only for national transport.

Calculation of weighting factors:

Weighting factor $= 13 * \dfrac{N}{S + S'}$

N = number of vehicles in the register (in a stratum)

S = number of questionnaires used in analysis (in A1 dataset)

S'= number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration.

 Variables related to environmental impact: None.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country at mid-point of year	143 541	133 593
Number of vehicles selected for initial sample and questionnaires despatched to vehicle owners	16 326	16 668
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	3 983	4 486
Number of cases classified as non-respondents	1 394	1 429
Number of cases where sample register information was wrong and response could not be used	2 503	2 426
Number of questionnaires used in analysis	8 587	8 327

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

DENMARK (National)

Organisation responsible for the conducting the survey: Statistics Denmark
(Based on information referring to the first quarter of 2007)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Vehicle Register

Name of organisation who maintains the register: Central Vehicle Register / Statistics Denmark

Frequency of update: Monthly

Frequency of access to draw the samples: Quarterly

Arrangements for accessing the register:

Information obtained from the register:

> Name, address, load capacity, maximum permissible laden weight, type of vehicle, type of body, axles, draw hook, registration number, enterprise number

Procedure for reminders:

> 2 written reminders sent out 1 or 2 weeks respectively after deadline for response
> 1 telephonic reminder a week later
> 1 written reminder sent by registered post a week later
> Legal proceedings normally ending with a fine of 800 DKK (first time)

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Lorries with maximum permissible laden weight below 6 tonnes.

Time unit: 1 week

Time units of quarter 1 of 2007 included in the survey: All (13 weeks)

Stratification:

> The sample is drawn at random within 14 strata. The stratification variables used are:

> Type of vehicle (Road tractor /Lorry) by:
> - Size of road tractors (3 classes according to gross weight: <=18 tonnes; >18 – 24 tonnes; >24 tonnes)
> - Size of lorry with draw hook (3 classes according to gross weight: >15 – 18 tonnes; >18 – 24 tonnes; >24 tonnes)
> - Other lorries without draw hook or having a gross weight of >6-15 tonnes (1 class)

> The Neyman rule is used for allocation of the sample to strata. The estimated standard deviations on tonnes-kilometres per stratum were used as criterion for the optimization. The sample is equal distributed on the weeks of the quarter.

Recording of journey data sent to Eurostat:

Single stop: We assume that a laden journey of type 1 carries only one type of commodity. If more types of goods are transported and one type of goods is dominating (more than 66%) the dominating one is used for the coding. If no type of goods is dominating the class 24 (miscellaneous) is used.

Multi stop: In the Danish survey on national transport of goods by road laden journeys are either of type 1 (single stop) or of type 3 (collection/delivery).

Collection/delivery: Tonne-kilometres = 0.5 *tonnes loaded * journey length

Calculation of weighting factors:

Weighting factors= $13 * \dfrac{N}{R}$

N = number of vehicles in the register (in a stratum)

R = number of responses

Optional variables covered: Vehicle empty kilometres; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Main figures (like other tables)	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country at mid-point of year	46 491	44 401
Number of vehicles selected for initial sample and questionnaires despatched to vehicle owners	3 536	4 406
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	1 422	1 681
Number of cases classified as non-respondents	45	88
Number of cases where sample register information was wrong and response could not be used	369	361
Number of questionnaires used in analysis	1 700	2 276

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

DENMARK (International)

Organisation responsible for the conducting the survey: Statistics Denmark
(Based on information referring to the first quarter of 2007)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Register of enterprises having regular international transport of goods by road
- Vehicle Register
- Enterprise Register

Name of organisation who maintains the register: Central Vehicle Register / Statistics Denmark

Frequency of update: Monthly

Frequency of access to draw the samples: Quarterly

Arrangements for accessing the register:

Information obtained from the register:

Name, address, maximum permissible laden weight, load capacity, type of vehicle, type of body, axles, registration number and enterprise number

Procedure for reminders:

2 written reminders sent out 1 or 2 weeks respectively after deadline for response.

1 telephonic reminder a week later

1 written reminder sent by registered post a week later

Legal proceedings normally ending with a fine of 800 DKK (first time)

SAMPLING METHODOLOGY

Statistical unit: Transport firm

Types of units excluded:

No relevant enterprises are excluded but the survey concentrates on transport by road vehicles with a maximum permissible laden weight above 6 tonnes.

Time unit: 1 week for small enterprises and half a week for the other enterprises.

Time units of quarter 1 of 2007 included in the survey: All (13 weeks or 26 halves a week)

Stratification:

The sample is drawn at random within 24 strata. The stratification variables used are:
- Type of transport (2 classes. Own account; Hire or reward)
- Size of enterprise (4 classes: 1-2 vehicles; 3-9 vehicles; 10+ vehicles; unknown=new enterprises)
- Address of vehicle user (4 classes: Copenhagen; Zealand, Funen, etc; Jutland South; Jutland North)

Small enterprises are selected once a year; medium size enterprises are selected twice a year; large enterprises are included in each quarterly sample. The sample is equal distributed on the weeks/half-weeks of the quarter. The reference period is one week for small enterprises and half a week for the other enterprises.

Enterprises are to report international journeys for vehicles that cross the Danish border in a reference period. All journeys are included from departure to arrival back to Denmark.

Recording of journey data sent to Eurostat:

Single stop: We assume that a laden journey of type 1 carries only one type of commodity. If more types of goods are transported and one type of goods is dominant (more than 66%) the dominant one is used for the coding. If no type of goods is dominant the class 24 (miscellaneous) is used.

Multi stop: For multi stop journeys each transport operation is reported. The journey data are derived from the goods data. Multi-stop journey are coded by consignments.

Collection/delivery: Journeys of type 3 (collection/delivery) are not accepted in the Danish survey of international transport. Such – rare - journeys are reported as multi stop journeys or as an artificial single stop journey.

Calculation of weighting factors:

Weighting factor = $13 * C * \dfrac{N}{R}$

or $26 * C * \dfrac{N}{R}$ depending on stratum

N = number of vehicles in the register (in a stratum)
R = number of responses
C = correction factor

The correction is due to underreporting. The correction factor is computed as the ratio between the estimated kilometres in international traffic obtained from the survey of national road goods transport (a supplementary question for vehicles in international traffic), and the estimated kilometres from the survey of international road goods transport.

Optional variables covered: Vehicle empty kilometres; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Main figures	**Year 2008**	**Year 2009***
Number of statistical units (enterprises) in the country	921	869
Number of statistical units selected for initial sample and questionnaires dispatched to vehicle owners (some enterprises are sampled more than once in a year)	2 005	1 419
Number of statistical units classified as non-respondents	4	36
Number of cases where sample register information was wrong and response could not be used	0:	0
Number of primary statistical units providing information about vehicles	2 001	1 383
Total number of vehicles for which information was supplied on journeys made in survey period	1 712	1 055

* Includes only Q1, Q2 and Q3 2009, starting with Q4 2009, one survey covering both national and international journeys and based on sampled vehicles is used.

More information in countries specific notes (http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

GERMANY

Organisation responsible for the conducting the survey: Kraftfahrt-Bundesamt (KBA)

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Zentrales Fahrzeugregister (ZFZR)

Name of organisation who maintains the register: Kraftfahrt-Bundesamt (KBA)

Frequency of update: Continuous

Frequency of access to draw the samples: Every 4 weeks

Arrangements for accessing the register:

> The register is accessed in a unit which is totally distinct from the statistical domain.

> The establishment of the sample from the Register is undertaken according to the sample and stratification plan, the principles of which are established with the Federal Statistical Office.

Information obtained from the register:

> *Information for stratification*: address of the vehicle owner, owner group, region of registration, type of vehicle, load capacity.

> *Information to conduct the survey*: licence plate number, name and address of the vehicle owner, maximum permissible laden weight, load capacity, type of vehicle and body type, owner group.

> *Information to relieve the burden of respondents*: date of first registration of the vehicle, maximum permissible laden weight, load capacity, engine power, number of axles, type of vehicle and body type, region of registration (Bundesland), owner group, exhaust emissions class.

Procedure for reminders:

> A reminder is sent 23 days after the date the questionnaire is due to be returned.

> A penalty procedure starts another 23 days after the reminder, if the questionnaire is still not returned.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Lorries < 3,501 tonnes load capacity, military vehicles, vehicles of public administrations, vehicles not destined to the transport of goods (e.g. agricultural tractors, special purpose vehicles) and vehicles not used for goods transport on public roads (own account only).

Time unit: Half a week.

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

Stratification is done in 5 hierarchical steps (number of categories in brackets), 72 strata are distinguished:

1st level: Fleet size (2)
2nd level: Owner group (2)
3rd level: Region of vehicle registration (6)
4th level: Vehicle class (2)
5th level: Vehicle size of lorry (2)

The strata-number identifies features as follows:

First digit: Region of registration (grouped NUTS 1)

    1: Ostsee: Schleswig-Holstein (DEF), Mecklenburg-Vorpommern (DE8)
    2: Nordsee: Bremen (DE5), Hamburg (DE6), Niedersachsen (DE9)
    3: Nordrhein-Westfalen (DEA)
    4: Mitte: Hessen (DE7), Rheinland-Pfalz (DEB), Saarland (DEC)
    5: Ost: Berlin (DE3), Brandenburg (DE4), Sachsen (DED), Sachsen-Anhalt (DEE), Thüringen (DEG)
    6: Süd: Baden-Württemberg (DE1), Bayern (DE2)

Second digit: Owner features (registered economic activity and fleet size in the population)
Transportation and storage

    1: fleet up to 5 vehicles
    2: fleet of more than 5 vehicles
Other owner groups
    3: fleet up to 5 vehicles
    4: fleet of more than 5 vehicles

Third digit: Vehicle features (vehicle class and size)

Transportation and storage
    0: road tractor
    1: lorry; load capacity of 3,501 t to less than 11,5 t
    2: lorry; load capacity of 11,5 t and more
Other owner groups
    0: road tractor
    3: lorry; load capacity of 3,501 t to less than 9,5 t
    4: lorry; load capacity of 9,5 t and more

Recording of weight of goods

Gross weight of goods is collected, i.e. containers swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop: If several different types of goods are transported, the type of goods with the uppermost weight is coded. In detail data is reported as follows:

A3:	8 – A3.1	Type of goods with the uppermost weight (in case of different types)
	9 – A3.2	= "A2.2"
	10 – A3.3	Classification of the first dangerous goods quoted in the questionnaire (up to five types can be listed, it is assumed, that the first is the main one)
	11 – A3.4	Type of cargo of the load transported on the journey
	12 – A3.5	= "A2.3"

<pre>
          13 – A3.6   = "A2.4"
          14 – A3.7   = "A2.5"

A2:   12 – A2.2   Weight of goods transported on the journey
       13 – A2.3   Point of loading (begin of journey)
       14 – A2.4   Point of unloading (end of journey)
       15 – A2.5   Distance travelled on the journey
       16 – A2.6   = "A2.2" * "A2.5"
</pre>

Multi stop: Multi-stop journey is collected by vertical stages. One A2- with one A3-dataset is reported. Simplification is performed as follows:

<pre>
A3:   8 – A3.1   Type of goods of first loading
       9 – A3.2   = "A2.2"
       10 – A3.3   Classification of the first dangerous goods quoted in the questionnaire (up to
                        five types can be listed, it is assumed, that the first is the main one)
       11 – A3.4   Type of cargo of first loading
       12 – A3.5   = "A2.3"
       13 – A3.6   = "A2.4"
       14 – A3.7   = "A2.5"

A2:   12 – A2.2   = "A2.6" / "A2.5"
       13 – A2.3   First point of loading on the journey
       14 – A2.4   Last point of unloading on the journey
       15 – A2.5   Sum of distances travelled on all vertical stages
       16 – A2.6   Sum of each stages product of "kg" * "km"
</pre>

kg" = Weight of goods transported between two successive stops (points) of the journey
km" = Distance travelled between two successive stops (points) of the journey

Collection/delivery: It consists in journeys up to 30 km distance and with several points of loading and/or unloading. Only the number of stops is collected. In detail data is reported as follows:

<pre>
A3:   8 – A3.1   Type of goods with the uppermost weight (in case of different types)
       9 – A3.2   = "A2.2"
       10 – A3.3   Classification of the first dangerous goods quoted in the questionnaire (up to
                        five types can be listed, it is assumed, that the first is the main one)
       11 – A3.4   Type of cargo of the load transported on the journey
       12 – A3.5   = "A2.3"
       13 – A3.6   = "A2.4"
       14 – A3.7   = "A2.5"

A2:   12 – A2.2   Maximum weight of goods transported on the journey
       13 – A2.3   First point of loading (begin of journey)
       14 – A2.4   Last point of unloading (end of journey)
       15 – A2.5   Distance travelled on the journey
</pre>

Calculation of weighting factors:

The calculation of the grossing factor is done on a monthly basis (not quarterly) in two steps. At first each series is extrapolated considering missing answers in stratum using

multiplicative completion. In a second step a monthly and stratum adaptation to the current stock data is done. Since the survey period may cover two different months the vehicle day is the unit for the adaptation instead of the survey period.

The grossing factor for the journeys of a vehicle, that belongs to a stratum h, drawn in series i, with journeys in month j is as follows:

$$\frac{M_{hj}}{\hat{M}_{hj}} \cdot \frac{8N_{hi}}{n_{hi} - n_{hi,a}}$$

N_{hi} Number of vehicles in stratum h at the time of the drawing of the series i

n_{hi} Number of selected vehicles in stratum h of series i

$n_{hi,a}$ Number of real non-response of vehicles in stratum h, which were selected in series i (no feedback, refusals, questionnaire undeliverable, specifications of user not available).

M_{hj} Number of vehicle-days in stratum h in month j of the population.

$\hat{M}_{hj}$ Number of vehicles-days in stratum h in month j extrapolated from the sample.

M_{hj} should be correctly identified using a daily count of each stratum of the register and in adding in each stratum the results of all days in the month. For practical reasons a good approximation is made multiplying the stock made up of stratum on the 15th of each month with the length of the month in days (i.e. 28, 29, 30 or 31). The method of extrapolation with the monthly adaptation to the actual stock of vehicles allows to include estimates for the registration of new vehicles between the date of the sample drawing and the reference period. Missing answers are also estimated. Under the assumption that missing answers in each stratum occur at random the additional estimation of missing answers does not cause any bias.

Optional variables covered: Vehicle empty kilometres; Type of cargo; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: None.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	471 542	465 937
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	201 175	196 725
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	34 587	36 845
Number of cases classified as non-respondents	8 822	7 026
Number of cases where sample register information was wrong and response could not be used	10 950	11 590
Number of questionnaires used in analysis	146 816	141 264

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

ESTONIA

Organisation responsible for the conducting the survey: Statistics Estonia

(Based on information referring to the first quarter of 2007)

SAMPLING REGISTER USED FOR THE SURVEY

*Name of register***:** Vehicle Register

*Name of organisation who maintains the register***:** Estonian Road Administration

*Frequency of update***:** Continuously

*Frequency of access to draw the samples***:** Once a quarter

*Arrangements for accessing the register***:**

The order of Ministry of Economic Affairs and Communications by which the Vehicle Register is obliged to give the data to the Statistics Estonia.

Agreements between Statistics Estonia and Estonian Road Administration.

Information obtained from the register:

Vehicle Register: Registration number of vehicle, register code of enterprise or natural person, name, address, telephone number and e-mail address of the vehicle user or owner, gross vehicle weight, load capacity, number of axles of lorry or tractor, maximum gross weight of trailer, maximum load capacity of trailer, body type of lorry, type of fuel.

Business Register for Statistical Purposes: Main activities (NACE Rev.2) of enterprise/organisation using the vehicle. Enterprise name, address, telephone number and e-mail address.

Population Register: address, of natural person.

Information pre-printed to questionnaire (to decrease burden on respondents): Gross vehicle weight, load capacity, number of axles of lorry or tractor, maximum gross weight of trailer, maximum load capacity of trailer, body type of lorry, type of fuel

*Procedure for reminders***:**

Statistics Estonia has a standard routine for reminders:

First reminder: 2 weeks after the surveyed week, letter by post

Second reminder: 4 weeks after the surveyed week, letter by post

Third reminder: 5 weeks after the surveyed week, contacting the vehicle users by mobile phone.

SAMPLING METHODOLOGY

*Statistical unit***:** Tractive vehicle

*Types of units excluded***:**

Lorries <3.501 tonnes load capacity, military vehicles, vehicles of public administrations and public services, agricultural tractors, vehicles with age of vehicle over 25 year, special purpose vehicles such as truck cranes, fire-engine vehicles, road maintenance vehicles and other special purpose vehicles

Time unit: 1 week

Time units of quarter 1 of 2007 included in the survey: All (13 weeks)

Stratification:

The sample is selected by stratified simple random sampling. Sample is stratified according to vehicle type, load capacity of vehicle and main activities of enterprise using the vehicle. The sample is drawn at random within 7 strata. Sample is allocated using Neyman allocation according to variables tonnes and tonne-kilometres. The weekly sample size is 116 vehicles.

Detailed description of strata and codes used to identify the strata are given in the following table (quarterly sample size of vehicles in each stratum, I-IV quarter 2009, 2010 and 2011):

Main activities (Estonian Classification of Economic Activities ,EMTAK 2008, based on NACE Rev.2) of enterprise using the vehicle/Road tractors and Lorries type	Road tractors	Lorries: Load capacity >3.5 <10 tonnes	Lorries: Load capacity 10 tonnes and more	Total
Enterprises				
Freight transport by road (code 4941)	Stratum=1	Stratum=2	Stratum=3	
	520	65	195	780
Other activities	Stratum=4	Stratum=5	Stratum=6	
	182	91	234	507
Sole proprietors				
Sole proprietors	Stratum=7			
				221
Total				1508

Recording of weight of goods

Gross-gross weight of goods is collected, i.e. containers swap bodies and pallets are included.

