

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

REVISED

2017 edition





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of road freight transport in  
Member States, EFTA and  
Candidate countries**

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# Introduction

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

This is a revised edition (updated information for Italy), as the initial edition was released on 19/01/2018.

This document provides a quite extensive coverage of what is available on road transport statistics methodology.

It is set out as following:

- Part 1 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 2017.
- Part 2 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 2017, while the main figures given for each country refer to the years 2015 and 2016, 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 the manual 'Road freight transport methodology', i.e. the Reference Manual for the implementation of the Council Regulation No 70/2012 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://ec.europa.eu/eurostat/data/database>

Road freight transport methodology, Reference Manual for the implementation of the Council Regulation No 70/2012 on statistics on the carriage of goods by road:

<http://ec.europa.eu/eurostat/documents/3859598/8134263/KS-GQ-16-105-EN-N.pdf>

# 1

## Methodologies used in road freight transport surveys 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 2017)*

### Sampling register used for the survey

**Name of register:**

Register of Motor Vehicles

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

Ministry of Mobility and Transport

**Frequency of update:**

Monthly

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

Weekly

**Arrangements for accessing the register:**

The register is obtained by file transfer

**Information obtained from the register:**

Name and address of owner, license plate number, chassis number, VAT-number, load capacity, type of vehicle, type of body, brand.

Stratification: load capacity and type of body

**Procedure for reminders:**

One reminder is sent after 1 month.

Response rate: 50-60 %

## 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.

Vehicles with a load capacity of less than 1 tonne.

### Time unit:

1 week

### Time units of quarter 1 of 2017 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:

Single stop: There is a 1-to-1 relation between journeys and goods (1 journey = 1 (main) good).

Multi stop: The distance taken into account for the calculation of the tonne-kilometres is the 2/3 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:

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

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

### Additional variables collected compared to the legal requirements:

**Environmental impact related variables:** none

**A1. Vehicle-related variables:** none

**A2. Journey-related variables:** none

**A3. Goods-related variables: none**

<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	105 930	99 552
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	16 734	14 876
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	3 205	2 553
Number of cases classified as non-respondents	5 811	7 130
Number of cases where sample register information was wrong and response could not be used	1 196	651
Number of questionnaires used in analysis	6 522	4 542

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Bulgaria

### Organisation responsible for the conducting the survey:

National Statistical Institute

*(Based on information referring to the first quarter of 2017)*

## 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.

In the stratification of the sample are used region and 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

The response rate is adequate.

## 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 2017 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 country's regions (28 regions), which give 168 strata.

The annual size of the sample for 2014 is provided on the base of sample size, tonnes carried and tonne-kilometres performed in 2013 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 reported. The containers swap bodies or pallets are excluded from the weight of goods.

**Recording of journey data sent to Eurostat:**

Single stop: 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.

Multi stop: Each transport operation is recorded.

Collection deliver: For type 3 journeys with more than 5 points for loading and unloading, the respondents are asked to fill in the total distance travelled loaded and the total distance empty, the total weight of transported goods, the main type of goods and the number of stops.

**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.)

**Optional variables covered:**

- Vehicle empty kilometres
- Type of cargo
- Axle configuration
- Degree of loading of the vehicle

**Additional variables collected compared to the legal requirements:****Environmental impact-related variables:**

- Type of fuel used and fuel consumption.

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (YES)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (NO)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (YES)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	129 455	115 514
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	16 000	16 000
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	3 890	4 341
Number of cases classified as non-respondents	4 886	5 242
Number of cases where sample register information was wrong and response could not be used	4 563	3 564
Number of questionnaires used in analysis	2 661	2 853

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)



## Czech Republic

### Organisation responsible for the conducting the survey:

Transport Research Center

*(Based on information referring to the first quarter of 2014)*

## 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 company, territorial unit (districts), type of body of goods road vehicle, weight category, vehicle type, year of first registration, fuel used, load capacity, permissible weight and number of axles.

Used in stratification: Load capacity, vehicle type and territorial unit.

### 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 a vehicle, then, if possible a questionnaire is sent once more to the real operator of the vehicle.

The response rate is considered quite adequate. For example, the response rate for the first quarter of 2014 was 91.4 %.

## 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 2014 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. Praha
2. Střední Čechy
3. Jihozápad
4. Severozápad
5. Severovýchod
6. Jihovýchod
7. Střední Morava
8. Moravskoslezsko

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. Large freight containers and swap bodies are excluded from the weight of goods. The pallets are included in the weight of goods.

### 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 furthestmost place of unloading is being used.

Other variables: Most frequently used type and axle configuration of trailers or semi-trailers during a surveyed week is used for coding.

**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.)

**Optional variables covered:**

- Vehicle empty kilometres
- Type of cargo
- Vehicle operator's NACE category of activity
- Axle configuration

**Additional variables collected compared to the legal requirements:**

**Environmental impact-related variables:** none

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country at mid-point of year	140 639	144 583
Number of vehicles selected for initial sample and questionnaires despatched to vehicle owners	17 044	17 953
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	4 561	5 060
Number of cases classified as non-respondents	1 427	1 532
Number of cases where sample register information was wrong and response could not be used	2 558	3 037
Number of questionnaires used in analysis	8 498	8 324

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Denmark

### Organisation responsible for the conducting the survey:

Statistics Denmark

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

Central Register of Motor Vehicles (CRM) and Road Worthiness Test (RWT)

### Name of organisation who maintains the register:

Danish Tax Authority (Skat)

### Frequency of update:

Monthly

### Frequency of access to draw the samples:

Quarterly

### Arrangements for accessing the register:

Statistics Denmark receives monthly a complete copy of the Danish register for motor vehicles and maintains a full copy for analytical and statistical purposes. From this copy a selection of vehicles are selected.

### Information obtained from the register:

From Register of vehicles:

- Vehicle Registration number
- Type of vehicle (lorry, road tractor, etc.)(\* )
- Primary vehicle use (freight, taxi, etc.)
- Nett weight
- Maximum permissible laden weight(\*)
- Unladen vehicle weight
- Number of axles
- Available coupling
- Type of permission for the vehicle use (e.g. own account, road freight, animal transport, etc.) (\*)
- First date of registration in Denmark
- VAT number of owner

From Roadworthiness test:

- Vehicle registration number
- Date of last road worthiness test
- Odometer reading(\*)

*(\*) indicated stratification variables*

**Procedure for reminders:**

Statistics Denmark has a general policy and procedure for reminders that is followed in the road freight survey

First written reminder (by e-mail, if known) 1 week after collection week

Second written reminder (by e-mail, if known) 2 weeks after collection week

Third reminder by phone 3 weeks after collection week

Fourth written reminder by registered letter

After last due date set in the fourth reminder, the matter is turned over to the police for legal proceedings according to Law on Statistics Denmark. First time fines are usually set to DKK 800 (approximately EUR 100).

The response rate is between 98 and 99 %.

## Sampling methodology

**Statistical unit:**

Tractive vehicle

**Types of units excluded:**

Vehicles below 6 tonnes maximum permissible laden weight and personally owned vehicles are excluded.

**Estimations for the vehicle-km (or performance) not covered by the survey:**

Based on odometer readings an estimate for the total vehicle-km for all vehicles above any limit can be made. It is however not possible to assess neither vehicle-km nor performance not covered on road freight transport since not all vehicle-km should be counted as road freight.

**Time unit:**

1 week

**Time units of quarter 1 of 2017 included in the survey:**

All (13 weeks)

**Stratification:**

The variable STRATUM indicates the strata of the vehicle with a three-digit code. Stratification is done by type of vehicle, use of vehicle and the expected vehicle-km.

First digit is the type of vehicle and can assume the following values:

- 1 = Sole lorries (mostly)
- 2 = Lorries with coupling, 15 - 18 tonnes
- 3 = Lorries with coupling, 18 - 24 tonnes
- 4 = Lorries with coupling, above 24 tonnes
- 5 = Road tractor, less than 18 tonnes
- 6 = Road tractor, 18 - 24 tonnes
- 7 = Road tractor, above 24 tonnes

Second digit is the use of vehicle and can assume the following values:

1 = Transport by reward

2 = Own account

Third digit is the expected vehicle-km based on past performance within the strata based on the first two digits from the odometer reading in the road worthiness tests and can assume the following values:

1 = Less than median

2 = More than median

3 = New vehicle (no odometer readings)

#### Recording of weight of goods:

The weight of containers, swap bodies, etc. are excluded from the weight of goods.

#### Recording of journey data sent to Eurostat:

Single stop: Type 1 (single stop) journeys include multi-stop journeys in the Danish survey. The journeys are split by stages and type of good is the dominant good.

Multi stop: It is assumed that multi-stop journeys are small in number and can be described as a series of single journeys or as a collection/delivery journey.

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

#### Calculation of weighting factors:

$$\text{Weighting factor} = 13 * \frac{N}{R}$$

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

R = number of responses within stratum

#### 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

#### Additional variables collected compared to the legal requirements:

##### Environmental impact related variables:

- None. Outside the scope of freight statistics, emissions are calculated within the environmental satellite account to national accounts.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (NO)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)

- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (NO)

Main figures	2015	2016
Total number of relevant goods vehicles in the country at mid-point of year	36 813	36 617
Number of vehicles selected for initial sample and questionnaires despatched to vehicle owners	8 381	8 626
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	2 655	2 934
Number of cases classified as non-respondents	160	310
Number of cases where sample register information was wrong and response could not be used	404	341
Number of questionnaires used in analysis	5 162	5 041

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Germany

### Organisation responsible for the conducting the survey:

Kraftfahrt-Bundesamt (KBA)

*(Based on information referring to the first quarter of 2017)*

## 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.

The response rate is considered as adequate for the purpose of the survey.

## 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).

**Estimations for the vehicle-km (or performance) not covered by the survey:**

Estimation of vehicle-km can be done using odometer readings.

Thereafter the estimation for vehicle-km of all light-duty lorries (up to 6 tons maximum permissible weight, including vehicles not designed for freight transport) comes up to about 46 thousand millions km per year

**Time unit:**

Half a week (either Sunday 22 o'clock to Wednesday 24 o'clock, or Thursday 0 o'clock to Sunday 22 o'clock).

**Time units of quarter 1 of 2017 included in the survey:**

27 half-weeks (from 5 sample series)

**Stratification:**

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

- 1<sup>st</sup> level: Fleet size (2)
- 2<sup>nd</sup> level: Owner group (2)
- 3<sup>rd</sup> level: Region of vehicle registration (6)
- 4<sup>th</sup> level: Vehicle class (2)
- 5<sup>th</sup> 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 tonnes to less than 11 500 tonnes
- 2: lorry; load capacity of 11 500 tonnes and more

## Other owner groups

- 0: road tractor
- 3: lorry; load capacity of 3 501 tonnes to less than 9 500 tonnes
- 4: lorry; load capacity of 9 500 tonnes 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: Only one “main” commodity can be captured. If more than one goods commodity is carried, the most important commodity is reported.

From reporting period 2015 on: If dangerous goods are transported, up to 5 dangerous goods are reported in up to 5 separate A3-data records.

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'
	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'

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

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'

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:

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

**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 15<sup>th</sup> 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 including 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.

The weighting factor is affected by the following items:

- Reporting period not congruent with quarter

The initial sample of one sample series (vehicle sample stratified by 72 strata) covers a reporting period of 8 half-weeks (time based sample).

- Reminder

One reminder, send to non-respondents, gives a new reporting period. The new reporting period can be in another quarter.

- Monthly grossing up

As the number of relevant vehicles in the database changes continuously and there is a time difference between sampling and reporting period a monthly adjustment factor is calculated as part of the weighting factor.

**Optional variables covered:**

- Vehicle empty kilometres
- Type of cargo
- Axle configuration
- Degree of loading of the vehicle

**Additional variables collected compared to the legal requirements:****Environmental impact related variables:** none**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (NO)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (YES)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2013	2014
Total number of relevant goods vehicles in the country	487 036	500 275
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	187 139	187 815
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	35 377	34 826
Number of cases classified as non-respondents	7 525	7 948
Number of cases where sample register information was wrong and response could not be used	10 345	10 243
Number of questionnaires used in analysis	133 892	134 798

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Estonia

### Organisation responsible for the conducting the survey:

Statistics Estonia

(Based on information referring to the first quarter of 2017)

## Sampling register used for the survey

### Name of register:

Estonian Traffic 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.

The agreement between Statistics Estonia and Estonian Road Administration about data exchange between those two organisations.

### Information obtained from the register:

Data from the traffic register of the Estonian Road Administration (vehicle details and authorised user), data from the Register of Economic Activities (the certified copies of licenses (carriage of goods)) and the Population register (contact details) are used.

From the Estonian Traffic Register the following data are obtained:

- Type of vehicle, registration number of vehicle, mark and model, maximum permissible laden weight, load capacity, age of vehicle (year and date of first registration), vehicle category, body type of lorry, type of fuel, number of axles of lorry or tractor, register weight, ), maximum gross weight of trailer, maximum load capacity of trailer, name and address with postal code of the vehicle user (or owner, when user information is not available), register code of enterprise or natural person (ID code); special characteristic for foreign owner.
- Main activities (NACE Rev.2) of enterprise/organisation using the vehicle is obtained from the register of economically active enterprises called the Statistical Profile. The Statistical Profile is created on the basis of the Commercial Register.

The data on licenses from the Register of Economic Activities are downloaded from the database at <https://mtr.mkkm.ee>.

For contact information (telephone number and e-mail address) on individual persons, the data of the Population Register are used.

*Data used for stratification of sample:* main activities (NACE Rev.2) of enterprise/organisation using the vehicle (4941/other activities), sole proprietors as users; type of vehicle and body type, maximum load capacity of lorry, year of manufacture.

**Procedure for reminders:**

Statistics Estonia has a standard routine for reminders in electronic data collection system eSTAT:

- Deadline is 8 days after the survey week. Most of the data respondents (99.7 %) have an e-mail address.
- First reminder: 3 days after the deadline by e-mail (or by phone if no e-mail address is available)
- Second reminder: 8 days after the deadline by e-mail (or by phone if no e-mail address is available)
- Third reminder: 37 days after the deadline by e-mail. (or by phone if no e-mail address is available)
- After the third reminder, the vehicle users will be contacted by (mobile) phone.

The response rate is satisfactory, but the number of working vehicles is low. Response rate is about 80 %, but the share of working vehicles is only 30 %.

## Sampling methodology

**Statistical unit:**

Tractive vehicle

**Types of units excluded:**

Lorries less than 3.5 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 are also excluded, if it is possible to identify them from sampling frame by Estonian Road Administration.

**Time unit:**

1 week

**Time units of quarter 1 of 2017 included in the survey:**

All (13 weeks)

**Stratification:**

Stratum No	Description	Frame	Sample
1	Road tractors of road transport enterprises NACE rev.2 code 4941	6 593	572
2	Lorries: Load capacity > 3.5<10 tonnes: of road transport enterprises NACE rev.2 code 4941	934	52
3	Lorries: Load capacity >10 tonnes: of road transport enterprises NACE rev.2 code 4941	1 761	182
4	Road tractors of all other enterprises Nace rev 2	2 288	221
5	Lorries: Load capacity > 3.5<10 tonnes: all other enterprises NACE rev.2	2 148	78
6	Lorries: Load capacity >10 tonnes: all other enterprises NACE rev.2	2 223	182
7	Sole proprietors	1 641	221

**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 NST2007 group 18 - Grouped goods: a mixture of types of goods which are transported together; 19 - Unidentifiable goods: goods which cannot be assigned to groups 01 - 16 or 20 - Other goods.

If mixed goods are selected, then goods loading type is set according to good with highest weight.

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

#### Estimation of maximum permissible laden weight:

Maximum permissible laden weight in dataset A2 is not estimated, collected information is used.

#### 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.).

No post-stratification used.

