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ISSUES THAT NEED CONSIDERATION AND REQUIRE DECISIONS BY THE COMMITTEE

Preparation for the 2010 E-Road and 2010 E-Rail Traffic Censuses

Draft Recommendations on the E-Road Traffic Census

Note by the secretariat

1. The present document is submitted in accordance with the mandate given by the Working Party on Transport Statistics (WP.6) at its fifty-ninth session (28-30 May 2008). The Working Party decided to establish an Ad hoc Group of Experts on the 2010 E-Road Traffic Census that should evaluate the results of the 2005 Census, prepare recommendations to Governments on procedures and methodologies for the 2010 E-Road Traffic Census and draft a resolution for adoption by the United Nations Economic Commission for Europe (UNECE) Inland Transport Committee in February 2009 (ECE/TRANS/WP.6/155, para. 37). The present document is also issued in accordance with the programme of work 2006-2010 of the Inland Transport Committee, adopted at its seventieth session, in 2008 (ECE/TRANS/166/Add.1, section 02.12.1 (d)).

2. The secretariat reproduces below the draft recommendations to Governments on the 2010 E-Road Traffic Census as adopted by the Ad Hoc Group of Experts on the E-Road Traffic Census (WP.6/AC.2) at its ninth session (10 November 2008).

DRAFT RECOMMENDATIONS TO GOVERNMENTS ON THE E-ROAD TRAFFIC CENSUS OF MOTOR TRAFFIC AND INVENTORY OF STANDARDS AND PARAMETERS ON MAIN INTERNATIONAL TRAFFIC ARTERIES IN EUROPE IN 2010 ("2010 E-ROAD TRAFFIC CENSUS")

I. COVERAGE OF THE CENSUS

1. For purposes of the 2010 E-Road Traffic Census, the E-Road network referred to is that described in Annex I of the European Agreement on Main International Traffic Arteries (AGR) of 1975 and in Amendments 1-9 to the Agreement (ECE/TRANS/16/Amends.1-9) and in any other amendment which comes into force before 2010. Where an E-Road is not open to traffic (e.g., because it is closed for repairs, has not yet been built, or for other reasons), the Census could, if possible, be taken on the road(s) used by the traffic which would otherwise use the E-Road.
Lists of AGR lines as at the beginning of the reference year will be made available by the UNECE secretariat.

II. PURPOSE OF THE CENSUS

2. Internationally comparable data on main international road traffic arteries are of major and increasing importance in Europe, given the growing volume of international and transit traffic. The E-Road Traffic Census carried out under the auspices of UNECE is the only existing international framework providing comparable data on traffic flows on main European roads on an all-European basis. In view of the fact that the E-Road Traffic Census is taken, not in isolation, but as a by-product of the respective national road traffic censuses, only marginal costs are involved in the compilation and transmission of the E-Road Traffic Census data by UNECE member Governments.

3. Every effort should be made within the framework of the E-Road Traffic Census to arrive at data which are as comparable as possible at the international level and respond to new data requirements and changes in traffic patterns. Continuous efforts are, therefore, necessary to keep the scope and the quality of the E-Road Traffic Census data in line with user requirements.

4. The E-Road Traffic Census is undertaken to obtain data for improving and developing the E-Road system, in conformity with the standards set out in Annex II to the European Agreement on Main International Traffic Arteries (AGR) of 1975 (ECE/TRANS/16 and Amends.1-9).

5. In particular, census data are aimed at providing detailed data on the traffic on the E-Road network which will facilitate international passenger and goods traffic.

6. Information on the extent to which various types of vehicles use different sections of the E-Roads enables improved land use management and better integration of road traffic in the planning processes of the country itself and also at the international level, allowing for adequate maintenance, renewal and improvement programmes. This information also contributes to finding solutions to the problems raised by traffic congestion and facilitates the study of environmental issues, road safety and energy consumption.

7. An additional objective of the E-Road Traffic Census is the measurement of the vehicle performance of the Road network, expressed mainly in vehicle-kilometres, by the different categories of vehicles counted.

8. In this context, another purpose of the E-Road Traffic Census is to reflect the volume of night traffic, holiday traffic and peak-hour traffic on the E-Road network. These phenomena are increasingly important and thus more information on these types of traffic is required, despite the difficulty in obtaining such information.

III. SCOPE OF THE CENSUS

9. As E-Roads constitute a relatively limited part of a country's road network, it is of particular interest to know the importance of the traffic on these roads as compared with the traffic borne by the whole of the road network.

10. For this comparison, vehicle-kilometres are the most important statistical measure to express the volume and development of traffic in a country. Figures on vehicle-kilometres are also indispensable in the context of calculations of traffic accidents and energy consumption.

11. Accordingly, it is recommended that data be provided in vehicle-kilometres on all E-Roads, as well as on all other roads of the total road network of the country to the extent possible.