Recording of journey data sent to Eurostat:

Single stop, multi stop and collection/delivery: If more than one goods commodity is carried, it is coded as "mixed goods" type 24. If mixed goods are selected, then goods loading type is set according to good with highest weight (kilograms).

Other variables: We assume that within one journey only one commodity is carried.

Calculation of weighting factors:

Weighting factors $= 13 * \dfrac{N}{S}$

N = number of vehicles in the register (in a stratum)
S = number of questionnaires used in analysis (in A1 dataset)

S= working (reason 0)+ Repair (reason 1)+ No driver available (reason 2)+ No work (reason 3)+ Work in closed territory (reason 4)+ Written off (reason 6) + Special vehicle (reason 7) + International journey (reason 8) + Not used for transport of goods (reason 9) + Private usage (reason 10) + Other reason (reason 14).

Optional variables covered: Vehicle empty kilometres; Type of cargo; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: No information.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	17 932	17 188
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	6 078	5 810
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	1 657	2 112
Number of cases classified as non-respondents	1 566	1 126
Number of cases where sample register information was wrong and response could not be used	1 251	1 144
Number of questionnaires used in analysis	1 604	1 428

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

IRELAND

Organisation responsible for the conducting the survey: Central Statistics Office

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Goods Vehicle File

Name of organisation who maintains the register: Department of Transport

Frequency of update: The register is updated on a daily basis within the Department of Transport.

Frequency of access to draw the samples Approximately every 8 weeks

Arrangements for accessing the register:

> The complete register of all vehicles taxed as commercial goods vehicles, of at least 2 tonnes unladen weight, is sent by e-mail.

Information obtained from the register:

> The data obtained from the register are as follows:
> - Registration number
> - Year of first registration
> - Make (3-character code)
> - Model (3-digit code)
> - Unladen weight
> - Year of manufacture
> - Body type (2-digit code)
> - Fuel type (1-digit code)
> - New/Second hand (1-digit code)
> - Society of the Irish Motor Industry code (8-digit code)
> - Motor Tax Office (2-digit code)
> - Year of motor tax expiry
> - Month of motor tax expiry
> - Taxation use (i.e. Own account or for Hire/reward: 1-digit code)
> - Name of owner
> - Address of owner

Procedure for reminders:

> If the questionnaire is not returned in the post within 12 days of the due date, a first reminder notice is issued. This is followed by a second reminder notice 12 days later again. A third and final reminder is issued 7 days afterwards.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Vehicles not registered for the transport of goods, vehicles taxed as non-commercial vehicles and vehicles with less than 2 tonnes unladen weight.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

The register is stratified into 20 strata based on year of manufacture, unladen weight, taxation use (i.e. own account or hire/reward) and year of first registration as follows:

Stratum Number	Vehicle Characteristics			
	Year of Manufacture	Unladen Weight	Taxation use	Year of First Registration
1	Before 2000	2-5 tonnes	Immaterial	Immaterial
2	"	5-10 tonnes	Own Account	"
3	"	"	Hire or Reward	"
4	"	10 tonnes or over	Own Account	"
5	"	"	Hire or Reward	"
6	2000-2004	2-5 tonnes	Immaterial	"
7	"	5-10 tonnes	Own Account	"
8	"	"	Hire or Reward	"
9	"	10 tonnes or over	Own Account	"
10	"	"	Hire or Reward	"
11	2005 or later	2-5 tonnes	Immaterial	Before 2007
12	"	"	"	2007 or later
13	"	5-10 tonnes	Own Account	Before 2007
14	"	"	"	2007 or later
15	"	"	Hire or Reward	Before 2007
16	"	"	"	2007 or later
17	"	10 tonnes or over	Own Account	Before 2007
18	"	"	"	2007 or later
19	"	"	Hire or Reward	Before 2007
20	"	"	"	2007 or later

Recording of weight of goods

Gross weight of goods is collected; containers swap bodies and pallets are excluded, but pallets might be included.

Recording of journey data sent to Eurostat:

Multi stop and collection/delivery: tonnes-kilometres are not calculated for each single journey stage (this information is not requested from respondents). Instead it is calculated from the number of collection and delivery stops and the weight of extra loads collected and delivered, as follows (First case 1. If case 1 does not apply then case 2. If case 2 does not apply then case 3, etc.):

Case 1: No. of collection stops = No. of delivery stops

Tonnes-km = (1/2) * Distance loaded (km) * [Goods weight delivered (kg) + Goods weight collected (kg) + Goods weight at start of journey (kg)]/1000

Case 2: Delivery stops but no collection stops

Tonnes-km = (1/2) * Distance loaded (km) * Goods weight delivered (kg) * [1 + [1/No. of delivery stops]]/1000

Case 3: Collection stops but no delivery stops

Tonnes-km = (1/2) * Distance loaded (km) * [Goods weight at start of journey (kg) + Goods weight collected(kg)] * [1 + [1/No. of collection stops]]/1000

Case 4: No. of delivery stops >= 10 * No. of collection stops

Tonnes-km = (1/2) * Distance loaded (km) * [Goods weight delivered(kg)/ No. of collection stops] * [1 + [No. of collection stops/No. of delivery stops]]/1000

Case 5: No. of collection stops >= 10 * No. of delivery stops

Tonnes-km = (1/2) * Distance loaded (km) * [[Goods weight at start of journey (kg) + Goods weight delivered (kg)]/ No. of delivery stops] * [1 + [No. of delivery stops/No. of collection stops]]/1000

Otherwise

Tonnes-km = (1/2) * Distance loaded (km) * [Goods weight at start of journey (kg) + Goods weight collected (kg) + Goods weight delivered (kg)] /1000

Calculation of weighting factors:

$$\text{Weighting factors} = 13 * \frac{N}{S + S'}$$

N = average number of vehicles on register in stratum for quarter (sum of number of vehicles on register in a stratum at the beginning and the end of a quarter divided by 2

S = number of questionnaires used in analysis (in A1 dataset)

S' = number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.

Optional variables covered: Vehicle empty kilometres; Type of cargo, Axle configuration.

Variables related to environmental impact: Type of fuel used.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	125 425	85 233
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	35 706	39 352
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	5 667	8 161
Number of cases classified as non-respondents	16 907	19 103
Number of cases where sample register information was wrong and response could not be used	7 385	5 275
Number of questionnaires used in analysis	5 747	6 813

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

GREECE

Organisation responsible for the conducting the survey: Hellenic Statistical Authority
(Based on information referring to the first quarter of 2007)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Vehicle Register

Name of organisation who maintains the register: Ministry of Transport & Communications

Frequency of update: Continuous

Frequency of access to draw the samples: Once a year.

Arrangements for accessing the register:

Once in a year, according to the stratification plan of the sample, a copy of the circulating goods road motor vehicles on 31st December is obtained from the Ministry of Transport & Communications.

Information obtained from the register:

Name, address, use of vehicle, maximum permissible laden weight, load capacity, type of vehicle, type of body, axles, year of national registration and registration number.

For international transport the Transport Statistics Unit of NSSG maintains a register with enterprises performing international transport of goods and their vehicles. The vehicles that perform international transport of goods included in the sample are obtained from this register

Used in stratification: type of use of the vehicle, address (Nuts 1 level), load capacity and type of body.

*Procedure for reminders***:**

The survey is conducted through interviewers who are entrusted with the task to contact the vehicle owner until the end of the survey's collection phase.

Concerning the response rate of the survey, in all quarters of 2006 this was above 70%. We consider that such percentages are adequate for the purposes of the survey.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

Vehicles with road capacity less than 3.5 tonnes and less than 6 tonnes of maximum permissible weight, military vehicles, vehicles of public administration and agricultural tractors.

Time unit: 1 week

Time units of quarter 1 of 2007 included in the survey: 13 weeks.

Stratification:

Following, information concerning stratification variables and codes used is provided.

Firstly the vehicles are discriminated between:
1. Those that conduct national journeys
2. Those that conduct international journeys

For vehicles conducting national journeys, the strata are defined by:

1. The geographical division (NUTS 1)
   1. VOREIA ELLADA (North Greece)
   2. KENTRIKI ELLADA (Central Greece)
   3. ATTIKI (Attica)
   4. NISIA AIGAIOU, KRITI (Aegean Islands and Crete)

2. The use of the vehicle (in Greece a vehicle can have a permission for private or public use):
   1. Hire or Reward (Public use)
   2. On Own Account (Private use)

3. The type of the vehicle
   1. Lorries with load capacity 3.5-7.9 tonnes
   2. Lorries with load capacity 8-12.9 tonnes
   3. Lorries with load capacity greater than 13 tonnes
   4. Tank-trucks and lorries with specific "body"
   5. Tractors

For vehicles conducting international journeys, the strata are also defined by the geographical division (NUTS 1). Note that for those vehicles, the type of the truck is coded as 6.

Recording of journey data sent to Eurostat:

Single stop: Respondents can record only one type of goods, *i.e.* goods of largest weight. If no type of goods is dominant then 'miscellaneous' is used.

Multi stop: Multi-stop journeys are coded by consignments.

Collection/delivery: For short distance journeys of type 3 (collection/delivery) with more than five points of loading and/or unloading, the respondent is not asked for the details of all the stops, but is asked about the number of stops, the distance travelled loaded and the distance travelled unloaded, the total weight transported and the main type of good (as in type 1).

Calculation of weighting factors:

Weighting factors $= 13 * \dfrac{N}{S + S'}$

N = number of vehicles in the register (in a stratum)

S = number of questionnaires used in analysis (in A1 dataset)

S' = number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)

Optional variables covered: Vehicle empty kilometres; Type of cargo, Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Main figures	**Year 2007**	**Year 2008**
Total number of relevant goods vehicles in the country	98 940	105 004
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	6 372	6 739
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	506	636
Number of cases classified as non-respondents	777	619
Number of cases where sample register information was wrong and response could not be used	875	781
Number of questionnaires used in analysis	4 214	4 703

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

SPAIN

Organisation responsible for the conducting the survey: Ministry of Public Works and Transport
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Registro de Ordenación del Transporte Terrestre

Name of organisation who maintains the register: Ministry of Public Works and Transport

Frequency of update: Continuously

Frequency of access to draw the samples: Once a month.

Arrangements for accessing the register: The register belongs to the Ministry

Information obtained from the register:

> Name, registration number, address, type of vehicle, type of transport (own account or hire or reward), range of authorisation of action of the vehicle (local, national, international), year of registration, load capacity and maximum permissible weight, region (Autonomous Community) where the vehicle is registered.

> *Used in stratification:* Type of transport, region (Autonomous Community) where the vehicle is registered, load capacity and type of vehicle.

Procedure for reminders:

> During the week of reference and the following four weeks, daily phone calls are made. During this period, if the company is not found, new addresses and telephone numbers of the companies are looked for.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> 'Light' transport vehicles: less than 3.5 tonnes weight capacity and less than 6 tonnes of maximum permissible weight
> Special vehicles with very high weight capacity or dimensions, which need a special registration number.
> Military vehicles and those belonging to Public Administrations.
> Vehicles whose use is not for transport of goods: excavators, rollers, etc.

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

> There are 10 strata (in proportion to the frame):
> Type of transport:
> > 1: own account
> > 2: hire or reward
> Type of vehicle and weight capacity:
> > 1: lorries of 3.6 to 10 tonnes

2: lorries of 10.1 to 13.5 tonnes
3: lorries of over 13.5 tonnes
4: tractors

Region (Autonomous Community) where the vehicle is registered
1: Islas Canarias
2: Remaining regions

Code	Type of transport	Region where the vehicle is registered	Type of vehicle and weight capacity
1	Hire and reward	All, except Islas Canarias	3,5 - 10 tn
2	Hire and reward	All, except Islas Canarias	10,1 – 13,5 tn
3	Hire and reward	All, except Islas Canarias	+ 13,5 tn
4	Hire and reward	All, except Islas Canarias	Tractors
5	Own account	All, except Islas Canarias	3,5 - 10 tn
6	Own account	All, except Islas Canarias	10,1 a 13,5 tn
7	Own account	All, except Islas Canarias	+ 13,5 tn
8	Own account	All, except Islas Canarias	Tractors
9	Hire and reward	Islas Canarias	All
10	Own account	Islas Canarias	All

Recording of weight of goods

When possible, the weight of containers is excluded, but in most cases the informant only knows the total weight carried. The weight of goods rarely excludes swap bodies and pallets.

Recording of journey data sent to Eurostat:

Multi stop: Multi-stop journeys are coded as consignments.

Collection/delivery: Without points of loading and/or unloading of the goods,
Tonne-kilometres = maximum tonnes * kilometres / 2.
Only the main type of goods is requested (but all tonnes).

Calculation of weighting factors:

$$\text{Weighting factors} = \left(1 - \frac{L}{T*1000}\right) * T * \frac{N}{S + S'}$$

N = number of vehicles in the register (in a stratum)

S = number of questionnaires used in analysis (in A1 dataset)
S' = number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)
T = number of week in the month
L = number of vehicles in loss in the month

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: None.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	403 223	392 893
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	54 000	56 000
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	10 257	12 004
Number of cases classified as non-respondents	2 722	3 573
Number of cases where sample register information was wrong and response could not be used	10 644	11 841
Number of questionnaires used in analysis	30 340	28 582

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

FRANCE

Organisation responsible for the conducting the survey: Ministry of Ecology, Energy, Sustainable Development and Sea

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Fichier Central des Automobiles

Name of organisation who maintains the register: Ministry of Ecology, Energy, Sustainable Development and Sea

Frequency of update: The register is updated daily, but a quarterly update is used for the survey.

Frequency of access to draw the samples: Quarterly

Arrangements for accessing the register:

> Since July 2001, the Ministry is in charge of drawing the sample, on a quarterly basis, from a copy of the 'Fichier Central des Automobiles'.

Information obtained from the register:

> Name and address of the owner, SIREN number of the register of enterprises, type of vehicle, load capacity, maximum permissible weight, type of body, year of registration, main activity of the enterprise, belonging of the enterprise to the register of transporters for hire and reward and administrative region (code NUTS2).
>
> *Used in stratification:* Type of vehicle, load capacity, maximum permissible weight, type of body, year of registration, main activity of the enterprise, belonging of the enterprise to the register of transporters for hire and reward and administrative region (code NUTS2).

Procedure for reminders:

> *First reminder:* 4 weeks after the surveyed week
> *Second reminder:* 7 weeks after the surveyed week, with a new copy of the questionnaire sent out
> *Non-response report:* 12 weeks after the surveyed week
> *Contentious:* every year in February, addressed to enterprises with over ten questionnaires not answered in the previous year

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Motor vehicles more than 15 years old.
> Lorries exceeding 32.5 tonnes of load capacity (44.5 tonnes for road tractors).
> Vehicles with less than 3.5 tonnes of gross vehicle weight.
> Special purpose road vehicles such as garbage trucks, fire brigade vehicles, ambulances, cranes, as well as military vehicles and vehicles belonging to owners involved in activities such as driving schools, fairgrounds, etc.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

Since July 2001, sampling is carried out according to the method of 'unequal probabilities'. This leads to a large extent of stratification, and the resulting data are thus difficult to define and describe.

The variables used for stratification are: technical details relating to the vehicle, such as category (lorry or road tractor), load capacity, maximum permissible laden weight, year of registration, main activity of the enterprise to which the vehicle belongs, membership of the enterprise to the register of transporters for hire and reward, administrative region (code NUTS2) and type of body of the vehicle.

The sample is rotated on two years: half of the sample is renewed on the following year. Therefore, every vehicle is sampled twice: the sampling week allocated to it, and the same week the following year.

Recording of weight of goods

Gross weight of goods is collected, i.e. containers swap bodies and pallets are excluded.

Recording journey data sent to Eurostat:

Multi stop: Multi-stop journeys are coded as consignments.

Collection/delivery: In the recording of type 3, we describe one basic transport operation with the total weight of goods (A3.2 in table A3) and the total length of the journey (A3.7 in table A3). To calculate the number of tonne-kilometres, we multiply the total weight of goods by the total length of the journey and divide the result by 2, which gives the same result as if the vehicle had been unloading uniformly throughout the journey.

Calculation of weighting factors:

Weighting factors for each vehicle k, $\quad w_k = \dfrac{1}{\pi_k} = \dfrac{1}{n} \cdot \dfrac{\sum_k c_k u_k v_k}{c_k u_k v_k} = \dfrac{N}{n} \cdot \dfrac{\dfrac{\sum_k c_k u_k v_k}{N}}{c_k u_k v_k}$

u_k = 1 for vehicles > 15 years, 2 for vehicles from 11 to15 years, 3 for vehicles from 6 to 10 years, 6 for vehicles from 0 to 5 years

c_k = 0.5 x MPLW / 10 for lorries
= (MPLW - 6) * 0.88 / 10 for road tractors

v_k = 1 by default, 1.5 for vehicles belonging to transport enterprises, 2 for removal vehicles, vehicles carrying dangerous goods or belonging to international transport enterprises.

N is total population and n the size of the sample.

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: type of fuel used.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	612 880	540 082
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	76 042	79 128
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	9 403	13 144
Number of cases classified as non-respondents	15 757	14 793
Number of cases where sample register information was wrong and response could not be used	18 066	15 174
Number of questionnaires used in analysis	32 816	36 017

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

ITALY

Organisation responsible for the conducting the survey: National Statistical Institute (ISTAT)
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of registers: National Vehicle Register; Tax Register and Road freight survey register

Name of organisation who maintains the register: Ministries of Transport, of Finance and ISTAT

Frequency of update: Quarterly, except Road freight survey register yearly

Frequency of access to draw the samples: Once a year

Arrangements for accessing the register:

> The owners of the two registers provide a release of the two databases at the end of each quarter of the year. The databases updated at 30/06/2009 are used as input of a procedure, which final output is the 'Road freight survey register' to be used for the 2010 road freight survey.