#### Optional variables covered:

- Vehicle empty kilometres
- Type of cargo
- Axle configuration
- Degree of loading of the vehicle

#### Additional variables collected compared to the legal requirements:

##### Environmental impact related variables:

Type of fuel used. No information about fuel consumption.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

##### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)



<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	16 345	16 488
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	6 032	6 032
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	1 654	1 753
Number of cases classified as non-respondents	1 883	1 732
Number of cases where sample register information was wrong and response could not be used	1 072	975
Number of questionnaires used in analysis	1 423	1 572

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Ireland

### Organisation responsible for the conducting the survey:

Central Statistics Office

*(Based on information referring to the first quarter of 2014)*

## Sampling register used for the survey

### Name of register:

Goods Vehicle File

### Name of organisation who maintains the register:

Department of Transport, Tourism & Sport

### Frequency of update:

The goods vehicle file is updated on a daily basis within the Department

### Frequency of access to draw the samples:

Every 8 weeks

### Arrangements for accessing the register:

Every 8 weeks, the CSO receives an updated goods vehicle file from the Vehicle Registration Unit of the Department of Transport, Tourism & Sport. This file contains details of all vehicles currently taxed as goods vehicles in the State. The file is used to update the CSO's Register of goods vehicles which contains only vehicles with an un-laden weight of 2 000 kg and over. The CSO register is updated each time to reflect any newly licensed vehicles or vehicles that are no longer in use (these are deleted). Vehicles on the CSO register which have not been taxed in over 3 years are also deleted from the register.

### Information obtained from the register:

The data obtained from the Department of Transport, Tourism & Sport file are as follows:

- Year and month when the taxation certificate on the vehicle expires
- Motor tax office code (2 digit) in which the vehicle is taxed
- Unladen weight of the vehicle
- Registration number of the vehicle
- Society of Motor Industry code of the vehicle
- Year of manufacture of the vehicle
- Taxation use (own account/hire or reward - 1 digit code)
- License Code (to show if the vehicle is licensed for carriage of owner's goods only or for hire and reward)
- Fuel type of vehicle (1 digit code)
- Body type of vehicle (2 digit code)
- Name and address of owner of vehicle
- Year of first registration of vehicle
- Make (3 digit character code) & model (3 digit code) of vehicle

- New/second hand (1 digit code)

Two new variables are created when updating the CSO Register:

- Age – calculated from the year of manufacture of the vehicle (3 age categories)
- Size – calculated from the un laden weight of the vehicle (3 size categories)

There are 9 sample selection strata based on the 9 different combinations of the age and size categories.

#### Procedure for reminders:

A first reminder is sent if the questionnaire has not been returned by post within 12 days of the due date. A second reminder notice is sent 12 days later if the questionnaire still has not been returned. A third and final reminder is issued 31 days after the original due date.

The response rate is adequate.

## Sampling methodology

#### Statistical unit:

Tractive vehicle

#### Types of units excluded:

The following vehicles are excluded:

- Vehicles with an unladen weight of less than 2 000 kg
- Vehicles not registered for the transport of goods
- Vehicles taxed as non-commercial vehicles

#### Time unit:

1 week

#### Time unit of quarter 1 of 2014 included in the survey:

All (13 weeks)

#### Stratification:

The following table shows the basis of the stratification used. There are 20 strata which are used for grossing. These are aggregated to 9 strata for sample selection. Different sampling rates are applied to different selection strata. 15 % of vehicles in selection strata 1, 4 and 7, 50 % of vehicles in selection strata 2, 5 and 8, and 90 % in strata 3, 6 and 9 are sampled. Any vehicle selected is only sampled once in any survey year.

Vehicle characteristics				Stratum number	
Year of manufacture	Unladen weight	Taxation use	Year of first registration	Grossing up	Sample selection
Before 1999	2–5 tonnes	Immaterial	Immaterial	1	1
'	5–10 tonnes	Own Account	'	2	2
'	'	Hire or Reward	'	3	2
'	10 tonnes or over	Own Account	'	4	3
'	'	Hire or Reward	'	5	3
1999 to 2003	2–5 tonnes	Immaterial	'	6	4
'	5–10 tonnes	Own Account	'	7	5
'	'	Hire or Reward	'	8	5
'	10 tonnes or over	Own Account	'	9	6
'	'	Hire or Reward	'	10	6
2004 or later	2–5 tonnes	Immaterial	Before 2006	11	7
'	'	'	2006 or later	12	7
'	5–10 tonnes	Own Account	Before 2006	13	8
'	'	'	2006 or later	14	8
'	'	Hire or Reward	Before 2006	15	8
'	'	'	2006 or later	16	8
'	10 tonnes or over	Own Account	Before 2006	17	9
'	'	'	2006 or later	18	9
'	'	Hire or Reward	Before 2006	19	9
'	'	'	2006 or later	20	9

#### 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:

Single stop: Our practice is to record only one goods type per journey. This would be recorded as a mixed load if there are more than one goods commodity carried.

Multi stop: Our practice is to record only one origin and one destination for each journey. For each journey, the origin, destination, number of collection stops and weight of goods collected and the number of delivery stops and weight of goods delivered are recorded. Tonne-km for the journey as a whole is derived by the processing system.

Collection/delivery: Our practice is to record only one origin and destination for a journey. The origin and destination, number of collection stops and weight of goods collected and the number of delivery stops and weight of goods delivered are recorded. There is no facility to enter tonne-kilometres on the data entry system so tkm are calculated using formulas for a combination of collection and delivery stops.

#### Calculation of weighting factors:

When calculating the grossing factor per stratum, the average active vehicle population per stratum is first estimated. This is done by adding the number of vehicles in each stratum at the beginning and end of the calendar quarter and dividing by 2 which gives the average population of vehicles per strata. This figure serves as the benchmark figure for each stratum to which the survey estimates are grossed up to. The number of vehicles with activity during the quarter (vehicles included in A1) is then added to the number of non-working vehicles during the quarter for each stratum to give the total number of active vehicles in each stratum. The grossing factor is then calculated by dividing the average number of vehicles in the stratum by the number of active vehicles in the stratum multiplied by 13 (13 weeks in the quarter).

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

$N$  = 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.)

The following example is from Q4 2013.

Stratum 7 (Year of Manufacture): 1999–2003

Unladen Weight: 5 - 10 tonnes

Taxation Use = Own account / Hire and Reward

Number of vehicles on register in stratum 7 at beginning of quarter = 3.487

Number of vehicles on register in stratum 7 at end of quarter = 3.014

Average number of vehicles on register in stratum 5 for quarter = 3.230

Total number of active vehicles for which returned received in stratum 7 = 297

Grossing Factor = (Average number of vehicles on register in stratum 7 for quarter / Total Number of active vehicles for which returned received in stratum 7) x No. of weeks

Grossing Factor =  $(3230/297) \times 13 = 141.3805$

No calibration is used.

#### Optional variables covered:

- Vehicle empty kilometres
- Type of cargo
- Axle configuration

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Type of fuel used. No other variable in the present paper questionnaire format due to space issues. The CSO will begin work on e-version of the questionnaire in 2015 at which time additional questions will be more easily accommodated.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (NO - 2 digit only)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (YES - at ports)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES - at ports)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (NO)

<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	85 952	97 510
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	24 675	25 651
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	6 885	5 545
Number of cases classified as non-respondents	10 521	12 091
Number of cases where sample register information was wrong and response could not be used	735	687
Number of questionnaires used in analysis	6 534	7 328

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Greece

### Organisation responsible for the conducting the survey:

Hellenic Statistical Authority

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

Vehicle Register

### Name of organisation who maintains the register:

Ministry of Infrastructure and Transport

### 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 Infrastructure, Transport and Networks.

### 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.

The same register is used for the vehicles performing international transport and the data are updated with information from previous surveys.

### 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.

The efforts are focused on the improvement of the information of the register (as regards contact details) and the monitoring of the work of the interviewers. The percentage of filled-in questionnaires is currently higher than any other quarter.

## 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 2017 included in the survey:**

All (13 weeks)

**Stratification:**

The following information concerning stratification variables and codes used is provided.

Firstly the vehicles are separated in (by estimation):

1. Those conducting national journeys
2. Those conducting 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 AIGAIYOU, 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.

As the vehicles of a large company (operating on a 24/7 basis) had a significant impact on the results, a new stratum was created (coded as 7) and is surveyed exhaustively. The data of this stratum are treated as confidential.

**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:**

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

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.)

**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

**Additional variables collected compared to the legal requirements:****Environmental impact-related variables:**

Information on type of fuel and fuel consumption could be provided in the future but it should be considered as core variable in order to be collected.

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (YES)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (YES)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	115 403	105 942
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	6 145	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	873	810
Number of cases classified as non-respondents	954	505
Number of cases where sample register information was wrong and response could not be used	1 163	1 628
Number of questionnaires used in analysis	3 155	3 417

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

**Other methodological changes introduced since the last publication of the ‘Methodologies used in surveys of road freight transport in Member States and Candidate Countries’ (Edition 2014)**

In 2016 it was observed that a large company operated on a 24/7 basis and this had a significant impact on the results (in terms of weight). The vehicles of the company in question have currently been included in a separate stratum and are surveyed exhaustively over the year. The sampling frame is also reformed and efforts are made in order to define the  $N_{int}$ . A complementary questionnaire will be used to track down the vehicles in international transport.

## Spain

### Organisation responsible for the conducting the survey:

Ministry of Public Works and Transport

*(Based on information referring to the first quarter of 2017)*

## 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 2017 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 tonnes
2	Hire and reward	All, except Islas Canarias	10.1 – 13.5 tonnes
3	Hire and reward	All, except Islas Canarias	+ 13.5 tonnes
4	Hire and reward	All, except Islas Canarias	Tractors
5	Own account	All, except Islas Canarias	3.5 – 10 tonnes
6	Own account	All, except Islas Canarias	10.1 – 13.5 tonnes
7	Own account	All, except Islas Canarias	+ 13.5 tonnes
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:**

$$\text{Weighting factor} = 13 * \frac{N}{S + S'} * T$$

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 weeks 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

**Additional variables collected compared to the legal requirements:**

**Environmental impact-related variables:** none

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (YES)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	308 498	318 660
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	56 000	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	9 384	10 096
Number of cases classified as non-respondents	2 423	1 847
Number of cases where sample register information was wrong and response could not be used	16 066	16 593
Number of questionnaires used in analysis	28 127	27 464

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## France

### Organisation responsible for the conducting the survey:

Ministry for the ecological and Inclusive Transition (ONA)

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

National vehicle register (*Répertoire statistique des véhicules routiers*)

### Name of organisation who maintains the register:

Ministry for the ecological and Inclusive Transition (ONA)

### Frequency of update:

The national register is updated daily. The sampling frame is updated quarterly

### Frequency of access to draw the samples:

Quarterly

### Arrangements for accessing the register:

The data are forwarded by the ministry daily.

### 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 2017 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:**

Calmar calibration method is used since 2001.

Calmar is a SAS macro program that implements the calibration methods. The program adjusts samples, through reweighting of individuals, using auxiliary information available from a number of variables referred to as calibration variables. The weights produced by this method are used to calibrate the sample on known population totals in the case of quantitative variables and on known category frequencies in the case of qualitative variables.

Calmar is an acronym for CALibration on MARGins, an adjustment technique which adjusts the margins (estimated from a sample) of a contingency table of two or more qualitative variables to the known population margins. However, the program is more general than mere 'calibration on margins,' since it also calibrates on the totals of quantitative variables.

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

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

$c_k = 0.5 \times \text{MPLW} / 10$  for lorries

=  $(\text{MPLW} - 6) * 0.88 / 10$  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

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Average fuel consumption per 100 km.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (YES)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

##### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	531 932	547 116
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	78 329	78 159
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	12 951	12 651
Number of cases classified as non-respondents	14 809	16 075
Number of cases where sample register information was wrong and response could not be used	15 127	14 770
Number of questionnaires used in analysis	35 442	34 663

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)



## Croatia

### Organisation responsible for the conducting the survey:

Croatian Bureau of Statistics

*(Based on information referring to the first quarter of 2017)*

## 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.

We are planning to use a web-based questionnaire and thus improve the response rate.

## 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 2017 included in the survey:**

All (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

**Additional variables collected compared to the legal requirements:**

**Environmental impact related variables:**

Fuel purchased.

**A1. Vehicle-related variables:** none

**A2. Journey-related variables:** none

**A3. Goods-related variables:** none

Main figures	2015	2016
Total number of relevant goods vehicles in the country	25 729	26 992
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	2 376	2 543
Number of cases classified as non-respondents	2 263	1 999
Number of cases where sample register information was wrong and response could not be used	882	790
Number of questionnaires used in analysis	4 879	5 066

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Italy

### Organisation responsible for the conducting the survey:

National Statistical Institute (ISTAT)

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

National Vehicle Register; Tax Register and Road freight survey register

### Name of organisation who maintains the register:

Ministry of Transport, Ministry of Finance and ISTAT

### Frequency of update:

Quarterly, except Road freight survey register yearly (30/09 of the previous year).

### 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 30/09/2016 are used as input of a procedure, which final output is the 'Road freight survey register' to be used for the 2017 road freight survey.

### Information obtained from the register:

The 'Road freight survey register' is a database in which each record contains data related to a road freight transport vehicle (trailers and semi-trailers are not included), identified by its license-plate number. It is the sampling frame of the survey. The register is updated yearly using data in the 'National vehicle register' (basically technical data concerning the vehicle) and in the 'Tax register' (basically administrative data concerning the enterprise owning the vehicle), and pieces of information gathered from other sources (National enterprise register, data collected in the previous replies of the survey). The variables gathered from the 'National vehicle register' are: name of the enterprise (user of the vehicle, owned or leased), 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 vehicle, type of body, type of transport (hire and reward/own account). The variables gathered from the 'Tax register' are basically administrative information concerning legal status of the enterprise. The 'Tax register' is also used to complete information about technical data if missing or found not reliable in the 'National vehicle register'.

The variables used in the stratification are:

- Place of registration (18 regions at NUTS2 level; 6 provinces at NUTS3 level);
- Type of transport (hire and reward/own account);
- Load capacity class (5 classes).

### Procedure for reminders:

Spot actions for reminders were undertaken in 2011 and 2012. Studies for implementing standard routine of reminders are under way.

Starting with 2012, a fine is applied to non-respondents.

## 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.

Data of performance for the vehicles with a load capacity <3.5 tonnes and other vehicles excluded are not available.

Vehicle-km data could be obtained from odometer reading within roadworthiness mandatory procedures but data collection has not been implemented or studied yet.

### Time unit:

1 week

### Time unit of quarter 1 of 2017 included in the survey:

All (13 weeks)

### Stratification:

The overall sample size (year 2017) is 42 529 road transport vehicles.

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

- 2 = from 5 to 9.9 tonnes
- 3 = from 10 to 12.4 tonnes
- 4 = from 12.5 to 14.9 tonnes
- 5 = over 14.9 tonnes

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.

We report the gross-gross weight only for the weight of goods loaded in container or swap body.

#### 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:

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

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.)

#### Optional variables covered:

None

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Data on weekly fuel consumption.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (NO)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (possible but difficult to achieve in the short term)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	214 711	202 552
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	47 267	44 356
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	3 340	3 059
Number of cases classified as non-respondents	27 743	27 817
Number of cases where sample register information was wrong and response could not be used	4 362	2 046
Number of questionnaires used in analysis	11 820	11 434
More information in Countries Specific Notes ( <a href="https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74">https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74</a> )		

## Cyprus

### Organisation responsible for the conducting the survey:

Statistical Service of Cyprus (CYSTAT)

*(Based on information referring to the first quarter of 2017)*

## 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 telephone and a few cases by personal visits. The response rate is considered as adequate and reaches 95 % of the sample.

## 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 2017 included in the survey:

All (13 weeks)

### Stratification:

A total of 1612 vehicles (Lorries and Road Tractors) are surveyed. The sample is distributed in all weeks (31 vehicles per week). 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).