IV. COMPARABILITY WITH THE RESULTS OF THE CENSUS

12. Governments should take the necessary steps to ensure that the results of the 2010 E-Road Traffic Census are as comparable as possible with the 2005[1] Census.

V. CATEGORIES OF VEHICLES TO BE COUNTED

13. All vehicles discussed in the following categories should be counted.

The revised vehicle classification system is as follows:

Category A: Motor vehicles with not more than 3 wheels (motor cycles with or without sidecars, including motor scooters, and motor tricycles);

Category B: Passenger and light goods vehicles (vehicles, including station wagons, with not more than nine seats, including the driver's seat, and light vans with a permissible maximum weight of not more than 3.5 tonnes). Passenger and light goods vehicles are recorded as such, irrespective of whether they are with or without trailers, including caravans and recreational vehicles;

Category C: Goods road vehicles (lorries with a permissible maximum weight of more than 3.5 tonnes, lorries with one or more trailers; tractors with semi-trailers; one or more trailers; tractors with one or more trailers and tractors without trailers or semi-trailers) and Special

[1] In the case of countries where no traffic census of E-Roads was taken in 2005, the results of the 2010 E-Road Traffic Census should be comparable as far as possible with those of the census closest to 2005. Countries which did not take a complete census in 2005 but which were, nevertheless, able to supply data for that year are deemed to have taken a census in 2005.

vehicles (agricultural tractors, special vehicles such as self-propelled rollers, bulldozers, mobile cranes and army tanks and other road motor vehicles not specified elsewhere);

Category D: Motor buses, coaches and trolley buses

14. Categories A and B constitute light motor traffic; categories C and D constitute heavy motor traffic.

15. When there is doubt as to whether a vehicle should be assigned to category B or C, it should be assigned to category C, the category representing the heavier vehicles; the same rule applies when there is doubt as to whether a vehicle should be assigned to category B or D.

16. To facilitate the identification of the various vehicles, it is recommended that the recording staff be given descriptions of the appearance of vehicles and a list of vehicle outlines.

17. Those countries which are developing non-manual counting systems can fit the results to the classification of the categories of vehicles without being obliged to specify more than is technically possible. These simplified data should at least distinguish between light motor traffic and heavy motor traffic. Nevertheless, for the network as a whole, a division into four vehicle categories is recommended.

VI. VALUES TO BE CALCULATED[2]

18. For each E-Road in a country, it is recommended that the average annual daily traffic flow (AADT) be calculated. In addition, night traffic, holiday traffic and peak-hour traffic should be calculated. Night traffic is, in principle, defined as traffic between 10 p.m. and 6 a.m.; holiday traffic is defined, in principle, as the average daily traffic (ADT) during the approximately two-month vacation period (in exceptional cases, one month). Peak-hour traffic is, in principle, defined as the traffic at the 50th highest hour.

19. For the total E-Road network (and other roads if possible) in each country, vehicle-kilometres should be calculated for the year of the Census and for the different vehicle categories distinguished.

20. In view of the highly differentiated techniques used for road censuses in the various countries, there is no need for a uniform standard design for all counts. Nevertheless, certain principles are fundamental.

21. It is necessary that the E-Road network be divided into road sections. A section should be chosen in such a way that the volume of traffic is nearly the same over its entire length. Since traffic densities tend to increase rapidly in and around large built-up areas, it is necessary to choose counting posts on road sections in rural areas at sufficiently large distances from urban zones. The data for counting posts in urban zones may be added if the E-Road has at least four lanes.

[2] In calculating the values and in designing the counting procedures, results obtained should be representative for the average annual daily traffic flow (AADT).

22. For each section, the average annual daily traffic flow (AADT) for the year 2010 is to be provided. Three methods can be used for providing the AADT:

(a) Continuous counting for the whole year;

(b) Counting during short periods, ensuring their representation across the year; or

(c) A combination of the foregoing types of counting. Sampling methods may be integrated into systems of permanent counts, using so-called “ratio estimates”.

23. In certain exceptional cases, AADT may be determined without counting, based on previous counts or on counts on adjoining sections of the same road.

24. Traffic data should be given for 2010. However, it is left to the countries concerned to decide whether to undertake counting at every post in that year or to spread it over a number of years and to adjust statistically the data obtained. If the counting is spread over a number of years, the influence of other changes in the network, such as the opening of new roads to traffic during those years, would have to be taken into account.

25. In order to arrive at the AADT for each E-Road as a whole, the sum of the vehicle-kilometres for all road sections on that E-Road should be divided by the length of the E-Road.

26. The design of the counts in respect of the classification of vehicle categories is to be arranged in such a way that:

(a) For the whole network the complete classification can be given;

(b) For each separate E-Road either a complete classification or a limited classification can be given;

(c) For each road section, either a complete classification or a limited classification can be given.

27. The limited classification referred to above should at least distinguish between “light motor traffic” and “heavy motor traffic”.