Information obtained from the register:

> *National vehicle register*: License plate number, place in which the plate was registered, load capacity, maximum permissible laden weight, year of first registration, number of axles of the motor vehicle, type of vehicle, type of body, type of transport (hire and reward/own account).
>
> *Tax register*: Name of the enterprise (owner of the vehicle), address of the enterprise, VAT number. License plate number, place in which the plate was registered, load capacity, maximum permissible laden weight, year of first registration, number of axles of the motor vehicle, type of transport (hire and reward/own account) are also gathered from the 'Tax register' when the license plate is not in the 'National vehicle register'. Missing values for VAT number and type of transport are gathered from National enterprise register.
>
> *Used in stratification*: Place of registration (18 regions at NUTS2 level; 6 provinces at NUTS3 level); type of transport (hire and reward/own account) and load capacity class (5 classes).

Procedure for reminders: Studies for implementing standard routine of reminders are under way.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Agricultural vehicles, military vehicles, vehicles belonging to central or local public administrations;
> All road transport vehicles with a load capacity < 3.5 tonnes;
> All road transport vehicles more than 11 old (from first registration);
> Vehicles with technical characteristics not specifically designed for the transport of goods.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

The sample is stratified according to three criteria: place of first registration, type of transport and load capacity.

Place of first registration: This variable refers to the regions, however in order to allow exhaustive studies on traffic within administrative units, the survey manager can design sub-strata at NUTS 3 level; these strata have a "P" in the first digit.

Piemonte	R001
Valle d'Aosta	R002
Lombardia	R003
Veneto	R005
Friuli Venezia Giulia	R006
Liguria	R007
Emilia Romagna	R008
Toscana	R009
Umbria	R010
Marche -Pesaro -Urbino	P041
Marche - Ancona	P042
Marche -Macerata	P043
Marche - Ascoli Piceno	P044
Lazio	R012
Abruzzo	R013
Molise	R014
Campania	R015
Puglia	R016
Basilicata	R017
Calabria	R018
Sicilia	R019
Sardegna	R020
Provincia di Trento	P022
Provincia di Bolzano	P023

Type of transport

Hire or reward = T

Own account = P

Load capacity (5 categories)

1 = from 3.5 to 4.9 t

2 = from 5 to 9.9 t

3 = from 10 to 12.4 t

4 = from 12.5 to 14.9 t

5 = over 14.9 t

Example: stratum coded R001T1; the vehicles included in this stratum were registered in Piemonte, the owner are enterprises which operates on hire or reward and belong to the first class of load capacity.

Recording of weight of goods

Gross-gross weight of goods is collected, i.e. containers swap bodies and pallets are included.

Recording journey data sent to Eurostat:

> *Single stop and multi stop:* The questionnaire is specifically designed to collect information on three type of goods carried both for type **1** and **2** journeys.

> *Collection/delivery:* In the recording of type 3 journeys only the main type of goods is requested; it is assumed that the type3 journeys report only national journeys.

Calculation of weighting factors:

> Weighting factors $= 13 * \dfrac{N}{S + S'}$

> **N** = number of vehicles in the register (in a stratum)

> **S** = number of questionnaires used in analysis (in A1 dataset)

> **S'** = number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)

Optional variables covered: None.

Variables related to environmental impact: Fuel consumption.

Main figures	**Year 2004**
Total number of relevant goods vehicles in the country	258 038
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	80 049
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	4 376
Number of cases classified as non-respondents	43 947
Number of cases where sample register information was wrong and response could not be used	8 584
Number of questionnaires used in analysis	23 142

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

CYPRUS

Organisation responsible for the conducting the survey: Statistical Service of Cyprus (CYSTAT)
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

***Name of register*:** Road Vehicle Register

***Name of organisation who maintains the register*:** Road Transport Department

***Frequency of update*:** Yearly

***Frequency of access to draw the samples*:** Quarterly

***Arrangements for accessing the register*:**

> Very good co-operation of the Statistical service with the Road Transport Department (Ministry of Communication and Works).

***Information obtained from the register*:**

> Category of vehicle (Hire or Reward and Own account), gross vehicle weight and load capacity of the vehicle.

***Procedure for reminders*:**

> The major part of the survey is conducted by personal visits and a few cases by telephone.

SAMPLING METHODOLOGY

***Statistical unit*:** Tractive vehicle

***Types of units excluded*:**

> Vehicles with load capacity less than 3 tonnes.

Time unit: 1 Week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

***Stratification*:**

> The sample consists of 9 categories (stratum) according to the load capacity of the vehicle and the type of transport (Hire or reward and own account). The sample is equally distributed in all weeks of the quarter.

Recording of weight of goods

> Gross-gross weight of goods is collected, i.e. containers swap bodies and pallets are included.

Recording of journey data sent to Eurostat:

> *Single stop:* Only the commodity with the highest weight is taken into account.
>
> *Multi stop:* For the calculation of tonnes-kilometres the sum of weight received plus the weight delivered multiplied by the distance covered is divided by 1500.
>
> *Collection/delivery:* For the calculation of tonnes-kilometres the sum of weight received plus the weight delivered multiplied by the distance covered is divided by 2000.

Calculation of weighting factors:

Weighting factor$= 13 * \dfrac{N}{Q}$

      N = number of vehicles in the register (in a stratum)

      Q = number of questionnaire completed

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: Type of fuel used and fuel consumption.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	12 861	13 262
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	1 612	1 612
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	390	488
Number of cases classified as non-respondents	88	98
Number of cases where sample register information was wrong and response could not be used	84	84
Number of questionnaires used in analysis	1 051	942

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

LATVIA

Organisation responsible for the conducting the survey: Central Statistical Bureau
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

*Name of register***:** Register of motor vehicles

Name of organisation who maintains the register: Road Traffic Safety Directorate

Frequency **of update:** On-line

*Frequency of access to draw the samples***:** Once a month

*Arrangements for accessing the register***:**

> CSB has access to extract information from The Register of Motor Vehicles. This part of the Register contains information on transport vehicles which owned by natural or legal persons and which at the moment of sample formation had passed the yearly technical inspection and could be legally operated.

*Information obtained from the register***:**

> Place of registration (2 groups - Riga including the district of Riga, all Latvia without Riga and the district of Riga); model; registration number; vehicle ID number; legal (enterprise) or private person; enterprise VAT number or personal code; self-weight, load capacity; road tractor or not; body type; year of production; name of owner (legal i.e. enterprise or private person); address of owner; mark about leasing and address of leaseholder

> *Used for stratification:* load capacity, year of production and name of owner.

Procedure for reminders:

> *First reminder*: 19 days after the survey week another copy of the questionnaire is sent to the respondent

> *Second reminder*: After 4 weeks, another reminder letter is sent to the respondent.

SAMPLING METHODOLOGY

*Statistical unit***:** Tractive vehicle

*Types of units excluded***:**

> Special purpose vehicles such as truck cranes, fire-flightiness vehicles, road maintenance vehicles, border guards' vehicles and other special purpose vehicles
> Vehicles older than 25 years
> Vehicles with maximum permissible laden weight less than 3.5 tonnes

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

*Stratification***:**

> The sample for one month (4 weeks within the first two months of each quarter and 5 weeks within the third month of each quarter) is obtained using a single stage stratified systematic sampling.

The vehicles selected in sample for one month will be not sampled for six, nine or twelve sequence months, in order to reduce the workload for respondents.

For the estimation of averages, totals, ratios and percentages the so-called Horvitz-Thompson estimator is used. It means that the probability for each vehicle to be included into the sample must be calculated.

For every survey month the inclusion probability of a vehicle in the sample is calculated as a ratio between the number of vehicles that were included in the sample and did respond and the total number of vehicles in the stratum, i.e., the number of vehicles that had valid technical examination certificates in the survey month. This means that within each stratum the responding vehicles represent the non-responding ones of the same stratum, too.

The estimates of totals and means are obtained first for each survey month and each stratum separately. The estimates of population totals and population means (or domain totals and domain means) are obtained by summing up or calculating the weighted sum over all strata and over all survey months of the corresponding strata estimates.

Stratum	Capacity	Place of Registration	Year of production	Status
3	3,5<cap.=<5t	Riga (including the district of Riga)	1985-2010	Legal
4	3,5<cap.=<5t	all Latvia without Riga and the district of Riga	1985-2010	Legal
5	5t<cap.<=10t	Riga (including the district of Riga)	2004 – 2010	Legal
6	5t<cap.<=10t	Riga (including the district of Riga)	1997 – 2003	Legal
7	5t<cap.<=10t	Riga (including the district of Riga)	1985 to 1996 (including)	Legal
8	5t<cap.<=10t	all Latvia without Riga and the district of Riga	2004 – 2010	Legal
9	5t<cap.<=10t	all Latvia without Riga and the district of Riga	1997 – 2003	Legal
10	5t<cap.<=10t	all Latvia without Riga and the district of Riga	1985 to 1996 (including)	Legal
11	cap.>10t	Riga (including the district of Riga)	2004 – 2010	Legal
12	cap.>10t	Riga (including the district of Riga)	1997 – 2003	Legal
13	cap.>10t	Riga (including the district of Riga)	1985 to 1996 (including)	Legal
14	cap.>10t	all Latvia without Riga and the district of Riga	2004 – 2010	Legal
15	cap.>10t	all Latvia without Riga and the district of Riga	1997 – 2003	Legal
16	cap.>10t	all Latvia without Riga and the district of Riga	1985 to 1996 (including)	Legal
17	the trucks	Riga (including the district of Riga)	2004 – 2010	Legal
18	the trucks	Riga (including the district of Riga)	1997 – 2003	Legal
19	the trucks	Riga (including the district of Riga)	1985 to 1996 (including)	Legal
20	the trucks	all Latvia without Riga and the district of Riga	2004 – 2010	Legal
21	the trucks	all Latvia without Riga and the district of Riga	1997 – 2003	Legal
22	the trucks	all Latvia without Riga and the district of Riga	1985 to 1996 (including)	Legal
31	3.5<cap.<=5t	all Latvia	1985-2010	Private
32	cap.>5t	all Latvia	1985-2010	Private
33	the trucks	all Latvia	1985-2010	Private

Recording of weight of goods

Gross weight of goods is collected, i.e. containers swap bodies and pallets are excluded.

Estimation of maximum permissible laden weight:

Maximum permissible laden weight is estimated by adding load capacity and basic weight.

Calculation of weighting factors:

The monthly weighting factors are calculated as: $\dfrac{M}{S + S'}$

M = mean of population between the beginning and the end of the reference month.

S = number of questionnaires used in analysis (in a stratum, during the reference period).

S' = number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.).

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: None.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	22 695	18 995
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	6 239	6 360
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	1 859	2 262
Number of cases classified as non-respondents	988	1 313
Number of cases where sample register information was wrong and response could not be used	160	156
Number of questionnaires used in analysis	3 232	2 629

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

LITHUANIA

Organisation responsible for the conducting the survey: Statistics Lithuania

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Database of the registered road vehicles

Name of organisation who maintains the register: State enterprise 'Regitra'

Frequency of update: Continuously

Frequency of access to draw the samples: Once a quarter

Arrangements for accessing the register:

The data are forwarded from State enterprise 'Regitra' at specified dates of deliveries.

The dates for sampling are:
- First quarter: 14 November
- Second quarter: 14 February
- Third quarter: 15 May
- Fourth quarter: 14 August

Information obtained from the register:

Registration number; type of road vehicle (lorry/road tractors); enterprise code; year of production; name of private operators; name of business operators; address; load capacity.

Procedure for reminders:

First reminder: 2 weeks after the surveyed week by post
Second reminder: 4 weeks after the surveyed week by post
Non-response report: 7 weeks after the surveyed week

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

Special purpose road vehicles;

Goods of road vehicles with weight less than 6 tonnes in the case of a single motor vehicle.

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

The sample for one quarter is obtained using a sample in each stratum. All goods transport vehicles are distributed in 17 strata. Road goods vehicles are distributed as follows

Strata code	Goods vehicles	Load capacity (kg)	Form of ownership
22	Lorries	3500 - 9999	Vehicles with licences for carriage of dangerous goods
3	Lorries	10000 - 14999	Vehicles with licences for carriage of dangerous goods
4	Lorries	15000 +	Vehicles with licences for carriage of dangerous goods
5	Road tractors	not divided	Vehicles with licences for carriage of dangerous goods
23	Lorries	3500 - 9999	Vehicles with licences for international journeys
8	Lorries	10000 - 14999	Vehicles with licences for international journeys

9	Lorries	15000 +	Vehicles with licences for international journeys
10	Road tractors	not divided	Vehicles with licences for international journeys
24	Lorries	3500 - 9999	Vehicles of enterprises with activity NACE rev. 60.24
13	Lorries	10000 - 14999	Vehicles of enterprises with activity NACE rev. 60.24
14	Lorries	15000 +	Vehicles of enterprises with activity NACE rev. 60.24
15	Road tractors	not divided	Vehicles of enterprises with activity NACE rev. 60.24
16	Lorries	3500 - 5999	Vehicles with licences for national journeys and other
17	Lorries	6000 - 9999	Vehicles with licences for national journeys and other
18	Lorries	10000 - 14999	Vehicles with licences for national journeys and other
19	Lorries	15000 +	Vehicles with licences for national journeys and other
20	Road tractors	not divided	Vehicles with licences for national journeys and other

Recording of weight of goods

Gross weight of goods is collected, i.e. containers swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop and multi stop: Only the commodity with highest weight is taken into account.

Calculation of weighting factors:

$$\text{Weighting factor} = 13 * \frac{N}{S + S'}$$

N= number of vehicles in the register (in a stratum)

S= number of questionnaires used in analysis (in A1 dataset)

S'= number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.), sold, scrapped, leased, with load capacity too low.

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Variables related to environmental impact: Type of fuel used and fuel consumption.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	43 309	45 804
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	15 267	12 943
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	3 781	3 598
Number of cases classified as non-respondents	1 572	1 262
Number of cases where sample register information was wrong and response could not be used	3 332	2 895
Number of questionnaires used in analysis	6 582	5 188

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

LUXEMBOURG

Organisation responsible for the conducting the survey: National Statistical Institute (STATEC)
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: National vehicle register

Name of organisation who maintains the register: Société nationale de contrôle technique (SNCT)

Frequency of update: Continuously

Frequency of access to draw the samples Once a year

Arrangements for accessing the register:

> The service in charge of the preparation of the questionnaire has permanent access to the register.

Information obtained from the register:

> Age of the vehicle, load capacity, maximum authorised weight, total number of axles including those of trailers and semi-trailers, use of the vehicle (own account or for hire or reward), name and address of the owner, registration number, power of engine and NACE code under which the owner is registered.

Procedure for reminders:

> *First reminder*: 3 weeks after the deadline when the questionnaire was due to be returned.
> *Second and third reminders*: every 3 weeks a second and third reminder is sent out.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Lorries and vans with load capacity below 3.5 tonnes.
> Agricultural vehicles, military vehicles and state administration vehicles.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: 7 weeks

Stratification: There is no stratification.

Recording of weight of goods

> Gross weight of goods is collected, i.e. containers swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

> *Single stop, multi stop and collection /delivery:* Only one commodity is collected.

Calculation of weighting factors:

> Weighting factors $= 13 * \dfrac{N}{S}$

> **N**= number of vehicles in the register (quarterly average)

> **S**= number of questionnaires used in analysis (in A1 dataset)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration.

Variables related to environmental impact: None.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	10 951	10 855
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	9 914	9 578
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	1 698	1 971
Number of cases classified as non-respondents	1 056	881
Number of cases where sample register information was wrong and response could not be used	:	498
Number of questionnaires used in analysis	7 160	6 228

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

HUNGARY

Organisation responsible for the conducting the survey: Hungarian Central Statistical Office
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: National stock of goods carriage motor vehicles

Name of organisation who maintains the register:

Central Office for Administrative and Electronic Public Services

Frequency of update: Twice a year

Frequency of access to draw the samples: Once a year

Arrangements for accessing the register:

Agreement between the Hungarian Central Statistical Office and Central Office for Administrative and Electronic Public Services, based on the Government-decree of the National Statistical Data-collecting Programme.

Information obtained from the register:

Name, address, legal status (corporation or individuals), load capacity, vehicle type and age of the vehicle.

Used in stratification: Legal status, load capacity, vehicle type and location.

Procedure for reminders:

First reminder: 8 days after the end of the reference period by post.
The non-respondents have to answer within 5 days. HSO has then the right to take steps to impose a penalty.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

Special-purpose vehicles: agricultural vehicles, military vehicles and vehicles belonging to central or local public administrations.

Lorries with less than 3.5 tonnes load capacity.

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

The stratification is based on the national stock of goods carriage vehicles. The sample is stratified according to:
1st criteria: vehicle operator's legal status (corporation or individual)
2nd criteria: load capacity ,4 categories: load capacity between 3.5 – 5 tonnes, 5 – 10 tonnes, above 10 tonnes and road tractors as a separate stratum

After this stratification we insure the required representation of the sample.

As a 3rd criteria, at data grossing-up, the 20 countries are taken into consideration.

Recording of weight of goods

Gross-gross weight of goods is collected, i.e. containers swap bodies and pallets are included. From 2011 onwards, gross weight will be reported.

Recording of journey data sent to Eurostat:

Single stop, multi stop and collection/delivery: If more than one goods commodity is carried, only the commodity with the highest weight is taken into account.

Calculation of weighting factors:

The main formulae for the grossing (calculated for each of the 160 strata) is as follows:

$$\text{Weighting factor} = 13 * (1 + C) * \frac{N}{S}$$

N = total stratum population,

S = number of vehicles selected for initial sample and questionnaires despatched to vehicles owner.

C = correction factor calculated as follows: $\quad \dfrac{0{,}8 * n3 + n4}{n1 + n2}$

n1= the number of vehicles (respondents) that could be used for analysis (including those who had any activity during the sampled period and those where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock.)

n2 = respondents whose performance is 0 because the vehicle was withdrawn from circulation;

n3 = non respondents – no information; wrong address; the vehicle do not belong to the addressed person (register fault)

n4 = vehicle has been sold, leased, performs somewhere else

As can be seen from the formulae, the non-respondents, wrong information in sample register and vehicles without any performance are present in different ways in the calculating system.

