

2. SECTORAL AND ECONOMIC TRENDS OF ENVIRONMENTAL SIGNIFICANCE

Road traffic, vehicles and networks

Transport is a major component of economic activity in and of itself and as a factor input to most other economic activities. It has many effects on the environment: air pollution raises concern mainly in urban areas where road traffic and congestion are concentrated, though road transport also contributes to regional and global pollution problems such as acidification and climate change; vehicles present waste management issues; and transport infrastructure exerts pressures on the environment through use of space and physical transformation of the natural environment (e.g. fragmentation of natural habitats).

Road transport dominates compared to other transport modes. The volume of road traffic depends on the demand for transport (largely determined by economic activity and transport prices) and on transport supply (e.g. the development of road infrastructure).

Definitions

The indicators presented here relate to:

- Road traffic and vehicle intensities, i.e. traffic volumes per unit of GDP and per kilometre (km) of road, and vehicle numbers per capita and per kilometre of road.

Traffic volumes are expressed in billions of km travelled by road vehicles. Data refer to total km travelled on all roads on national territory by national vehicles, with the exception of agricultural and road tractors. They are usually estimates: the average number of km travelled each year by road vehicles is multiplied by the number of motor vehicles in use.

- Road infrastructure densities, i.e. the length of road and motorway networks per km² of land area. The data describe the situation on 31 December of each year.

The total road network includes all roads in a given area, i.e. motorways, main or national highways, secondary or regional roads, and others. Private roads are excluded.

Motorways differ from main or national, secondary or regional, and other roads, and are characterised by not serving properties bordering on them.

The indicators should be read in connection with information on the modal split of transport and on the structure of the vehicle fleet. They should further be complemented with information on congestion rates and air pollution from road traffic.

Overview

Since 2000, countries' efforts in introducing cleaner vehicles have been offset by growth in vehicle numbers and the increased scale of their use. This resulted in additional fuel consumption, CO₂ emissions and road building. Road traffic, both freight and passenger, is expected to increase further in a number of OECD countries.

GHG emissions from the transport sector increased until the latest recession. After falling from 2007, they were at about the same level in 2012 as in 2000 for most OECD countries.

Overall, transport activities remained coupled to GDP growth. In several OECD countries, road traffic growth rates and growth in the use of private cars exceeded economic growth. In all OECD countries, private cars dominate the passenger transport mode, although there are notable differences in the modal shares.

Traffic intensities per unit of GDP and vehicle availability per capita show wide variations among OECD countries.

Road density has progressed at a slower pace than economic activity in most OECD countries, while motorway networks have expanded at a higher pace. Road density trends are similar for OECD Americas and OECD Europe, but the motorway density increased at a higher rate in Europe, a fact perhaps related to the enlargement of the EU (about +13% between 2000 and 2014).

Comparability

Indicators on road traffic need to be interpreted carefully; many underlying statistics are estimates. Data on vehicle stocks and road networks should exhibit a reasonably good level of comparability among countries and over time, with a few exceptions due to differences in the definition of roads and of goods vehicles across countries.

OECD totals are based on Secretariat estimates.

For additional notes, see the Annex.

Sources

Eurostat (2015), *Transport Statistics* (database), <http://ec.europa.eu/eurostat/web/transport/data/database>.

North American Transportation Statistics (NATS) (2015), *Statistics Online Database*, <http://nats.sct.gob.mx/english/go-to-tables>.

UNECE (2015), "Transport", *UNECE Statistical Database*, <http://w3.unece.org/pxweb>.

Further information

OECD/International Transport Forum (2015), *Transport Outlook 2015*, OECD Publishing, Paris/ITF, Paris, <http://dx.doi.org/10.1787/9789282107782-en>.

