Doprava

CENIA, česká informační agentura životního prostředí
2008

KEY MESSAGES

In the Czech Republic, individual car traffic is dominating the passenger transport sector and the transport capacity has been steadily growing. However, the largest growth rate can be seen in air transport. The use of urban mass transportation in the Czech Republic is above-average within the EU.

The Czech Republic has one of the oldest vehicle fleets, which affects how much traffic burdens the environment.

Approximately 72% of the freight traffic volume in the Czech Republic is moved on roads, which is unfavourable for the environment.

Emissions of greenhouse gases (GHG) from traffic are increasing, as is their proportion of total emissions. Traffic is one of the most important factor influencing the unfavourable trend of the total GHG emissions.

Transportation in the Czech Republic is significantly contributing to the deteriorated air quality in towns and other traffic-burdened localities, especially as far as dust pollution, nitrogen oxides and polyaromatic hydrocarbons are concerned.

REFERENCES AND OTHER INFORMATION

- **Transport Research Centre (TRC)** – http://www.cdv.cz
- **Ministry of Transportation (MT)** – http://www.mdcr.cz
- **Road and Motorway Directorate of the Czech Republic** – http://www.rsd.cz
- **Czech Statistical Office (CSO)** – http://www.czso.cz
- **Ministry of the Environment** – http://www.mzp.cz
- **CENIA, the Czech Environmental Information Agency** – http://www.cenia.cz

On-line data sources and publications

- **The Czech Republic's Public Administration Portal** – http://geoportal.cenia.cz
- **The Information system for statistics and reporting** – http://issar.cenia.cz
- **The Research in transport development from perspective of the environment in the Czech Republic**
- **The Transportation Yearbook**
- **The Report on the Environment in the Czech Republic**
- **The Environment in particular regions of the Czech Republic The Statistical Yearbook on the Environment in the Czech Republic**

THE ENVIRONMENT OF THE CZECH REPUBLIC

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This publication was made with the financial assistance of the State Environmental Fund of the Czech Republic.

Printed on chlorine-free paper.

Transportation

THE ENVIRONMENT OF THE CZECH REPUBLIC

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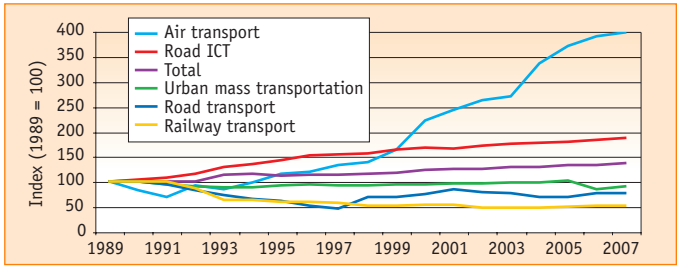
STATE ENVIRONMENTAL FUND OF THE CZECH REPUBLIC

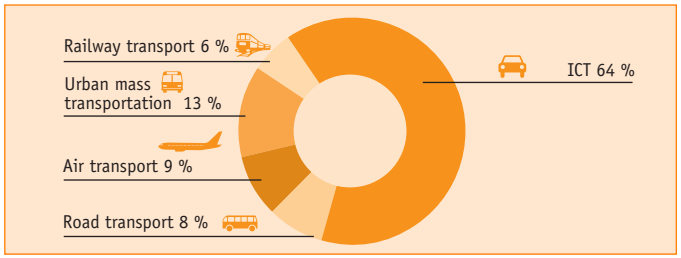
THE DEVELOPMENT OF PASSENGER TRANSPORT

In the Czech Republic individual car traffic (ICT) and air transport grew within passenger transport from 1990–2007, whereas transport outputs from other types of transportation showed a downward tendency at the beginning of the time period and stagnated later on. ICT transport outputs grew by nearly 80% during the above-mentioned time period, whereas the annual growth (2006/2007) in the number of transported passengers was by 2.8% to 2 200 million and by 2.7% to 71.54 billion person-kilometres. This growth trend approximates ICT development in the EU27 countries and is lower than in some new EU member countries (e.g. Romania, Bulgaria). Air transport has seen the most rapid growth in transport outputs during the observed time period (especially after 2000), by 480%, to account for 9.3% of all passenger transport volume. The number of travellers who have travelled through Prague's Ruzyně Airport has doubled over the past five years, reaching 12.4 million persons in 2007. Railway transport outputs have stagnated since 2000. Public road transport (buses) has shown a decline in the number of travellers over this same time, which indicates that long-distance bus transport is losing significance in regional transportation.