#### 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 1 500.

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:

$$\text{Weighting factor} = 13 * \frac{N}{Q}$$

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

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Type of fuel used and fuel consumption.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (NO)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

##### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	12 466	12 522
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	682	598
Number of cases classified as non-respondents	105	108
Number of cases where sample register information was wrong and response could not be used	93	94
Number of questionnaires used in analysis	732	812
More information in Countries Specific Notes ( <a href="https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74">https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74</a> )		

## Latvia

### Organisation responsible for the conducting the survey:

Central Statistical Bureau

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

- 1) Register of road transport vehicles
- 2) Register of vehicles

### Name of organisation who maintains the register:

- 1) Road Traffic Safety Directorate
- 2) Road Transport Administration

### Frequency of update:

Monthly

### 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 road transport 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:

1) Make; model; registration number; vehicle ID number; legal (enterprise) or private person; enterprise VAT number or personal code; enterprise actual NACE 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.

2) Authorisation to carry out transport for hire or reward and international freight transport – dangerous goods transported.

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.

Total response rate in 2016 was 76.5 %. For the first quarter 2017 the response rate was 75.2 %.

## Sampling methodology

### Statistical unit:

Tractive vehicle

### Types of units excluded:

Special purpose vehicles such as truck cranes, fire-fighters vehicles, platform lorries, 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.

Starting with 2017, special concrete mixers are included in the survey in the list of special lorries.

### Time unit:

1 week

### Time units of quarter 1 of 2017 included in the survey:

All (13 weeks)

### Stratification:

The sample for one month (5 weeks within the first month of each quarter and 4 weeks within the second and 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.

Strata	Carrying capacity	Allowed to carry out commercial shipments	Allowed to carry out international shipments	Has ADR (1)	Year of production of vehicles (in 2017)	Owner or holder
1	3.5t < cap. <=5t	No	All	All	1992 – 2017	Legal
2	3.5t < cap. <=5t	Yes	All	All	1992 – 2017	Legal
3	5t < cap. <=10t	No	All	All	1992 – 2001	Legal
4	5t < cap. <=10t	No	All	All	2002 – 2007	Legal
5	5t < cap. <=10t	No	All	All	2008 – 2017	Legal
6	5t < cap. <=10t	Yes	All	All	1992 – 2001	Legal
7	5t < cap. <=10t	Yes	All	All	2002 – 2007	Legal
8	5t < cap. <=10t	Yes	All	All	2008 – 2017	Legal
9	cap.>10t	No	No	All	1992 – 2001	Legal
10	cap.>10t	No	No	All	2002 – 2007	Legal
11	cap.>10t	No	No	All	2008 – 2017	Legal
12	cap.>10t	No	Yes	All	1992 – 2001	Legal
13	cap.>10t	No	Yes	All	2002 – 2007	Legal
14	cap.>10t	No	Yes	All	2008 – 2017	Legal
15	cap.>10t	Yes	No	All	1992 – 2001	Legal
16	cap.>10t	Yes	No	All	2002 – 2007	Legal
17	cap.>10t	Yes	No	All	2007 – 2016	Legal
18	cap.>10t	Yes	Yes	All	1992 – 2001	Legal
19	cap.>10t	Yes	Yes	All	2002 – 2007	Legal
20	cap.>10t	Yes	Yes	All	2008 – 2017	Legal
21	the trucks	All	All	Yes	1992 – 2017	Legal
22	the trucks	No	No	No	1992 – 2007	Legal
23	the trucks	No	No	No	2008 – 2017	Legal
24	the trucks	No	Yes	No	1992 – 2017	Legal
25	the trucks	Yes	No	No	1992 – 2001	Legal
26	the trucks	Yes	No	No	2002 – 2017	Legal
27	the trucks	Yes	Yes	No	1992 – 2001	Legal
28	the trucks	Yes	Yes	No	2002 – 2004	Legal
29	the trucks	Yes	Yes	No	2005 – 2010	Legal
30	the trucks	Yes	Yes	No	2011 – 2013	Legal
31	the trucks	Yes	Yes	No	2014 – 2015	Legal
32	the trucks	Yes	Yes	No	2016 – 2017	Legal
40	All	All	All	All	1992 – 2017	Private

(1) European Agreement concerning the International Carriage of Dangerous Goods by Road

### 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:

$$\text{Weighting factor} = \frac{M}{S + S'}$$

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

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Type of fuel used and fuel consumption.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES - A2)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

##### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	20 192	20 266
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	5 830	6 240
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	1 584	1 548
Number of cases classified as non-respondents	1 269	1 458
Number of cases where sample register information was wrong and response could not be used	117	115
Number of questionnaires used in analysis	2 860	3 119

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Lithuania

### Organisation responsible for the conducting the survey:

Statistics Lithuania

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

Register of Road Motor Vehicles, Data on road freight vehicles, which passed a roadworthiness test

### Name of organisation who maintains the register:

State enterprise 'Regitra' Lithuanian Association of Roadworthiness

### Frequency of update:

Continuously

### Frequency of access to draw the samples:

Once a quarter

### Arrangements for accessing the register:

Each quarter at fixed dates, information is received from State Enterprise 'Regitra':

- 2014 first quarter - 14 November of 2013 year,
- 2014 second quarter - 14 February of 2014 year,
- 2014 third quarter - 15 May of 2014 year,
- 2014 fourth quarter - 14 August of 2014 year.

### 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; maximum permissible weight of vehicle.

Load capacity of vehicle is used for stratification.

### Procedure for reminders:

The first reminder is sent 9 days after the survey week by e-mail.

The second reminder is sent 16 days after the survey week by e-mail.

The third reminder is sent 23 days after the survey week by e-mail.

An adequate sampling frame is provided.

## Sampling methodology

### Statistical unit:

Tractive vehicle

**Types of units excluded:**

- Special purpose road vehicles;
- Goods road vehicles with maximum permissible weight of less than 6 tonnes in case of a single motor vehicle
- Vehicles which are not used for goods carriage
- Goods road vehicle older than 25 years

Goods road vehicle which are not covered by survey:

- Vehicles with less than 6 tonnes maximum permissible weight.

For vehicles less than 6 tonnes maximum permissible weight, estimations are carried out for the vehicle kilometres.

**Time unit:**

1 week

**Time units of quarter 1 of 2017 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 15 strata. Road goods vehicles are distributed in the following way:

Strata code	Goods vehicles	Load capacity (kg)	Form of ownership
25	Lorries	3 500 ≥	Vehicles with licences for carriage of dangerous goods
5	Road tractors	not divided	Vehicles with licences for carriage of dangerous goods
23	Lorries	3 500 – 9 999	Vehicles with licences for international journeys
8	Lorries	10 000 – 14 999	Vehicles with licences for international journeys
9	Lorries	15 000 +	Vehicles with licences for international journeys
10	Road tractors	not divided	Vehicles with licences for international journeys
24	Lorries	3 500 – 9 999	Vehicles of enterprises with activity NACE Rev.2 49.41
13	Lorries	10 000 – 14 999	Vehicles of enterprises with activity NACE Rev.2 49.41
14	Lorries	15 000 +	Vehicles of enterprises with activity NACE Rev.2 49.41
15	Road tractors	not divided	Vehicles of enterprises with activity NACE Rev.2 49.41
16	Lorries	3 500 – 5 999	Vehicles with licences for national journeys and other
17	Lorries	6 000 – 9 999	Vehicles with licences for national journeys and other
18	Lorries	10 000 – 14 999	Vehicles with licences for national journeys and other
19	Lorries	15 000 +	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.

Other variables: Currently only 5 countries are reported as countries crossed in transit (variable A2.7) as this is the maximum limit, although Lithuanian trucks can cross more than 5 transit countries. Lithuania may identify more than five transit countries.

**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

**Additional variables collected compared to the legal requirements:**

**Environmental impact-related variables:**

Type of fuel used and fuel consumption.

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (YES)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (YES)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	37 078	38 062
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	12 653	12 673
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	3 457	2 898
Number of cases classified as non-respondents	1 233	2 097
Number of cases where sample register information was wrong and response could not be used	1 460	1 376
Number of questionnaires used in analysis	6 503	6 302

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Luxembourg

### Organisation responsible for the conducting the survey:

National Statistical Institute (STATEC)

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

*Parc des véhicules automoteurs*

### Name of organisation who maintains the register:

*Centre des technologies de l'information de l'Etat (CTIE)*

### Frequency of update:

Daily update, but monthly transmission of an extract to STATEC.

### Frequency of access to draw the samples:

At present, the samples are drawn at the beginning of the year, with two supplementary samples drawn in July and December.

### Arrangements for accessing the register:

The first day of each month, the CTIE is transmitting an extract of the register to STATEC.

### Information obtained from the register:

In the data files transmitted by the CTIE, there are technical specifications for all kind of automotive vehicles. At present, the CTIE is drawing the samples without any stratification.

In a nearer future (+/- 6-9 months), STATEC plans to use stratified samples. The criteria for stratification are not yet fixed.

### Procedure for reminders:

In general, the questionnaires have to be returned to STATEC within 5 days after the end of the reference week. At present, the enterprises receive, if necessary, 1-3 reminders per questionnaire. A scheduled system, sending out automatically reminders will be implemented during the next few months.

In general, the response rate is good. During the next few months, a new automated system will allow to send reminders by e-mail or post according to intervals to be fixed by STATEC.

## Sampling methodology

### Statistical unit:

Tractive vehicle

### Types of units excluded:

According to the EU road freight transport statistics regulation, STATEC excludes:

- goods road transport vehicles whose authorised weight or dimensions exceed the limits normally permitted in the Member States concerned;

- agricultural vehicles, military vehicles and vehicles belonging to central or local public administrations,

with the exception of goods road transport vehicles belonging to public undertakings, and in particular railway undertakings.

In addition, several types of vehicles are also excluded, such as those used for breakdown services.

**Time unit:**

1 week

**Time unit of quarter 1 of 2017 included in the survey:**

7 weeks

Stratification: There is no stratification. The same weighting factor is used for all vehicles for the whole quarter.

**Recording of weight of goods:**

Enterprises should indicate the weight of transported goods without packaging.

**Recording of journey data sent to Eurostat:**

Single stop, multi stop and collection /delivery: It is only allowed to indicate the carriage of one commodity per journey. If there are two or more commodities transported, the most important in terms of weight must be indicated.

**Estimation of maximum permissible laden weight:**

In the data files on the automotive vehicles, the maximum permissible laden weight on the different axes is indicated. The enterprises have to indicate the number of axis of the vehicle, the trailer or the semi-trailer. These indications allow calculating the total maximum permissible laden weight.

**Calculation of weighting factors:**

$$\text{Weighting factor} = \frac{w * v}{r + e}$$

w = number of calendar weeks in a quarter

v = quarterly average number of tractive vehicles in the register used for goods carriage

r = quarterly recorded questionnaires

e = quarterly unused questionnaires (no activity or unusable indications)

**Optional variables covered:**

- Vehicle empty kilometres
- Type of cargo
- Vehicle operator's NACE category of activity
- Axle configuration

**Additional variables collected compared to the legal requirements:**

**Environmental impact-related variables:**

Statec does not collect any information on the type of fuel used or the fuel consumption. Nevertheless, in the vehicle register there is a variable on the type of fuel used: in 2014, more than 98 % of the transport vehicles use diesel.

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (NO)

- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (NO)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (NO)

#### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

#### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (NO)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	9 511	9 664
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	8 352	8 277
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	1 335
Number of cases classified as non-respondents	725	908
Number of cases where sample register information was wrong and response could not be used	0	0
Number of questionnaires used in analysis	6 205	6 034

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Hungary

### Organisation responsible for the conducting the survey:

Hungarian Central Statistical Office (HCSO)

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

National stock of goods carriage motor vehicles

### Name of organisation who maintains the register:

Ministry of Interior, Deputy State Secretariat Responsible for Keeping Registers

### 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 the Ministry of Interior, Deputy State Secretariat Responsible for Keeping Registers 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.

HCSO has the right to take steps to impose penalty in case of notorious non responds. The Data Collection Directory (responsible for data recording) has already taken a few steps to impose penalty in regions where the non-response rate were high. The non-response rate is still the same but more work is behind. The willingness to answer is getting worse. The willingness may improve in case the time period for answering will be halved in a reference year due to change in sample frequency.

## 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 2017 included in the survey:**

All (13 weeks)

**Stratification:**

The sample is stratified according to:

1<sup>st</sup> criteria: vehicle operator's legal status (corporation or individual)

2<sup>nd</sup> 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 3<sup>rd</sup> 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.

**Recording of journey data sent to Eurostat:**

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

Multi stop: Multi-stop journeys are coded by vertical stages. In the calculation for the multi stop journeys, the total weight is the sum of weights loaded at each stop.

Collection/delivery: Journeys with less than 5 stops are not considered as collection/delivery journeys.

**Estimation of maximum permissible laden weight:**

Maximum permissible laden weight is available.

**Calculation of weighting factors:**

The main formula 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.

Since 2014, a correction factor (C) has been calculated as proposed in the reference manual.

$$C = \text{correction factor calculated as follows: } \frac{0,5 * n3 + n4}{n1 + n2}$$

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

The non-respondents were present in the calculation system in different ways than recommended. The multiplier proposed in the reference manual is 0.5 because the probability whether a vehicle performs or not is 50 percent. In order to prolong the effect, the correction factor was adjusted to the common calculation system during the time period of 2011–2013. The multiplier was 0.8 till 2010, 0.7 in 2011, and 0.6 in 2012 and 2013.

**Optional variables covered:**

- Vehicle empty kilometres
- Type of cargo
- Vehicle operator's NACE category of activity
- Possibility of using vehicles for combined transport

**Additional variables collected compared to the legal requirements:**

**Environmental impact-related variables:**

Type of fuel used and fuel purchased.

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (YES)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (NO)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	76 488	77 509
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	51 416	52 676
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	9 060	9 249
Number of cases classified as non-respondents	6 260	8 910
Number of cases where sample register information was wrong and response could not be used	12 974	9 162
Number of questionnaires used in analysis	23 122	25 355

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Malta

### Organisation responsible for the conducting the survey:

National Statistics Office

*(Based on information referring to the first quarter of 2004)*

*Regulation (EU) No 70/2012 does not apply to Malta, so long as the number of Maltese-registered goods road transport vehicles licensed to engage in international transport does not exceed 400 vehicles*

## 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:**

Zero

**Stratification:**

The overall sample size is 2 080 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 1 300, 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).

**Additional variables collected compared to the legal requirements:****Environmental impact related variables:** none**A1. Vehicle-related variables:** none**A2. Journey-related variables:** none**A3. Goods-related variables:** none

Main figures	2015	2016
Total number of relevant goods vehicles in the country	:	:
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	:	:
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	:	:
Number of cases classified as non-respondents	:	:
Number of cases where sample register information was wrong and response could not be used	:	:
Number of questionnaires used in analysis	:	:

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Netherlands

### Organisation responsible for the conducting the survey:

Statistics Netherlands

(Based on information referring to the first quarter of 2017)

## 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)  
c) Lease Registers from the Tax Authorities

### Name of organisation who maintains the register:

Statistics Netherlands

### Frequency of update:

Once a quarter

### 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, brand 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:

- 3 weeks after the reported time period, the non-respondents receive a first written reminder.
- 6 weeks after the reported time period, the non-respondents receive a second written reminder.
- 8 weeks after the reported time period, the non-respondents receive a reminder performed by telephone.
- 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.

The response rate is adequate.

## 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  $\leq$  3 500 kg.

Vehicles older than 25 years.

Statistics Netherlands has introduced a new survey to cover vehicles with a Maximum Permissible weight  $\leq$  3500 kg. The results of this group of vehicles in 2016: transported weight 64 million tonnes of goods (equipment excluded) and 16.5 billion kilometres.