Optional variables covered: Vehicle empty kilometres; Type of cargo; Axle configuration.

Variables related to environmental impact: Type of fuel used and fuel purchased.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	82 300	80 582
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	52 912	53 312
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	9 735	10 844
Number of cases classified as non-respondents	5 728	5 797
Number of cases where sample register information was wrong and response could not be used	15 765	14 450
Number of questionnaires used in analysis	21 684	22 221

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

MALTA

Organisation responsible for the conducting the survey: National Statistics Office
(Based on information referring to the first quarter of 2004)

SAMPLING REGISTER USED FOR THE SURVEY

*Name of register***:** Vehicle registration database

*Name of organisation who maintains the register***:** Department of Licensing and Testing

*Frequency of update***:** Continuously

*Frequency of access to draw the samples***:** Quarterly

*Arrangements for accessing the register***:**

> The NSO has an agreement with the Malta Transport Authority within whose portfolio the Licensing and Testing Directorate resides, through which the latter give access to the data in their register. Indeed the MTA has recently agreed to provide the NSO with an electronic copy, with selected variables, of this register.

*Information obtained from the register***:**

> Registration number, name and surname of operator and his identity number, address, make, model, body type and gross vehicle weight.

*Procedure for reminders***:**

> Individual interviewers carry out the survey. There is no standard routine for reminders whilst the response rate was 67.6 % for the domestic survey and 32.7 % for the international operators.

SAMPLING METHODOLOGY

*Statistical unit***:** Tractive vehicle and transport firm

*Types of units excluded***:**

> International transport: no exclusions are possible because the population is very small (70 trucks). Local transport of goods by road: the survey is carried out in accordance with the requirements of the Regulation.

Time unit: 1 weekday to which the statistical unit is assigned and both weekend days

Time units of quarter 1 of 2004 included in the survey: 0

*Stratification***:**

> The overall sample size is 2080 trucks, which are distributed 40 per week. The total number of 5-9.9 tonnage trucks sampled is 780, which amount to 15 per week (or 3 per weekday). The total number of 10+tonnage trucks sampled is 1300, which amount to 25 per week (or 5 per weekday). The idea is to allocate to each day of the week 8 trucks in all, and ask the individual to answer for that particular day to which he is assigned together with both weekend days for that week (i.e. Saturday and Sunday). Each address is tagged with a week number (running from 1 to 52) and a day number (running from 1 to 5, 1 being Monday to 5 being Friday).

Main figures: Not available

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

NETHERLANDS

Organisation responsible for the conducting the survey: Statistics Netherlands

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register:

    a) National vehicle Register of RDW (Centrum voor voertuigtechniek en informatie)

    For the stratification of the sample also the following registers are also used:
    b) National Business Register (CBS/ Chamber of Commerce) and
    c) Lease Registers from the Tax Authorities

Name of organisation who maintains the register: Statistics Netherlands

Frequency of update:

    a) National vehicle Register of RDW: quarterly

    b) National Business register and the Lease registers from the Tax Authorities: yearly

Frequency of access to draw the samples: Once a quarter

Arrangements for accessing the register:

    The data are forwarded by RDW to Statistics Netherlands up to one month in advance of the statistical period (quarter).

Information obtained from the register:

    Information obtained among others from the register: licence number, rand name, loading capacity of the vehicle, type of motor vehicle, age of the vehicle, empty weight of the vehicle, fuel type, engine type (EURO norm), KW class of engine, enterprise number.

    Information used in the stratification of the sample: To determine the type of transport (own account or hire and reward) the enterprise number belonging to the licence number in the National Vehicle Register of RDW is linked to the enterprise number of the National Business register. Furthermore, the NACE is used to categorize the vehicles to the enterprises that own the vehicle to minimize the sample-variance per stratum.

    Further the following register variables are used for the stratification: loading capacity, type of vehicles and age of the vehicle.

Procedure for reminders:

    There is a standard routine for reminders:

    a) 3 weeks after the reported time period, the non-respondents receive a first written reminder.

    b) 6 weeks after the reported time period, the non-respondents receive a second written reminder.

    c) 8 weeks after the reported time period, the non-respondents receives a reminder performed by telephone.

    d) 10 weeks or more after the reported time period, the most important non-respondents, based on the number of vehicles, will be visited by a fieldworker.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

Vehicles not used for goods transport on public roads and passenger vehicles, such as buses and campers.

Vehicles with a Maximum Permissible Weight $<=$ 3500 kg.

Vehicles older than 25 years.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

The sample is drawn at random within 38 strata. The stratification variables used are:
- Type of transport (Own account or hire and reward) based on the National Business register
- Type of vehicle
- Loading capacity
- Age of vehicle

Stratum	Fraction	Type of transport	Type of vehicle	Load capacity[*]	Age of vehicle	NACE
1	0.33	Own Account	Lorry	1,2,3,4	All vehicles	A
2	0.33	Own Account	Lorry	1,2	All vehicles	B
3	0.33	Own Account	Lorry	3,4	All vehicles	B
4	0.25	Own Account	Lorry	1,2	All vehicles	C
5	0.25	Own Account	Lorry	3,4	All vehicles	C
6	0.33	Own Account	Lorry	1,2	Less or equal to 4 years	D
7	0.33	Own Account	Lorry	3,4	Less or equal to 4 years	D
8	0.225	Own Account	Lorry	1,2	4 years or older	D
9	0.25	Own Account	Lorry	3,4	4 years or older	D
10	0.33	Own Account	Lorry	1,2	All	E
11	0.33	Own Account	Lorry	3,4	All	E
12	0.33	Own Account	Lorry	1,2,3,4	Less or equal to 4 years	F
13	0.25	Own Account	Lorry	1,2	4 years or older	F
14	0.25	Own Account	Lorry	3,4	4 years or older	F
15	0.33	Own Account	Lorry	1,2	All	G
16	0.33	Own Account	Lorry	3,4	All	G
17	0.45	Own Account	Road tractor	1,2,3	All	A-G
18	0.45	Own Account	Road tractor	4	All	A
19	0.45	Own Account	Road tractor	4	All	B
20	0.45	Own Account	Road tractor	4	All	C
21	0.45	Own Account	Road tractor	4	Less or equal to 4 years	D
22	0.45	Own Account	Road tractor	4	4 years or older	D
23	0.45	Own Account	Road tractor	4	Less or equal to 4 years	E
24	0.45	Own Account	Road tractor	4	4 years or older	E
25	0.45	Own Account	Road tractor	4	Less or equal to 4 years	F
26	0.45	Own Account	Road tractor	4	4 years or older	F
27	0.45	Own Account	Road tractor	4	All vehicles	G
28	0.25	Own Account	Special vehicle	2	All vehicles	
29	0.33	Own Account	Special vehicle	3,4	All vehicles	
30	0.45	Hire and reward	Lorry	1,2	All vehicles	
31	0.45	Hire and reward	Lorry	3	Less or equal to 4 years	

32	0.45	Hire and reward	Lorry	4	Less or equal to 4 years
33	0.33	Hire and reward	Lorry	3	4 years or older
34	0.33	Hire and reward	Lorry	4	4 years or older
35	0.45	Hire and reward	Road tractor	1,2,3,4	Less or equal to 4 years
36	0.33	Hire and reward	Road tractor	1,2,3,4	4 years or older
37	0.1	Hire and reward	Special vehicle	2	All vehicles
38	0.1	Hire and reward	Special vehicle	3,4	All vehicles

*1. Less than 2 tonnes, 2. 2 -3,5 tonnes, 3. 3,5-15 tonnes, 4. 15 tonnes or more.

Recording of weight of goods

Gross-gross weight of goods is collected, i.e. containers swap bodies and pallets are included.

Recording journey data sent to Eurostat:

Single stop: The respondent is able to record only one type of goods.

Collection/delivery: Tonne-kilometres = Tonnes * Distance / 2

Calculation of weighting factors:

$$\text{Weighting factor} = 13 * \frac{N}{S + S'}$$

N = number of vehicles in the register (in a stratum) (average of current and next quarter)
S = number of questionnaires used in analysis (in A1 dataset)

S' = number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: Type of fuel used and average fuel consumption.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	171 285	155 478
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	61 420	59 059
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	12 978	11 381
Number of cases classified as non-respondents	10 525	12 606
Number of cases where sample register information was wrong and response could not be used	4 230	6 236
Number of questionnaires used in analysis	33 687	28 836

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

AUSTRIA

Organisation responsible for the conducting the survey: Statistics Austria
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Vehicle-Register (VR) and Enterprise-Register (ER)

Name of organisation who maintains the register: Statistics Austria

Frequency of update:

> *Vehicle Register:* Monthly
> *Enterprise Register:* Continuously

Frequency of access to draw the samples: Once a quarter

Arrangements for accessing the register:

> Continuous supplementing of VR-records with ER-information (Enterprise number, Bundesland (i.e. federal state), NACE-category).

Information obtained from the register:

> *Vehicle Register:* Bundesland (federal state; province), registration office, vehicle registration number, vehicle identification number, registration date, type of vehicle, empty weight, load capacity, maximum permissible weight, link to ER.

> *Enterprise Register:* Enterprise number (link to VR), name of enterprise, address.

> *Stratum:* Load capacity class of enterprise by Bundesland and the parameter values (transport on own account / for hire or reward)

Procedure for reminders:

> *First reminder:* 3 weeks after the surveyed week
> *Second reminder:* 5 weeks after the surveyed week
> *Penalty procedure:* starts 6 weeks after the second reminder

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Excluded are local units with ÖNACE 7525 (Fire brigade), 8041 (Driving schools), 9500 (Private household), 9900 (Exterritorial organisations and corporations) and enterprises without tractive vehicles.

> Agricultural vehicles, vehicles of regional administrative bodies and foreign organisations and military vehicles.

> Vehicles with load capacity less than 2 tonnes,

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: All of quarter 1

Stratification:

Basis for stratification: Load capacity, class of enterprise by Bundesland and the parameters "transport on own account" and "hire or reward":

The same classes are applied for each Bundesland:
Class 10: < 10 tons load capacity; transport on own account and hire or reward
Class 21: 10 < 100 tons load capacity; transport on own account
Class 22: 10 < 100 tons load capacity; hire or reward
Class 31: ≥ 100 tons load capacity; transport on own account
Class 32: ≥100 tons load capacity; hire or reward

Coding of 'Stratum':
Digit 1: Bundesland (1 - 9)
Digit 2+3: Load capacity class and the parameter values "transport on own account" and "hire or reward"
Digit 4+5: Time slot: 1 - 13; 4/52 of a year.

Recording of weight of goods

Gross-gross weight of goods is collected, i.e. containers swap bodies and pallets are included.

Recording journey data sent to Eurostat:

Single stop: No simplifying assumption. Transport operators are required to fill in as many lines of the questionnaire as different commodity groups are transported.

Multi stop: The used record structure contains a fixed part (vehicle data) and n variable parts for n basic operations in the course of one laden journey.

Collection/delivery: Transport operators fill in only one line for a pick-up or a distribution round mentioning the first and the last place of loading/unloading and the number of loading/unloading operations.

Calculation of weighting factors:

For the annual grossing procedure four consecutive reporting weeks (w = 1 … 52) of a year are combined to periods (z = 1 … 13) respectively with z1 = [w1; w4]… z13 = [w49; w525]

Every dataset is then multiplied by a stratum-specific grossing factor for the federal state (= province or Bundesland) b, the load capacity class g, and the type of enterprise (own account/hire or reward) a equal to:

$$\frac{\alpha_z F_{gbaz}}{f_{gbaz}}$$

with...

… f_{gbaz} … number of selected vehicle-weeks of the stratum gba in period z minus weeks classified as "non-response". For periods affecting two quarters of a year the factor has to be calculated by adding respective parts for both quarterly samples.

… F_{gbaz} … the number of tractive vehicles in the population of the stratum gba in the period z. For z = [1; 3] this is the vehicle population of the first quarter, for z = [4; 6] the population of the second quarter, for z = [7; 9] that of the third quarter and fpr z = [10; 13] the one of the fourth quarter of the reporting year.

The value for α for z = 1 and z = 13 can be found in the following table:

	2006	2007	2008	2009
z = 1	4.00	4.00	4.00	4.29
z = 13	4.00	4.11	4.52	4.00

For all periods the value is 4.00.

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: None.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	70 907	72 017
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	26 000	26 000
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	5 369	5 953
Number of cases classified as non-respondents	216	227
Number of cases where sample register information was wrong and response could not be used	1 218	1 111
Number of questionnaires used in analysis	19 197	18 709

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

POLAND

Organisation responsible for the conducting the survey: Central Statistical Office

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

*Name of register***:** Statistical motor vehicle database (created for the purpose of this survey)

*Name of organisation who maintains the register***:** Central Statistical Office

Frequency of update: Once a quarter

*Frequency of access to draw the samples***:** Once a quarter

*Arrangements for accessing the register***:**

> Data are received from Central Vehicle Register (maintained by Ministry of the Interior and Administration) as 397 files (according to NTS 4-level) at the end of each quarter.

*Information obtained from the register***:**

> *Information to conduct the survey:* registration number, name and address of the vehicle owner or user, type of vehicle, year of manufacture, load capacity, maximum permissible weight, type of body, administrative region (NTS4-codes), information on model and brand of vehicles in case both the vehicle's load capacity and maximum permissible laden weight is unknown.

> *Information for the stratification:* type of vehicle, year of manufacture, load capacity and administrative region (NUTS2-level).

*Procedure for reminders***:**

> *First reminder:* 2 weeks after the survey week
> *Second reminder:* 5 weeks after the survey week.

SAMPLING METHODOLOGY

*Statistical unit***:** Tractive vehicle

*Types of units excluded***:**

> Road motor vehicles over 25 years old.

> Lorries with 3.5 and less than 3.5 tonnes maximum permissible weight and less than 1.5 tonnes load capacity.

> Military vehicles, vehicles of the border guard, police vehicles, vehicles belonging to central or local public administrations, agricultural tractors and special purposes vehicles.

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks).

*Stratification***:**

> The sample is stratified according to:
>> Type of vehicle (2 classes): lorry; road tractor
>> Age (4 age-groups): 0-5, 6-10 (younger), 11-15; 16-25 (older)
>> Load capacity (2 classes): <6 tonnes; => 6 tonnes (concerning the lorries only)
>> 16 regions (from 02 to 32)

> The sample is divided into 12 large strata:

11 - lorries with under 6 tonnes of load capacity and within the 0-5 age group

12 - lorries with under 6 tonnes of load capacity and within the 6-10 age group

21 - lorries with under 6 tonnes of load capacity and within the 11-15 age group

22 - lorries with under 6 tonnes of load capacity and within the 16-25 age group

31 - lorries with 6 tonnes and more than 6 tonnes of load capacity and within the 0-5 age group

32 - lorries with 6 tonnes and more than 6 tonnes of load capacity and within the 6-10 age group

41 - lorries with 6 tonnes and more than 6 tonnes of load capacity and within the 11-15 age group

42 - lorries with 6 tonnes and more than 6 tonnes of load capacity and within the 16-25 age group

51 - road tractors within the 0-5 age group

52 - road tractors within the 6-10 age group

61 - road tractors within the 11-15 age group

62 - road tractors within the 16-25 age group

Each of the strata is allocated into 16 regions. The sample is allocated to the stratum in proportion to the population of the stratum and distributed equally among the 13 weeks of the quarter.

Each of strata has a unique code which consists of code for the region and the code for the large strata (e.g. 0211).

The sampling fraction is greater for younger and heavier vehicles, which means that the sample of younger and heavier lorries is twice as big as the sample of older and lighter lorries and the sample of younger road tractors is 3.5 times bigger than the sample of older road tractors

Recording of weight of goods

Gross-gross weight of goods is collected, i.e. containers swap bodies and pallets are included.

Recording of journey data sent to Eurostat:

Single stop: Transport operators are requested to give only one main type of goods (dominant considering the weight of goods).

Multi stop: Only one main type of goods is recorded for each place of loading. Goods are unloaded according to the method FIFO (the first type of goods loaded is the first type of goods unloaded).

Collection/delivery: The transport operators give only the first and last place of loading/unloading and the number of stops. Type 3 journeys are recorded only for national transport.

The weight of goods and tonnes-kilometres are calculated according to the formulae:

Weight of goods (A2.2) = weight of goods (A3.2)

Tonnes-km = $\sum(A3.2 * A3.7)/20$ where: A3.2 − weight of goods, A3.7 − distance travelled

Other variables: The axle configuration of vehicle and the type of transport are recorded as the most frequently-used during the survey week.

Estimation of maximum permissible laden weight:

For a given vehicle whose load capacity is known, the maximum permissible laden weight is estimated using the most common maximum permissible laden weight recorded by other vehicles of the same load capacity.

In case both the vehicle's load capacity and maximum permissible laden weight is unknown in Central Vehicle Register, we receive special information on model and brand of vehicles. Missing information on maximum permissible laden weight and load capacity is completed on the basis of the vehicle catalogue.

Calculation of weighting factors:

Weighting factors $= 13 * C * \dfrac{N}{n}$

N = total number of vehicles (in a stratum)

n = number of vehicles selected for the sample

C = correction factor computed as $1 + \dfrac{S1}{S2}$

S1 = number of cases classified as non-response and number of other cases

S2 = number of active stock (active vehicles and non-working vehicles)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Variables related to environmental impact: None. Collection of type of fuel used and average fuel consumption will be included into the 2011 questionnaire.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	591 319	617 336
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	48 100	49 036
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	9 950	11 377
Number of cases classified as non-respondents	7 662	8 065
Number of cases where sample register information was wrong and response could not be used	8 603	8 861
Number of questionnaires used in analysis	21 885	20 733

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

PORTUGAL

Organisation responsible for the conducting the survey: National Statistical Institute (INE)

(Based on information referring to the first quarter of 2007)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Heavy goods road vehicle file

Name of organisation who maintains the register:

> National Organisations:
>> - I.R.N. (Instituto dos Registos e do Notariado)
>> - I.M.T.T. (Instituto da Mobilidade e dos Transportes Terrestres)

Frequency of update: Continuously

Frequency of access to draw the samples: Once a year

Arrangements for accessing the register:

> Through IMTT we obtain all registers from heavy goods road vehicles while the file from IRN allows obtaining the name and address of the owners.