VII. CHARACTERISTICS OF E-ROADS

28. Information about the volume and distribution of traffic on these E-Roads will be of greater value if information about the characteristics of such roads can be obtained. Governments are therefore requested to submit information at the same time on infrastructure parameters of E-Roads (tables 7 and 8), in accordance with the European Agreement on Main International Traffic Arteries (AGR), as decided by the Working Party on Road Transport at its ninety-first session (15-17 October 1997) (TRANS/SC.1/361, paras. 15-18).

29. For the publication of results, roads should be classified as follows, according to the number and width of the carriageways and numbers of traffic lanes:

(a) Single carriageway[3] roads:

width of carriageway	number of traffic lanes
(i) < 6 m	(i) two lanes
(ii) 6 - 6.99 m	(ii) three lanes
(iii) 7 - 8.99 m	(iii) four lanes
(iv) 9 - 10.49 m	(iv) five or more lanes
(v) 10.50 - 11.99 m	
(vi) 12 - 13.99 m	
(vii) 14 m or wider	

(b) Roads with two carriageways separated by a central reserve:

width of each carriageway	number of traffic lanes in each carriageway
(i) < 7 m	(i) two lanes
(ii) 7 - 8.99 m	(ii) three lanes
(iii) 9 - 10.49 m	(iii) four lanes
(iv) 10.50 - 11.99 m	(iv) five or more lanes
(v) 12 - 13.99 m	
(vi) 14 m or wider	

30. Motorways[4] will usually constitute a subdivision of category (b) in paragraph 29, but could also, at special points or temporarily, have only one carriageway and would then constitute a subdivision of category (a).

31. Express roads are defined in the AGR Agreement as "... road(s) reserved for motor traffic accessible only from interchanges or controlled junctions and on which, in particular, stopping and parking are prohibited on the running carriageway(s)" (ECE/TRANS/16/Amend.2, annex II).

32. Roads with different numbers of lanes in each carriageway should be classified according to the smaller number of lanes. The length of these road sections should be indicated.

33. In accordance with paragraph 26 above, information should be provided on the following:

(a) design speeds on E-Roads, (b) average width of traffic lanes, central reserves and emergency stopping strips; and (c) the application of E-Road signing.

VIII. COMPILATION AND PUBLICATION OF THE 2010 E-ROAD TRAFFIC CENSUS

34. It is recommended that Governments supply to the UNECE secretariat a report on the Census carried out in their country. Since the usefulness of the publication of the Census depends to a large extent on its timeliness, it is desirable that Governments try, to any extent

[3] Please refer to definitions in the present document.
[4] Please refer to definitions in the present document.

possible, to furnish the data (including the map, if necessary), before 1 November 2011.[5] The report should include:

(a) Particulars concerning the characteristics of the E-Roads, in conformity with tables 1 and 2 in the present document;

(b) Particulars concerning the number and nature of the counting posts, in conformity with table 3 in the present document;

(c) Particulars specified in respect of all E-Roads taken together and in respect of each E-Road, in conformity with table 4 in the present document;

(d) Particulars specified in respect of each E-Road, in conformity with table 4 bis in the present document;

(e) Particulars concerning the length and usage of roads in respect of all E-Roads, motorways, express roads, as well as all other roads, and the total of these taken together, in conformity with table 5 in the present document;

(f) A concise description of the design of the counts and the sampling methods used, including the method used for estimating vehicle-kilometres for the whole road network;

(g) A map (or maps) showing data obtained from the 2010 Census. A sufficient number of selected counting posts should be shown on the map (or maps) in order to reveal important variations in the distribution of traffic among the various categories of traffic volume distinguished. It is of particular importance that the counting posts and their identification numbers in the maps are also reproduced in table 7 in the present document, although the table may contain more counting posts than are represented in the maps. Only if counting posts in the maps are identified in table 7 is the secretariat in a position to prepare consolidated maps on a pan-European basis.

35. In principle, the following details should be observed when preparing the maps:

(a) Countries will show their results on maps drawn to the same scale as the maps of their country contained in the 2005 E-Road Census, using only black (full and shaded) contours, in accordance with the scale shown in table 6 in the present document;

(b) Average annual daily volumes of traffic, which determine the width of the lines, should be distinguished by a number of interval classes corresponding to the categories shown in table 6 in the present document;

(c) For the final preparation of the maps, the UNECE secretariat will use only one colour (red) to indicate volumes of traffic. The width of the lines, not exceeding 1.4 cm, will be roughly proportional to the average annual daily traffic flow; and shades of colour will be used to indicate broad levels of average traffic volumes, a darker shade indicating a higher volume of traffic than a lighter shade. The classification and width of lines are shown in table 6 in the present document;

(d) Motorways and express roads will be indicated by a thin white line in the centre of the red strip (see table 6 in the present document);

[5] The attention of Governments is particularly drawn to this point, in view of the considerable delay frequently observed in connection with previous censuses.