Output trends in specific types of passenger transport in the Czech Republic (index, year 1989 = 100), 1989–2007
Source: Transport Research Centre, Ministry of Transportation, Czech Statistical Office



Outputs of particular types of passenger transport in the Czech Republic [%], 2007
Source: Transport Research Centre, Ministry of Transportation



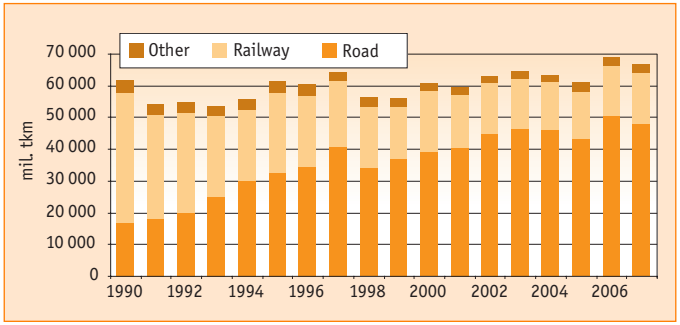
THE TRANSPORT OUTPUT STRUCTURE IN PASSENGER TRANSPORT

Individual car traffic is dominant in the structure of passenger transport outputs in the Czech Republic (63.5% in 2007). However, its share is somewhat lower than the EU27 average (about 75%). Utilization of public transport in the Czech Republic is above-average from the European perspective, especially thank to outputs of urban mass transportation (12.7% of the total transport outputs in 2007). Utilization of the railways in passenger transport in the Czech Republic (6%) is lower than in some more advanced European countries (France 9.2%, Austria 9.8% and Switzerland 15.3%).

FREIGHT TRAFFIC

For freight traffic, road transportation is currently dominant in the Czech Republic, which is decidedly inconsiderate for the environment and accounted for nearly 72% of the total transport outputs in 2007. This freight traffic structure was caused by (with fluctuations, but generally stagnate) the transfer of transport outputs from railway and water transport to roads, especially during the 1990's. It is related to the change in the nature of transported goods in resulting from industrial restructuring and the overall economic development in the Czech Republic. This caused the replacement of bulk raw material transportation by the transport of finished goods. According to the latest data for 2007, there was growth in the volume transported by train at the same time as a decline in total freight traffic volumes, which is a positive finding that indicates a reverse of the negative trend.

Development of the freight traffic structure in the Czech Republic [milions of tkm], 1990–2007
Source: Transport Research Centre



Traffic output: *The overall distance travelled per unit of time by the entire vehicle fleet (indicated in car-kilometres per year).*
Transport output: *The overall number of persons or goods transported per unit of time multiplied by the average transport distance (indicated in person-kilometres per year or ton-kilometres per year).*