Information obtained from the register:

> Vehicle registration, 1st year of the vehicle registration, maximum permissible laden weight, load capacity, number of axles, category of the vehicle, type of transport, number of the identification of the owners, name of the owners, address of the owners and CAE.

> *Used in stratification:* NUTS II of the address of the owners (Norte, Centro, Lisboa, Alentejo and Algarve), Category of the vehicle (Lorry or Road Tractor), Gross weight class, Type of transport (Own Account, Hire or Reward).

Procedure for reminders:

> The first reminder goes out 3 weeks after the end of the month under observation, the second reminder goes out three weeks after the first one and the last reminder goes out only for those who have a fax number.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> All vehicles with maximum permissible laden weight equal or inferior to 3500 kg, vehicles not used for the transport of goods, such as agricultural and military vehicles, fire engines and vehicles belonging to the public administration.

Time unit: 1 week

Time unit of quarter 1 of 2007 included in the survey: All (13 weeks)

Stratification:

The sample is stratified according to the following variables:

First two digits: Region (Norte, Centro, Lisboa, Alentejo and Algarve)

Third digit: Category of vehicle (Lorry or Road Tractor)

Fourth digit: Gross weight class (Lorry):

3501 – 10000 kg
10001 – 16000 kg
16001 – 19000 kg
19001 – 22000 kg
22001 – 26000 kg
over 26000

Gross weight class (Road Tractor):

3501 – 7000 kg
over 7000

Fifth digit: Type of transport (Own Account, Hire or Reward)

Recording of weight of goods

Gross weight of goods is collected, i.e. containers swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop: If in the same journey, more than one goods commodity is carried, we consider that journey as type 2.

Multi stop: Multi-stop journeys are coded by consignments. This type of journey is considered when there is more than one goods commodity being carried or several stops during the journey. When the answer implies several stops, we try to simplify the journeys and transform them into type 1 journeys, for instance, if the vehicle becomes empty we consider a new road freight transport operation

Collection/delivery: This type of journey is considered whenever there is a collection/delivery of goods with an unrecorded number of stops with short distances separating them. When retrieving data we often face the following situations.

1. On the same journey, when an empty packaging retrieval occurs simultaneously (type of goods: 250), the registered number of kilometres travelled equals the total kilometres divided by the number of goods being carried. The calculation of the tonnes-kilometres is made in the same way as for type 2 journeys

2. When there is no simultaneous retrieval of empty packaging, we consider as origin the first point of departure and as the last the farthest one (not the last), we register the kilometres that were effectively travelled (usually, the sum of all the stages is huge), and the calculation of the tonnes-kilometres is made according to: weight * distance / 20.

Estimation of maximum permissible laden weight:

Maximum permissible laden weight is estimated by adding the gross weight of the vehicle and the gross weight of the trailers (or semi-trailer) used.

Calculation of weighting factors:

$$\text{Weighting factor} = 13 * \frac{N}{S + S'}$$

N = Initial universe after the proportion of vehicles no longer belonging to the sample (answers not used) has been subtracted: $N = I * (1 - \frac{A}{E})$

I = initial universe
A = answers not used
E = sample
S = number of questionnaire used in analysis
S' = number of vehicles for which no activity was recorded but vehicle could be considered as active (holiday, no work, etc.)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	132 225	126 250
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	29 840	29 825
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	7 164	7 660
Number of cases classified as non-respondents	8 181	7 902
Number of cases where sample register information was wrong and response could not be used	4 862	5 148
Number of questionnaires used in analysis	9 632	9 115

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

ROMANIA

Organisation responsible for the conducting the survey: National Statistical Institute
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

***Name of register*:** Vehicle Register

***Name of organisation who maintains the register*:** Romanian Road Authority

***Frequency of update*:** Quarterly

***Frequency of access to draw the samples*:** Once a quarter

***Arrangements for accessing the register*:**

> The files of vehicles are received quarterly from Ministry of Administration and Interior on CD, then, before the sample is drown-up, the nomenclature of vehicles is updated on the base of information provided of the files of Ministry of Administration and Interior, as well as, with the scrapped vehicles reported by owners of the vehicles.

***Information obtained from the register*:**

> Number of registration, category of vehicle, subcategory of vehicle, type of vehicle (lorry, road tractor), year of manufacturing, maximum permissible weight, load capacity, number of axles of vehicle, type of license (national or international transport), type of transport (own account or hire or reward).

> *Used in stratification:* Type of license, type of transport, type of vehicle, load capacity.

***Procedure for reminders*:**

> The transport operators are contacted by phone.

SAMPLING METHODOLOGY

***Statistical unit*:** Tractive vehicle

***Types of units excluded*:**

> Vehicles with load capacity less than 3.5 tonnes.

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

***Stratification*:**

> The sample is stratified according to the following variables:
> - Destination: national -the code is '**0**' (example: **0**113) and international -the code is '**1**'(example: **1**113)
> - Statistical regions (8 classes):
>> 1- Nord-Est
>> 2- Sud-Est
>> 3- Sud - Muntenia
>> 4- Sud-Vest Oltenia
>> 5- Vest

6- Nord-Vest

7- Centru

8- Bucuresti-Ilfov

- Type of transport:

1- hire or reward

2- own account

- Load capacity (4 classes):

1- 3.5 – 7.5 tonnes

2- 7.6 – 12 tonnes

3- 12.1 – 17 tonnes

4- more than 17 tonnes

Example: Stratum '**0213**'

- '0' = destination: national transport

- '2' = statistical region: Sud-Est

- '1' = type of transport: hire or reward

- '3' = load capacity: 12.1 – 17 tonnes

Recording of weight of goods

Gross weight of goods is collected, i.e. containers swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop: For journeys with more than one commodity, only one record is created. Journeys with the same distance, same goods, same quantity, same place of loading and unloading are recorded on a single row in the questionnaire, mentioning the number of identical journeys.

Multi stop: Multi-stop journeys are recorded by vertical stages.

Calculations of weighting factors: …

Weighting factor = $13 * C * \dfrac{N}{n}$

N = total number of vehicles in a stratum

n = number of vehicles selected for the sample

C = correction factor computed for each stratum h as $\dfrac{n_{h1} + n_{h3}}{n_{h1}} * \dfrac{n_{h1} + n_{h2} + n_{h3} + n_{h4}}{n_{h1} + n_{h2} + n_{h3}}$

Where:

n_{h1} = number of vehicles with activity from stratum h

n_{h2} = number of vehicle without activity from stratum h

n_{h3} = number of refusal from stratum h

n_{h4} = number of vehicle with uncertain activity from stratum h

Optional variables covered: Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Variables related to environmental impact: Quantity of fuel purchased.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	185 377	169 608
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	36 413	36 356
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	12 469	14 882
Number of cases classified as non-respondents	813	568
Number of cases where sample register information was wrong and response could not be used	12 101	6 279
Number of questionnaires used in analysis	11 030	14 627

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

SLOVENIA

Organisation responsible for the conducting the survey: Statistical Office of the Republic of Slovenia

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

*Name of register***:** Register of Road Vehicles

*Name of organisation who maintains the register***:** Ministry of Interior

*Frequency of update***:** Continuously

*Frequency of access to draw the samples***:** Once a quarter

*Arrangements for accessing the register***:**

> The replication of the statistical version of the Register of Road Vehicles at the Ministry of the Interior is made on the last day of every month in compliance with the agreement between the Statistical Office of the Republic of Slovenia and the Ministry of the Interior and the Annual Programme of Statistical Surveys.

> Before each quarterly sampling, the Register of Motor Vehicles is matched with the Business Register of Slovenia to obtain information on activity and address for owners and users of vehicle.

*Information obtained from the register***:**

> *Register of Motor Vehicles*: identifier of the owner/user, type of the owner (used in the stratification), registration number, type of vehicle, body type, unladen weight (used in the stratification), maximum permissible laden weight (used in the stratification), made in year, number of axles, date of first registration, date of first registration in Slovenia, number of axles, type of fuel used.

> *Business Register:* main activity of the operator, name of the owner/user, address of the owner/user.

*Procedure for reminders***:**

> *First reminder* - 10 days after the observation
> *Second reminder* - 23 days after the observation
> *Third reminder* - telephone call 30-45 day after the observation to key respondents

SAMPLING METHODOLOGY

*Statistical unit***:** Tractive vehicle

*Types of units excluded***:**

> Agricultural vehicles, military vehicles, public service vehicles, special purpose vehicles and vehicles belonging to users that could not be matched with the business register,
> Vehicles with load capacity below 2000 kg.

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

Strata were defined with the type of ownership (2 classes: legal entities, natural persons) and loading capacity (4 classes: 2.00 – 4.99, 5.00 – 9.99, 10.00 and more tonnes, road tractors). The allocation of units among the strata is proportional with slight corrections due to fact that the sample size in each stratum should be divisible by 13 (13 weeks in a quarter).

Recording of weight of goods

Gross weight of goods is collected; containers and swap bodies are excluded, but pallets might be included.

Recording of journey data sent to Eurostat:

Single stop: In case of more than one type of goods in the same journey, the main type of goods carried is used for the classification of goods. However, total weight of all goods is recorded.

Multi stop: In case of more than one type of goods in the same journey, the main type of goods carried is used for the classification of goods. However, total weight of all goods is recorded. Dataset A3 is set up with the assumption that goods loaded first are unloaded first (FIFO).

Collection/delivery: In case of more than one type of goods in the same journey, the main type of goods carried is used for the classification of goods. However, total weight of all goods is recorded.

Origin is the first place of loading or the first place from where the empty vehicle is set out to pick up goods. Destination is the furthest town in a circular journey. Empty kilometres are not recorded in A3 or A2; however, they are included in A1_8_2. In case of collection/delivery in international journey, type 2 or simplified type 1 journey is used.

Tonne-kilometres for type 3 journeys are calculated as follows:

$$A2.6 = \sum_{i=0}^{n-1} DL/n * (WL - i * WL/n) + \sum_{i=0}^{n-1} DL/n * (WC - i * WC/n)$$

n   stops number

DL   distance travelled loaded

WL   weight of goods loaded

WC   weight of goods collected

Other variables: In case of usage of more than one trailer in the surveyed week, only information on the trailer used in majority of cases is collected.

Calculation of weighting factors:

Weights for each stratum are calculated as follows.

Weights due to non-response:

$$w_{NONR} = \frac{NUMBER\ OF\ UNITS\ IN\ SAMPLE}{NUMBER\ OF\ ELIGIBLE + NUMBER\ OF\ INELIGIBLE\ UNITS}$$

Weights due to sample selection:

$$w_{SEL} = \frac{NUMBER\ OF\ UNITS\ IN\ FRAME}{NUMBER\ OF\ UNITS\ IN\ SAMPLE}$$

Overall weight: $w_{OVERALL} = w_{sel} * w_{nonr} * 13$

Eligible units are units that respond to the questionnaire regardless of the activity of the vehicle.

Ineligible units are units beyond the target population that were included in the sample. These include cases were the capacity of the vehicle was below 2 tonnes or the vehicle was temporarily or permanently withdrawn from the register.

Vehicles with unknown addresses and other mistakes in the register, sold, leased or subcontracted vehicles and vehicles whose respondents refused to answer or dispatched unusable questionnaires are treated as non-response.

Vehicles not performing transport during the sampled period (inactive vehicles) are treated as eligible units.

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: Type of fuel used and quantity of fuel purchased.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	24 992	25 406
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	8 345	8 307
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	1 581	1 934
Number of cases classified as non-respondents	1 685	1 567
Number of cases where sample register information was wrong and response could not be used	448	415
Number of questionnaires used in analysis	4 631	4 391

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

SLOVAKIA

Organisation responsible for the conducting the survey: Statistical Office of the Slovak Republic

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

*Name of register***:** Vehicle Register and Register of operators.

*Name of organisation who maintains the register***:** Ministry of Interior and Statistical Office

*Frequency of update***:** Permanently

*Frequency of access to draw the samples***:** Yearly

Arrangements for accessing the register:

> *Vehicle register:* Annually taken over from administrative sources, Ministry of Interior. Sample survey is updated quarterly.

> *Operator's register* (administrator Statistical Office of the Slovak Republic) is being currently updated. Identifier Code of operators is converted between register.

*Information obtained from the register***:**

> *Vehicle register:* Vehicle register mark, identifier of operators, type of vehicle, year of production, load capacity and date of input.

> *Operaors register:* Identifier of operators, type of operators, name of operators, settlement code, settlement name, street and number, ZIP code, NACE code and date of input.

> *Used in stratification:* legal form of the vehicle owner (enterprise or tradesman), type of vehicle and loading capacity.

*Procedure for reminders***:**

> Respondent has to send the filled questionnaire in written or electronic form to the Statistical Office within 8 days after the end of the surveyed week.

> *First reminder:* If the respondent does not fulfil his obligation within the deadline, a first reminder is sent 2 weeks after the surveyed week.

> *Second reminder:* Sent 2 weeks after the 1st reminder.

> Reminders are automatically generated by the IT system according to the date of the surveyed week.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded: None

Time unit: 1 week

Time units of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

			Loading capacity
1 1 1	Enterprises/Business register	lorries	of less than 1.499 tonnes
2 1 1	Sole entrepreneurs/Tradesman register	lorries	of less than 1.499 tonnes
1 1 2	Enterprises/Business register	lorries	of 1.5 - 4.999 tonnes
2 1 2	Sole entrepreneurs/Tradesman register	lorries	of 1.5 - 4.999 tonnes
1 1 3	Enterprises/Business register	lorries	of 5 - 9.999 tonnes
2 1 3	Sole entrepreneurs/Tradesman register	lorries	of 5 - 9.999 tonnes
1 1 4	Enterprises/Business register	lorries	of 10 tonnes and more
2 1 4	Sole entrepreneurs/Tradesman register	lorries	of 10 tonnes and more
1 2 5	Enterprises/Business register	road tractor	
2 2 5	Sole entrepreneurs/Tradesman register	road tractor	

Recording of weight of goods

Gross weight of goods is collected; containers and swap bodies are excluded, but pallets might be included.

Estimation of maximum permissible laden weight:

Maximum permissible laden weight is estimated as 1.25 * loading capacity.

Calculation of weighting factors:

Weighting factor = $13 * \dfrac{N}{S}$ or $13 * \dfrac{N}{S + S'}$ (depending on register quality)

N = number of vehicles in the register (in a stratum)

S = number of questionnaires used in analysis (in A1 dataset)

S' = number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: Type of fuel used and fuel consumption.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	113 634	120 547
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	10 400	10 400
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	2 846	3 105
Number of cases classified as non-respondents	1 614	1 312
Number of cases where sample register information was wrong and response could not be used	1 090	1 519
Number of questionnaires used in analysis	4 850	4 464

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

FINLAND (National)

Organisation responsible for the conducting the survey: Statistics Finland

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Vehicle Register

Name of organisation who maintains the register: Finnish Transport Safety Agency

Frequency of update: Constantly

Frequency of access to draw the samples: Once a quarter

Arrangements for accessing the register:

> An agreement for co-operation in statistical issues with Finnish Transport Safety Agency.

Information obtained from the register:

> Vehicle holders name and address, vehicle holders register code (if not a natural person), date of first registration, model, made, type of vehicle, body type, type of transport, self-weight, load capacity, maximum permissible laden weight, draw hook, number of axles, engine power.

> *Used for stratification*: Type of transport (own account, hire or reward), type of vehicle (lorry, tractor + semi trailer, tractor + trailer)

Procedure for reminders:

> *First reminder*: sent out by post if a vehicle holder does not respond within two weeks.

> *Second reminder*: sent by post if a vehicle holder still does not respond within two weeks.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Military vehicles and vehicles that are not especially designed to transport goods such as museum vehicles, fire-engines and special vehicles.

> Lorries, whose gross vehicle weight is under 3.5 tonnes.

Time unit: 2 days

Time unit of quarter 1 of 2010 included in the survey: All time periods (45)

> Each of the vehicles has a survey period of 2 consecutive days. Altogether 6 weeks are covered per quarter. Each quarter: 2 weeks survey period followed by 2-3 weeks not included. This is repeated 3 times per quarter.

> The periods that are not included are estimated to be equal to the time periods included.

Stratification:

> The population frame consists of lorries registered in Finland. The sample is drawn from this frame. The sample is spread evenly over all days of the week and the sample is self-weighting with respect to seasonal effects as well as to the regional coverage of 20 regions.

> The sample is stratified by vehicle type (3) and type of operation (2). All together there are 6 strata. A different sampling rate is used for each of the six strata.

Strata:
1) Lorry without trailer, own account
2) Tractor with a semi-trailer coupled, own account
3) Lorry with a trailer coupled, own account
4) Lorry without trailer, hire or reward
5) Tractor with a semi-trailer coupled, hire or reward
6) Lorry with a trailer coupled, hire or reward

Recording of weight of goods

Gross weight of goods is collected, i.e. containers, swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop: The commodity class of the goods that has the biggest weight is being used.

Multi stop: Multi-stop journeys are coded by consignments (the first place of loading for the goods and the last place of unloading of the goods are being used). The weight of goods is reported when biggest during the journey.

Collection/delivery: If there are more than 4 stops for loading/unloading during the journey, journey is classified as a collection or distribution journey. The first place of loading of the goods and the last place of unloading is being used. The weight of goods is reported when the biggest during the journey. Tonne-kilometres are divided by 2.