(e) The E-Road numbers (E1, E2, etc.) in a rectangle will be shown in black and repeated as often as necessary to mark the itinerary of each road clearly; when two or more roads follow the same route, the road number of each should be shown in the same rectangle: e.g. E4, E6;

(f) The number of selected counting posts, as indicated in table 6, will also be shown in black;

(g) Names of important towns and localities will be shown on the maps.

36. As the preparation of the maps by countries seems to cause difficulty and takes considerable time, it is possible in certain cases to omit requests to countries to supply such detailed maps as described in paragraph 34:

(a) Where counting post numbers and location of posts are unchanged and no change in the type of E-Roads and its routing occurs, the UNECE secretariat will repeat the post data of the 2005 map on the 2010 map. The width of the lines representing average annual daily volume of traffic (see table 6 in the present document) will be adjusted by the UNECE secretariat in accordance with the data in the 2005 tables. In such a case, no separate map would need to be established by the country concerned, provided that all necessary data on counting posts are contained in table 7 in the present document;

(b) Minor changes in post numbers and location of posts could be indicated by the country concerned on the relevant map published by UNECE, thus avoiding the necessity for countries to print a new map. In the event of a change in the type of E-Roads, the opening of a new E-Road or a major change in the routing of an existing E-Road, countries should supply a map (an existing printed map would be sufficient) showing in detail the changes effected and marking on it precisely the counting post numbers and location of posts;

(c) Where a country has not previously participated in the Census, a map showing the E-Road network with counting post numbers and location of posts as indicated in paragraph 34 must be provided. In general, however, there should be no need for participating countries to show traffic density by line width if the accompanying table 7 in the present document has been properly completed.

37. To the extent possible, data (and maps) should be transmitted to the UNECE secretariat in an electronic format, in place of, or in addition to, the hard-copy reply.

2010 E-Road Traffic Census Tables

Each country should provide data in accordance with the following tables for the census year 2010.

Table 1 **Total length of E-Roads by width and number of carriageways and lanes at the end of 2005 and 2010 (All E-Roads)**

Country: **Unit: km**

E-ROADS		2005	2010
1. All E-Roads			
Of which have become motorways since 2005[1]			
By total number of lanes			
Ordinary road			
	- With 1 lane		
	- With 2 lanes		
	- With 3 lanes		
	- With 4 lanes		
	- With 5 lanes and over		
	- unknown		
Express road			
	- With 1 lane		
	- With 2 lanes		
	- With 3 lanes		
	- With 4 lanes		
	- With 5 lanes and over		
	- unknown		
Motorway			
	- With 2 lanes		
	- With 3 lanes		
	- With 4 lanes		
	- With 5 lanes		
	- With 6 lanes		
	- With 7 lanes and over		
	- unknown		

[1] The total length should be given for roads that have, since 2005, become motorways as a result of an upgrading of an E-Road or a change in the rating of an E-Road.

Symbols to be employed :

... Not available
- Magnitude zero
0 Magnitude not zero, but less than half the unit employed

Table 1 (continued) **Length of E-Roads by width and number of carriageways and lanes at the end of 2005 and 2010**
(Sections of single carriageway roads)

Country: **Unit: km**

E-ROADS		Number of lanes	2005	2010[1]
2. Sections of single carriageway roads [1]				
2.1 By number of lanes				
	- With 1 lane			
	- With 2 lanes			
	- With 3 lanes			
	- With 4 lanes			
	- With 5 lanes and over			
	- unknown			
2.2 By width of carriageway				
a) Total by width of carriageway up to 5.99m				
	- Ordinary road	1		
		2		
b) Total by width of carriageway of 6m - 6.99m				
	- Ordinary road	2		
c) Total by width of carriageway of 7m - 8.99m				
	- Ordinary road	2		
		3		
	- Express road	2		
	- Motorway	2		
d) Total by width of carriageway of 9m -10.49m				
	- Ordinary road	2		
		3		
	- Express road	2		
		3		
	- Motorway	2		
		3		
e) Total by width of carriageway of 10.50m -11.99m				
	- Ordinary road	3		
		4		
	- Express road	2		
		3		
	- Motorway	2		
		3		
f) Total by width of carriageway of 12m -13.99m				
	- Ordinary road	3		
		4		
	- Express road	3		
		4		
	- Motorway	3		
		4		
g) Total by width of carriageway of 14m and over				
	- Ordinary road	3		
		4		
		5 and >		
	- Express road	4		
		5 and >		
	- Motorway	4		

		5 and >		

[1] Motorways could also, at special points temporarily, have only one carriageway and would then constitute a subdivision of this section.

