TRANSPORT

Definition

The indicator «passenger transport demand» will be presented in two different ways:

1) To measure decoupling of passenger transport demand from economic growth, the volume of passenger transport relative to GDP will be used. The decoupling indicator is defined as the ratio between passenger-km (inland modes) and GDP (Gross Domestic Product in constant 2000 EUR). In the presentation of this indicator in the Republic of Macedonia, the index 2001=100 is taken as baseline year for comparison.

2) Modal split share of passenger transport: This indicator is defined as the percentage share of transport by passenger car in total inland transport. The unit used is the passenger-kilometre (pkm), which represents one passenger traveling a distance of one kilometre. It is based on transport by passenger cars, buses and coaches and trains.

All data should be based on movements on national territory, regardless of the nationality of the vehicle. However, data collection methodology should be harmonised at the EU level.

Units

The unit used is the passenger-kilometre (pkm), which represents one passenger travelling a distance of one kilometre. It is based on transport by passenger cars, buses and coaches, and trains.

Passenger transport demand and GDP are shown as an index 2000=100.

Policy relevance of the indicator

List of relevant policy documents

The National Strategy for Transport prepared and adopted by the Government of the Republic of Macedonia determines the main directions of the transport policy development in the Republic of Macedonia through identification of goals and development strategy for road, rail and air transport sectors.

Legal grounds

The road transport is regulated by the Law on Road

Transport. It regulates the conditions and the manner of performing transport of passengers and goods in internal and international road transport.

Transportation of dangerous goods is regulated by the Law on Dangerous Goods Transportation in Road and Railroad Transport, regulating the conditions under which transport of dangerous goods shall be performed (preparation of matter, loading, transport, on road procedures, unloading, safety in transportation, vehicles equipment and staff training).

Railroad transportation is regulated by the Law on Railroads, Law on Agreements on Transportation in Railroad Traffic, Law on Agency Regulating Railroad Transport Services Market and Law on Railroad Transport Safety.

Targets

The indicator is targeted at presenting information to be used in the preparation of documents and actions aimed at reducing the negative effects on the environment and people.

One of the actions is to substitute the road by railroad, waterway and public passenger transport, to reach share of road transport in 2010 not to be higher than the one in 1998.

Key policy question

Is the passenger transport in road transport reduced compared to other transport modes?

Is the passenger transport demand decoupled from economic growth?

Key message

The share of passenger kilometers in the total passenger transport for road transport was 98,1% in 2011, reflecting an increase by 0,4 % compared to 2010, for railroad transport it was 1,9% in 2011 or decline by 0,4 % relative to 2010.

The share of the passenger cars in the total passenger transport is the highest. The share in 2011 was 98,1 %, while this share was the lowest in 2003 amounting 98,7%. Data on the share of passenger cars has been estimated.

Figure 1 Passenger kilometers of individual types of passenger transport in the total passenger transport in million kolimeters.

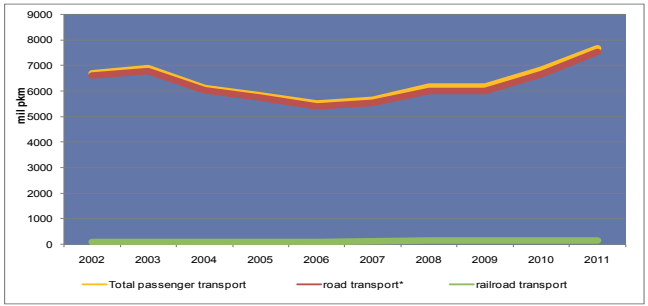


Figure 2 Share in percentage of passenger kilometers of individual types of passenger transport in the total passenger transport

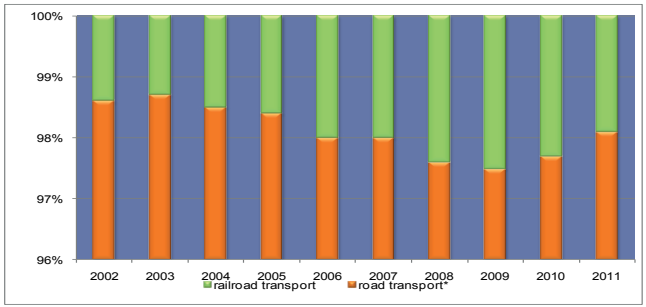


Figure 3: Share in percentage of passenger kilometers by passenger cars in road transport