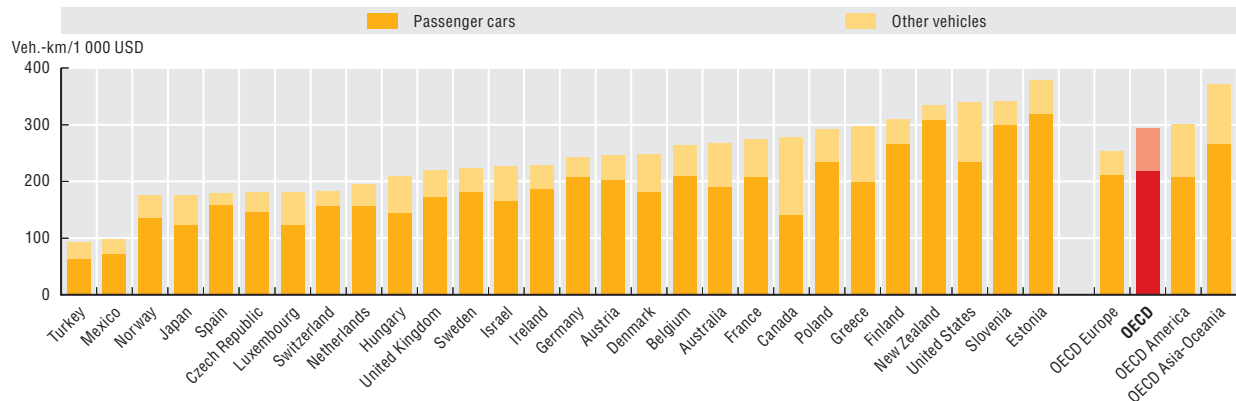
International Transport Forum (2015), *Trends in the Transport Sector* (database), <http://internationaltransportforum.org/statistics/trends/index.html>.

Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

2. SECTORAL AND ECONOMIC TRENDS OF ENVIRONMENTAL SIGNIFICANCE

Road traffic, vehicles and networks

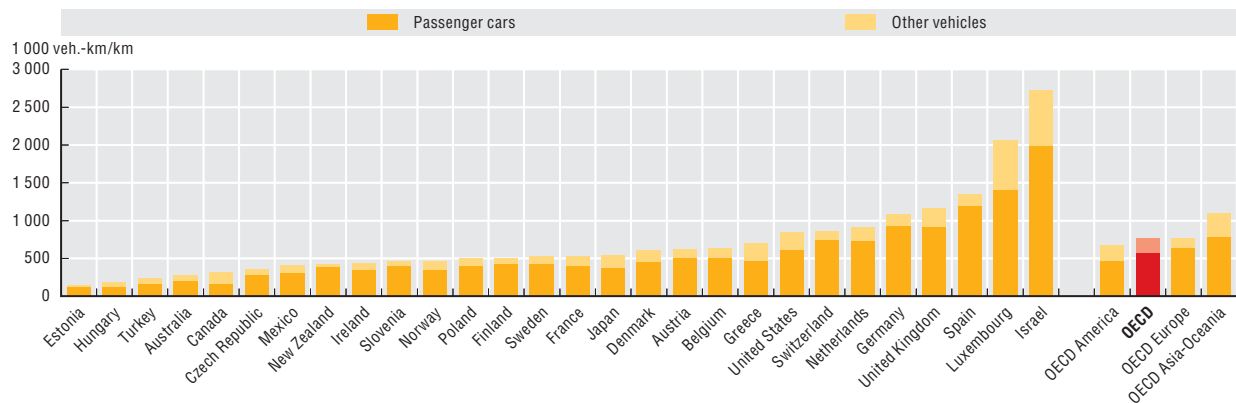
Figure 2.10. Road traffic intensity per unit of GDP, 2014 or latest available year



Source: Eurostat (2015), Transport Statistics (database); North American Transportation Statistics (2015), Statistics Online Database; UNECE (2015), "Transport", UNECE Statistical Database; and national sources.