Calculation of weighting factors:

Weighting factor = $T * \dfrac{N}{R}$

T = Time factor

N = number of all vehicles (in a stratum)

R = number of respondents (active and non active in a stratum)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Variables related to environmental impact: None.

Main figures	Year 2008	Year 2006
Total number of relevant goods vehicles in the country	86 803	92 922
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	8 400	8 400
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	2 425	2 468
Number of cases classified as non-respondents	2 990	3 028
Number of cases where sample register information was wrong and response could not be used	423	782
Number of questionnaires used in analysis	2 562	2 122

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

FINLAND (International)

Organisation responsible for the conducting the survey: Statistics Finland
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Register of licenses for international traffic (VALLU)

Name of organisation who maintains the register: Centre for Economic Development, Transport and the Environment of North Ostrobothnia

Frequency of update: Constantly

Frequency of access to draw the samples: Once a year

Arrangements for accessing the register:

> The County government of Oulu sends the data to Statistics Finland by CD-Rom once a year.

Information obtained from the register:

> 22 variables are obtained from the LILU register. These variables include contact information and information on number of licenses of the firms.

Procedure for reminders:

> If a firm does not respond in three – four weeks, a reminder is sent with a new survey period to be reported.

SAMPLING METHODOLOGY

Statistical unit: Transport firm

Types of units excluded: None, but the firms must have a license for international traffic

Time unit: 1 or 2 weeks

Time unit of quarter 1 of 2010 included in the survey: 10 weeks

Stratification:

> The sampling is based on the number of licenses for international traffic. The firms are divided into four strata:
>> Stratum 1: firms with 1-2 licences (11-14 PERT)
>> Stratum 2: firms with 3-8 licences (15-18 PERT)
>> Stratum 3: firms with 9-19 licences (19-22 PERT)
>> Stratum 4: firms with over 19 licences (23-26 PERT)

> Each stratum has been divided in four substrata according to activity in international transportation during previous years.

Recording of weight of goods

> Gross weight of goods is collected, i.e. containers, swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Multi stop: Multi-stop journeys are coded by consignments.

Calculation of weighting factors:

Weighting factors= $T * \dfrac{F * K}{R * B}$

T = Time factor

F = Number of firms (in a stratum)

R = Number of responded firms (in a stratum)

K = Number of border crossings by Finnish registered heavy goods vehicles in a quarter according to Finnish Customs

B = Total number of border crossings according to RFT survey

Optional variables covered: Vehicle empty kilometres; Type of cargo; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Variables related to environmental impact: None.

Main figures	Year 2008	Year 2009
Number of statistical units (enterprises) in the country	6 913	7 456
Number of statistical units selected for initial sample and questionnaires dispatched to vehicle owners (some enterprises are sampled more than once in a year)	2 400	2 399
Number of cases where no unit activity was recorded during the sampled period	1 397	1 440
Number of statistical units classified as non-respondents	1 003	959
Number of cases where sample register information was wrong and response could not be used	3	0
Number of questionnaires used in analysis	221	188

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

SWEDEN

Organisation responsible for the conducting the survey: The Swedish Agency for Transport Policy Analysis (Trafikanalys)

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Vehicle Register (VR), Commercial Traffic Register (CTR), Central register of corporations (FDB) and the vehicle-kilometre database

Name of organisation who maintains the register:

> National Road Administration (NRA) and Statistics Sweden

Frequency of update:

> - VR, CTR and FDB: daily.

> - Vehicle-kilometre data: yearly

Frequency of access to draw the samples: Once a quarter

Arrangements for accessing the register:

> Transport Analysis is the responsible authority for the survey and they have commissioned the company Statisticon AB to produce the survey. The vehicle register data, where the unit is a vehicle, is delivered from the NRA to the producer at specified dates. For quarter Q the data is received 1.5 months in advance. The specific dates each year are
> - First quarter: November 15 (previous year)
> - Second quarter: February 15
> - Third quarter: May 15
> - Fourth quarter: August 15

> The sampling frame is constructed based on the Vehicle Register data. In the process various steps are taken, including omitting vehicles not belonging to the target population. One other step includes merging data from the central register of corporations and only keeping those vehicles belonging to formally registered companies. Yet another step includes merging register based data on driving distance (kilometres travelled) previous year for each vehicle based on information from the vehicle- kilometre database.

Information obtained from the register:

> Vehicle registration number, organisation number of the enterprise/owner of the vehicle, name and address, year of first registration, vehicle in use/not in use, type of transport (hire/reward or own account), number of axles for the vehicle, vehicle body code, county codes where the vehicle is registered (used to get the NUTS 2 -level codes), maximum permissible laden weight and the service weight of the vehicle (the difference between those two concepts gives the vehicle load capacity), number of permits for international traffic for an enterprise, kilometres travelled previous year.

Procedure for reminders:

> *First reminder*: sent out by post after one week and 3 days after the due date.

> *Second reminder*: sent by post after another week.

> *Third reminder*: performed by telephone after another week. The telephone reminder process continues for two weeks.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

Vehicles with load capacity under 3.5 tonnes are excluded.

Vehicles 30 years and older and vehicles that are not operating.

Some body type codes for which transport of goods is not possible, such as ambulances, hearses, breakdown lorries, fire engines (military vehicles are not included in the Vehicle Register)

Vehicles owned by companies that are not registered in the central register of corporations.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

Stratified sampling has been used. The population is divided into two parts, national (lorries where the owner do not have permit for international traffic) and international (lorries where the owner do have permit for international traffic).

National: The sampling frame was created with information on each lorry regarding: driving distance according to the yearly inspections at the Swedish Motor Vehicle Inspection Company, county of registration, maximum load capacity. Two kinds of body codes related to Round timber transport resp. petroleum transport were created as strata with no information of counties and maximum load capacity accounted for. The first step of stratification was to divide the frame into four groups of body codes, namely:
- Round timber-lorries (code 66)
- Petroleum-transporting lorries (code 44)
- The rest with data about driving distance
- Lorries without data about driving distance.

For group 1 and 2 the second step was to divide the lorries into four groups according to their driving distance. Eight strata were created.
For group 3 above the division continued by the 8 NUTS areas in Sweden and a special group for Gotland. Every area class was divided into three groups of driving distance except Gotland that was divided into two groups. For the smallest driving group class (except Gotland) a further division was made according to maximum load. This gave a total of 43 strata.
For the lorries without data about driving distance, group 4, no further grouping was done.

International: The sampling frame was created with information on each lorry where the owner has a permit for international traffic regarding number of permits of the owner. The owners with a high number of permits, 16 or more, then had to answer a questionnaire about future use of their lorries. The lorries that mostly were going to be used for international traffic were separated into a stratum of their own. The others were divided by driving distance and region (groups of counties). This gave a total of 14 strata.

The entire survey gave 57 strata.

The strata concerning national traffic are made up of five digits; the first two separates round timber lorries (code 44), petroleum-transporting lorries (code 66), lorries used for

national transporting (code 88), the third digit shows region (code 00-09), the fifth digit shows classes of driving distances (code 0,1,2,3).

The strata concerning international traffic are also made up of five digits; the first two are indicating international strata (code 99), the third digit indicate region (code 01-06), and the fifth digit shows classes of driving distances (code 0,1,2,3).

Two special strata numbers are used for lorries without information about driving distances, national traffic code 88000 and international traffic 99000. The lorries that are used most in international traffic (80 % or more) according to a special survey are coded as 99999.

Recording of weight of goods

Gross weight of goods is collected, i.e. containers, swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop: The respondent is allowed to record the main type of goods if there are several types of goods. Otherwise the respondent will record mixed goods for such a journey.

Multi stop: Multi-stop journeys are coded by consignments. The respondent records each basic transport operation in the questionnaire. These records are then recalculated to journey level by the staff at Statistics Sweden. The method used can be described as follows: The kilometres driven for the total journey is calculated, the main type of goods (in respect of kilos) is decided and then a formula (see below) recalculate the average weight on the journey level. The exact figures in kilos are used in the calculations.

$A / B = C$

A = Tonne-kilometres for each basic transport operation is calculated and summed up

B = Kilometres driven on the journey

C = Average tonnes for the journey

Tonne-kilometres will be the same regardless of which file, A2 or A3, that is used for their calculation.

Regarding journey type 2 (multi-stop-journeys), we use the principle that if a trailer was used for the first consignment of the journey a trailer was used for the entire journey.

Collection/delivery: In the Swedish survey we allow the respondents to decide if the journey can be seen upon as a collection and/or distribution round (c/d). If the journey consists of five or more stops the respondent is allowed to give information on the journey as a whole. The usual cases are for example deliveries of petrol and oil or rounds for collection of milk. The respondent is asked to indicate the c/d-round with an "X" in the questionnaire. If the journey is considered as a c/d-round the respondent is asked to indicate the *average* weight for the c/d as a whole, the total kilometres driven during the c/d and the main commodity group. In the instructions to our respondents it is stated that the c/d-round is considered to start at the first loading point and finished at the last unloading point. This means that the possible empty leg must be recorded as a separate journey before and/or after the c/d-round. In the cases where the vehicle only has c/d-rounds and empty journeys during the survey week it is possible to connect the empty journeys to the c/d-rounds. If the vehicle has a mix between c/d-rounds and other kinds of journeys, not empty journeys, the connection is not possible at the moment. The information from the Swedish survey in the A2 file and the A3 file is the same regarding type 3 journeys.

Other variables: Regarding trailers we allow the respondent to record the most common trailer or combination of trailers used during the week for measurement.

Calculation of weighting factors:

Weighting factor $= 13 * \dfrac{N}{S + S'}$

N = Number of vehicles in the register (in a stratum)

S = Number of questionnaires used in analysis (in A1 dataset)

S' = number of vehicle for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: Type of fuel used.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	60 788	59 772
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	12 274	12 712
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	1 903	2 597
Number of cases classified as non-respondents	3 214	3 603
Number of cases where sample register information was wrong and response could not be used	795	620
Number of questionnaires used in analysis	6 357	5 892

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

UNITED KINGDOM (National)

Organisation responsible for the conducting the survey: Department for Transport (DfT)

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register:

>1. Driver Vehicle Licensing Agency (DVLA) for GB-registered vehicles
>2. Driver Vehicle Agency for vehicles registered in Northern Ireland (DVA NI)

Name of organisation who maintains the register: DVLA and DVL NI

Frequency of update: Ongoing

Frequency of access to draw the samples: Quarterly

Arrangements for accessing the register:

>For GB-registered vehicles, a quarterly sample is provided by DVLA based on an agreed specification for the proportion of vehicles required in each stratum for the desired weekly sample.

>For NI-registered vehicles, the sample is extracted and supplied on a weekly basis.

Information obtained from the register:

>Name and contact details of the vehicle owner; Gross plated weight; NUTS1 region of registration; propulsion code; wheel plan code; tax class; body type code; and year of first registration.

Procedure for reminders:

>A reminder system is used to chase non-respondents:

>*First reminder:* a letter is send 2 days after the due back date, 10 days after the end of the survey period

>*Second reminder*: a letter is sent recorded delivery 2 weeks after the first reminder

>*Third reminder:* a telephone call is made 2 weeks after the second reminder

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

>Vehicles weighing less than 3.5 tonnes maximum permissible laden weight and certain vehicles with invalid body type codes e.g. street cleansing vehicles, ambulances, snow ploughs, etc.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

>The sample is stratified according to vehicle type and traffic area.

>1. Vehicle weight group:
>>- Rigid: 3.5 to 7.5 t, 7.5 to 15t, 15 to 18t, 18 to 26t, over 26t
>>- Articulated: 3.5 to 26t, 26 to 34t, 34 to 38t, 38 to 40t, over 40t

2. Government Office Region (NUTS1)
- North East
- North West
- Yorkshire & Humberside
- East Midlands
- West Midlands
- East of England
- London
- South East
- South West
- Wales
- Scotland
- Northern Ireland

Recording of weight of goods

Gross-gross weight of goods is collected, i.e. containers, swap bodies and pallets are included.

Recording journey data sent to Eurostat:

Single stop: If a vehicle is carrying more than one type of goods the larger of the two consignments determines the type of goods carried. The weight is the sum of all the consignments for the journey.

Multi stop: We collect data for these journeys in the form of single transport operations but can identify that they are legs of a particular 2-4 stop journey. We provide separate A2 records, coded as journey type 1, because our system requires that the journey to consignment relationship is a 1 to 1 relationship.

Collection/delivery: As for a single stop journeys only the main type of goods code is used. Goods lifted is calculated as either the larger of weight of goods delivered and weight of goods collected if delivering and collecting the same goods or weight of goods delivered + weight of goods collected if delivering and collecting different goods. Tonne-kilometres are calculated as described in 6.5 of the manual.

Other variables: For Northern Ireland registered vehicles' activity, the domestic survey methodology is used for recording international activity. These journeys are coded on a consignment (goods operation) basis. On the A2 record an adjustment is made so that the total distance does not include double counting. The A3 distance is not adjusted to enable accurate estimates of tonne-kilometres for goods related variables.

Calculation of weighting factors:

Weighting factor $= 13 * \dfrac{N}{S}$

N = Number of vehicles in the register (in a stratum)

S = Achieved sample count (in a stratum)

The achieved sample **includes** the following returns:

1. Vehicles used during the survey week

2. Vehicles unused during the survey week for the following reasons:

- On holiday
- In for MOT, service or repair
- With no driver
- With no work
- Doing site work
- Scrapped vehicles
- Unlicensed vehicles

The achieved sample **excludes** the following returns:
- Vehicle sold during the reference week
- Vehicle stolen during the reference week
- Vehicle on multi-hire
- Form not delivered
- Refusal
- Respondent excused (for example when vehicle only used for personal use)

Optional variables covered: Vehicle empty kilometres; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: Type of fuel used and fuel consumption.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	468 236	448 989
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	16 918	17 739
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	2 187	2 632
Number of cases classified as non-respondents	2 160	2 206
Number of cases where sample register information was wrong and response could not be used	1 769	1 805
Number of questionnaires used in analysis	10 802	11 096

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

UNITED KINGDOM (International)

Organisation responsible for the conducting the survey: Department for Transport (DfT)

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register Applications and Decisions' register

Name of organisation who maintains the register: Traffic Area Offices

Frequency of update: Every two weeks

Frequency of access to draw the samples: Every two weeks

Arrangements for accessing the register:

> Details of changes to hauliers licensed to undertake international haulage work are taken from applications and decisions every two weeks.

Information obtained from the register:

> Address details of firms operating heavy goods vehicles that are involved in international journeys.

> Firms are subsequently asked to provide information about their fleet size and number of international trips; these are used in the stratification of the sample.

Procedure for reminders:

> A reminder system is used to chase non-respondents:

> *First reminder*: a letter is sent 3 weeks after the end of the survey period.

> *Second reminder*: a letter is sent recorded delivery 3 weeks after the first reminder. This is by recorded delivery which implicitly checks whether the letter has been received.

> *Third reminder*: a telephone call is made 4 weeks after the second reminder.

SAMPLING METHODOLOGY

Statistical unit: Transport firms with international operator's licences

Types of units excluded:

> Organisations not holding, or not requiring international licences (e.g. armed forces, emergency services, breakdown recovery vehicles).

Time unit:

> Time periods differ according to size of firm (see stratification below):
> > Size 1: 1 day every 4 weeks
> > Size 3: 3 days every 12.5 weeks
> > Size 6: 1 week every 25 weeks
> > Size 12: 2 weeks every 50 weeks
> > Size 24: 4 weeks every 100 weeks

Time unit of quarter 1 of 2010 included in the survey: All (13 weeks)

Stratification:

The sample is stratified according to the size of the firm:

Size 1: 1000+ trips a year

Size 3: 401-1000 trips a year

Size 6: 101-400 trips a year

Size 12: 25-100 trips a year

Size 24: less than 25 trips a year

Recording of weight of goods

Gross-gross weight of goods is collected, i.e. containers, swap bodies and pallets are included.

Recording of journey data sent to Eurostat:

Multi stop: No multi-stop journeys are recorded in international transport.

Collection/delivery: No collection/delivery journeys are recorded in international transport.

Calculation of weighting factors:

Grossing factors are calculated quarterly for each route out of the UK as

$$\text{Weighting factor} = \frac{P}{K}$$

P = Population figure for given route

K = number of sample trips leaving the UK via that route

Optional variables covered: Vehicle empty kilometres; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: None.

Main figures	Year 2008	Year 2009
Number of statistical units (enterprises) in the country	3 240	3 240
Number of statistical units selected for initial sample and questionnaires dispatched to vehicle owners (some enterprises are sampled more than once in a year)	2 567	2 527
Number of cases where no unit activity was recorded during the sampled period	1 121	1 129
Number of statistical units classified as non-respondents	178	176
Number of cases where sample register information was wrong and response could not be used	3	6
Number of questionnaires used in analysis	3 433	3 276

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

LIECHTENSTEIN

Organisation responsible for the conducting the survey: Office of Statistics

(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: National vehicle register

Name of organisation who maintains the register: Motorfahrzeugkontrolle MKF (Office of Motor Vehicles)

Frequency of update: Once a quarter

Frequency of access to draw the samples: Once a quarter

Arrangements for accessing the register:

There is a direct access to the database of the national vehicle register and to the business register for NACE codes.

Information obtained from the register:

Vehicle registration mark; ID of operator of vehicle; Name of operator of vehicle; Address of operator of vehicle; Nace-Code of operator; Type of vehicle (lorry, road tractor, trailer); Type of lorry; Brand name of Vehicle; Date of first registration; Number of axles; Maximum permissible weight; Maximum permissible weight of vehicle and trailer; Empty weight of the vehicle; Maximum loading capacity; Chassis number.

Procedure for reminders:

A reminder system is used to chase non-respondents:

First written reminder to the owner of the vehicle: 2 weeks after the deadline when the questionnaire was due to be returned.

Second written reminder to the owner of the vehicle: 4 weeks after the deadline when the questionnaire was due to be returned.

Third reminder to the owner of the vehicle (phone call): 6 weeks after the deadline when the questionnaire was due to be returned.