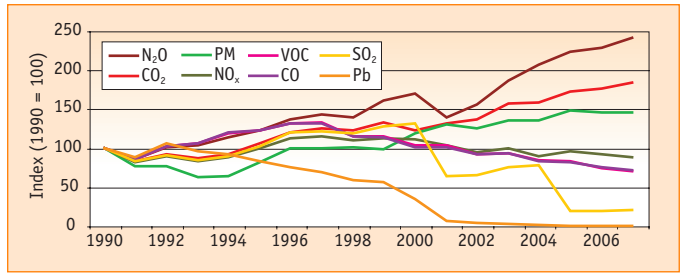
VEHICLE FLEET

The number of passenger vehicles grew almost twice over the past 15 years and reached 4.28 million registered vehicles in 2007 (annual growth by 4.2% in 2006/2007). It represents approximately 1 car up to 3.5 tonnes for every 2 citizens of the Czech Republic. The number of trucks has grown even more significantly – annually by 14.1% to roughly 530 000. Modernization of the vehicle fleet is continuously reducing the amount of environmental impact (an increasing number of cars complying with EURO standards; the proportion of vehicles equipped with catalytic converters grew from 6.8% in 1993 to 61.4% in 2006) but it still does not reach the level found across the EU. The average age of registered vehicles is among the highest in the EU (17.2 years, 13.9 years for personal vehicles according to the data as of 1 July 2007). Therefore, the strongly polluting older vehicles still remain in operation although their actual utilization is presumably lower than newer ones.

TRANSPORTATION AND THE ENVIRONMENT

Transportation in the Czech Republic has a significant and ever increasing impact on the environment. Road transport strongly affects air quality, especially in large towns and near busy roads. The growing amount of GHG and pollution emissions from traffic is one of the greatest problems that the environment in the Czech Republic has to face. Another serious problem is excessive noise.
In 2007, traffic produced approximately 41% of all carbon monoxide (CO) emissions, 34% of solid pollutant emissions (SP, including abrasive shedding of tyres, brakes and roads), 33% of nitrogen oxide emissions (NO_x) (the most of all monitored source categories), and 13% of greenhouse gases (in 2006). Road transport also significantly contributes to secondary dust (the whirling of dust from the road's surface). The emission of greenhouse gases (CO_2 and N_2O) and solid pollutants from traffic are still increasing and transportation is therefore one of the most significant causes of the stagnating and recently slightly growing GHG emissions, as well as the pollutant burden by suspended particles.
The prognosis of traffic and transport outputs shows that this negative tendency will continue in the future and will only be partly reduced by modernization of the fleet of passenger vehicles and trucks (modernization applies only to emissions from exhaust systems, it does not affect the emission of solid pollutants from abrasive shedding). It is highly probable that the emission of PM_{10} solid particles from the abrasive shedding of tyres, brakes and road surfaces will exceed those from vehicle exhaust systems by 2020.

The trend of emissions of the main pollutants from traffic in the Czech Republic (index, year 1990 = 100), 1990–2007
Source: CDV



Only emissions from exhaust systems are indicated for particulate matters (PM).

THE MITIGATION OF THE ENVIRONMENTAL IMPACTS FROM TRAFFIC

Measures are being adopted to mitigate the environmental impacts of traffic, which must correspond with the measures of the EC. In particular, the following measures of economic and technical nature are concerned:

- **Relief from Vehicle Excise Duty (VED) for more environmentally-friendly vehicles**
  Pursuant to a relevant amendatory act, the Vehicle Excise Duty shall be reduced according to a vehicle's first registration as of 1 January 2009, namely by 48% for vehicles up to 3 years after initial registration, by 40% between 3 and 6 years and by 25% for vehicles between 6 and 9 years after the initial registration. Thereby, the system of VED tax relief is replaced in conformance with EURO 2–3 standards. The new system is about to boost the modernization of the business vehicle fleet, on which the VED applies. Furthermore, electric automobiles are relieved from the tax, and vehicles powered by liquefied petroleum gas (LPG) and compressed natural gas (CNG) will be also relieved as of 1 January 2009.
- **The reduction of carbon dioxide emissions from passenger vehicles**
  According to a proposal by the European Commission, emissions should be reduced to 130 g CO2 per km by 2012. Emissions will be calculated as the average for all models produced by specific manufacturers, not for specific vehicles. For each breach, fines will be imposed beginning with 20 EUR per gram over the limit in 2012 up to 95 EUR per gram in 2015 and later.
- **Tightening up of the car technical inspection regime**
  Car technical inspections are becoming stricter and more objective. At the suggestion of the Ministry of Transport, electronic records have been implemented for Technical Inspection Stations since September 2008. This should improve the quality of inspections and reduce the risk of cheating.