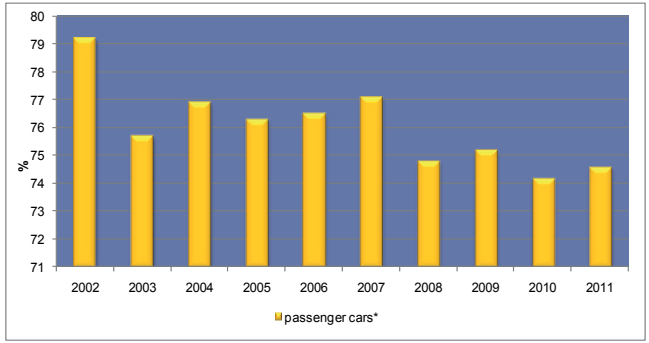
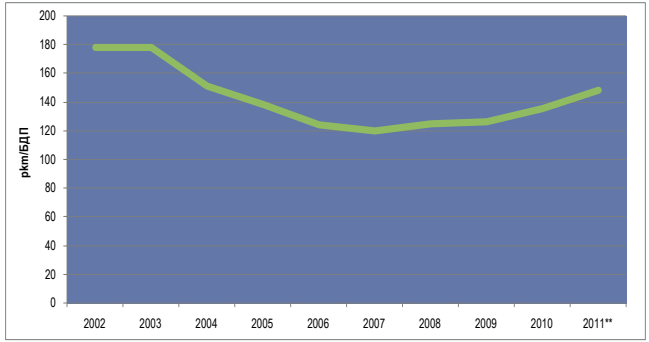


Figure 4: Overview of passenger kilometers/GDP ratio



Assessment

The trend in the course of 2006 to 2009, in comparative terms, in road and air passenger transport has noted slight increase. The increase in the index of passenger per kilometer in 2010 and 2011 was higher relative to previous years.

Figure 2 indicates that in the period 2002 to 2011, the road transport encompassed the highest percentage in the total passenger transport and ranged between 97,5% and 98,7%, while the share of railroad transport was from 1,3% to 2,5%. This indicates that the reduction of environmental pollution requires reduction in the share of road transport in the share of passenger transport in favour of other transport modes. This would also result in avoided costs for the expensive liquid fuel which while combusting pollutes the environment.

Figure 4 shows decline in the trend of the passenger kilometer/GDP ratio from 2003 to 2007, while from 2008 to 2011 there was increase in the same trend. This ratio is indexed for the year 2000=100 in order to monitor the changes in the intensity of passenger transport demand relative to economic growth presented through GDP.

Methodology

- Methodology for the indicator calculation

In order to measure the decoupling of passenger transport demand from economic growth, the volume (i.e. intensity) of passenger transport relative to GDP is calculated. Relative decoupling occurs when the passenger transport demand rises at rate lower than the one of the GDP. Absolute decoupling occurs when the passenger transport demand falls while GDP rises or remains constant.

The unit used is the passenger-kilometre (pkm), which represents one passenger traveling a distance of one kilometre.

With regard to EU Member States, according to Regulation on road transport and Regulation (EC) No 91/2003 on railroad transport statistics, data is based on all movements of passenger transport on the national territory.

- Source of used methodology

Structural indicators of Eurostat on transport State Statistical Office

■ Methodological uncertainty and data uncertainty

All data is based on the movements on the national territory, regardless of the nationality of the vehicle. The methodology of data collection has been harmonised at EU level, but estimated data has been used for the purposes of data calculation on the transport by passenger car. Sources include EUROSTAT, National statistical offices, ECMT, UNECE, UIC, DG TREN.

In order to answer the question whether the passenger transport demand is decoupling from economic growth, the intensity of passenger transport relative to changes in real GDP is considered.

■ Uncertainty of data sets

In order to obtain full picture of passenger transport demand and corresponding problems in the environment, it would be very useful to supplement data with data on the number of passenger-kilometers by vehicle-kilometers.

Data specification

Title of the indicator	Source	Reporting obligation
Passenger transport demand	– State Statistical Office	– EUROSTAT

Data coverage:

Table 1. Passenger kilometers by individual passenger transport modes in the total passenger transport in million kilometers

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Passenger transport total	6.689	6.876	6.116	5.816	5.492	5.627	6.148	6.163	6.822	7.675
road transport*	6.591	6.784	6.022	5.722	5.387	5.518	6.000	6.009	6.667	7.530
railroad transport	98	92	94	94	105	109	148	154	155	145

* estimated data

Table 2: Share in percentage of passenger kilometers by individual passenger transport modes in the total passenger transport

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
road transport*	98,6	98,7	98,5	98,4	98,0	98,0	97,6	97,5	97,7	98,1
railroad transport	1,4	1,3	1,5	1,6	2,0	2,0	2,4	2,5	2,3	1,9