Afterwards, every two weeks there is a phone call to the owner of the vehicle.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:
Lorries and vans with maximum permissible weight of less than 6000 kg.
Due to the EEA treaty, all vehicles operating only in Liechtenstein and Switzerland are not recorded.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: 6 weeks

Stratification:

The population is stratified in two separate classes of vehicles.

Strata 1: Road tractors and lorry with or without trailer

Strata 2: All other vehicles

Recording of weight of goods

Gross weight of goods is collected, i.e. containers, swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop: Transport operators are required to fill in as many lines of the questionnaire as different commodity groups are transported.

Multi stop: Multi-stop journeys are coded by consignments. Up to 5 stops are recorded and transport operators are required to fill in as many lines of the questionnaire as different commodity groups are transported.

Collection/delivery: Transport operators fill in only one line for a pick-up or a distribution round mentioning the first and the last place of loading/unloading and the number of loading/unloading operations.

Estimation of maximum permissible laden weight:

The maximum permissible laden weight is calculated from the maximum loading capacity of the trailer, the maximum loading capacity of the lorry, and the maximum permissible weight of lorry and trailer.

Calculation of weighting factors:

Weighting factor $= 13 * \dfrac{N}{S + S'}$

N = number of vehicles in the register (in a stratum)

S = number of questionnaires used in analysis (in A1 dataset)

S'= number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: Type of fuel used.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	264	236
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners (some vehicles are sampled more than once in a year)	353	341
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	55	59
Number of cases classified as non-respondents	2	3
Number of cases where sample register information was wrong and response could not be used	6	10
Number of questionnaires used in analysis	10	269

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

NORWAY

Organisation responsible for the conducting the survey: Statistics Norway
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Register of Vehicles

Name of organisation who maintains the register: Directorate of Public Roads

Frequency of update: Daily

Frequency of access to draw the samples: Once a quarter

Arrangements for accessing the register:

>Through the Statistics Act § 2-2, 2-3 we are authorized to get copies of the register. The data are forwarded from the Directorate of Roads to Statistics Norway at specified dates of deliveries. The dates are:
>
>- First quarter 2010: End of November 2009
>- Second quarter 2010: End of February 2010
>- Third quarter 2010: End of May 2010
>- Fourth quarter 2010: End of August 2010
>
>The dates are approximately the same for each survey year. The early dates of access for each quarter are stipulated in order to make up the sampling frame, draw a sample, giving a label to the questionnaires and sending out the forms in due time before the survey period

Information obtained from the register:

>Vehicle Register records most of the information registered on a specific vehicle, about 50 variables. In addition, information about the owner of the vehicle and about the registration of the vehicle are collected.
>
>*Used in stratification*: Age of vehicle, type of vehicle, region in Norway.
>
>From the Commercial Traffic Register is collected information on number of permits for international traffic, geographical location and name and address of the enterprise that hold the permits. These information are used to allocate lorries to an international stratum.

Procedure for reminders:

>*First reminder*: one week after the due date, a reminder is sent to all those who have not responded. The letter has information about the consequences of not responding and gives a new due date one week later.
>
>*Second reminder*: one week after the due date set in the reminder, a new letter is sent to those who still not have answered, telling that they must respond within a new due date one week later to avoid the compulsory fine.
>
>*Third reminder*: three-four weeks after the deadline on the last letter, those who have still not responded are reported to the Norwegian National Collection Agency that fines them.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

> Vehicles used for training purposes (owned by driving schools) and other kinds of driving not considered to be freight transport such as roadwork, snow clearing, relocation of circus- or fairground carriages etc are excluded.

> Vehicles more than 25 years old, vehicles with a carrying capacity of less than 3.5 tonnes, and vehicles with a total weight of 35 tonnes or more.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: 13 weeks

Stratification:

> Stratified sampling is used. The population is divided into two parts, national (lorries

> where the owner do not have permit for international traffic) and international (lorries where the owner do have permit for international traffic).

> International strata are defined as all lorries belonging to an enterprise which have an EU-licence for travelling abroad. Since the license is not directly connected to a separate lorry, it is not possible to identify all the lorries that are used for international transport. That is why we perform that extra data collection mentioned in the end of item 1.

> The population of lorries in the national super-stratum is stratified by region, group of vehicle and age. There are 4 regions, 6 groups of vehicles and 2 age groups. In the international super-stratum, there is no stratification on age, and there are only 3 groups of vehicles. This gives a total of 48 strata in the national super-stratum and 12 strata in the international super-stratum. New lorries and large lorries are overrepresented in the sample.

Recording of weight of goods

> Gross weight of goods is collected; containers and swap bodies are excluded, but pallets might be included.

Recording of journey data sent to Eurostat:

> *Single stop:* In case more than one type of commodity is transported, the respondent is allowed to record it as mixed goods.

> *Multi stop:* Multi-stop journeys are coded by consignments.

> *Collection/delivery:* Respondents are allowed to decide if the journey can be seen upon as a collection and/or distribution round (c/d).

> If the journey consists of five or more stops the respondent is allowed to give information on the journey as a whole.

> If the journey is considered as a c/d-round the respondent is asked to indicate the average weight for the c/d as a whole, the total kilometres driven during the c/d and the main commodity group.

> In the instructions to our respondents it is stated that the c/d-round is considered to start at the first loading point and finished at the last unloading point.

Estimation of maximum permissible laden weight:

> The maximum permissible laden weight is estimated by computing the average of maximum permissible laden weight values for lorries having the same vehicle classification.

Calculation of weighting factors:

> *First step*: a non-response model is used to correct the bias due to non-response. The stratification is taken into account. Weights are made to gross up results from the usable questionnaire to the sample.

> *Second step*: the weights computed in step 1 are combined with the sample drawing. The sample is then grossed up to national level.

> *Third step*: the weights from step 2 are calibrated against the updated population from the survey quarter. This enables to get the correct amount of vehicles in National and International strata broken divided by regions, vehicle class and type of transport. As the information supplied by the vehicle owner is only for one specific week in the surveyed quarter, the calibrated weights are multiplied by 13.

> *Fourth and fifth step*: an adjustment of this weight is applied to correct under reporting. This adjustment is made by one factor for each of the six groups for the age of the vehicle (three groups) and type of transport (two groups).

> As from 1 quarter 2006 we also calibrate the results for the international survey against data on export and import from the External trade statistics (step 5).

Optional variables covered: Vehicle empty kilometres; Type of cargo; Axle configuration; Degree of loading of the vehicle.

Variables related to environmental impact: None.

Main figures	**Year 2008**	**Year 2009**
Total number of relevant goods vehicles in the country	41 451	42 457
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	7 202	7 203
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	2 162	2 162
Number of cases classified as non-respondents	378	378
Number of cases where sample register information was wrong and response could not be used	653	653
Number of questionnaires used in analysis	4 009	4 009

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

SWITZERLAND

Organisation responsible for the conducting the survey: Swiss Statistics
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Motor Vehicle Register

Name of organisation who maintains the register: Swiss Federal Roads Office (FEDRO)

Frequency of update: Once a week

Frequency of access to draw the samples: Once a week

Arrangements for accessing the register:

Weekly extraction of the register at FEDRO via a protected web server.

Information obtained from the register:

Name, address, registration number, number of seats, type of vehicle, type of body, type designation of vehicle, load capacity, maximum permissible laden weight, unladen weight, emission class (Euro), date of first registration of the vehicle, existence or not of a loading crane, existence or not of a hydraulic lift, existence or not of a cable winch, existence or not of a trailer coupling, tank volume (cistern volume), number of axles (tractor only), license plate number.

Used in stratification: type of vehicle and maximum permissible laden weight.

Procedure for reminders:

First reminder: sent out 2 weeks after the deadline.

Second reminder: sent 3 weeks after the first one.

For both reminders, all material is sent again (questionnaire, letter, instructions).

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

Vehicles with a maximum permissible laden weight less than 3500 kg and special vehicles (e.g. agricultural tractors, fire engines, military vehicles).

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: 13 weeks

Stratification:

The sample is stratified according to the week of survey, the type of vehicle and the maximum permissible laden weight (mplw). Lorries are divided into 4 strata (351, 352, 353, 354). Road tractors form the 5th stratum (381).

351: mplw 3501-7500 kg

352: mplw 7501-18000 kg

353: mplw 18001-26000 kg

354: mplw >26000 kg

This decomposition is applied to each week and the coding sent to Eurostat corresponds to the survey week number followed by the preceding code. For instance a road tractor with information during the week 22 is in the strata 22381.

Recording of weight of goods

Gross weight of goods is collected, i.e. containers, swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop: All commodity types transported on a vehicle are recorded.

Multi stop: Information is collected on the basis of a description of each basic transport operation (with additional details on unladen journeys). The journey data are derived from the goods data

Collection/delivery: The transported goods weight is assumed to increase/decrease steadily between the first and last stop of collection/delivery tonne-km = (0.5 * goods weight * distance of collection/delivery)

Calculation of weighting factors:

Weighting factor $= 13 * \dfrac{N}{S + S'}$

N = number of vehicles in the register (in a stratum)

S = number of questionnaires used in analysis (in A1 dataset)

S'= number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.)

This initial grossing factor is then modified by a raking ratio procedure (calibration method). The external data sources used for this method are the total number of vehicle by strata for the survey week and the total distance by class of distance travelled weekly by quarter (data extracted from the LSVA tax).

Optional variables covered: Vehicle empty kilometres; Type of cargo; Axle configuration.

Variables related to environmental impact: None.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	639 338	637 219
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	8 361	8 806
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	750	938
Number of cases classified as non-respondents	3 404	3 641
Number of cases where sample register information was wrong and response could not be used	502	462
Number of questionnaires used in analysis	3 705	3 765

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

CROATIA

Organisation responsible for the conducting the survey: Croatian Bureau of Statistics
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Database of registered road motor vehicles

Name of organisation who maintains the register: Ministry of Interior

Frequency of update: Continuously

Frequency of access to draw the samples: Once a quarter

Arrangements for accessing the register:

Bilateral agreement between the Central Bureau of Statistics and the Ministry of the Interior for providing statistical information.

Ministry of Interior transmits part of the register with all motor goods vehicles once a quarter in compliance with the Annual Implementation Plan of Statistical Activities. After receiving the data on registered vehicles, the Department for Programming creates a database with necessary data and then match the data with the Statistical Business Register and other consulting databases in order to take over addresses and other data on vehicles owners and their activity.

Information obtained from the register:

Database of registered road motor vehicles: registration mark, type of vehicle, body type, main use of vehicle, mark of vehicle, made in year, load capacity, maximum permissible weight, name and address of owner of vehicle, number of axles, type of the owner

Statistical Business Register: main activity of the operator.

Used in stratification: load capacity

Procedure for reminders:

First reminder: sent 10 days after the end of reference period, questionnaire and instructions are sent again.

Second reminder: 18 days after the end of reference period non-respondents are reminded by phone.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

Agricultural vehicles, military and public service vehicles and special purpose vehicle such as truck cranes, fire-engine vehicles, road maintenance vehicles and other special purpose vehicles.

Vehicles with load capacity less than 3.5 tonnes.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: 13 weeks

Stratification:

The sample for each stratum was chosen by a systematic random method. The systematic selection made it possible to do the implicit stratification by county and type of owner (tradesmen, enterprises). Moreover, in that way it was also possible to achieve a better geographical dissemination of the sample. The unbiased Horvitz-Thompson assessor was used in the method.

1 – 3.50-4.99 tonnes of load capacity

2 – 5.00-9.99 tonnes of load capacity

3 – 10.00-11.99 tonnes of load capacity

4 – 12.00-14.99 tonnes of load capacity

5 – 15.00 and over tonnes of load capacity

6 – road tractors

Recording of weight of goods

Gross weight of goods is collected, i.e. containers, swap bodies and pallets are excluded.

Recording of journey data sent to Eurostat:

Single stop: In case of carrying more than one type of goods, respondents can record only the type of good with the largest weight.

Multi stop: recorded by vertical stages. In case of carrying more than one type of good, respondents can record only the type of goods with the largest weight. Multi-stop journeys are recorded only for national transport.

Collection/delivery: In case of carrying more than one type of goods, respondents can record only the type of good with the largest weight. Collection/delivery journeys are recorded only for national transport.

Calculation of weighting factors:

$$\text{Weighting factor} = 13 * \frac{N}{S + S'}$$

N = number of vehicles in the register (in a stratum)

S = number of questionnaires used in analysis (in A1 dataset)

S'= number of vehicles for which no activity was recorded, but vehicles could be considered as active (holiday, no work, etc.), scrapped, final or temporally out of operation, not performing transport activity anymore.

Optional variables covered: Vehicle empty kilometres; Type of cargo; Vehicle operator's NACE category of activity; Axle configuration; Degree of loading of the vehicle; Possibility of using vehicles for combined transport.

Variables related to environmental impact: Fuel purchased.

Main figures	Year 2008	Year 2009
Total number of relevant goods vehicles in the country	34 576	33 943
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	10 400	10 400
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	1 875	2 361
Number of cases classified as non-respondents	2 456	2 265
Number of cases where sample register information was wrong and response could not be used	1 706	1 751
Number of questionnaires used in analysis	4 363	4 023

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

Organisation responsible for the conducting the survey: State Statistical Office
(Based on information referring to the first quarter of 2010)

SAMPLING REGISTER USED FOR THE SURVEY

Name of register: Register of road freight transport survey

Name of organisation who maintains the register: Ministry of interior affair

Frequency of update: Once a year in ministry of interior

Frequency of access to draw the samples: once a year

Arrangements for accessing the register: Statistical Office is checking all key variables.

Information obtained from the register:

Vehicles registration number, year of first registration, maximum permissible laden weight, number of axes, capacity for loading, address, type of vehicle, name of owners, region in country, purpose of the vehicle.

Procedure for reminders:

First reminder by written letter and second reminder one week later by phone or by written letter.

SAMPLING METHODOLOGY

Statistical unit: Tractive vehicle

Types of units excluded:

All working vehicle, damper, crane vehicle, vehicle with shredder for waste, vehicle with container for water supply etc.

Time unit: 1 week

Time unit of quarter 1 of 2010 included in the survey: 13 weeks

Stratification:

The stratification is made by two groups of economic activities (main activity codes 60230; 60240 and 63210, and others activity) and five groups by tonnage (from 3500 to 4999; from 5000 to 6999; from 7000 to 9999; from 10000 to 14999 and from 15000). The selection of sample units is proportional within each stratum.

Variables related to environmental impact: Type of fuel used and fuel consumption.

Main figures	Year 2009
Total number of relevant goods vehicles in the country	10 303
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	4 203
Number of cases where no vehicle activity was recorded during the sampled period but the vehicle could be considered as part of the active stock	529
Number of cases classified as non-respondents	2 762
Number of cases where sample register information was wrong and response could not be used	401
Number of questionnaires used in analysis	511

More information in countries specific notes
(http://circa.europa.eu/Members/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title)

II

Summary tables

Table 1 – Scope of surveys

Survey	Sampling base		Vehicle types not covered		
	Register of tractive vehicles maintained by the NSI or national organisations ([1])	**Other**	**Agricultural, military and public service vehicles**	**Vehicles over or below certain limits**	**Other vehicles not covered**
Belgium	yes		yes		Vehicles not destined to the transport of goods
Bulgaria	yes		yes	Vehicles < 6t MPLW	Vehicles with dimensions exceeding permitted limits of the country; Vehicles not destined to the transport of goods.
Czech Republic	yes		yes	Vehicles < 2t LC	Vehicles with oversized load
Denmark	yes			Vehicles < 6t MPLW	
Germany	yes		yes	Lorries ≤ 3.5t LC	Vehicles not destined to the transport of goods. Vehicles not used for goods transport on public roads (own account only)
Estonia	yes			Lorries < 3.5t LC Vehicles > 25 years	Vehicles not destined to the transport of goods
Ireland	yes			Vehicles < 2t unladen weight	Vehicles not destined to the transport of goods. Vehicles taxed as non-commercial vehicles
Greece	yes		yes	Vehicles <3.5t LC and < 6t MPLW	
Spain	yes		yes	Vehicles <3.5t LC and < 6t MPLW Special vehicles with very high weight capacity or dimensions which need a special registration number	Vehicles not destined to the transport of goods
France	yes		yes	Lorries > 32.5t LC Tractors > 44.5t Vehicles < 3.5t weight Vehicles > 15 years	Special purpose vehicles
Italy	yes	Tax vehicle register from the Ministry of Economy and Finance	yes	Vehicles < 3.5t LC Vehicles > 11 years	Vehicles not destined to the transport of goods

Survey	Sampling base		Vehicle types not covered		
	Register of tractive vehicles maintained by the NSI or national organisa-tions (1)	Other	Agricul-tural, military and public service vehicles	Vehicles over or below certain limits	Other vehicles not covered
Cyprus	yes			Vehicles < 3 t LC	
Latvia	yes		yes	Vehicles < 3.5t MPLW Vehicles > 25 years	Special purpose vehicles
Lithuania	yes			Vehicles < 6t LC	Special purpose vehicles
Luxembourg	yes		yes	Vehicles < 3t LC	Special purpose vehicles
Hungary	yes		yes	Vehicles < 3.5t LC	Special purpose vehicles
Malta	yes		yes		
Netherlands	yes	National Business Register Lease Registers from the Tax Authorities		Vehicles < 3.5t MPLW Vehicles > 25 years	Vehicles not used for goods transport on public roads. Passenger vehicles (buses, campers)
Austria	yes	Enterprise Register	yes	Vehicles < 2t LC	Fire brigade, driving schools, private household, exterritorial organisations
Poland	yes		yes	Vehicles ≤ 3.5t MPLW and < 1.5t LC Vehicles > 25 years	Special purposes vehicles
Portugal	yes		yes	Vehicles ≤ 3.5t MPLW	Vehicles not destined to the transport of goods
Romania	yes			Vehicles < 3.5 LC	
Slovenia	yes		yes	Vehicles < 2t LC	Vehicles belonging to users that could not be matched with the Business Register. Special purpose vehicles
Slovakia	yes	Operator's Register			
Finland	yes	National: Vehicle Register International: Register of licences for international traffic (VALLU)	yes	Lorries < 3.5t MPLW (national transport only)	Special purpose vehicles
Sweden	yes	Commercial Traffic Register Central Register of Corporation	yes	Vehicles ≤ 3.5t LC Vehicles > 30 years	Special purpose vehicles; Vehicles owned by companies not registered in the Central Register of Corporations

Survey	Sampling base		Vehicle types not covered		
	Register of tractive vehicles maintained by the NSI or national organisa-tions ([1])	**Other**	**Agricul-tural, military and public service vehicles**	**Vehicles over or below certain limits**	**Other vehicles not covered**
United Kingdom	yes	<u>National</u>: Driver Vehicle Licensing Agency for GB-registered vehicles and Driver Vehicle Licensing for Northern Ireland registered vehicles <u>International</u>: Application and Decisions Register from Traffic Area Offices	yes	Vehicles < 3.5t MPLW (national transport only)	Special purpose vehicles
Liechtenstein	yes	Office of Motor Vehicles		Vehicles < 6t MPLW	Vehicles operating in LI and CH only
Norway	yes			Vehicles < 3.5t LC Vehicles > 35t MPLW Vehicles > 30 years	Special purpose vehicles
Switzerland	yes		yes	Vehicles < 3.5t LC	
Croatia	yes	Statistical Business Register	yes	Vehicles < 3.5t LC	Special purpose vehicles
fYRoM	yes		yes		Special purpose vehicles

([1]) Ministry of Transport or other national organisations.