### Time unit:

1 week

### Time unit of quarter 1 of 2017 included in the survey:

All (13 weeks)

### Stratification:

The sample is drawn at random within 74 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	Year	Type of transport	Type of vehicle	SBIklasse	Load capacity <sup>(1)</sup>	Age of vehicle	Nace <sup>(1)</sup>
1	0.231000	2014	Own account	Lorry	A	1,2,3,4	All vehicles	Fleet under 30 vehicles
2	0.231000	2014	Own account	Lorry	B	1.2	All vehicles	Fleet under 30 vehicles
3	0.231000	2014	Own account	Lorry	B	3.4	All vehicles	Fleet under 30 vehicles
4	0.175000	2014	Own account	Lorry	C	1.2	All vehicles	Fleet under 30 vehicles
5	0.175000	2014	Own account	Lorry	C	3.4	All vehicles	Fleet under 30 vehicles
6	0.231000	2014	Own account	Lorry	D	1.2	Less or equal to 4 years	Fleet under 30 vehicles
7	0.233100	2014	Own account	Lorry	D	3.4	Less or equal to 4 years	Fleet under 30 vehicles
8	0.157500	2014	Own account	Lorry	D	1.2	4 years or older	Fleet under 30 vehicles
9	0.175000	2014	Own account	Lorry	D	3.4	4 years or older	Fleet under 30 vehicles
10	0.231000	2014	Own account	Lorry	E	1.2	All vehicles	Fleet under 30 vehicles
11	0.231000	2014	Own account	Lorry	E	3.4	All vehicles	Fleet under 30 vehicles
12	0.231000	2014	Own account	Lorry	F	1,2,3,4	Less or equal to 4 years	Fleet under 30 vehicles
13	0.175000	2014	Own account	Lorry	F	1.2	4 years or older	Fleet under 30 vehicles
14	0.175000	2014	Own account	Lorry	F	3.4	4 years or older	Fleet under 30 vehicles
15	0.231000	2014	Own account	Lorry	G	1.2	All vehicles	Fleet under 30 vehicles
16	0.231000	2014	Own account	Lorry	G	3.4	All vehicles	Fleet under 30 vehicles
17	0.315000	2014	Own account	Road tractor	A-G	1,2,3	All vehicles	Fleet under 30 vehicles
18	0.315000	2014	Own account	Road tractor	A	4	All vehicles	Fleet under 30 vehicles
19	0.315000	2014	Own account	Road tractor	B	4	All vehicles	Fleet under 30 vehicles
20	0.315000	2014	Own account	Road tractor	C	4	All vehicles	Fleet under 30 vehicles

(<sup>1</sup>) 1. Less than 2 tonnes, 2. 2 -3,5 tonnes, 3. 3,5-15 tonnes, 4. 15 tonnes or more

Stratum	Fraction	Year	Type of transport	Type of vehicle	SBIklasse	Load capacity(*)	Age of vehicle	Nace(*)
21	0.315000	2014	Own account	Road tractor	D	4	Less or equal to 4 years	Fleet under 30 vehicles
22	0.315000	2014	Own account	Road tractor	D	4	4 years or older	Fleet under 30 vehicles
23	0.315000	2014	Own account	Road tractor	E	4	Less or equal to 4 years	Fleet under 30 vehicles
24	0.315000	2014	Own account	Road tractor	E	4	4 years or older	Fleet under 30 vehicles
25	0.315000	2014	Own account	Road tractor	F	4	Less or equal to 4 years	Fleet under 30 vehicles
26	0.315000	2014	Own account	Road tractor	F	4	4 years or older	Fleet under 30 vehicles
27	0.315000	2014	Own account	Road tractor	G	4	All vehicles	Fleet under 30 vehicles
28	0.175000	2014	Own account	Special vehicle	NULL	2	All vehicles	Fleet under 30 vehicles
29	0.231000	2014	Own account	Special vehicle	NULL	3,4	All vehicles	Fleet under 30 vehicles
30	0.315000	2014	Hire and reward	Lorry	NULL	1,2	All vehicles	Fleet under 30 vehicles
31	0.315000	2014	Hire and reward	Lorry	NULL	3	Less or equal to 4 years	Fleet under 30 vehicles
32	0.315000	2014	Hire and reward	Lorry	NULL	4	Less or equal to 4 years	Fleet under 30 vehicles
33	0.231000	2014	Hire and reward	Lorry	NULL	3	4 years or older	Fleet under 30 vehicles
34	0.231000	2014	Hire and reward	Lorry	NULL	4	4 years or older	Fleet under 30 vehicles
35	0.315000	2014	Hire and reward	Road tractor	NULL	1,2,3,4	Less or equal to 4 years	Fleet under 30 vehicles
36	0.231000	2014	Hire and reward	Road tractor	NULL	1,2,3,4	4 years or older	Fleet under 30 vehicles
37	0.070000	2014	Hire and reward	Special vehicle	NULL	2,3,4	All vehicles	Fleet under 30 vehicles
38	0.074250	2014	Own account	Lorry	A	1,2,3,4	All vehicles	Fleet 30 or more vehicles
39	0.074250	2014	Own account	Lorry	B	1,2	All vehicles	Fleet 30 or more vehicles
40	0.074250	2014	Own account	Lorry	B	3,4	All vehicles	Fleet 30 or more vehicles
41	0.056250	2014	Own account	Lorry	C	1,2	All vehicles	Fleet 30 or more vehicles
42	0.056250	2014	Own account	Lorry	C	3,4	All vehicles	Fleet 30 or more vehicles
43	0.074250	2014	Own account	Lorry	D	1,2	Less or equal to 4 years	Fleet 30 or more vehicles
44	0.074925	2014	Own account	Lorry	D	3,4	Less or equal to 4 years	Fleet 30 or more vehicles
45	0.050625	2014	Own account	Lorry	D	1,2	4 years or older	Fleet 30 or more vehicles
46	0.056250	2014	Own account	Lorry	D	3,4	4 years or older	Fleet 30 or more vehicles
47	0.074250	2014	Own account	Lorry	E	1,2	All vehicles	Fleet 30 or more vehicles
48	0.074250	2014	Own account	Lorry	E	3,4	All vehicles	Fleet 30 or more vehicles
49	0.074250	2014	Own account	Lorry	F	1,2,3,4	Less or equal to 4 years	Fleet 30 or more vehicles
50	0.056250	2014	Own account	Lorry	F	1,2	4 years or older	Fleet 30 or more vehicles
51	0.056250	2014	Own account	Lorry	F	3,4	4 years or older	Fleet 30 or more vehicles
52	0.074250	2014	Own account	Lorry	G	1,2	All vehicles	Fleet 30 or more vehicles
53	0.074250	2014	Own account	Lorry	G	3,4	All vehicles	Fleet 30 or more vehicles
54	0.101250	2014	Own account	Road tractor	A-G	1,2,3	All vehicles	Fleet 30 or more vehicles
55	0.101250	2014	Own account	Road tractor	A	4	All vehicles	Fleet 30 or more vehicles
56	0.101250	2014	Own account	Road tractor	B	4	All vehicles	Fleet 30 or more vehicles
57	0.101250	2014	Own account	Road tractor	C	4	All vehicles	Fleet 30 or more vehicles
58	0.101250	2014	Own account	Road tractor	D	4	Less or equal to 4 years	Fleet 30 or more vehicles
59	0.101250	2014	Own account	Road tractor	D	4	4 years or older	Fleet 30 or more vehicles
60	0.101250	2014	Own account	Road tractor	E	4	Less or equal to 4 years	Fleet 30 or more vehicles
61	0.101250	2014	Own account	Road tractor	E	4	4 years or older	Fleet 30 or more vehicles
62	0.101250	2014	Own account	Road tractor	F	4	Less or equal to 4 years	Fleet 30 or more vehicles
63	0.101250	2014	Own account	Road tractor	F	4	4 years or older	Fleet 30 or more vehicles
64	0.101250	2014	Own account	Road tractor	G	4	All vehicles	Fleet 30 or more vehicles
65	0.056250	2014	Own account	Special vehicle	NULL	2	All vehicles	Fleet 30 or more vehicles
66	0.074250	2014	Own account	Special vehicle	NULL	3,4	All vehicles	Fleet 30 or more vehicles
67	0.101250	2014	Hire and reward	Lorry	NULL	1,2	All vehicles	Fleet 30 or more vehicles
68	0.101250	2014	Hire and reward	Lorry	NULL	3	Less or equal to 4 years	Fleet 30 or more vehicles
69	0.101250	2014	Hire and reward	Lorry	NULL	4	Less or equal to 4 years	Fleet 30 or more vehicles
70	0.074250	2014	Hire and reward	Lorry	NULL	3	4 years or older	Fleet 30 or more vehicles
71	0.074250	2014	Hire and reward	Lorry	NULL	4	4 years or older	Fleet 30 or more vehicles
72	0.101250	2014	Hire and reward	Road tractor	NULL	1,2,3,4	Less or equal to 4 years	Fleet 30 or more vehicles
73	0.074250	2014	Hire and reward	Road tractor	NULL	1,2,3,4	4 years or older	Fleet 30 or more vehicles
74	0.022500	2014	Hire and reward	Special vehicle	NULL	2,3,4	All vehicles	Fleet 30 or more vehicles

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

Nacestratum	Description
A	Agriculture, hunting, forestry, fishing
A	Mining and quarrying
B	Manufacture of food products, beverages and tobacco
B	Manufacture of textiles and textile products, manufacture of leather and leather products, Manufacture of rubber and plastic products
B	Manufacture of wood and wood products
B	manufacture of pulp, paper and paper products
B	Publishing, printing and reproduction of recorded media
B	Manufacture of coke, refined petroleum products and nuclear fuel, Manufacture of chemicals, chemical products and man-made fibres
B	Manufacture of other non-metallic mineral products
B	Manufacture of basic metals and fabricated metal products, Manufacture of machinery and equipment n.e.c.,
B	Manufacture of electrical and optical equipment, Manufacture of transport equipment
B	Manufacturing n.e.c.
B	Electricity, gas and water supply
C	Construction
D	Wholesale trade and commission trade, except of motor vehicles and motorcycles
D	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
D	Hotels and restaurants
E	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
E	Transport, storage and communication (excl. Freight transport by road)
F	Financial intermediation, Real estate, renting and business activities
F	Education, Health and social work, Other community, social and personal service activities
G	Nace classification unknown

#### 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.

Other variables: Unladen journeys are assumed to be associated with laden journeys.

#### Calculation of weighting factors:

$$\text{Weighting factor} = 13 * 0.5 * \frac{N + N'}{S + S'}$$

N = number of vehicles in the register (per stratum) (average of the current quarter)

N' = number of vehicles in the register (per stratum) (average of the 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.).

To correct for changes in the population during the quarter, two consecutive versions of the vehicle register are used (N and N').

**Optional variables covered:**

- Vehicle empty kilometres
- Type of cargo
- Axle configuration
- Degree of loading of the vehicle

**Additional variables collected compared to the legal requirements:****Environmental impact-related variables:**

Type of fuel used and average fuel consumption.

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (YES)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	98 484	128 133
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	154 431	36 353
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	5 322	5 160
Number of cases classified as non-respondents	123 189	4 829
Number of cases where sample register information was wrong and response could not be used	2 461	2 518
Number of questionnaires used in analysis	23 459	23 846

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Austria

### Organisation responsible for the conducting the survey:

Statistics Austria

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

Vehicle-Register (VR) and Statistical Business Register (BR)

### Name of organisation who maintains the register:

*Bundesanstalt Statistik Österreich / Statistics Austria*

### Frequency of update:

Vehicle Register: Monthly

Business Register: Continuously

### Frequency of access to draw the samples:

Once a quarter

### Arrangements for accessing the register:

Access to the vehicle register of the Austrian motor vehicle liability insurance is regulated in §40b Abs. 10 and §47 Abs. 1a of the Kraftfahrzeugesetzes 1967- KFG. 1967. The vehicle liability insurance has to grant Statistics Austria electronic access to all data necessary for the compilation of statistics on the national vehicle inventory.

### Information obtained from the register:

Vehicle Register: Bundesland (Federal State), registration office, vehicle registration number, vehicle identification number, registration date, type of vehicle, empty weight, load capacity, maximum permissible weight, link to BR.

Business Register: Enterprise number (link to VR), name of enterprise, address, NACE.

Stratum: Load capacity class (derived from total load capacity of all vehicles registered at a local unit), transport type ("transport on own account / for hire or reward", derived from NACE), maximum permissible gross vehicle weight, geographic region derived from address.

### 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

The response rate is adequate. The survey is obligatory, and respondents that do not complete the survey have to face legal fines.

## Sampling methodology

### Statistical unit:

Tractive vehicle, Local unit

**Types of units excluded:**

Excluded are local units with NACE 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.

Vehicles older than 25 years.

**Time unit:**

1 week

**Time unit of quarter 1 of 2017 included in the survey:**

All of quarter 1

**Stratification:**

The stratification of the survey is based on groups based on load capacity class of the local unit at which the vehicle is registered, transport type, maximum permissible weight, geographic region and a temporal component.

Stratum code	Load capacity class	Transport type	Maximum permissible weight	Region
1051	1	0	All vehicles	AT
2112	2	1	<=12.5t	ATeV
2113	2	1	<=12.5t	V
2132	2	1	>12.5t	ATeV
2133	2	1	>12.5t	V
2161	2	1	Road tractors	AT
2222	2	2	<=7.5t	ATeV
2223	2	2	<=7.5t	V
2242	2	2	>7.5t and <=12.5t	ATeV
2243	2	2	>7.5t and <=12.5t	V
2232	2	2	>12.5t	ATeV
2233	2	2	>12.5t	V
2261	2	2	Road tractors	AT
3112	3	1	<=12.5t	ATeV
3113	3	1	<=12.5t	V
3132	3	1	>12.5t	ATeV
3133	3	1	>12.5t	V
3161	3	1	Road tractors	AT
3222	3	2	<=7.5t	ATeV
3223	3	2	<=7.5t	V
3242	3	2	>7.5t and <=12.5t	ATeV
3243	3	2	>7.5t and <=12.5t	V
3232	3	2	>12.5t	ATeV
3233	3	2	>12.5t	V
3261	3	2	Road tractors	AT

Principle behind the numerical encoding of the Strata:

Load capacity class of local unit (total load capacity registered at a local unit, including vehicles and trailers):



- 1: < 15 tonnes load capacity
- 2: 15-150 tonnes load capacity
- 3: >150 tonnes load capacity

Transport type:

- 0: any transport type
- 1: transport for hire or reward
- 2: transport on own account

Maximum permissible weight of vehicles:

- <= 12.5 tonnes
- <= 7.5 tonnes
- > 12.5 tonnes
- between 7.5 and 12.5 tonnes
- 5: All vehicles
- 6: Road tractors

Geographic region:

- AT: Austria
- ATeV: Austria excluding Vienna
- V: Vienna

#### Recording of weight of goods:

A2: gross-gross-weight

A3: For containers (not swap bodies or pallets) a separate record for the container (with tare weight of the container, type of goods = 16) and the load (gross-weight) is produced. For swap bodies and pallets the gross-gross weight is reported directly.

#### Recording journey data sent to Eurostat:

Single stop: Only the most common type of good is recorded for a single stop journey.

Multi stop: For type 2 journeys it is assumed that either only loading or unloading occurs. It is not possible to report mixed journeys on which both - loading and unloading - occurs. No further simplifications are made. Each stop is reported with its own travel distance, type of goods, and weight of load.

Collection/delivery: STAT reports journeys with several unloading operations within the same postal code district as type 3 journeys. This is reported exactly identical as if only a single unloading operation would have taken place.

#### Estimation of maximum permissible laden weight:

Exact data is available.