StatLink <http://dx.doi.org/10.1787/888933262117>

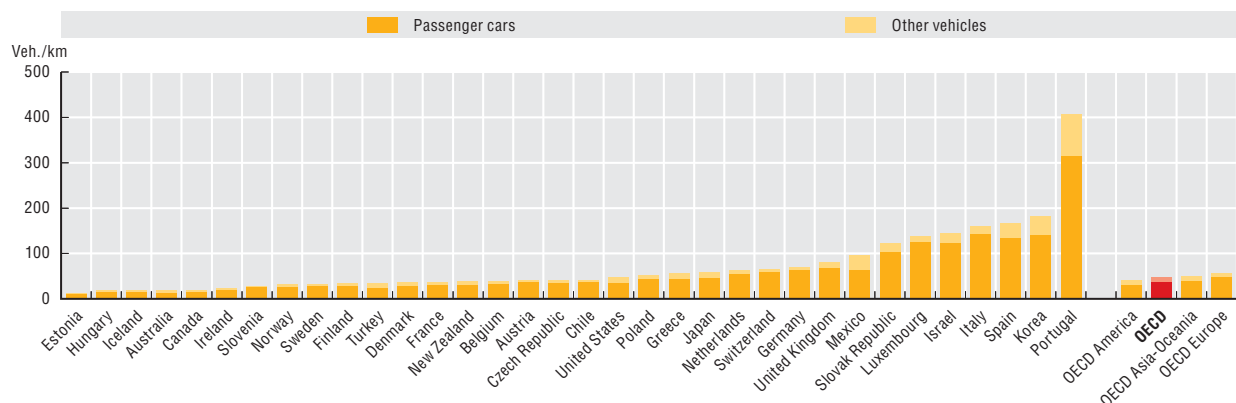
Figure 2.11. Road traffic density per network length, 2014 or latest available year



Source: Eurostat (2015), Transport Statistics (database); North American Transportation Statistics (2015), Statistics Online Database; UNECE (2015), "Transport", UNECE Statistical Database; and national sources.

StatLink <http://dx.doi.org/10.1787/888933262124>

Figure 2.12. Motor vehicle density per network length, 2014 or latest available year



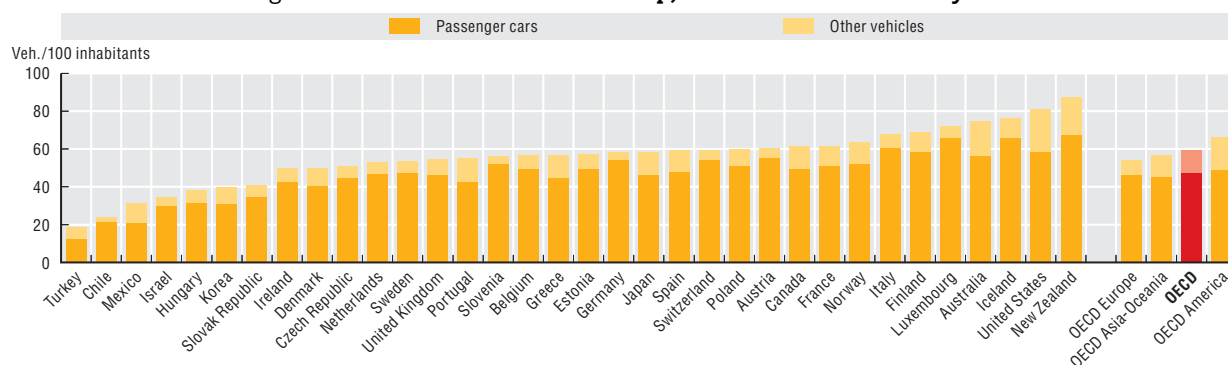
Source: Eurostat (2015), Transport Statistics (database); North American Transportation Statistics (2015), Statistics Online Database; UNECE (2015), "Transport", UNECE Statistical Database; and national sources.

StatLink <http://dx.doi.org/10.1787/888933262135>

2. SECTORAL AND ECONOMIC TRENDS OF ENVIRONMENTAL SIGNIFICANCE

Road traffic, vehicles and networks

Figure 2.13. Motor vehicle ownership, 2014 or latest available year



Source: Eurostat (2015), Transport Statistics (database); North American Transportation Statistics (2015), Statistics Online Database; UNECE (2015), "Transport", UNECE Statistical Database; and national sources.