Table 1 (continued) **Length of E-Roads by width and number of carriageways and lanes at the end of 2005 and 2010**
(Sections of roads with two carriageways separated by a central strip)

Country: **Unit: km**

E-ROADS	Number of lanes in each carriageway	2005	2010
3. Sections of roads with two carriageways separated by a central strip [1, 2]			
3.1 By total number of lanes			
- With 2 lanes			
- With 3 lanes			
- With 4 lanes			
- With 5 lanes			
- With 6 lanes			
- With 7 lanes and over			
- unknown			
3.2 By width of each carriageway			
a) Total by width of each carriageway up to 6m - 6.99m			
- Ordinary road	2		
b) Total by width of each carriageway of 7m - 8.99m			
- Ordinary road	2		
	3		
- Express road	2		
- Motorway	2		
c) Total by width of each carriageway of 9m -10.49m			
- Ordinary road	2		
	3		
- Express road	2		
	3		
- Motorway	2		
	3		
d) Total by width of each carriageway of 10.50m -11.99m			
- Ordinary road	3		
	4		
- Express road	2		
	3		
- Motorway	2		
	3		
e) Total by width of each carriageway of 12m -13.99m			
- Ordinary road	3		
	4		
- Express road	3		
	4		
- Motorway	3		
	4		
f) Total by width of each carriageway of 14m and over			
- Ordinary road	3		
	4		
	5 and >		
- Express road	4		
	5 and >		
- Motorway	4		
	5 and >		

[1] Roads with different numbers of lanes in each carriageway should be classified according to the smaller number of lanes. The length of these road sections should be indicated.

[2] For section 3, the number of lanes of the two carriageways should be indicated, while for the subdivision by width of each carriageway only the number of lanes of one carriageway should be indicated.

Table 2 **Length of E-Road sections by average annual daily traffic (AADT)**

Country:

	Average Annual Daily Traffic (AADT)	Length of road section (km)	
		2005	2010
1	Up to 999		
2	1 000 - 1 999		
3	2 000 - 3 999		
4	4 000 - 5 999		
5	6 000 - 9 999		
6	10 000 - 14 999		
7	15 000 - 19 999		
8	20 000 - 24 999		
9	25 000 - 29 999		
10	30 000 - 39 999		
11	40 000 - 49 999		
12	50 000 - 59 999		
13	60 000 - 79 999		
14	80 000 - 99 999		
15	100 000 - 119 999		
16	120 000 - 149 999		
17	150 000 and over		
18	Unknown [1]		
19	TOTAL		

[1] Road sections where no counts were taken (such as in built-up and peripheral urban areas) should be inserted under "unknown" in this table. However, where countries have established counts covering the total E-Road network, including in these areas, the total of these figures should be given. In both cases the totals of tables 1 and 2 should coincide.

Table 3 **Counting posts on E-Roads in 2010**

Country:

E-Road number	Length of road [1] (km)	Number of counting posts				
		Manual counts only [2, 3]	Manual counts and automatic counts [2, 3]	Automatic counts only [2]	Other counting posts [2, 3, 4]	Total number of posts [2] (C)+(D)+(E)+(F)
(A)	(B)	(C)	(D)	(E)	(F)	(G)
All E-Roads in the country						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						
E						

[1] The length of road common to two or more E-Roads should be stated in a footnote.

[2] The number of counting posts common to two or more E-Roads should be stated in a footnote.

[3] The dates on which manual counts were taken should be stated in a footnote.

[4] The nature and dates of operation of such posts should be stated in a footnote.

Table 4 **Distribution of motor traffic by vehicle category in 2010**

Country:

Vehicle category		code	E-Roads and number of corresponding counting posts											
			Total E-Roads		E		E		E		E		E	
			All counting posts [1]		Counting posts [1]		Counting posts [1]		Counting posts [1]		Counting posts [1]		Counting posts [1]	
			Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)
1	All Motor vehicles	a												
1.1	Light motor vehicles	a												
	(total categories A and B)	b												
1.11	Category A	a												
		c												
1.12	Category B	a												
		c												
1.2	Heavy motor vehicles	a												
	(total categories C and D)	b												
1.21	Category C	a												
		d												
1.22	Category D	a												
		d												

[1] Insert number of posts. The number of counting posts common to two or more E-Roads should be stated in a footnote.

Vehicle categories:

A = Motor vehicles with not more than 3 wheels (motor cycles with or without sidecars, including motor scooters, and motor tricycles).
B = Passenger and light goods vehicles (vehicles including station wagons, with not more than nine seats, including the driver's seat, and light van with a permissible maximum weight of not more than 3.5 tonnes). Passenger and light goods vehicles are recorded as such, irrespective of whether they are with or without trailers, including caravans and recreational vehicles.
C = Goods road vehicles (lorries with a permissible maximum weight of more than 3.5 tonnes, lorries with one or more trailers; tractors with semi-trailers; tractors with semi-trailers and one or more trailers; and tractors without trailers or semi-trailers) and Special vehicles (agricultural tractors, special vehicles such as self-propelled rollers, bulldozers, mobile cranes and army tanks and other road motor vehicles not specified elsewhere).
D = Motor buses, coaches and trolley buses.