#### Calculation of weighting factors:

For each period of 4 consecutive weeks  $z = 1, \dots, 13$  the weight  $w_{hz}$  in each stratum  $h$  is calculated as four times the quotient of the number of all vehicles  $F_{hz}$  of stratum  $h$  divided by the number of responding vehicles  $f_{hz}$  in period  $z$ .

$$w_{hz} = 4 * \frac{F_{hz}}{f_{hz}}$$

**Optional variables covered:**

- Vehicle empty kilometres
- Type of cargo
- Vehicle operator's NACE category of activity
- Axle configuration
- Degree of loading of the vehicle

**Additional variables collected compared to the legal requirements:****Environmental impact-related variables: none****A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	65 750	64 344
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	26 000	26 756
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	4 859	3 646
Number of cases classified as non-respondents	332	76
Number of cases where sample register information was wrong and response could not be used	1 211	4 110
Number of questionnaires used in analysis	19 606	18 924

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

**Other methodological changes introduced since the last publication of the 'Methodologies used in surveys of road freight transport in Member States and Candidate Countries' (Edition 2014)**

Since 2016 all vehicles for a reporting year are sampled at the end of the foregoing year. This has the advantage that respondents can already be contacted at the beginning of the reporting year. Hence they are prepared for the time period (reporting weeks) and so the quality of the questionnaire may improve.

Quarterly update-samples are drawn to account for vehicles that went out of service during a reporting year.

The stratification of the sample was also redesigned.

## Poland

### Organisation responsible for the conducting the survey:

Central Statistical Office

*(Based on information referring to the first quarter of 2017)*

## 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:

Mainly once a quarter

### Frequency of access to draw the samples:

Once a quarter

### Arrangements for accessing the register:

The main data source is Central Vehicle Register (maintained by Ministry of the Digital Affairs). Data as of the end of each quarter are received as 398 files in the XML format (according to NTS 4-level /districts) four times a year (at the end of January, April, July and October).

### Information obtained from the register:

Information to conduct the survey: registration number, name, address and ID number (REGON) of the vehicle owner or user, type of vehicle, year of manufacture, load capacity, maximum permissible weight, type of body, administrative region (NTS4/district-codes), number of axles 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, administrative region (NUTS2 level), load capacity (for lorries).

### Procedure for reminders:

First reminder: 3 weeks after the survey week.

Second reminder: 6 weeks after the survey week.

In 2017, the survey sample decreased from ~56.000 to ~50.000 goods motor vehicles.

The statistical obligations of the companies with more than 100 vehicles are limited to only 40 % of their fleet. The list of these vehicles in the survey frame is changed every 6 months.

## 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 and agricultural tractors.

Special purposes vehicles and vehicle not adjusted to carry goods.

**Estimations for the vehicle-km (or performance) not covered by the survey:**

In 2015, about 5 % of total performance is not covered by Regulation 70/2012.

**Time unit:**

1 week

**Time units of quarter 1 of 2017 included in the survey:**

All (13 weeks).

**Stratification:**

The sample has 192 strata and 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 a symbol of the large stratum (e.g. 0211).

The sampling fraction is greater for younger and heavier vehicles, which means that:

- the sample of heavier lorries is one and a half as big as the sample of lighter lorries, while the sample of younger lorries is almost as much as the sample of older lorries
- the sample of younger road tractors is twice as big as 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: For each place of loading in the type 2 journeys is recorded only one main type of goods. 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 refer to information regarding 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:

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

N = total number of vehicles in the sampling frame (in a stratum)

n = number of vehicles selected for the sample

$$C = \text{correction factor computed as } \frac{s_1 + s_3}{s_1}$$

$s_1$  = number of active stock (active vehicles (records in A1 dataset) and non-working vehicles (due to sickness, repair, lack of work etc))

$s_3$  = number of non-responses (non-contacts, refusals, unknown users, sold vehicles, vehicles covered by banking secrecy, etc.)

During the weighting process we deal with:

1. Overcoverage
2. Non-response

Basic weighting factor:

$$w_1 = 13 * \frac{N}{n}$$

Assumption 1: The proportion of scrapped and other out-of-scope vehicles found on the survey is the same as on the register.

Assumption 2: All non-responses are assumed to be in-scope.

1. Overcoverage

Weighting factor considering overcoverage:

$$w_2 = w_1 * \frac{s_1 + s_3}{n}$$

2. Non-response

Weighting factor considering non-response:

$$w_3 = w_2 * \frac{n}{s_1}$$

Finally:

$$w_4 = 13 * \frac{N}{n} * \frac{s_1 + s_3}{s_1}$$

#### 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

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Type of fuel used and average fuel consumption.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (YES)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (YES)

- place of unloading, if any, of the road transport vehicle from another means of transport (YES)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	666 153	680 910
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	56 160	52 000
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	11 137	10 650
Number of cases classified as non-respondents	13 506	13 584
Number of cases where sample register information was wrong and response could not be used	11 951	8 558
Number of questionnaires used in analysis	19 566	19 208

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

### Other methodological changes introduced since the last publication of the 'Methodologies used in surveys of road freight transport in Member States and Candidate Countries' (Edition 2014)

Two additional variables were added to the survey:

- Class of air pollution emissions EURO
- Size of large containers



## Portugal

### Organisation responsible for the conducting the survey:

National Statistical Institute (INE)

(Based on information referring to the first quarter of 2017)

## 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:

Quarterly concerning the survey feedback, annually concerning the 2 external sources

### Frequency of access to draw the samples:

Once a quarter

### Arrangements for accessing the register:

Each year, IMT provides the file containing the vehicles licensed to transport activities and IRN provides the file containing the identification (name and address) of the owners or users (these last only for registers changed in the current year).

### 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, identification and NACE of the owner, auxiliary information about some leasing contracts.

Used in stratification: NUTS II of the address of the owners (Mainland regions: Norte, Centro, Lisboa, Alentejo and Algarve), Category of the vehicle (Lorry or Road tractor), Gross weight class (5 for lorries and 2 for tractors), 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 selected specific cases.

The response rate seems to be adequate (about 80-85 % in provisional data).

## Sampling methodology

### Statistical unit:

Tractive vehicle

**Types of units excluded:**

All vehicles with maximum permissible laden weight equal or inferior to 3 500 kg, vehicles not used for the transport of goods, such as agricultural and military vehicles, fire engines and special transport vehicles.

**Time unit:**

1 week

**Time unit of quarter 1 of 2017 included in the survey:**

All (13 weeks)

**Stratification:**

Two stratum of 'gross weight class' were merged: 19 001kg - 22 000kg and 22 000kg - 26 000Kg into 19 001 Kg - 26 000 Kg.

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):
    - 3 501 - 10 000 kg
    - 10 001 - 16 000 kg
    - 16 001 - 19 000 kg
    - 19 001 - 26 000 kg
    - over 26 000
  - Gross weight class (Road Tractor):
    - 3 501 - 7 000 kg
    - over 7 000
- 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, the journey is transformed into type 1 journeys; if the vehicle becomes empty, a new road freight transport operation is considered

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 there are often 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, it is considered as origin the first point of departure and as the last the farthest one (not the last); it is registered 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:

$$\text{Weighting factor} = 13 * \frac{N_h}{n_h}$$

h = stratum

$N_h$  = total number of vehicles adjusted for strata changes and out-of-scope vehicles

$n_h$  = number of usable responses (vehicles with activity + vehicles without activity)

Non response: only effective responses are considered. Partial and non-responses are not treated.

Wrong information in sample register(s): the information is corrected in the sampling frame.

Vehicles without activity during the sampled period (due to sickness, repair, lack of work etc): are considered as effective responses.

Post-stratification and sampling frame adjustment is used.

Collection data is used to correct strata variables of sample units and adjust, in the same proportion, the distribution of total number of vehicles by strata.

The out of scope vehicles are also eliminated from the sampling frame. Total number of vehicles is adjusted as well.

#### Optional variables covered:

- Vehicle empty kilometres
- Type of cargo
- Vehicle operator's NACE category of activity
- Axle configuration
- Degree of loading of the vehicle

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Type of fuel used and fuel consumption.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	98 783	77 775
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	26 774	28 346
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	9 114	10 091
Number of cases classified as non-respondents	2 475	3 581
Number of cases where sample register information was wrong and response could not be used	4 815	1 316
Number of questionnaires used in analysis	10 498	13 358

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Romania

### Organisation responsible for the conducting the survey:

National Statistical Institute)

*(Based on information referring to the first quarter of 2017)*

## 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 information on vehicles is received quarterly from Romanian Road Authority on CD. Before the sample is extracted, the sampling frame of vehicles is updated based on information provided in the files of Romanian Road Authority, as well as, with the scrapped vehicles reported by owners of the vehicles.

### Information obtained from the register:

Number of registration, type of vehicle (category of vehicle and subcategory of vehicle), year of manufacturing, maximum permissible weight, load capacity, number of axles of vehicle, type of transport (own account or hire or reward), name and address of the vehicle owner.

Used in stratification: Type of transport, load capacity.

### Procedure for reminders:

The transport operators are contacted by email or phone.

The response rate is adequate.

## Sampling methodology

### Statistical unit:

Tractive vehicle

### Types of units excluded:

Vehicles with load capacity less than 3.5 tonnes, military vehicles, vehicles of public administrations, agricultural vehicles and vehicles older than 25 years.

### Time unit:

1 week

**Time units of quarter 1 of 2017 included in the survey:**

All (13 weeks)

**Stratification:**

The sample is stratified according to the following variables:

- Statistical regions (8 classes):
  - Nord-Est
  - Sud-Est
  - Sud - Muntenia
  - Sud-Vest Oltenia
  - Vest
  - Nord-Vest
  - Centru
  - Bucuresti-Ilfov
- Type of transport:
  - hire or reward
  - own account
- Load capacity (4 classes):
  - 3 500 - 7 500 kg
  - 7 501 - 12 000kg
  - 12 001 - 17 000 kg
  - more than 17 000 kg

The variable of stratification “Destination: national and international” has been dropped because this variable is no longer relevant.

Example: “Stratum 213”

- ‘2’ = statistical region: Sud-Est
- ‘1’ = type of transport: hire or reward
- ‘3’ = load capacity: 12 001 - 17 000 kg

**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, but in A2 are recorded all journeys.

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

**Calculations of weighting factors:**

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

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  $\frac{n_{h1} + n_{h3}}{n_{h1}} * \frac{n_{h1} + n_{h2} + n_{h3} + n_{h4}}{n_{h1} + n_{h2} + n_{h3}}$

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  $h$

Example: Stratum  $h$  = '722'

Weighting factor = = 205.748049

$N$  = 2402 vehicles

$n$  = 157 vehicles

$\frac{n_{h1} + n_{h3}}{n_{h1}} * \frac{n_{h1} + n_{h2} + n_{h3} + n_{h4}}{n_{h1} + n_{h2} + n_{h3}}$

where:  $n_{h1}$  = 68 vehicles

$n_{h2}$  = 85 vehicles

$n_{h3}$  = 1 vehicles

$n_{h4}$  = 3 vehicles

#### 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

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Quantity of fuel purchased.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (YES)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (YES)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES)

- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	97 506	108 976
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	32 183	32 190
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	14 452	13 499
Number of cases classified as non-respondents	1 211	1 401
Number of cases where sample register information was wrong and response could not be used	1 745	1 766
Number of questionnaires used in analysis	14 775	15 524

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)



## Slovenia

### Organisation responsible for the conducting the survey:

Statistical Office of the Republic of Slovenia

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

Register of Road Vehicles

### Name of organisation who maintains the register:

Ministry of Infrastructure and Spatial Planning

### 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 Infrastructure and Spatial Planning 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 Infrastructure and Spatial Planning 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 2 000 kg.

**Time unit:**

1 week

**Time units of quarter 1 of 2017 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:

$$w_{NONR} = \frac{\text{Number of units in sample}}{\text{Number of eligible} + \text{Number of ineligible units}}$$

Weights due to sample selection:

$$w_{SEL} = \frac{\text{Number of units in frame}}{\text{Number of units in sample}}$$

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 where 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

#### Additional variables collected compared to the legal requirements:

##### Environmental impact related variables:

Type of fuel used and quantity of fuel purchased.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

##### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	22 821	23 606
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	8 346	8 333
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	1 421	1 446
Number of cases classified as non-respondents	2 174	2 255
Number of cases where sample register information was wrong and response could not be used	437	489
Number of questionnaires used in analysis	4 314	4 143

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Slovak Republic

### Organisation responsible for the conducting the survey:

Statistical Office of the Slovak Republic

*(Based on information referring to the first quarter of 2017)*

## 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.

Operators 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: a low form of the vehicle owner (enterprise or tradesman), type of vehicle and loading capacity is used.

In the frame of sample survey the region is taking into sampling.

The region is not a criterion for strata.

### 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.

The response rate is adequate.

## Sampling methodology

### Statistical unit:

Tractive vehicle

### Types of units excluded:

None

### Time unit:

1 week

### Time units of quarter 1 of 2017 included in the survey:

All (13 weeks)

### Stratification:

			Loading capacity
1 1 1	Enterprises/Business register	lorries	of 1 to 1 499 tonnes
2 1 1	Sole entrepreneurs/Tradesman register	lorries	of 1 to 1 499 tonnes
1 1 2	Enterprises/Business register	lorries	of 1 500 – 4 999 tonnes
2 1 2	Sole entrepreneurs/Tradesman register	lorries	of 1 500 – 4 999 tonnes
1 1 3	Enterprises/Business register	lorries	of 5 000 – 9 999 tonnes
2 1 3	Sole entrepreneurs/Tradesman register	lorries	of 5 000 – 9 999 tonnes
1 1 4	Enterprises/Business register	lorries	of 10 000 tonnes and more
2 1 4	Sole entrepreneurs/Tradesman register	lorries	of 10 000 tonnes and more
1 2 5	Enterprises/Business register	road tractor	
2 2 5	Sole entrepreneurs/Tradesman register	road tractor	

Since 2017, the sample has been increased from 10 400 to 13 000 vehicles per year.

### Recording of weight of goods:

Gross-gross weight of goods is collected, i.e. containers are included.

### Estimation of maximum permissible laden weight:

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

### Calculation of weighting factors:

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

**Additional variables collected compared to the legal requirements:****Environmental impact-related variables:**

Type of fuel used and fuel consumption.

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	137 617	143 664
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	2 314	2 931
Number of cases classified as non-respondents	1 360	1 372
Number of cases where sample register information was wrong and response could not be used	3 250	1 532
Number of questionnaires used in analysis	3 476	4 565

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Finland

### Organisation responsible for the conducting the survey:

Statistics Finland

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

- 1) Vehicle Register
- 2) Membership register

### Name of organisations who maintains the register:

- 1) Finnish Transport Safety Agency (Trafi)
- 2) SKAL-S (International Road Carriers of Finland – Association of Contract Operators in Finland – Association of Tank Operators in Finland)

### Frequency of update:

Constantly

### Frequency of access to draw the samples:

- 1) Once a quarter
- 2) Twice a year

### Arrangements for accessing the register:

An agreement for co-operation in statistical issues with Finnish Transport Safety Agency and with SKAL-S.

### Information obtained from the register:

1) The vehicle's register number, the vehicle holder's name and address, the vehicle holder's register code (if not a natural person), the vehicle holder's language, date of first registration, model, made, type of vehicle, body type, type of transport, self-weight, load capacity, maximum permissible laden weight, type of haul device (hook/fifth wheel), number of axles, engine power.

Used for stratification: Type of transport (own account, hire or reward), maximum permissible laden weight (over 3.5 tonnes and up to 6 tonnes, over 6 tonnes), type of vehicle (lorry, articulated vehicle, road train).

2) Membership of SKAL-S, which is also used for stratification

### Procedure for reminders:

Questionnaires for four successive survey periods (two weeks altogether) are sent simultaneously. Reminders are sent like described below:

- If a vehicle holder does not respond in 3 days after the due date for return of the questionnaire, first reminder is sent out by post.
- If a vehicle holder still does not respond within 2 weeks of the previous reminder, second reminder is sent by post.
- If a vehicle holder still does not respond within 2 weeks of the previous reminder, third reminder is sent by e-mail.



- If a vehicle holder still does not respond within one week of the previous reminder, fourth reminder is sent by text message.

From 2014 to 2016 response rate has risen from 58 to 63 % while the share of questionnaires used in analysis has risen only by one percent (from 53 to 54 %). We have noticed that share of incomplete answers has also risen. By incomplete answers we mean that:

- Respondent has only visited web questionnaire but not filled in anything
- Filled in only contact information
- Filled in that vehicle was in use, but no journeys was given
- Etc.