* estimated data

Table 3: Share in percentage of passenger kilometers by passenger cars in road transport

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
passenger cars*	79,2	75,7	76,9	76,3	76,5	77,1	74,8	75,2	74,2	74,6

* estimated data

Table 4: Overview of passenger kilometers /GDP ratio

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011**
pkm/GDP	178,4	178,4	151,6	138,2	124,3	119,9	124,9	126,3	135,9	148,7

** Previous data on GDP
2000=100

General metadata

Code	Title of the indicator	Compliance with CSI/ EEA or other indicators		Classification by DPSIR	Type	Linkage with area	Frequency of publication
MK NI 035	Passenger transport demand	CSI 035	Passenger transport demand	P	B	– Passenger transport per kilometer – GDP	annualy

Definition

The indicator «freight transport demand» will be presented in two different ways:

1) To measure decoupling of freight transport demand from economic growth, the volume of freight transport relative to GDP will be used. The decoupling indicator is defined as the ratio between tonne-km (inland transport) and GDP (Gross Domestic Product in constant 2000 EUR). Presentation of this indicator in the Republic of Macedonia will be based the baseline year 2000=100.

2) Modal split share of freight transport: This indicator is defined as the percentage share of freight transport in total inland transport. The unit used is tonne-kilometre (tkm), which represents movement of one tonne over a distance of one kilometre. It includes road and railroad inland transport. Railroad transport is based on movements on national territory, regardless of the nationality of the vehicle. Road freight transport is based on all movements of vehicles registered in the reporting country.

Units

The unit used is the tonne-kilometre (tkm), which represents the movement of one tonne over a distance of one kilometre. It includes transport by road and rail.

Freight transport demand and GDP are shown as an index (2000=100).

Policy relevance of the indicator

List of relevant policy documents

The National Strategy for Transport prepared and adopted by the Government of the Republic of Macedonia determines the main directions of the transport policy development in the Republic of Macedonia through identification of goals and development strategy for road, rail and air transport sectors.

Legal grounds

The road transport is regulated by the Law on Road Transport. It regulates the conditions and the manner of performing transport of passengers and goods in internal and international road transport.

Transportation of dangerous goods is regulated by the Law on Dangerous Goods Transportation in Road and Railroad Transport, regulating the conditions under which transport of dangerous goods shall be performed (preparation of matter, loading, transport, on road procedures, unloading, safety in transportation, vehicles equipment and staff training).

Railroad transportation is regulated by the Law on Railroads, Law on Agreements on Transportation in Railroad Traffic, Law on Agency Regulating Railroad Transport Services Market and Law on Railroad Transport Safety.

Targets

The fourth goal of the National Strategy for Transport is securing sustainable protection of the environment.

Key policy question

Is the freight transport in road transport reduced compared to other transport modes and is the freight transport demand decoupled from economic growth?

Key message

The freight transport demand in tone kilometers for road transport noted continuous increase almost identical at annual level by 2005, and then from 2005 to 2006 there was a rapid increase. In the period from 2006 to 2009, there was a significant trend of decline, followed by increase again in 2010 and 2011. With regard to railroad freight transport, there has been almost no change in data on annual level and the trend has been constant with no major or notable variations..

Figure 1: Freight transport by modes in tone kilometers (in million km)

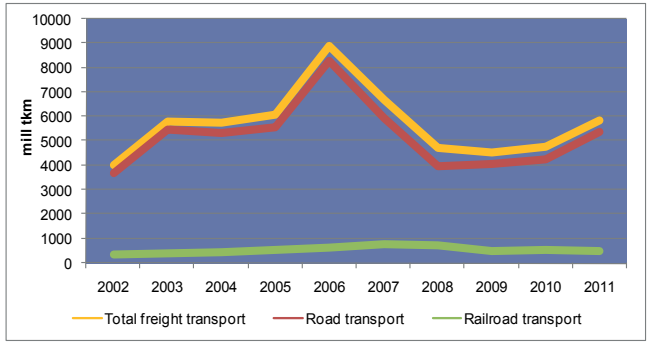


Figure 2: Share in percentages of tone kilometers of individual freight transport modes in the total freight transport