Explanation of code:

a = Daily average of motor vehicles
b = Percentage of daily average of all motor vehicles
c = Percentage of the daily average of the light motor vehicles
d = Percentage of the daily average of the heavy motor vehicles

Table 4 - bis **Distribution of motor traffic by vehicle category in 2010**

Country:

Vehicle category		code	E-Roads and number of corresponding counting posts											
			All E-Roads						E					
			Number of counting posts [1]		Number of counting posts [1]		Number of counting posts [1]		Number of counting posts [1]		Number of counting posts [1]		Number of counting posts [1]	
			Night traffic [2] (Veh/8h)		Holiday traffic [3] (Veh/24h)		Peak-hour traffic [4] (Veh/h)		Night traffic [2] (Veh/8h)		Holiday traffic [3] (Veh/24h)		Peak-hour traffic [4] (Veh/h)	
			Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)
1	All Motor vehicles	a												
1.1	Light motor vehicles	a												
	(total categories A and B)	b												
1.11	Category A	a												
		c												
1.12	Category B	a												
		c												
1.2	Heavy motor vehicles	a												
	(total categories C and D)	b												
1.21	Category C	a												
		d												
1.22	Category D	a												
		d												

For explanation of categories of motor vehicles and codes, see table 4 of this document.

Footnotes:

[1] Insert number of posts. The number of counting posts common to two or more E-Roads should be stated in a footnote.

[2] Night traffic is, in principle, defined as the average annual daily traffic flow (AADT) between 10 p.m. and 6 a.m.

[3] Holiday traffic is defined in principle as the average daily traffic (ADT) during the approximate two-months' vacation period, (in exceptional cases, one month).

[4] Peak-hour traffic is, in principle, defined as the traffic at the 50th highest hour of the year.

Explanation of code:

a = Daily average of motor vehicles

b = Percentage of daily average of all motor vehicles

c = Percentage of the daily average of the light motor vehicles

d = Percentage of the daily average of the heavy motor vehicles

Table 4 - bis (continued) **Distribution of motor traffic by vehicle category in 2010**

Country:

Vehicle category		code	E-Roads and number of corresponding counting posts											
			E						E					
			Number of counting posts [1] ..... Night traffic [2] (Veh/8h)		Number of counting posts [1] ..... Holiday traffic [3] (Veh/24h)		Number of counting posts [1] ..... Peak-hour traffic [4] (Veh/h)		Number of counting posts [1] ..... Night traffic [2] (Veh/8h)		Number of counting posts [1] ..... Holiday traffic [3] (Veh/24h)		Number of counting posts [1] ..... Peak-hour traffic [4] (Veh/h)	
			Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)	Average number per post in 2010	Change over 2005 (%)
1	All Motor vehicles	a												
1.1	Light motor vehicles	a												
	(total categories A and B)	b												
1.11	Category A	a												
		c												
1.12	Category B	a												
		c												
1.2	Heavy motor vehicles	a												
	(total categories C and D)	b												
1.21	Category C	a												
		d												
1.22	Category D	a												
		d												

For explanation of categories of motor vehicles and codes, see table 4 of this document.

Footnotes:

[1] Insert number of posts. The number of counting posts common to two or more E-Roads should be stated in a footnote.

[2] Night traffic is, in principle, defined as the average annual daily traffic flow (AADT) between 10 p.m. and 6 a.m.

[3] Holiday traffic is defined in principle as the average daily traffic flow (ADT) in the two months' period, (in exceptional cases, one month).

[4] Peak-hour traffic is, in principle, defined as the traffic at the 50th highest hour of the year.

Explanation of code:

a = Daily average of motor vehicles

b = Percentage of daily average of all motor vehicles

c = Percentage of the daily average of the light motor vehicles

d = Percentage of the daily average of the heavy motor vehicles

Table 5 **Length and usage of roads** [1, 2]

Country:

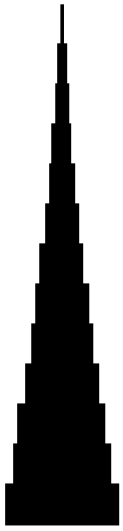
				Vehicles kilometre (million per annum)				
					of which [3]			
			Length (km)	**Total**	**Vehicles category A**	**Vehicles category B**	**Vehicles category C**	**Vehicles category D**
1	**Total length**	**2005**						
		2010						
By type of road								
1.1	**All E-Roads**	**2005**						
		2010						
1.11	**- Motorways**	**2005**						
		2010						
1.12	**- Express roads**	**2005**						
		2010						
1.13	**- Other E-Roads**	**2005**						
		2010						
1.2	**Total non E-Roads**	**2005**						
		2010						
1.21	**- Motorways**	**2005**						
		2010						
1.22	**- Express roads**	**2005**						
		2010						
1.23	**- Other non E-Roads***	**2005**						
		2010						

[1] Data for rows 1 and 1.1 should be based on the 2005/2010 E-Road Traffic Census results; data for rows 1.2, 1.21, 1.22 and 1.23 may be estimated.
[2] The method used for estimating vehicle-kilometre should be described in a note.
[3] For explanation of categories of motor vehicles A-D, see table 4 of this document.
* Each country must indicate which network (e.g. communal, regional, national) it has used.