Incomplete answers can't be used in estimation of the activity of the vehicles. We planned to contact all those who haven't answered completely by phone and to study for what reasons respondents discontinue filling in the questionnaire. Due to the lack of resources this contacting has been delayed. There is also an ongoing project where we collect paradata from internet questionnaire. We collect for example the following type of data:

- how much time respondent uses for certain questions
- how many times respondent changes the value of the answer for certain questions
- how many times info-box is opened
- how much time is used to read info-box
- how many times validation rules are not met

We hope that paradata can reveal us if there are any difficult questions for respondents to answer.

## Sampling methodology

### Statistical unit:

Tractive vehicle

### Types of units excluded:

Vans whose maximum permissible laden weight is 3.5 tonnes or less. Furthermore, military vehicles and vehicles which are not especially designed to transport goods such as museum vehicles, fire engines and special vehicles.

### Estimations for the vehicle-km (or performance) not covered by the survey:

Vans, whose maximum permissible laden weight is 3.5 tonnes or less, had 5.217 million vehicle kilometres in 2008 (see 2010 EU-GRANTS project 'Estimating vehicle kilometres with odometer readings, Eurostat No 30402.2009.004–2009.401, Table 17.)

### Time unit:

3 days for non-members of SKAL-S, 4 days for members of SKAL-S. These days make a period of one week. Every other week starts with 3 days and every other week starts with 4 days.

### Time unit of quarter 1 of 2017 included in the survey:

12 weeks (out of possible 12 weeks and 6 days), i.e. all

### 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:

- if the holder of the vehicle belongs to SKAL-S (2)
- type of transport (2)
- maximum permissible laden weight (2)
- type of vehicle (3)

All together there are 16 strata:

- 1) non-member of SKAL-S, own account, MPLW over 3.5 tonnes and up to 6 tonnes, lorry
- 2) non-member of SKAL-S, own account, MPLW over 6 tonnes, lorry
- 3) non-member of SKAL-S, own account, MPLW over 6 tonnes, articulated vehicle
- 4) non-member of SKAL-S, own account, MPLW over 6 tonnes, road train
- 5) non-member of SKAL-S, hire or reward, MPLW over 3.5 tonnes and up to 6 tonnes, lorry
- 6) non-member of SKAL-S, hire or reward, MPLW over 6 tonnes, lorry
- 7) non-member of SKAL-S, hire or reward, MPLW over 6 tonnes, articulated vehicle
- 8) non-member of SKAL-S, hire or reward, MPLW over 6 tonnes, road train
- 9) member of SKAL-S, own account, MPLW over 3.5 tonnes and up to 6 tonnes, lorry
- 10) member of SKAL-S, own account, MPLW over 6 tonnes, lorry
- 11) member of SKAL-S, own account, MPLW over 6 tonnes, articulated vehicle
- 12) member of SKAL-S, own account, MPLW over 6 tonnes, road train
- 13) member of SKAL-S, hire or reward, MPLW over 3.5 tonnes and up to 6 tonnes, lorry
- 14) member of SKAL-S, hire or reward, MPLW over 6 tonnes, lorry
- 15) member of SKAL-S, hire or reward, MPLW over 6 tonnes, articulated vehicle
- 16) member of SKAL-S, hire or reward, MPLW over 6 tonnes, road train

Stratum 1 and 9 are combined and marked as stratum 1 when data are sent to Eurostat. This is done similarly to strata 2 and 10, to strata 3 and 11 and so on.

#### 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.

#### Estimation of maximum permissible laden weight:

If the maximum permissible laden weight for an articulated vehicle or a road train is not given by the holder, then it is estimated. In estimation we use a table which has means of weights for different axle combinations of vehicles from an earlier time period.

**Calculation of weighting factors:**

Strata 1–8 are exactly the same as strata 9–16 except for one difference: in strata 1–8 the first variable has the value 'non-member of SKAL-S' whereas in strata 9–16 it has the value 'member of SKAL-S'. When weighing factors are calculated, the first variable is not taken into account. In other words, stratum 1 and 9 are combined and the weighing factor is calculated to that group, and this is done similarly to strata 2 and 10, to strata 3 and 11 and so on.

$$\text{Weighting factor} = T * \frac{N}{R}$$

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

**Additional variables collected compared to the legal requirements:**

**Environmental impact-related variables:** none

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (YES)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

<b>Main figures (1)</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	104 997	106 235
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	10 000	10 000
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	2 433	2 456
Number of cases classified as non-respondents	4 616	3 957
Number of cases where sample register information was wrong and response could not be used	552	629
Number of questionnaires used in analysis	2 794	2 949

(1) Provisional data

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## 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 2017)

## 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 since year 2009 commissioned the company Statisticon AB to produce the survey. Statisticon AB currently has the option for this production until reference year 2018. 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:

Most of the information regarding a vehicle is obtained from the Vehicle Register. Important variables are: 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 plus the information is used in the stratification as follows:

- County codes where the vehicle is registered are 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, which is used in the

stratification

- From the Commercial Traffic Register we obtain the number of permits for international traffic for an enterprise. This variable is used to form a stratification variable whether the vehicle has a permit for international traffic or not
- The variable kilometres travelled previous year is also used in the stratification
- Age for the vehicle (used in the stratification)

#### 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.

A normal figure for the response rate is around 65-70 percent. Considering the potential effect the non-response might have on the estimates, we judge the response rate to be satisfactory for the purpose of the survey.

## 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 2017 included in the survey:

All (13 weeks)

#### Stratification:

The lorries in the sampling frame are stratified in 52 strata. The stratification is done with respect to several variables. The first variable is whether the lorry owner has a permit for international traffic or not. If the owner (i.e. the company) has a permit for international traffic the lorry or the lorries are categorized to international stratum, otherwise to national stratum. There are 35 national and 17 international strata. The next stratification variable is where the lorry is registered. The eight NUTS2-regions in Sweden categorized into 5 geographic areas according to the following:

1. SE11 and SE12
2. SE21 (without the island Gotland) and SE23
3. SE22
4. SE31, SE32 och SE33
5. Gotland

Due to special circumstances regarding the island Gotland it is kept as a region of its own.

For the **35 national strata** the stratification is done according to the following principles:

- The lorries are geographically divided according to the geographic regions above
- In every geographic region, except Gotland, the lorries are divided into two groups according to their age; lorries 0–5 years old and lorries older than 5 years old
- Within each age group the lorries are divided into six subgroups according to total kilometres travelled per year (register variable) and load capacity (register variable) according to:
  - Lorries with load capacity up to 13 tonnes (regardless of yearly distance travelled)
  - Lorries with yearly distance travelled 100 000 km or less and load capacity 13 - 16 tonnes
  - Lorries with yearly distance travelled 100 000 km or less and load capacity over 13 tonnes
  - Lorries with yearly distance travelled more than 100 000 km and load capacity over 13 tonnes
- Lorries registered in Gotland are divided into two groups according to load capacity; 13 tonnes or less and over 13 tonnes

For the **17 international strata** the stratification is done according to the following principles. In a first step road tractors that fulfil the following criteria are placed in a separate stratum (200000):

- Lorry owned by company with 16 or more permits for international traffic.
- The lorry is younger than 11 years old
- The lorry is registered in NUTS2 region SE11 or SE12 or the counties Blekinge or Västra Götaland and has a yearly total distance travelled over 100 000 km and a load capacity over 10 tonnes
- The lorry is registered in the county Skåne or Halland and has a load capacity over 10 tonnes

In a second step the additional 16 strata are created by dividing the lorries into four geographic regions according to:

- NUTS2 region SE11, SE12 och SE21
- NUTS2 region SE22
- NUTS2 region SE23
- NUTS2 region SE31,SE32 och SE33

For each geographic region, road tractors are divided into a separate stratum regardless of yearly distance travelled or load capacity. The remaining lorries are divided into three strata according to yearly distance travelled and load capacity according to:

- Lorries with yearly distance travelled 100 000 km or less and load capacity 10 tonnes or less
- Lorries with yearly distance travelled 100 000 km or less and load capacity 10 tonnes or more
- Lorries with yearly distance travelled more than 100 000 km

The 35 national strata:

Nr	Stratum code	Geographic division	Age	Yearly distance travelled (km)	Load capacity (Kg)
1	110101	SE11, SE12	0–5 year	Regardless of distance	0–13 000
2	110112		0–5 year	0–100 000	13 001–16 000
3	110113		0–5 year	0–100 000	16 001+
4	110122		0–5 year	100 001+	13 001+
5	110201		6+ year	Regardless of distance	0–13 000
6	110212		6+ year	0–100 000	13 001–16 000
7	110213		6+ year	0–100 000	16 001+
8	110222		6+ year	100 001+	13 001+
9	120101	SE21 exkl. Gotland, SE23	0–5 year	Regardless of distance	0–13 000
10	120112		0–5 year	0–100 000	13 001–16 000
11	120113		0–5 year	0–100 000	16 001+
12	120122		0–5 year	100 001+	13 001+
13	120201		6+ year	Regardless of distance	0–13 000
14	120212		6+ year	0–100 000	13 001–16 000
15	120213		6+ year	0–100 000	16 001+
16	120222		6+ year	100 001+	13 001+
17	130101	SE22	0–5 year	Regardless of distance	0–13 000
18	130112		0–5 year	0–100 000	13 001–16 000
19	130113		0–5 year	0–100 000	16 001+
20	130122		0–5 year	100 001+	13 001+
21	130201		6+ year	Regardless of distance	0–13 000
22	130212		6+ year	0–100 000	13 001–16 000
23	130213		6+ year	0–100 000	16 001+
24	130222		6+ year	100 001+	13 001+
25	140101	SE31, SE32, SE33	0–5 year	Regardless of distance	0–13 000
26	140112		0–5 year	0–100 000	13 001–16 000
27	140113		0–5 year	0–100 000	16 001+
28	140122		0–5 year	100 001+	13 001–16 000
29	140123		0–5 year	100 001+	16 001+
30	140201		6+ year	Regardless of distance	0–13 000
31	140212		6+ year	0–100 000	13 001–16 000
32	140213		6+ year	0–100 000	16 001+
33	140222		6+ year	100 001+	13 001+
34	150001	Gotland	Regardless of age	Regardless of distance	0–13 000
35	150002		Regardless of age	Regardless of distance	13 001+



The 17 international strata:

Nr	Stratum code	Geographic division	Type of lorry	Yearly distance travelled (km)	Load capacity (Kg)
36	200000				
37	211000	SE11, SE12 och SE21	Road tractor not belonging to stratum 200000	Regardless of distance	Regardless of load capacity
38	212011	SE11, SE12 och SE21	Other lorries	0–100 000	0–10 000
39	212012	SE11, SE12	Other lorries	0–100 000	10 001+
40	212020	SE11, SE12	Other lorries	100 001+	Regardless of load capacity
41	221000	SE22	Road tractor not belonging to stratum 200000	Regardless of distance	Regardless of load capacity
42	222011	SE22	Other lorries	0–100 000	0–10 000
43	222012	SE22	Other lorries	0–100 000	10 001+
44	222020	SE22	Other lorries	100 001+	Regardless of load capacity
45	231000	SE23	Road tractor not belonging to stratum 200000	Regardless of distance	Regardless of load capacity
46	232011	SE23	Other lorries	0–100 000	0–10 000
47	232012	SE23	Other lorries	0–100 000	10 001+
48	232020	SE23	Other lorries	100 001+	Regardless of load capacity
49	241000	SE31, SE32 och SE33	Road tractor not belonging to stratum 200000	Regardless of distance	Regardless of load capacity
50	242011	SE31, SE32	Other lorries	0–100 000	0–10 000
51	242012	SE31, SE32	Other lorries	0–100 000	10 001+
52	242020	SE31, SE32	Other lorries	100 001+	Regardless of load capacity

#### Recording of weight of goods:

Gross weight of goods is collected, i.e. containers, swap bodies and pallets are excluded. However, for journeys with no goods but a container, the information to the respondents is to register the weight of the container and use NST-code 16.

#### 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 producer. 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) recalculates 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 a "D" for distribution or "U" for collection or "DU" for combined distribution/collection rounds in the questionnaire and also the approximate number of stops. If the

journey is considered as a c/d-round the respondent is asked to indicate the total weight for the c/d-round as a whole, the total kilometres driven during the c/d-round 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. The information from the Swedish survey in the A2 file and the A3 file is the same regarding type 3 journeys. The tonne-kilometres are calculated according to the principles in the manual vol 1 2016 in section 6.5. More specifically, for delivery rounds (only) the type 1-principle is used. For collection rounds (only) the type 2-principle is used. For combined delivery and collection rounds the type 5-principle is used.

The respondents are asked to fill in the UN-number instead of the ADR-number for hazardous goods. The UN-number is then converted into ADR-number.

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:

The weighting factor is based on the methodology often called straight expansion within strata. However, since 2014 the weighting factor is multiplied with an inflation factor that accounts for false reporting of no activity. False reporting means that for a certain vehicle the reply is that no activity was performed during the measurement week, when in fact activity was performed, i.e. a false reply. Inflating the weighting factors leads to a raise in the estimates with about 30 percent. These higher levels are better estimates of the true levels of the parameters, e.g. total km driven.

$$\text{Weighting factor} = 13 * \frac{N_h}{m_h} * w_g$$

$h$  = is the index for stratum,  $h=1,2,\dots,H$  (and  $H=52$ )

$N_h$  = the number of vehicles in stratum  $h$

$m_h$  = the number of responding vehicles in stratum  $h$ . A vehicle is regarded as responding if it belongs to category B1:5 (vehicles responding with journey data) or B1:6 (vehicles responding without journey)

$g$  = is the index for stratum in the help survey  $g=1,2,\dots,G$  (and  $G=11$ ).

$w_g$  = an inflation factor that account for false reporting of no activity

*Remark regarding  $N_h$ :* For a certain quarter the number of vehicles in a stratum is taken from the following quarter. Example: for quarter 1 the numbers of vehicles in a stratum is taken from the frame from quarter 2. The rationale behind this is that the frame for Q2 originates from February 15, i.e. the midpoint of Q1 in time. The number of vehicles at the midpoint of Q1 is a better source for the population size than the number of vehicles in the frame for Q1 which is originated from November 15 the previous year. This method agrees with the suggested method in the reference manual vol 1 2016 chapter 7.2.2.

*Remark regarding  $w_g$ :* A parallel help survey called the No Activity Survey (NAS) is performed together with the ordinary Road Freight Survey (RFS). The target populations are the same and the same frame is used in both surveys. The sample size in the NAS is 500 vehicles each quarter and in the RFS about 3 000 each quarter. The stratification in the NAS is based on company characteristics rather than vehicle characteristics which are used in the RFS. If a vehicle is selected in the RFS it is non-eligible in the NAS for one year. The reason for the NAS is that there are (strong) indications that the amount of no activity is too large in the RFS Survey. If a vehicle falsely reports no activity, when in fact journeys were performed, the estimates of e.g. total km driven will be underestimated. In the NAS, performed by telephone, only one question is posed: "Did you use the vehicle for goods transportations last week". Since only one question is posed we believe that an accurate answer is obtained. Based on each survey, NAS and RFS, the proportion of vehicles with activity and no activity can be estimated. The ratio between the two estimates of proportion of vehicles with activity

forms an inflation factor  $w_g$ . If, for example, the proportion of vehicles with activity in the NAS is 0.85 and 0.70 in the RFS (in a certain stratum), then the inflation factor is  $w_g = 0.85/0.7 = 1.21$ , i.e. a raise of 21 %. Since the sample size in the NAS is fairly small the inflation factors can vary between quarters. A stabilizing procedure is used. For a certain quarter Q a weighted average of the inflation factors from year t, t-1 and t-2 is calculated. One (weighted) inflation factor  $w_g$  is calculated for each stratum g and is multiplied with the straight expansion weight  $13 \cdot (N_r/m_h)$ . Since the stratification is different in both surveys the weighting factors will not be constant within a stratum h. Hence no weighting factors can be presented in the supplementary table B1.