Table 2 – Type of questionnaire used for the survey

Belgium	Paper questionnaire or questionnaire can be downloaded in Excel format, completed and sent by e-mail
Bulgaria	Paper questionnaire
Czech Republic	Web questionnaire and paper questionnaire
Denmark	*n.a.*
Germany	Web questionnaire and paper questionnaire
Estonia	*n.a.*
Ireland	Paper questionnaire
Greece	*n.a.*
Spain	Web questionnaire and paper questionnaire
France	Electronic (pdf format) and paper questionnaire
Italy	Paper questionnaire
Cyprus	Paper questionnaire
Latvia	Paper questionnaire
Lithuania	Paper questionnaire
Luxembourg	Paper questionnaire
Hungary	Paper questionnaire
Malta	*n.a.*
Netherlands	Web questionnaire, electronic transmission of data from transport companies and paper questionnaire
Austria	Web questionnaire allowing up- and download of data in predefined XML format and paper questionnaire
Poland	Electronic and paper questionnaire
Portugal	*n.a.*
Romania	Paper questionnaire
Slovenia	Paper questionnaire
Slovakia	Electronic and paper questionnaire
Finland	Web questionnaire and paper questionnaire
Sweden	Electronic (pdf format) and paper questionnaire
United Kingdom	Paper questionnaire
Liechtenstein	Paper questionnaire
Norway	Web questionnaire and paper questionnaire
Switzerland	Paper questionnaire
Croatia	Paper questionnaire
fYRoM	Web questionnaire and paper questionnaire

Note: n.a.: not available.

Table 3 – Sampling rate in space (of vehicles, firms), 2009

Survey	Statistical unit	Number of statistical units in the population	Number of statistical units in the sample	Sampling rate in space (%)
Belgium	Tractive vehicle	95 044	49 747	52.3
Bulgaria	Tractive vehicle	135 336	14 000	10.3
Czech Republic	Tractive vehicle	133 593	16 668	12.5
Denmark ([1])	Tractive vehicle (national)	44 401	4 406	9.9
	Transport firm (international)	869	1 419	163.3
Germany	Tractive vehicle	465 937	196 725	42.2
Estonia	Tractive vehicle	17 188	5 810	33.8
Ireland	Tractive vehicle	85 233	39 352	46.2
Greece (2008)	Tractive vehicle	105 004	6 739	6.8
Spain	Tractive vehicle	392 893	56 000	14.3
France	Tractive vehicle	540 082	79 128	14.7
Italy (2004)	Tractive vehicle	258 038	80 049	31.0
Cyprus	Tractive vehicle	13 262	1 612	12.2
Latvia	Tractive vehicle	18 995	6 360	33.5
Lithuania	Tractive vehicle	45 804	12 943	28.3
Luxembourg	Tractive vehicle	10 855	9 578	88.2
Hungary	Tractive vehicle	80 582	53 312	66.2
Malta	Tractive vehicle	*n.a.*	*n.a.*	*n.a.*
Netherlands	Tractive vehicle	155 478	59 059	38.0
Austria	Tractive vehicle	72 017	26 000	36.1
Poland	Tractive vehicle	617 336	49 036	7.9
Portugal	Tractive vehicle	126 250	29 825	23.6
Romania	Tractive vehicle	169 608	36 356	21.4
Slovenia	Tractive vehicle	25 406	8 307	32.7
Slovakia	Tractive vehicle	120 547	10 400	8.6
Finland	Tractive vehicle (national)	92 922	8 400	9.0
	Transport firm (international)	7 456	2 399	32.2
Sweden	Tractive vehicle	59 772	12 712	21.3
United Kingdom	Tractive vehicle (national)	448 989	17 739	4.0
	Transport firm (international)	3 240	2 527	78.0
Liechtenstein ([1])	Tractive vehicle	236	341	144.5
Norway	Tractive vehicle	42 457	7 203	17.0
Switzerland	Tractive vehicle	637 219	8 806	1.4
Croatia	Tractive vehicle	33 943	10 400	30.6
fYRoM	Tractive vehicle	10 303	4 203	40.8

Note: n.a.: not available.
([1]) Some vehicles may be surveyed several times in the same quarter.

The sampling rate in space figures (%) have been obtained by calculating as follows: "Number of statistical units in the sample" divided by "Number of statistical units in the population".

Table 4 – Time-based sampling rate, 2010

Survey	Time unit	Number of time units in the year	Number of time units represented in the survey in the year	Time-based sampling rate (%)
Belgium	week	52	52	1.92
Bulgaria	week	52	52	1.92
Czech Republic	week	52	52	1.92
Denmark (2007)	week (national) week for small enterprises and half week for other enterprises (international)	52 52 or 104	52 52 or 104	1.92 1.92 or 0.96
Germany	half week	104	104	0.96
Estonia	week	52	52	1.92
Ireland	week	52	52	1.92
Greece (2007)	week	52	52	1.92
Spain	week	52	52	1.92
France	week	52	52	1.92
Italy	week	52	52	1.92
Cyprus	week	52	52	1.92
Latvia	week	52	52	1.92
Lithuania	week	52	52	1.92
Luxembourg	week	52	28	3.57
Hungary	week	52	52	1.92
Malta (2004)	3 days	121	0	*n.a.*
Netherlands	week	52	52	1.92
Austria	week	52	52	1.92
Poland	week	52	52	1.92
Portugal (2007)	week	52	52	1.92
Romania	week	52	52	1.92
Slovenia	week	52	52	1.92
Slovakia	week	52	52	1.92
Finland	2 days (national) 1 or 2 weeks (international)	182 52 or 26	182 52 or 26	0.55 1.92 or 3.85
Sweden	week	52	52	1.92
United Kingdom	Week (national) Dependant on the firm size for international transport	52	52	1.92
Liechtenstein	week	52	24	4.17
Norway	week	52	52	1.92
Switzerland	week	52	52	1.92
Croatia	week	52	52	1.92
fYRoM	week	52	52	1.92

Note: n.a.: not available.

The time-based sampling rate figures (%) have been obtained by calculating as follows: 100 divided by "Number of time units represented in the survey in the year".

Table 5 – Global sampling rates (in space and in time)

Survey	Collection unit	Sampling rate in space (%)	Sampling rate in time (%)	Global sampling rate in space and in time (%)
Belgium	Vehicle-week	52.3	1.92	1.00
Bulgaria	Vehicle-week	10.3	1.92	0.20
Czech Republic	Vehicle-week	12.5	1.92	0.24
Denmark ([1])	Vehicle-week (national)	9.9	1.92	0.19
Germany	Vehicle-half week	42.2	0.96	0.41
Estonia	Vehicle-week	33.8	1.92	0.65
Ireland	Vehicle-week	46.2	1.92	0.89
Greece ([1]) ([2])	Vehicle-week	6.8	1.92	0.13
Spain	Vehicle-week	14.3	1.92	0.27
France	Vehicle-week	14.7	1.92	0.28
Italy ([3])	Vehicle-week	31.0	1.92	0.60
Cyprus	Vehicle-week (national)	12.2	1.92	0.23
Latvia	Vehicle-week	33.5	1.92	0.64
Lithuania	Vehicle-week	28.3	1.92	0.54
Luxembourg	Vehicle-week	88.2	3.57	3.15
Hungary	Vehicle-week	66.2	1.92	1.27
Malta	Vehicle-week	*n.a.*	*n.a.*	*n.a.*
Netherlands	Vehicle-week	38.0	1.92	0.73
Austria	Vehicle-week	36.1	1.92	0.69
Poland	Vehicle-week	7.9	1.92	0.15
Portugal ([1])	Vehicle-week	23.6	1.92	0.45
Romania	Vehicle-week	21.4	1.92	0.41
Slovenia	Vehicle-week	32.7	1.92	0.63
Slovakia	Vehicle-week	8.6	1.92	0.17
Finland	Vehicle-week part (national)	9.0	0.55	0.05
Sweden	Vehicle-week	21.3	1.92	0.41
United Kingdom	Vehicle-week (national)	4.0	1.92	0.08
Liechtenstein	Vehicle-week	144.5	4.17	6.03
Norway	Vehicle-week	17.0	1.92	0.33
Switzerland	Vehicle-week	1.4	1.92	0.03
Croatia	Vehicle-week	30.6	1.92	0.59
fYRoM	Vehicle-week	40.8	1.92	0.78

Note: n.a.: not available.
([1]) Sampling rate in time for 2007. ([2]) Sampling rate in space for 2008. ([3]) Sampling rate in space for 2008.

The global sampling rate figures have been obtained by multiplying the sampling rate in space by the sampling rate in time.

Attention must be drawn to the fact that the first figures refer to 2009, whereas the latter to 2010. The global sampling rate figures should thus be considered provisional, although the sampling rate in time is liable to remain constant for most countries from one year to the next.

Table 6 – Response rate

Survey	Response rate (in %)	
	2008	**2009**
Belgium	99.2	99.1
Bulgaria	72.3	72.2
Czech Republic	91.5	91.4
Denmark	98.7	98
Germany	95.6	96.4
Estonia	74.2	80.6
Ireland	52.6	51.4
Greece	90.8	*n.a.*
Spain	94.9	93.6
France	79.3	81.3
Italy	*n.a.*	*n.a.*
Cyprus	94.5	93.9
Latvia	84.2	79.4
Lithuania	89.7	90.2
Luxembourg	89.3	90.8
Hungary	89.2	89.1
Malta	*n.a.*	*n.a.*
Netherlands	82.8	78.6
Austria	99.2	99.1
Poland	84	83.6
Portugal	72.6	76.51
Romania	97.8	98.4
Slovenia	79.8	81.1
Slovakia	84.5	87.4
Finland	64.4	63.9
Sweden	73.8	71.6
United Kingdom	87.2	87.6
Liechtenstein	99.4	99.1
Norway	94.7	94.7
Switzerland	59.3	58.65
Croatia	76.4	78.2
fYRoM	*n.a.*	34.3

Note: n.a.: not available.

The response rate is defined as the number of questionnaires dispatched minus those classified as non-response divided by the number of questionnaires dispatched, expressed as a percentage.

Table 7 – Register quality

Survey	Register quality (in %)	
	2008	**2009**
Belgium	78.3	75.5
Bulgaria	58.5	61.9
Czech Republic	83.2	84.1
Denmark	89.4	91.6
Germany	94.3	93.8
Estonia	72.3	75.6
Ireland	60.7	73.9
Greece	87.2	*n.a.*
Spain	79.2	77.4
France	70	76.4
Italy	*n.a.*	*n.a.*
Cyprus	94.5	94.4
Latvia	97	96.9
Lithuania	75.6	75.2
Luxembourg	100	94.3
Hungary	66.6	69.6
Malta	*n.a.*	*n.a.*
Netherlands	91.7	86.6
Austria	95.3	95.7
Poland	78.7	78.4
Portugal	77.5	76.5
Romania	66	82.4
Slovenia	93.3	93.8
Slovakia	87.6	83.3
Finland	92.2	85.4
Sweden	91.2	93.2
United Kingdom	88.0	88.4
Liechtenstein	98.3	97
Norway	90.4	90.4
Switzerland	89.9	91
Croatia	78.5	78.4
fYRoM	*n.a.*	72.2

Note: n.a.: not available.

The register quality is defined as the number of usable questionnaires (i.e. number of questionnaires dispatched minus number of questionnaires classified as non-response minus number of questionnaires where sample register information was wrong) divided by the number of questionnaires dispatched minus those classified as non-response, expressed as a percentage.

Table 8 – Precision of results, in terms of Standard error (on total tonnes)

Survey	Standard error (tonnes), in %	
	2008	**2009**
Belgium	1.94	2.74
Bulgaria	8.37	9.27
Czech Republic	3.22	3.47
Denmark	6.89	5.31
Germany	0.86	0.85
Estonia	9.65	8.03
Ireland	4.02	3.54
Greece	9.69	*n.a.*
Spain	1.98	1.79
France	1.42	1.36
Italy	*n.a.*	*n.a.*
Cyprus	5.53	7.49
Latvia	5.97	6.17
Lithuania	3.34	4.59
Luxembourg	3.28	3.18
Hungary	2.20	2.25
Malta	*n.a.*	*n.a.*
Netherlands	1.83	2.07
Austria	2.24	2.23
Poland	6.48	6.54
Portugal	3.56	3.55
Romania	6.75	3.79
Slovenia	5.21	5.24
Slovakia	6.74	5.74
Finland	8.84	9.95
Sweden	4.96	6.02
United Kingdom ([1])	2.20	*n.a.*
Liechtenstein	8.81	13.64
Norway	8.10	7.19
Switzerland	4.21	4.03
Croatia	4.11	4.21
fYRoM	*n.a.*	*n.a.*

Note: n.a.: not available.

([1]) 2007.

Percentage standard error of estimate (95% confidence).
See volume 1 of "Road freight transport methodology", i.e. the Reference Manual for the implementation of the Council Regulation No 1172/98 on statistics on the carriage of goods by road, chapters 3 and 7 for more details on the methodology used for the calculation of the percentage standard error.
Reference: Commission Regulation 642/2004 on precision requirements for data collected in accordance with Council Regulation (EC) No 1172/98 on statistical returns in respect of the carriage of goods by road.

Table 9 – Precision of results, in terms of Standard error (on total tonne-kilometres)

Survey	Standard error (tonne-kilometres), in %	
	2008	**2009**
Belgium	1.28	2.49
Bulgaria	5.33	6.89
Czech Republic	2.32	2.34
Denmark	5.07	3.83
Germany	0.59	0.6
Estonia	5.39	5.96
Ireland	4.38	3.79
Greece	5.27	*n.a.*
Spain	1.36	1.25
France	0.95	0.82
Italy	*n.a.*	*n.a.*
Cyprus	7.73	6.69
Latvia	3.07	3.88
Lithuania	2.87	6.25
Luxembourg	2.20	2.31
Hungary	1.40	1.30
Malta	*n.a.*	*n.a.*
Netherlands	1.10	1.26
Austria	2.12	2.10
Poland	1.91	2.83
Portugal	2.95	2.86
Romania	7.21	3.53
Slovenia	2.71	2.83
Slovakia	3.35	3.09
Finland	4.52	5.21
Sweden	2.75	4.56
United Kingdom ([1])	1.94	*n.a.*
Liechtenstein	6.34	7.40
Norway	4.55	5.08
Switzerland	4.86	4.17
Croatia	2.94	3.24
fYRoM	*n.a.*	*n.a.*

Note: n.a.: not available.

([1]) 2007.

Percentage standard error of estimate (95% confidence).

See volume 1 of "Road freight transport methodology", i.e. the Reference Manual for the implementation of the Council Regulation No 1172/98 on statistics on the carriage of goods by road, chapters 3 and 7 for more details on the methodology used for the calculation of the percentage standard error.

Reference: Commission Regulation 642/2004 on precision requirements for data collected in accordance with Council Regulation (EC) No 1172/98 on statistical returns in respect of the carriage of goods by road.

Table 10 – Optional variables provided by the reporting countries

Survey	Vehicle empty kilometres	Type of cargo	Vehicle operator's NACE category of activity	Axle configuration	Degree of loading of the vehicle	Possibility of using vehicles for combined transport
Belgium	X	X	X	X	X	X
Bulgaria	X	X		X	X	
Czech Republic	X	X	X	X		
Denmark	X		X	X	X	X
Germany	X	X		X	X	
Estonia	X	X		X	X	
Ireland	X	X		X		
Greece	X	X	X	X	X	X
Spain	X	X	X	X	X	
France	X	X	X	X	X	
Italy						
Cyprus	X	X	X	X	X	
Latvia	X	X	X	X	X	
Lithuania	X	X	X	X	X	X
Luxembourg	X	X	X	X		
Hungary	X	X		X		
Malta						
Netherlands	X	X		X	X	
Austria	X	X	X	X	X	
Poland	X	X	X	X	X	X
Portugal	X	X	X	X	X	
Romania		X	X	X	X	X
Slovenia	X	X	X	X	X	
Slovakia	X	X	X	X	X	
Finland	X	X		X	X	X
Sweden	X	X	X	X	X	
United Kingdom	X			X	X	
Liechtenstein	X	X	X	X	X	
Norway	X	X		X	X	
Switzerland	X	X		X		
Croatia	X	X	X	X	X	X
fYRoM						

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