Table 6 **Symbols to be used for the presentation of results of the 2010 E-Road Traffic Census and data to be given on maps with respect to counting posts**

SYMBOLS

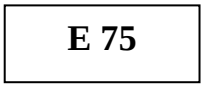
Motor vehicles Category (A) - (D) per day	**Colour**	**Width in mm.**
Up to 999	Red	0.5
1 000 - 1 999	"	1
2 000 - 5 999	"	1.5
6 000 - 9999	"	2.5
10 000 - 14 999	"	3.5
15 000 - 24 999	"	4.5
25 000 -39 999	"	6
40 000 - 59 999	"	7.5
60 000 - 79 999	"	9
80 000 - 99 999	"	10.5
100 000 - 119 999	"	12
120 000 - 149 999	"	14
150 000 and over	"	16



Roads classified as motorways and express roads should be shown in red, the over-all width of the strip indicating the traffic density; the percentage of heavy motor vehicles out of total motor vehicle traffic should be indicated, if possible.

Data incomplete or not available

"E" ROAD NUMBER



COUNTING POSTS

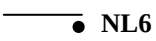


Table 7 **2010 Motor traffic density data at counting posts on E-Roads shown on the accompanying map**

Country:

E-Road number [1]	Counting post number	Length of road section	Number of carriageways	Normal width of road section of each carriageway	Number of lanes [2]	Normal or average width of lanes between counting posts	Width of central reserves [3]	Width of emergency stopping strips [3]	Average design speeds [4]	Annual average daily motor traffic flow in 2010	% change in comparison with 2005 [5]	% of heavy motor vehicles [6]
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)

[1] Counting posts should be arranged in the same order as set out in Annex 1 of the European Agreement on Main International Traffic Arteries (AGR).

[2] The number of lanes should be given which best represents the section of the road concerned. In case of section of single carriageway roads the total number of lanes should be given (i.e. 2, 3, 4, 5 ...). In case of road sections with two carriageways separated by a central reserve the total number of lanes should be indicated (i.e. 2+2, 2+3, 3+3, 3+4 ...).

[3] For width of central reserves (H) and width of emergency stopping strips (I), indicate the normal width on the majority of kilometres between one counting post and another. In case this information is not available for central reserves (H) and emergency stopping strips (I) on the majority of kilometres between one counting post and another, please indicate the existence of a central reserve and an emergency stopping strip (YES or NO).

[4] For average design speeds (J), indicate the normal speed on the majority of kilometres between one counting post and another.

[5] If the figures of percentage increase or decrease in comparison with 2005 do not correspond with the actual difference between the figures given for 2010 and those published earlier for the 2005 census, an explanation should be given in a footnote.

[6] Vehicle categories (C) and (D) represent heavy vehicles.

Table 8 **Status of E-Road Signposting as of 31 December 2010**

Country:

E-Road number	**E-Roads for which signposting has been completed**	**E-Roads for which signposting is under way or planned**	
	Yes / No (If Yes, indicate date signposting completed; If No, please complete column C or D)	**Signposting under way (expected date of completion)**	**Signposting planned (expected date of completion)**
A	**B**	**C**	**D**
E			
E			
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Definitions

The definitions below are taken from the Glossary of Transport Statistics (Fourth edition, 2008, UNECE-International Transport Forum-Eurostat)
<http://www.unece.org/trans/main/wp6/transstatglossmain.html>.

B.I-01a Road

Line of communication (travelled way) open to public traffic, primarily for the use of road vehicles, using a stabilized base other than rails or air strips.

Included are paved roads and other roads with a stabilized base, e.g. gravel roads. Roads also cover streets, bridges, tunnels, supporting structures, junctions, crossings and interchanges. Toll roads are also included. Excluded are dedicated cycle lanes.

B.I-03. Category of road

Roads are categorised according to three internationally comparable types:

(a) Motorway;

(b) Road inside a built-up area;

(c) Other road (outside built-up area).

Classification of the road network according to (a) administration responsible for its construction, maintenance and/or operation;(b) according to design standards or,(c) according to the users allowed to have access on the road.

B.I.04a Motorway

Road, specially designed and built for motor traffic, which does not serve properties bordering on it, and which:

(a) Is provided, except at special points or temporarily, with separate carriageways for traffic in two directions, separated from each other, either by a dividing strip not intended for traffic, or exceptionally by other means;

(b) Has no crossings at the same level with any road, railway or tramway track, or footpath;

(c) Is specially sign-posted as a motorway and is reserved for specific categories of road motor vehicles.