#### Estimation of maximum permissible laden weight:

The variable maximum permissible laden weight regarding the vehicle is register based information. The maximum permissible laden weight for the trailer or semi-trailer is collected through the questionnaire. If no trailer or semi-trailer is used the maximum permissible laden weight registered in the A2 dataset (variable A1.4) is thus only based on register information. If a trailer or semi-trailer is used, the maximum permissible laden weight for the entire vehicle configuration is calculated as the sum of the vehicle and trailer/semi-trailer maximum permissible laden weight.

#### Optional variables covered:

- Vehicle empty kilometres
- Type of cargo
- Vehicle operator's NACE category of activity
- Axle configuration
- Degree of loading of the vehicle

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Type of fuel used.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (YES)
- place of unloading, if any, of the road transport vehicle from another means of transport (YES)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

##### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	61 521	62 453
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	11 607	11 627
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	2 943	2 806
Number of cases classified as non-respondents	3 969	4 182
Number of cases where sample register information was wrong and response could not be used	501	612
Number of questionnaires used in analysis	4 194	4 027

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## United Kingdom (national)

### Organisation responsible for the conducting the survey:

Department for Transport (DfT)

*(Based on information referring to the first quarter of 2017)*

## Sampling register used for the survey

### Name of register:

Driver Vehicle Licensing Agency (DVLA) for GB & NI-registered vehicles

### Name of organisation who maintains the register:

DVLA

### Frequency of update:

Ongoing

### Frequency of access to draw the samples:

Quarterly (for both Great Britain and Northern Ireland vehicles)

### Arrangements for accessing the register:

A quarterly sample is drawn from DVLA licensing records based on an agreed specification for the proportion of vehicles required in each stratum, which are then divided into the desired weekly sample. The process is the same for both GB & NI vehicles but NI vehicles are administered and sampled separately.

### Information obtained from the register:

Name and contact details of the vehicle owner; fuel type; Gross train weight; NUTS1 region of registration; propulsion code; wheel plan code; taxation class; body type code; tipper; year of first registration, unladen weight and articulated or rigid vehicle type.

Information used in stratification: NUTS1 region of registration and gross train weight, articulated or rigid vehicle type.

### Procedure for reminders:

First reminder: sent 2.5 weeks after the end of the survey week by email.

Second reminder: sent 5.5 weeks after the end of the survey week by email.

Third reminder: 7.5 weeks after the end of the survey week by phone.

The response rate is adequate.

## 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 2017 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 tonnes, 7.5 to 15 tonnes, 15 to 18 tonnes, 18 to 26 tonnes, over 26 tonnes
- Articulated: 3.5 to 26 tonnes, 26 to 34 tonnes, 34 to 38 tonnes, 38 to 40 tonnes, over 40 tonnes

## 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 good, when the largest component is at least 75 % of the total consignment weight the largest component determines the type of good carried. Otherwise the type of good will be recorded as groupage. The weight is the sum of all the consignments for the journey.

Multi stop: Where there are fewer than 4 stops, we collect the details of each leg. We provide 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 journey, if a vehicle is carrying more than one type of good, when the largest component is at least 75 % of the total consignment weight the largest component determines the type of good carried. Otherwise, the type of good will be recorded as groupage.

For collection journeys, weight=goods collected.

For delivery journeys, weight=goods delivered.

For journeys with both deliveries and collections, but more deliveries, weight=goods delivered.

For journeys with both deliveries and collections, but more collections, weight=goods collected.

For journeys with equal deliveries and collections, weight=goods delivered+goods collected.

Other variables: For Northern Ireland registered vehicles' activity, the domestic survey methodology is used for recording international activity.

#### Calculation of weighting factors:

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

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

S = Achieved sample count (in a stratum)

Two strata have relatively small sample sizes (artics up to 26 tonnes and artics 38-40 tonnes). To smooth the estimates, these strata have been merged with two others (artics 26-34 tonnes and artics 34-38 respectively) and the weighting factor calculated as:

$$w1 = N1/n1 \cdot [(N1+N2) / (r1 \cdot N1/n1 + r2 \cdot N2/n2)]$$

N1=number of vehicles in the register in stratum 1

n1=number of vehicles sampled in stratum 1

r1=achieved sample count in stratum 1

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

#### Additional variables collected compared to the legal requirements:

##### Environmental impact-related variables:

Type of fuel used and fuel consumption. Air pollution emissions caused by road freight is estimated based on the fuel purchased data collected.

##### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (NO)

##### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

##### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	392 185	400 167
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	13 723	14 278
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	2 914	2 913
Number of cases classified as non-respondents	2 237	2 392
Number of cases where sample register information was wrong and response could not be used	495	455
Number of questionnaires used in analysis	8 077	8 518

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)



## United Kingdom (international)

### Organisation responsible for the conducting the survey:

Department for Transport (DfT)

*(Based on information referring to the first quarter of 2017)*

## 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:

Continuous

### Frequency of access to draw the samples:

Monthly

### Arrangements for accessing the register:

An extract detailing those hauliers issued with a standard international licence is provided electronically to the road freight team each month.

### Information obtained from the register:

Address details of firms operating heavy goods vehicles that have been granted a licence to undertake international journeys.

Firms are subsequently asked to provide information about their expected number of international trips; which is used in the stratification of the sample.

### Procedure for reminders:

First reminder: sent 2.5 weeks after the end of the survey week by email.

Second reminder: sent 5.5 weeks after the end of the survey week by email.

Third reminder: 7.5 weeks after the end of the survey week by phone.

The response rate is adequate.

## Sampling methodology

### Statistical unit:

Transport firm

### 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):

Group	Expected number of international trips a year	Time period for survey	Frequency of survey
1	1 001+	1 day	4 weeks
3	401 – 1 000	3 days	12.5 weeks
6	101 – 400	1 week	25 weeks
12	25 – 100	2 weeks	50 weeks
24	10 – 24	4 weeks	100 weeks

**Time unit of quarter 1 of 2017 included in the survey:**

All (13 weeks)

**Stratification:**

The sample is stratified according to the number of international trips expected to be undertaken by a firm:

Group	Expected number of international trips a year	Time period for survey	Frequency of survey
1	1 001+	1 day	4 weeks
3	401 – 1 000	3 days	12.5 weeks
6	101 – 400	1 week	25 weeks
12	25 – 100	2 weeks	50 weeks
24	10 – 24	4 weeks	100 weeks

**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, multi stop, collection/delivery: No simplifying assumptions because the data is collected at commodity level.

**Calculation of weighting factors:**

Weighting factor =  $P * K$

P = design weight for a given firm group

K = population figure for a given route \* number of sample trips leaving the UK via that route

**Optional variables covered:**

- Vehicle empty kilometres
- Axle configuration
- Degree of loading of the vehicle

**Additional variables collected compared to the legal requirements:****Environmental impact-related variables:**

Type of fuel. Air pollution emissions caused by road freight is estimated based on the fuel purchased data collected via the national survey.

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)

- vehicle operator's NACE Rev. 2 at class level (four-digit level) (NO)

#### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

#### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	1 384	1 597
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	988	1 011
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	748	1 007
Number of cases classified as non-respondents	255	4
Number of cases where sample register information was wrong and response could not be used	0	0
Number of questionnaires used in analysis	1 739	1 513

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Liechtenstein

### Organisation responsible for the conducting the survey:

Office of Statistics

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

*Starting with the reference year 2014, Liechtenstein is exempted from the reporting of road freight data according to Regulation (EU) No 70/2012.*

## 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 6 000 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:**

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

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.)

**Optional variables covered:**

- Vehicle empty kilometres
- Type of cargo
- Vehicle operator's NACE category of activity
- Axle configuration
- Degree of loading of the vehicle

**Additional variables collected compared to the legal requirements:****Environmental impact related variables:**

Type of fuel used.

**A1. Vehicle-related variables:** none**A2. Journey-related variables:** none**A3. Goods-related variables:** none

<b>Main figures</b>	<b>2012</b>	<b>2013</b>
Total number of relevant goods vehicles in the country	265	258
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	321	314
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	63	63
Number of cases classified as non-respondents	3	7
Number of cases where sample register information was wrong and response could not be used	0	5
Number of questionnaires used in analysis	255	239

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Norway

### Organisation responsible for the conducting the survey:

Statistics Norway

*(Based on information referring to the first quarter of 2014)*

## 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 2014: end of November 2013
- Second quarter 2014: end of February 2014
- Third quarter 2014: end of May 2014
- Fourth quarter 2014: end of August 2014

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 is 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. This information is 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 Vehicles 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 2014 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

#### Additional variables collected compared to the legal requirements:

**Environmental impact-related variables:** none

#### A1. Vehicle-related variables:

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (YES)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

#### A2. Journey-related variables:

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (YES)

#### A3. Goods-related variables:

- type of freight (Cargo types) as defined in the Regulation (YES)

<b>Main figures</b>	<b>2015</b>	<b>2016</b>
Total number of relevant goods vehicles in the country	39 816	34 703
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	7 307	7 249
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	1 915	2 106
Number of cases classified as non-respondents	561	589
Number of cases where sample register information was wrong and response could not be used	596	421
Number of questionnaires used in analysis	4 206	4 108

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

## Switzerland

### Organisation responsible for the conducting the survey:

Swiss Statistics

*(Based on information referring to the first quarter of 2017)*

## 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, 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, existence or not of a particle filter, odometer reading from the last roadworthiness test, date of the last roadworthiness test, CO2 emission.

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:

Light vehicles with a maximum permissible laden weight equal or less than 3 500 kg and special vehicles (e.g. agricultural tractors, fire engines, military vehicles). In 2013, however, a special survey on light goods vehicles was carried out. This survey is planned to be conducted every ten years from now on.

Light Vehicles with a maximum permissible laden weight equal or less than 3 500 kg (e.g. vans) cover about 60 % of the vehicle-km and about 6 % of the performance (tkm) in road freight transport in Switzerland.

**Time unit:**

1 week

**Time unit of quarter 1 of 2017 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 3 501 - 7 500 kg

352: MPLW 7 501 - 18 000 kg

353: MPLW 18 001 - 26 000 kg

354: MPLW >26 000 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:**

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

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.)

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

**Additional variables collected compared to the legal requirements:****Environmental impact-related variables:**

Type of fuel. Data on emission class and average CO<sub>2</sub>-emissions are available from the register.

**A1. Vehicle-related variables:**

- possibility of using vehicles for combined transport (NO)
- axle configuration according to the nomenclature defined in the Regulation on road transport statistics (NO)
- vehicle operator's NACE Rev. 2 at class level (four-digit level) (YES)

**A2. Journey-related variables:**

- place of loading, if any, of the road transport vehicle on another means of transport (NO)
- place of unloading, if any, of the road transport vehicle from another means of transport (NO)
- situation 'fully loaded' (procedure 2) or 'not fully loaded' (procedure 1) of the goods road transport vehicle during the journey in question, in terms of maximum volume of space used during the journey (procedure 0 = by convention for unladen journeys) (NO)

**A3. Goods-related variables:**

- type of freight (Cargo types) as defined in the Regulation (YES)

Main figures	2015	2016
Total number of relevant goods vehicles in the country	51 915	51 026
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	9 155	8 878
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	991	935
Number of cases classified as non-respondents	3 743	3 484
Number of cases where sample register information was wrong and response could not be used	475	457
Number of questionnaires used in analysis	3 946	4 002

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

**Other methodological changes introduced since the last publication of the 'Methodologies used in surveys of road freight transport in Member States and Candidate Countries' (Edition 2014)**

Electronic data transfer has been established with a first large transport company in summer 2015. A similar approach based on electronic loading lists was successfully tested with a second company in 2016 and is planned to be effective as of summer 2017.

## 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 3 500 to 4 999; from 5 000 to

6 999; from 7 000 to 9 999; from 10 000 to 14 999 and from 15 000). The selection of sample units is proportional within each stratum.

**Additional variables collected compared to the legal requirements:**

**Environmental impact related variables:**

Type of fuel used and fuel consumption.

**A1. Vehicle-related variables:** none

**A2. Journey-related variables:** none

**A3. Goods-related variables:** none

Main figures	2011	2012
Total number of relevant goods vehicles in the country	9 852	10 561
Number of vehicles selected for initial sample and questionnaires dispatched to vehicle owners	3 744	3 739
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	333	412
Number of cases classified as non-respondents	2 429	2 386
Number of cases where sample register information was wrong and response could not be used	422	418
Number of questionnaires used in analysis	560	523

More information in Countries Specific Notes

(<https://circabc.europa.eu/w/browse/9eea25b6-ebf2-4961-aed3-6ab27fb95b74>)

# 2

## Summary tables

**Table 1 – Scope of surveys**

Country	Sampling base		Agricultural, military and public service vehicles	Vehicle types not covered	
	Register of tractive vehicles maintained by the NSI or national organisations (1)	Other		Vehicles over or below certain limits	Other vehicles not covered
<b>Belgium</b>	Yes	-	Yes	Vehicles < 1 tonnes LC	Vehicles not destined to the transport of goods
<b>Bulgaria</b>	Yes	-	Yes	Vehicles < 6 tonnes MPLW	Vehicles with dimensions exceeding permitted limits of the country. Vehicles not destined to the transport of goods.
<b>Czech Republic</b>	Yes	-	Yes	Vehicles < 2 tonnes LC	Vehicles with oversized load
<b>Denmark</b>	Yes	Road Worthiness Test (RWT)	-	Vehicles < 6 tonnes MPLW	Personally owned vehicles
<b>Germany</b>	Yes	-	Yes	Lorries ≤ 3.5 tonnes LC	Vehicles not destined to the transport of goods. Vehicles not used for goods transport on public roads (own account only)
<b>Estonia</b>	Yes	-	Yes	Lorries < 3.5 tonnes LC Vehicles > 25 years	Special purpose vehicles, 25 years old vehicles
<b>Ireland</b>	Yes	-	-	Vehicles < 2 tonnes unladen weight	Vehicles not destined to the transport of goods. Vehicles taxed as non-commercial vehicles
<b>Greece</b>	Yes	-	Yes	Vehicles < 3.5 tonnes LC and < 6 tonnes MPLW	-
<b>Spain</b>	Yes	-	Yes	Vehicles < 3.5 tonnes LC and < 6 tonnes MPLW	Special vehicles with very high weight capacity or dimensions which need a special registration number. Vehicles not destined to the transport of goods
<b>France</b>	Yes	-	Yes	Lorries > 32.5 tonnes LC Tractors > 44.5 tonnes LC Vehicles < 3.5 tonnes weight Vehicles > 15 years	Special purpose vehicles. Vehicles belonging to owners involved in activities such as driving schools, fairgrounds, etc

(1) Ministry of Transport or other national organisations.





Table 1 – Scope of surveys (continuation)

Country	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
Croatia	Yes	Statistical Business Register	Yes	Vehicles < 3.5 tonnes LC	Special purpose vehicles
Italy	Yes	Tax vehicle register from the Ministry of Economy and Finance Road freight survey register	Yes	Vehicles < 3.5 tonnes LC Vehicles > 11 years	Vehicles not destined to the transport of goods
Cyprus	Yes	-	-	Vehicles < 3 tonnes LC	-
Latvia	Yes	Register of vehicles	Yes	Vehicles < 3.5 tonnes MPLW Vehicles > 25 years	Special purpose vehicles
Lithuania	Yes	Data on road freight vehicles, which passed a roadworthiness test	-	Vehicles < 6 tonnes MPLW Vehicles > 25 years	Special purpose vehicles Vehicles not used for goods carriage
Luxembourg	Yes	-	Yes	Vehicles < 3.5 tonnes LC	Vehicles with dimensions exceeding permitted limits of the country. Vehicles used for breakdown services
Hungary	Yes	-	Yes	Vehicles < 3.5 tonnes LC	Special purpose vehicles
Malta	Yes	-	-	-	-
Netherlands	Yes	National Business Register Lease Registers from the Tax Authorities	-	Vehicles ≤ 3.5 tonnes MPLW Vehicles > 25 years	Vehicles not used for goods transport on public roads. Passenger vehicles (buses, campers)
Austria	Yes	Statistical Business Register (BR)	Yes	Vehicles < 2 tonnes LC Vehicles > 25 years	Fire brigade, driving schools, private household, exterritorial organisations
Poland	Yes	-	Yes	Vehicles ≤ 3.5 tonnes MPLW and < 1.5 tonnes LC Vehicles > 25 years	Special purposes vehicles. Vehicle not adjusted to carry goods
Portugal	Yes	-	Yes	Vehicles ≤ 3.5 tonnes MPLW	Vehicles not destined to the transport of goods
Romania	Yes	-	-	Vehicles < 3.5 tonnes LC Vehicles > 25 years	-
Slovenia	Yes	-	Yes	Vehicles < 2 tonnes LC	Special purpose vehicles. Vehicles belonging to users that could not be matched with the Business Register

(1) Ministry of Transport or other national organisations.