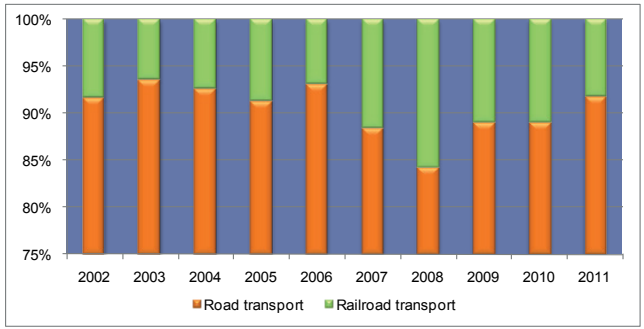
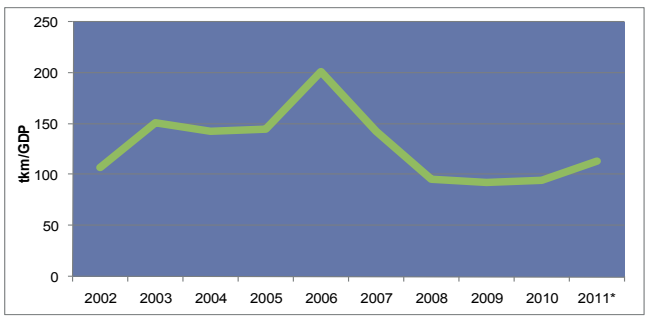


Figure 3: Overview of tonne kilometers / GDP ratio



Assessment

Figure 2 shows that in the period 2001 to 2011, the highest share in freight transport belongs to freight transport belongs to road transport ranging between 84,3% and 93,6 %, while road freight transport has a share of 6,4 to 15,7 % in the total freight transport.

The above is sufficient indication that the indicator should endeavour towards reduction of road transport in favour of other freight transport modes. The reason for this is that the road freight transport uses costly liquid fuels which during combustion on roads cause significant pollution of the environment, air, soil, biodiversity, etc.

Figure 3 shows that the trend of the index of tone kilometers relative to GDP from 2002 to 2003 was growing and then falling up to 2005, after which from 2005 to 2006 there was rapid growth followed again by rapid decline in the period between 2006 and 2009, and then again a trend of increase in 2010 and 2011. It is indexed on baseline year 2000=100 in order to monitor the changes in the intensity of freight transport demand relative to economic growth expressed through GDP.

Methodology

- Methodology for the indicator calculation

In order to measure the decoupling of freight transport demand from economic growth, the volume (i.e. intensity) of freight transport relative to GDP is calculated. Relative decoupling occurs when the freight transport demand rises at rate lower than the one of the GDP. Absolute decoupling occurs when the freight transport demand falls while GDP rises or remains constant.

The unit used is the tonne-kilometre (tkm), which represents movement of one tonne over a distance of one kilometre.

With regard to EU Member States, according to Regulation on road transport and Regulation (EC) No 91/2003 on railroad transport statistics, data is based on all movements of passenger transport on the national territory.

According to Regulation (EC) No 1172/98, data on freight road transport is based on all movements of vehicles registered in the reporting country. All other data on transport refer mainly to movements on national territory, regardless of the nationality of the vehicle.

- Sources of used methodology

Structural indicators of EUROSTAT on transport

State Statistical Office.

- Methodological uncertainty and data uncertainty

All data is based on movements on national territory, regardless of the nationality of the vehicle. Methodology of data collection has been harmonized at EU level. Sources include EUROSTAT, National statistical offices, ECMT, UNECE, UIC, DG TREN.

In order to answer the question whether the freight transport demand is decoupling from economic growth, the intensity of freight transport relative to changes in real GDP is considered.

- Uncertainty of data sets

In order to obtain full picture of transport demand and corresponding problems in the environment, it would be very useful to supplement data with data on the number of vehicle-kilometers.

Data specification

Title of the indicator	Source	Reporting obligation
Freight transport demand	State Statistical Office	

Data coverage:

Table 1: Freight transport by modes in tonne-kilometers (in million km)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total freight transport	4013	5823	5767	6106	8913	6717	4721	4532	4760	5860
road transport	3679	5450	5341	5576	8299	5938	3978	4035	4235	5381
railroad transport	334	373	426	530	614	779	743	497	525	479

Table 2: Share in percentages of tone kilometers of individual freight transport modes in the total freight transport

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
road transport	91,7	93,6	92,6	91,3	93,1	88,4	84,3	89,0	89,0	91,8
railroad transport	8,3	6,4	7,4	8,7	6,9	11,6	15,7	11,0	11,0	8,2

Table 3: Overview of tonne kilometers / GDP ratio

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011*
tkm/GDP	107,1	151,1	143	145,1	201,7	143,2	95,9	92,9	94,8	113,5

* Previous data on GDP
2000=100

General metadata

Code	Title of the indicator	Compliance with CSI/ EEA or other indicators		Classification by DPSIR	Type	Linkage with area	Frequency of publication
MK NI 036	Freight transport demand	CSI 036	Freight transport demand	P	B	– Freight transport per kilometre – GDP	annualy