Entry and exit lanes of motorways are included irrespective of the location of the sign-posts. Urban motorways are also included.

B.I.04b Express road

Road specially built for motor traffic, which does not serve adjacent properties, and:

(a) Does not normally have separation of carriageways for the two directions of traffic;

(b) Is accessible only from interchanges or controlled junctions;

(c) Is specially sign-posted as an express road and reserved for specific categories of road motor vehicles;

(d) On which stopping and parking on the running carriageway are prohibited.

Entry and exit lanes are included irrespective of the location of the sign-posts. Urban express roads are also included.

B.I-05a. Road inside a built-up area

Road within the boundaries of a built-up area, with entries and exits sign-posted as such.

Roads inside a built-up area often have a maximum speed limit of around 50 km/h.
Excluded are motorways, express roads and other roads of higher speed traversing the built-up area, if not sign-posted as built-up roads. Streets are included.

B.I-05b. Road outside a built-up area

Road outside the boundaries of a built-up area, which is an area with entries and exits signposted as such.

B.I-06. E-road

The international "E" network consists of a system of reference roads as laid down in the European Agreement on Main International Arteries, Geneva, 15 November 1975 and its amendments.

Reference roads and intermediate roads (Class-A roads) have two-digit numbers; branch, link and connecting roads (Class-B roads) have three-digit numbers.

B.I.07 Carriageway

Part of the road intended for the movement of road motor vehicles; the parts of the road which form a shoulder for the lower or upper layers of the road surface are not part of the roadway, nor are those parts of the road intended for the circulation of road vehicles which are not self-propelled or for the parking of vehicles even if, in case of danger, they may occasionally be used for the passage of motor vehicles. The width of a carriageway is measured perpendicularly to the axis of the road.

B.I.08 Lane

One of the longitudinal strips into which a carriageway is divisible, whether or not defined by longitudinal road markings, which is wide enough for one moving line of motor vehicles other than motor cycles.

B.I-12. Length of road

The length of the road is the distance between its start and end point.
If one of the directions of the carriageway is longer than the other then the length is calculated as the sum of half of the distances of each direction of the carriageway from first entry point to last exit point.

B.I-13. Urban area

Area within the administrative boundary or a set of administrative boundaries of a core city (settlement).

Urban area may be classified by size according to number of inhabitants:

(a) 10 000 to 49 999 – small;

(b) 50 000 to 249 000 – medium;

(c) 250 000 or more – large.

Urban areas will comprise territorial units having a larger number of inhabitants, most of those, but not necessarily all, are living in built-up areas. Built-up areas as defined in B.I-05 may include villages and towns in rural districts.

B.II.A-14a. Motor-coach or bus

Passenger road motor vehicle designed to seat more than nine persons (including the driver).

Included are mini-buses and mini-coaches designed to seat more than 9 persons (including the driver).

B.II.A-14b. Bus

Passenger road motor vehicle designed to carry more than 24 persons (including the driver), and with provision to carry seated as well as standing passengers.

The vehicles may be constructed with areas for standing passengers, to allow frequent passenger movement, or designed to allow the carriage of standing passengers in the gangway.

B.II.A-14c Motor coach

Passenger road motor vehicle designed to seat more than 24 persons (including the driver) and constructed exclusively for the carriage of seated passengers.

B.II.A-14d Mini-bus / mini-coach

Passenger road motor vehicle designed to carry 10- 23 seated or standing persons (including the driver).

The vehicles may be constructed exclusively to carry seated passengers or to carry both seated and standing passengers.

B.II.A-18a Goods road vehicle

Road vehicle designed, exclusively or primarily, to carry goods.

Included are:

(a) Light goods road vehicles with a gross vehicle weight of not more than 3 500 kg, designed exclusively or primarily, to carry goods, e.g. vans and pick-ups;

(b) Heavy goods road vehicles with a gross vehicle weight above 3 500 kg, designed, exclusively or primarily, to carry goods;

(c) Road tractors;

(d) Agricultural tractors permitted to use roads open to public traffic.

B.II.A-18b Light goods road vehicle

Goods road vehicle with a gross vehicle weight of not more than 3 500 kg, designed, exclusively or primarily, to carry goods.

Included are vans designed for and used primarily for transport of goods, pickups and small lorries with a gross vehicle weight of not more than 3 500 kg.

B.II.A-18c Heavy goods road vehicle

Goods road vehicle with a gross vehicle weight above 3 500 kg, designed, exclusively or primarily, to carry goods.

B.IV-06. Vehicle-kilometre

Unit of measurement representing the movement of a road motor vehicle over one kilometre.

The distance to be considered is the distance actually run. It includes movements of empty road motor vehicles. Units made up of a tractor and a semi-trailer or a lorry and a trailer are counted as one vehicle.

B.IV-12. Annual daily traffic flow

Average flow of vehicles past a specific enumeration point on the road network.

Counting may be performed manually or automatically, continuously or in selected periods.

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