StatLink <http://dx.doi.org/10.1787/888933262144>

Table 2.3. Road traffic and vehicles in use

	Road traffic						Motor vehicles in use				GDP
	Total volume		Intensity		Goods vehicles		Total stock		Private car ownership		
	Billion veh.km	% change	Per unit of GDP	Per network length	Volume	Share in total traffic	1 000 vehicles	% change	Veh./100 inh.	% change	
			Veh.-km/1 000 USD	1 000 veh.-km/km	% change	%					
2014 or latest	2000-14 or latest	2014 or latest	2014 or latest	2000-14 or latest	2014 or latest	2014 or latest	2014 or latest	2014 or latest	2000-14 or latest	2000-14	
Australia	239	30	267	274	57	26	17 633	49	57	11	52
Austria	77	19	246	621	189	15	5 130	15	55	8	21
Belgium	99	9	264	636	38	18	6 380	22	49	8	20
Canada	333	8	278	320	16	8	22 334	27	50	10	33
Chile	..	..	..	..	..	..	4 169	105	22	86	82
Czech Republic	47	16	181	355	0	18	5 330	42	45	34	40
Denmark	46	12	247	615	26	23	2 681	19	41	17	8
Estonia	8	30	378	143	3	14	754	22	50	48	63
Finland	54	16	310	507	12	13	3 766	53	58	42	18
France	560	14	275	532	..	22	38 057	13	51	8	16
Germany	709	9	243	1 081	..	2	46 268	-1	54	2	16
Greece	82	-10	297	698	-47	19	6 456	51	45	53	-2
Hungary	37	59	208	189	42	28	3 778	38	32	36	29
Iceland	..	..	..	..	..	..	246	37	66	17	44
Ireland	40	38	229	429	40	17	2 271	47	43	22	34
Israel	51	39	228	2 730	6	22	2 846	62	30	35	59
Italy	..	..	..	..	..	..	41 321	14	61	6	-1
Japan	694	-11	175	547	-23	29	74 482	5	47	13	12
Korea	1 463	27	989	13 809	17	29	20 118	67	31	82	75
Luxembourg	6	56	181	2 070	51	13	398	40	66	12	39
Mexico	150	140	96	398	185	22	36 742	135	21	108	37
Netherlands	129	11	194	921	11	19	8 956	20	47	14	15
New Zealand	40	12	335	428	-56	6	3 840	65	68	35	43
Norway	44	24	175	462	17	21	3 106	58	52	27	25
Poland	207	50	293	501	-69	6	22 734	90	51	95	64
Portugal	..	..	..	..	-46	..	5 807	22	43	22	2
Slovak Republic	..	..	..	..	146	..	2 196	53	35	47	74
Slovenia	18	34	342	456	101	11	1 153	25	52	19	29
Spain	224	8	180	1 354	..	10	27 456	28	48	11	21
Sweden	77	11	224	527	40	16	5 167	18	47	5	30
Switzerland	61	16	183	854	16	10	4 675	21	54	10	29
Turkey	99	77	93	244	48	27	14 333	140	13	95	76
United Kingdom	489	2	219	1 165	228	19	34 348	21	47	9	27
United States	4 743	8	343	737	31	9	253 639	12	58	23	29
OECD	12 168	19	294	773	19	15	728 570	26	47	24	27
OECD America	5 500	15	301	679	41	9	316 884	25	49	32	31
OECD Asia-Oceania	2 611	19	371	1 092	5	27	118 919	22	45	25	29
OECD Europe	4 058	23	253	774	22	14	292 766	28	46	17	22

Note: See the Annex for country notes.

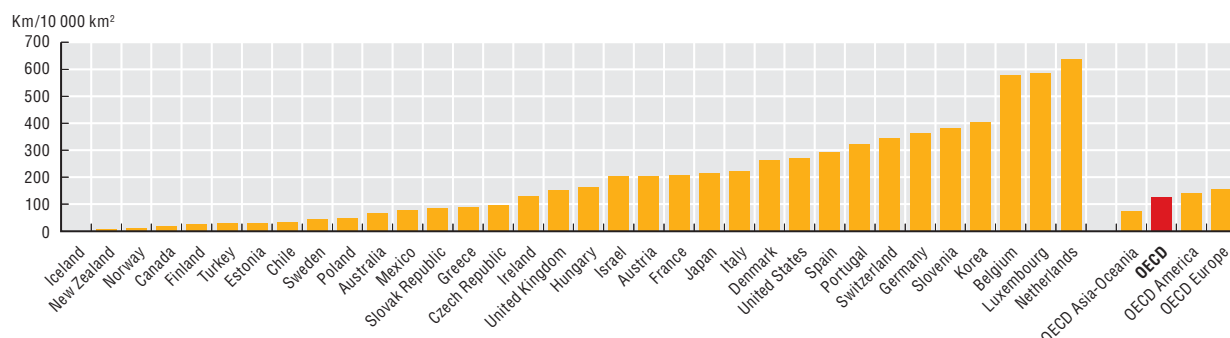
Source: Eurostat (2015), Transport Statistics (database); North American Transportation Statistics (2015), Statistics Online Database; UNECE (2015), "Transport", UNECE Statistical Database; and national sources.

