

## MOBILITY RELATED TO POSITIVE IMPACT OF TRANSPORT

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*Summary: The article deals with positive social impacts of transport; dividing them into external, i.e. outside a transport system, and internal – inside a transport system. Intensity of a transport system use is monitored on the background of passenger and goods mobility.*

*Key words: mobility, internal benefit of transport, external benefits of transport, transport problem*

### INTRODUCTION

Expert public view of transport and its impact mostly concentrates on environmental aspects and internalization of externalities in terms of negative external costs. However, transport has a large positive impact not only inside a transport system but also externally. Such positive impact has been growing together with the growth of competition in this field and with transport development in general. Taking in consideration microeconomic aspects, the transport impact is reflected in consumer surplus and also in a manufacturer surplus, where consumer surplus means the difference between maximum price that a consumer is willing to pay and the real price to be paid; a manufacturer surplus is the difference between minimum price they are willing to sell for and the real price. (5)

### 1. MOBILITY IN THE CZECH REPUBLIC

#### 1.1 Goods mobility

Intensity of a transport system use can be assessed, among others, by mobility. (1) Goods mobility is a transport outcome in tons per kilometer (tkm) related to a citizen per annum. Its development in the Czech Republic from 2004 to 2009, including the relating values is summarized in Table 1.

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Table 1 – Development of goods mobility in CZ including the relating values from 2004 to 2009

	2004	2005	2006	2007	2008	2009
Road transport (mil. tkm)	46 010	43 450	50 370	48 140	50 880	44 960
Rail transport (mil. tkm)	15 090	14 870	15 780	16 300	15 440	12 790
Other transport (mil. tkm)	2 360	3 090	3 160	3 020	3 220	2 820
∑ mil. tkm	63 460	61 410	69 310	67 460	69 540	60 570
Number of citizens (mil)	10.2	10.2	10.3	10.3	10.4	10.5
<b>Mobility (tkm per a citizen)</b>	<b>6 222</b>	<b>6 021</b>	<b>6 729</b>	<b>6 550</b>	<b>6 687</b>	<b>5 769</b>

Resource: Author based on ISSaR (6)

High goods mobility especially in road transport is, unfortunately, caused by the gross domestic product and also by a bad selection of logistic strategies. However, there exist no tools to prevent ineffective ways of transport (such as opposite direction of the same goods transportation), because these would discriminate the essential principles of market economy and free market.

## 1.2 Passenger mobility

Pernica considers mobility a value-forming profit factor. Passenger mobility is then determined as a person per kilometer (ppkm) relating to one person per annum. The development in the Czech Republic in the last seven years, including the relating values is summarized in the following table:

Table 2 – Development of passenger mobility in CZ including the relating values from 2004 to 2010

	2004	2005	2006	2007	2008	2009	2010
Road transport (mil. ppkm)	91 520	92 180	93 440	95 410	97 610	97 340	88 000
Rail transport (mil. ppkm)	6 590	5 670	6 920	6 900	6 800	6 500	6 000
Air transport (mil. ppkm)	8 810	9 740	10 230	10 480	10 750	11 330	10 000
∑ mil. ppkm	106 920	107 590	110 590	112 790	115 160	115 170	104 000
Number of citizens (mil)	10.2	10.2	10.3	10.3	10.4	10.5	10.5
<b>Mobility (ppkm per a citizen)</b>	<b>10 482</b>	<b>10 548</b>	<b>10 737</b>	<b>10 950</b>	<b>11 073</b>	<b>10 969</b>	<b>9 905</b>

Resource: Author based on ISSaR (6)

Passenger mobility is vastly influenced by the development of individual automobile transport whose share in the transport output in passenger transport sustained at over 60% (6) within the whole monitored period. Its influence is proved, among others, by the growth of passenger cars number per 1000 citizens as described in Table 3. The growth is connected with the increased suburbanization to deurbanization and by the development of suburbia that

cannot exist without IAT. Major decrease of the transport output was seen already in 2010, mainly due to the reduction of reported passenger kilometers in individual passenger transport. This has to be attributed to the change of the calculation methodology of such transport output. As far as air transport decline in 2010 is concerned, it is most probably the overall economic recession that largely affected air transport.

Table 3 – Development of private cars number per a 1000 citizens in CZ from 2004 to 2010.

Number of private cars / year	2004	2005	2006	2007	2008	2009	2010
Number of private cars (per a thousand citizens)	374	387	401	416	425	422	428

Resource: EUROSTAT (7)

## 2. SOCIAL BENEFIT OF TRANSPORT

Benefits of transport, as well as its costs, can be divided into individual and social benefits. Individual benefits and costs concern directly the transport users. Social benefits are understood as positive impact of transport on the economy in general. Social costs are then overall costs of transport born by a society, i.e. even by those who do not use it. (3, 5)

### 2.1 Internal benefit

Internal benefit is, as it has been already said, the benefits of transport for its users (individual benefits). Among the basic list the following: (4):

- Time savings,
- Quality improvement,
- Transport costs reduction.

It is worth mentioning the quality improvement, which concerns both the transport service and, indirectly, the quality of life (in passenger transport). Regarding the fact that transport is one of the essential logistic activities, it concerns the overall logistic service quality (in cargo transport).

Transport problems occur in the effort to increase such positive effects caused by the below described patterns: The better transport service in a territory, the more attractive it is. The increase in attractiveness calls for the increase of human activity in such territory and further need to improve the transport service. Providing the transport offer is improved, the attractiveness continues growing. The process is repeated until further transport service improvement is feasible. (2)

### 2.2 External benefit

External benefits outside a transport system again consist of:

- Time saving,
- Quality improvement,
- Costs reduction.

The external benefits can be further divided into the following:

- Financial external benefits processed by the market,
- Technological external benefits not processable by the market.

As far as the financial external benefits are concerned, we have in mind the increase in productiveness, labour market improvement, investment flow or a better accessibility of a country. The latter may not mean better supplying, but rather the flow of tourists and relating financial profit for the country.

Technological external benefits are connected mainly with a more effective function of rescue service.

## CONCLUSION

Besides social costs, transport further represents social benefits of internal and external nature. From the above indicated facts it stems that vast majority of the external benefits is in a long-term perspective internalized by companies and individuals, and while individual costs are lower than social costs, the individual and social benefits are more or less equal.

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