Table 1 – Scope of surveys (continuation)

Country	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
<b>Slovakia</b>	Yes	Register of operators	-	-	-
<b>Finland</b>	Yes	<u>National</u> : Vehicle Register <u>International</u> : Membership register	Yes	Lorries < 3.5 tonnes MPLW	Special purpose vehicles
<b>Sweden</b>	Yes	Commercial Traffic Register Central Register of Corporation Vehicle-kilometre database	Yes	Vehicles ≤ 3.5 tonnes LC Vehicles > 30 years	Special purpose vehicles; Vehicles owned by companies not registered in the Central Register of Corporations
<b>United Kingdom</b>	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 < 3.5 tonnes MPLW (national transport only)	Special purpose vehicles
<b>Liechtenstein</b>	Yes	Office of Motor Vehicles	-	Vehicles < 6 tonnes MPLW	Vehicles operating in LI and CH only
<b>Norway</b>	Yes	-	-	Vehicles < 3.5 tonnes LC Vehicles ≥ 35 tonnes MPLW Vehicles > 25 years	Special purpose vehicles
<b>Switzerland</b>	Yes	-	Yes	Vehicles < 3.5 tonnes MPLW	Special purpose vehicles
<b>Former Yugoslav Republic of Macedonia</b>	Yes	-	Yes	-	Special purpose vehicles

(¹) Ministry of Transport or other national organisations.



## Table 2 – Type of questionnaire used for the survey

Country	Type of questionnaire
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	Electronic questionnaire
Germany	Web questionnaire
Estonia	Web questionnaire
Ireland	Paper questionnaire
Greece	Web questionnaire and paper questionnaire
Spain	Web questionnaire and paper questionnaire
France	Electronic questionnaire
Croatia	Paper questionnaire
Italy	Questionnaire in PDF format, sent and received by certified email
Cyprus	Paper questionnaire
Latvia	Paper questionnaire
Lithuania	Electronic questionnaire
Luxembourg	Paper questionnaire (it is planned to offer an electronic data transmission)
Hungary	Electronic questionnaire
Malta	-
Netherlands	Web questionnaire, electronic transmission of data from transport companies
Austria	Electronic questionnaire and XML transmission (since 2008) and individualised Excel questionnaire (added since 2013)
Poland	Electronic and paper questionnaire
Portugal	Web questionnaire
Romania	Web questionnaire and paper questionnaire
Slovenia	Paper questionnaire
Slovakia	Electronic and paper questionnaire
Finland	Web questionnaire
Sweden	Web questionnaire
United Kingdom	Paper questionnaire
Liechtenstein	Paper questionnaire
Norway	Web questionnaire and paper questionnaire
Switzerland	Web questionnaire, electronic transmission of data from transport companies
Former Yugoslav Republic of Macedonia	Web questionnaire and paper questionnaire



## Table 3 – Sampling rate in space (of vehicles, firms), 2016

Country	Statistical unit	Number of statistical units in the population	Number of statistical units in the sample	Sampling rate in space (%)
Belgium	Tractive vehicle	99 552	14 876	14.9
Bulgaria	Tractive vehicle	115 514	16 000	13.9
Czech Republic	Tractive vehicle	144 583	17 953	12.4
Denmark	Tractive vehicle	36 617	8 626	23.6
Germany (*)	Tractive vehicle	500 275	187 815	37.5
Estonia	Tractive vehicle	16 488	6 032	36.6
Ireland	Tractive vehicle	97 510	25 651	26.3
Greece	Tractive vehicle	105 942	6 360	6.0
Spain	Tractive vehicle	318 660	56 000	17.6
France	Tractive vehicle	547 116	78 159	14.3
Croatia	Tractive vehicle	26 992	10 400	38.5
Italy	Tractive vehicle	202 552	44 356	21.9
Cyprus	Tractive vehicle	12 522	1 612	12.9
Latvia	Tractive vehicle	20 266	6 240	30.8
Lithuania	Tractive vehicle	38 062	12 673	33.3
Luxembourg	Tractive vehicle	9 664	8 277	85.6
Hungary	Tractive vehicle	77 509	52 676	68.0
Malta	Tractive vehicle, Transport firm	-	-	-
Netherlands	Tractive vehicle	128 133	36 353	28.4
Austria	Tractive vehicle, Local unit	64 344	26 756	41.6
Poland	Tractive vehicle	680 910	52 000	7.6
Portugal	Tractive vehicle	77 775	28 346	36.4
Romania	Tractive vehicle	108 976	32 190	29.5
Slovenia	Tractive vehicle	23 606	8 333	35.3
Slovakia	Tractive vehicle	143 664	10 400	7.2
Finland (?)	Tractive vehicle	106 235	10 000	9.4
Sweden	Tractive vehicle	62 453	11 627	18.6
United Kingdom	Tractive vehicle (national)	400 167	14 278	3.6
	Transport firm (international)	1 597	1 011	63.3
Liechtenstein (?)	Tractive vehicle	258	314	121.7
Norway	Tractive vehicle	34 703	7 249	20.9
Switzerland	Tractive vehicle	51 026	8 878	17.4
Former Yugoslav Republic of Macedonia (*)	Tractive vehicle	10 561	3 739	35.4

(\*) 2014 data used for number of statistical units in the population and sample.

(?) Provisional data.

(?) Some vehicles may be surveyed several times in the same quarter; 2013 data used for number of statistical units in the population and sample.

(\*) 2012 data used for number of statistical units in the population and sample.

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, 2017

Country	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	Week	52	52	1.92
Germany	Half week	104	104	0.96
Estonia	Week	52	52	1.92
Ireland	Week	52	52	1.92
Greece	Week	52	52	1.92
Spain	Week	52	52	1.92
France	Week	52	52	1.92
Croatia	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	:
Netherlands	Week	52	52	1.92
Austria	Week	52	52	1.92
Poland	Week	52	52	1.92
Portugal	Week	52	52	1.92
Romania	Week	52	52	1.92
Slovenia	Week	52	52	1.92
Slovakia	Week	52	52	1.92
Finland (*)	3 or 4 days	52	52	1.92
Sweden	Week	52	52	1.92
	Week (national)	52	52	1.92
United Kingdom	Dependant on the firm size (international transport)	-	-	:
Liechtenstein	Week	52	24	4.17
Norway	Week	52	52	1.92
Switzerland	Week	52	52	1.92
Former Yugoslav Republic of Macedonia	Week	52	52	1.92

(\*) 3 days for non-members of SKAL-S, 4 days for members of SKAL-S. These days make a period of one week. Every other week starts with 3 days and every other week starts with 4 days.

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)

Country	Collection unit	Sampling rate in space (%)	Sampling rate in time (%)	Global sampling rate in space and in time (%)
Belgium	Vehicle-week	14.9	1.92	0.29
Bulgaria	Vehicle-week	13.9	1.92	0.27
Czech Republic	Vehicle-week	12.4	1.92	0.24
Denmark	Vehicle-week	23.6	1.92	0.45
Germany <sup>(1)</sup>	Vehicle-half week	37.5	0.96	0.36
Estonia	Vehicle-week	36.6	1.92	0.70
Ireland	Vehicle-week	26.3	1.92	0.51
Greece	Vehicle-week	6.0	1.92	0.12
Spain	Vehicle-week	17.6	1.92	0.34
France	Vehicle-week	14.3	1.92	0.27
Croatia	Vehicle-week	38.5	1.92	0.74
Italy	Vehicle-week	21.9	1.92	0.42
Cyprus	Vehicle-week (national)	12.9	1.92	0.25
Latvia	Vehicle-week	30.8	1.92	0.59
Lithuania	Vehicle-week	33.3	1.92	0.64
Luxembourg	Vehicle-week	85.6	3.57	3.06
Hungary	Vehicle-week	68.0	1.92	1.31
Malta	Vehicle-week	:	:	:
Netherlands	Vehicle-week	28.4	1.92	0.55
Austria	Vehicle-week	41.6	1.92	0.80
Poland	Vehicle-week	7.6	1.92	0.15
Portugal	Vehicle-week	36.4	1.92	0.70
Romania	Vehicle-week	29.5	1.92	0.57
Slovenia	Vehicle-week	35.3	1.92	0.68
Slovakia	Vehicle-week	7.2	1.92	0.14
Finland <sup>(2)</sup>	Vehicle-week	9.4	1.92	0.18
Sweden	Vehicle-week	18.6	1.92	0.36
United Kingdom	Vehicle-week (national)	3.6	1.92	0.07
Liechtenstein <sup>(3)</sup>	Vehicle-week	121.7	4.17	5.07
Norway	Vehicle-week	20.9	1.92	0.40
Switzerland	Vehicle-week	17.4	1.92	0.33
Former Yugoslav Republic of Macedonia <sup>(4)</sup>	Vehicle-week	35.4	1.92	0.68

(<sup>1</sup>) 2014 data used for the sampling rate in space.

(<sup>2</sup>) Provisional data used for the sampling rate in space.

(<sup>3</sup>) 2013 data used for the sampling rate in space.

(<sup>4</sup>) 2012 data used for the sampling rate in space.

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 2016, whereas the latter to 2017. 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, 2015-2016

Country	Response rate (in %)	
	2015	2016
Belgium	65.27	52.07
Bulgaria	69.46	67.24
Czech Republic	91.63	91.47
Denmark	98.09	96.41
Germany (1)	95.98	95.77
Estonia	68.78	71.29
Ireland	57.36	52.86
Greece	84.48	92.06
Spain	95.67	96.70
France	81.09	79.43
Croatia	78.24	80.78
Italy	41.31	37.29
Cyprus	93.49	93.30
Latvia	78.23	76.63
Lithuania	90.26	83.45
Luxembourg	91.32	89.03
Hungary	87.82	83.09
Malta	:	:
Netherlands	20.23	86.72
Austria	98.72	99.72
Poland	75.95	73.88
Portugal	90.76	87.37
Romania	96.24	95.65
Slovenia	73.95	72.94
Slovakia	86.92	86.81
Finland (2)	53.84	60.43
Sweden	65.81	64.03
United Kingdom (national)	83.70	83.25
Liechtenstein (3)	99.07	97.77
Norway	92.32	91.87
Switzerland	59.12	60.76
Former Yugoslav Republic of Macedonia (4)	35.12	36.19

(1) Based on 2013-2014 data.

(2) Provisional data.

(3) Based on 2012-2013 data.

(4) Based on 2011-2012 data.

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, 2015-2016

Country	Register quality (in %)	
	2015	2016
Belgium	89.05	91.60
Bulgaria	58.94	66.87
Czech Republic	83.62	81.51
Denmark	95.09	95.90
Germany (1)	94.24	94.31
Estonia	74.16	77.33
Ireland	94.81	94.93
Greece	77.60	72.19
Spain	70.01	69.36
France	76.19	76.21
Croatia	89.16	90.60
Italy	77.66	87.63
Cyprus	93.83	93.75
Latvia	97.43	97.60
Lithuania	87.22	86.99
Luxembourg	100.00	100.00
Hungary	71.27	79.07
Malta	:	:
Netherlands	92.12	92.01
Austria	95.28	84.60
Poland	71.98	77.72
Portugal	80.18	94.69
Romania	94.37	94.26
Slovenia	92.92	91.95
Slovakia	64.05	83.03
Finland (2)	89.75	89.59
Sweden	93.44	91.78
United Kingdom (national)	95.69	96.17
Liechtenstein (3)	100.00	98.37
Norway	91.17	93.68
Switzerland	91.22	91.53
Former Yugoslav Republic of Macedonia (4)	67.91	69.11

(1) Based on 2013-2014 data.

(2) Provisional data.

(3) Based on 2012-2013 data.

(4) Based on 2011-2012 data.

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 for total transport (on tonnes), 2015-2016**

Country	Standard error (tonnes), in %	
	2015	2016
Belgium	2.27	2.81
Bulgaria	9.72	8.50
Czech Republic	3.46	4.01
Denmark	4.47	4.54
Germany	:	:
Estonia	8.49	7.31
Ireland	3.05	3.02
Greece	13.32	10.77
Spain	1.82	1.87
France	1.41	1.36
Croatia	3.87	3.75
Italy	3.04	:
Cyprus	6.92	6.54
Latvia	6.22	5.92
Lithuania	2.72	2.81
Luxembourg	3.05	3.16
Hungary	2.08	1.85
Malta	-	-
Netherlands	1.84	1.79
Austria	2.05	2.05
Poland	2.44	2.48
Portugal	3.07	2.93
Romania	3.09	2.84
Slovenia	4.57	4.95
Slovakia	6.91	5.68
Finland (¹)	5.49	5.63
Sweden	4.66	5.28
United Kingdom	3.23	3.20
Liechtenstein	-	-
Norway	5.50	6.67
Switzerland	4.92	4.78
Former Yugoslav Republic of Macedonia	-	-

(¹) Provisional data.

Percentage standard error of estimate (95 % confidence).

See the manual 'Road freight transport methodology', i.e. the Reference Manual for the implementation of the Council Regulation No 70/2012 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 for total transport (on tonne-kilometres), 2015-2016**

Country	Standard error (tonnes), in %	
	2015	2016
Belgium	2.54	4.04
Bulgaria	5.25	4.92
Czech Republic	2.61	2.83
Denmark	2.79	2.92
Germany	:	:
Estonia	6.05	5.63
Ireland	2.94	3.37
Greece	6.74	6.26
Spain	1.63	1.65
France	0.94	0.93
Croatia	3.67	3.64
Italy	2.41	:
Cyprus	8.06	7.46
Latvia	3.92	3.53
Lithuania	2.43	2.43
Luxembourg	2.66	2.77
Hungary	1.39	1.30
Malta	-	-
Netherlands	1.48	1.45
Austria	2.15	1.97
Poland	1.78	1.77
Portugal	3.13	2.63
Romania	2.09	1.99
Slovenia	3.36	3.28
Slovakia	4.54	4.22
Finland (¹)	5.86	5.63
Sweden	3.69	3.71
United Kingdom	3.36	3.89
Liechtenstein	-	-
Norway	3.46	4.09
Switzerland	4.54	4.63
Former Yugoslav Republic of Macedonia	-	-

(¹) Provisional data.

Percentage standard error of estimate (95 % confidence).

See the manual 'Road freight transport methodology', i.e. the Reference Manual for the implementation of the Council Regulation No 70/2012 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

Country	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	-
Croatia	x	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	-	-	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	-	-
Former Yugoslav Republic of Macedonia	-	-	-	-	-	-



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

REVISED

The present document describes the methods used by Member States, candidate and EFTA countries in their surveys on road freight transport statistics. Part I describes national methodologies for data collection. This information is based on questionnaires completed by the reporting countries. Data in these questionnaires refer to the first quarter of 2016. Part II includes summary tables, with the basic information on sampling, response rate, register quality and precision of results of the surveys. Data on the registers used to draw the sample and the sampling methodology are relevant for the surveys conducted in the first quarter of 2016, while the main characteristics given for each country refer to the years 2015 and 2016, according to data availability. 'Methodologies used in surveys of road freight transport in Member States, EFTA and Candidate Countries' is published in English only.

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