StatLink <http://dx.doi.org/10.1787/888933262399>

2. SECTORAL AND ECONOMIC TRENDS OF ENVIRONMENTAL SIGNIFICANCE

Road traffic, vehicles and networks

Figure 2.14. Motorway network density, 2014 or latest available



Source: Eurostat, (2015), Transport Statistics (database), FAO (2015), FAOSTAT (database), North American Transportation Statistics (2015), Statistics Online Database and national sources.
StatLink <http://dx.doi.org/10.1787/888933262150>

Table 2.4. Road and motorway networks

	All roads			Motorways				GDP	
	Total length		Density	Total length			Density		
	1 000 km	% change	Km/100 km ²	Km	% change		Km/10 000 km ²	% change	
	2014 or latest	1990-2014	2000-14	2014 or latest	2014 or latest	1990-2014	2000-14	2014 or latest	2000-14
Australia	873	8	8	11	..	..	..	..	52
Austria	124	17	16	148	1 719	19	5	205	21
Belgium	155	11	5	508	1 763	6	4	577	20
Canada	1 042	18	16	10	17 000	13	2	17	33
Chile	78	..	-2	10	2 385	..	..	32	82
Czech Republic	131	5	2	166	776	117	55	98	40
Denmark	74	4	3	172	1 128	88	18	262	8
Estonia	59	34	14	130	140	241	51	31	63
Finland	107	39	4	32	810	260	48	24	18
France	1 066	32	8	194	11 465	68	17	209	16
Germany	644	1	0	180	12 917	19	10	362	16
Greece	117	188	2	89	1 197	530	69	91	-2
Hungary	202	574	27	217	1 515	467	238	163	29
Iceland	13	3	-1	13	0	..	..	0	44
Ireland	96	4	0	137	897	3 350	771	128	34
Israel	19	35	14	85	447	..	255	203	59
Italy	255	-68	52	85	6 726	9	4	223	-1
Japan	1 274	14	9	337	8 100	74	22	214	12
Korea	106	87	20	106	4 044	161	90	404	75
Luxembourg	3	4	1	112	152	95	32	587	39
Mexico	379	58	17	19	15 044	172	47	77	37
Netherlands	137	17	5	331	2 646	26	17	637	15
New Zealand	94	2	3	35	183	17	10	7	43
Norway	94	6	3	24	392	437	172	10	25
Poland	413	14	11	132	1 482	477	314	47	64
Portugal	14	-79	..	15	2 988	846	102	324	2
Slovak Republic	18	1	1	37	423	120	43	86	74
Slovenia	39	..	1	192	770	238	80	380	29
Spain	166	6	1	33	14 701	213	62	291	21
Sweden	147	7	6	33	1 927	105	29	43	30
Switzerland	72	1	1	173	1 419	24	12	344	29
Turkey	389	2	-9	50	2 155	667	29	28	76
United Kingdom	420	10	0	172	3 686	16	2	151	27
United States	6 541	4	3	67	263 932	65	47	268	29
OECD	15 360	10	9	43	384 928	38	31	127	27
OECD America	8 040	8	6	36	298 361	72	51	140	31
OECD Asia-Oceania	2 366	14	10	28	..	..	..	75	29
OECD Europe	4 954	10	13	102	..	87	39	156	22

Note: See the Annex for country notes.

Source: Eurostat, (2015), Transport Statistics (database), FAO (2015), FAOSTAT (database), North American Transportation Statistics (2015), Statistics Online Database and national sources.
StatLink <http://dx.doi.org/10.1787/888933262401>



From:
Environment at a Glance 2015
OECD Indicators

Access the complete publication at:
<https://doi.org/10.1787/9789264235199-en>

Please cite this chapter as:

OECD (2015), "Road traffic, vehicles and networks", in *Environment at a Glance 2015: OECD Indicators*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264235199-17-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.