

**Response to questionnaire for:
Assessment of strategic plans and policy
measures on Investment and Maintenance in
Transport Infrastructure**

**Country:
Czech Republic**

1 INTRODUCTION

The Czech Republic's geographical position makes it a transit country providing transport services and moving goods across Europe. Together with the strong export orientation of the Czech economy, this places considerable demands on the capacity and quality of the Czech transport network. The completion of the backbone transport infrastructure and the connection of the remaining regions to the main Czech and European routes is therefore essential if the adverse business situation in these regions is to be improved and the competitiveness of the Czech economy as a whole is to be enhanced. The current state of the Czech transport network, which density is very high, in terms of quality and functionality, is seen as one of the main obstacles to the attainment of a higher rate of economic growth in the Czech Republic.

The principal targets related to the improvement of the transport infrastructure are an increase in capacity and quality through the completion of the backbone infrastructure network and adequate levels of repair and maintenance of existing infrastructure. At the same time, it is important to seek an effective involvement of all modes of transport to maximize use of existing capacity and reduce the negative impact of transport on the environment. These steps will contribute significantly to the competitiveness of the Czech Republic and will also help to remove regional disparities. To achieve these targets, the Government will introduce legislative and non-legislative measures to speed up and streamline the planning, preparation and realization of transport infrastructure constructions. A key issue will be the necessary financial resources, their stabilisation and their effective and efficient use in projects selected on the basis of thorough strategic planning. In this connection one should take into account the need for additional measures leading to fiscal consolidation, which was adopted in 2012, having regard the negative outlook for the Czech economy.

Infrastructure expenditures – recent development

The relatively substantive reduction in total transport infrastructure expenditures continued also in 2011. The year-on-year reduction of 28% was higher than in 2010 by 8%. The volume of investment financial resources spent on infrastructure was the lowest in the past 8 years and amounted to approximately 44 billion CZK. The highest volume of funds was invested into infrastructure in 2008, i.e. almost 83 billion CZK in current prices, which is almost double of the amount invested in 2011.

In 2011, investment expenditure in transport infrastructure represented 1.2% of GDP (expenditure into local roads and other infrastructure for urban public transport are not included). As investments in 2010 amounted to 1.7 % of GDP, a significant year-on-year reduction can be observed also for this indicator.

Investment funds spent on roads also observed a substantive decline in 2011. The reduction of the financial volume was more significant than in 2010 and amounted to approximately 12 billion CZK, the reduction in percentage being the same as in 2010 and reaching 17%. Of this, the investment expenditure for class II and class III roads, namely roads in the ownership of regions, amounted approximately to 6 billion CZK, i.e. 18%. Compared to 2010, a reduction was observed both in the volume of

investment funds spent on class II and III roads and in percentage shares of the total investment funds. The decline of investment expenditures also continued in rail transport with a year-on-year decrease of more than 3 billion CZK; the financial volume of investment costs thus dropped to less than half of the 2008 value. The year-on-year decline in rail investments represents 23%. As for other investment expenditures, a fall was also recorded with air transport infrastructure, namely by more than 50%, in inland waterways, namely by more than 60% and also in pipeline transport, namely by approximately 50%.

Overall transport infrastructure repair and maintenance expenditures did not follow the steep decline trend of investment costs observed in 2011. Already in 2010, the economy measures adopted did not have a substantive impact in this area and there was even a slight year-on-year increase of the volume spent. Even if the expenditures on repair and maintenance dropped by 15% compared to the preceding year, this is still only almost half of the drop compared to investment expenditures decline. A decrease was observed in all types of transport except for inland waterway transport that saw an increase of 11%. Road maintenance and repair expenditure dropped by approximately 3.5 billion CZK which is more than 20%; in rail, the decline was significantly lower and reached only 1.3%. In air transport infrastructure, the reduction amounted to approximately 50% while pipeline transport repair and maintenance expenditure amounted to less than a quarter of the 2010 value.

1.1 Infrastructure

Road transport infrastructure (km)

	2005	2007	2008	2009	2010	2011
Total road and motorways network	55 509.8	55 595.1	55 653.6	55 718.5	55 751.9	55 742.0
of which European road network, type E	2 600.9	2 594.6	2 604.2	2 603.1	2 635.8	2 634.0
Motorways in operation	564.4	656.6	690.5	728.7	733.9	745.1
Expressways¹⁾	322.3	354.0	359.7	370.1	422.3	427.0
Other roads	54 945.5	54 938.6	54 963.1	54 989.8	55 018.0	54 996.9
of which I. class roads	6 153.8	6 191.4	6 209.7	6 198.4	6 254.6	6 254.1
II. class roads	14 667.6	14 642.8	14 592.3	14 622.7	14 634.8	14 626.2
III. class roads	34 124.1	34 104.3	34 161.1	34 168.7	34 128.6	34 116.6
Local roads	72 927.0	74 919.0	74 919.0	74 919.0	74 919.0	74 919.0

1) Length of expressways is included in the length of I. class roads

Source: ŘSD, ČSÚ

Railway infrastructure - Lines (km)

	2005	2007	2008	2009	2010	2011
Total length of operated lines	9 614	9 588	9 586	9 578	9 568	9 572
<i>by number of tracks</i>						
single track	7 746	7 719	7 679	7 684	7 662	7 659
double tracks and more	1 868	1 869	1 907	1 894	1 906	1 913
<i>by gauge of tracks</i>						
standard gauge	9 512	9 486	9 484	9 477	9 467	9 470
narrow gauge	102	102	102	102	102	102
<i>by nature of traffic</i>						
passenger only	47	10	0	0	0	0

goods only	309	152	0	0	0	0
passenger and goods transport	9 258	9 426	9 586	9 578	9 568	9 572
Total non-electrified lines	6 617	6 528	6 508	6 425	6 357	6 364
<i>by number of tracks</i>						
single track	6 474	6 425	6 417	6 339	6 285	6 290
double tracks and more	143	103	91	86	72	74
<i>by gauge of tracks</i>						
standard gauge	6 517	6 428	6 408	6 326	6 255	6 262
narrow gauge	100	100	100	100	102	102
<i>by nature of traffic</i>						
passenger only	47	0	0	0	0	0
goods only	254	108	0	0	0	0
passenger and goods transport	6 316	6 420	6 508	6 425	6 357	6 364
Total electrified lines	2 997	3 060	3 078	3 153	3 210	3 208
<i>by number of tracks</i>						
single track	1 272	1 294	1 262	1 345	1 376	1 368
double tracks and more	1 725	1 766	1 816	1 808	1 834	1 839
<i>by gauge of tracks</i>						
standard gauge	2 995	3 058	3 076	3 151	3 210	3 208
narrow gauge	2	2	2	2	0	0
<i>by nature of traffic</i>						
passenger only	0	10	0	0	0	0
goods only	55	44	0	0	0	0
passenger and goods transport	2 942	3 006	3 078	3 153	3 210	3 208
<i>by type of current</i>						
25 000 V, 50 Hz	1 267	1 301	1 327	1 375	1 389	1 390
15 000 V, 16 2/3 Hz	0	0	0	0	14	14
DC 3 000 V	1 684	1 712	1 727	1 754	1 783	1 779
DC 1 500 V	46	47	24	24	24	24

Source: MoT

Navigable inland waterways regularly used for transport (km)

	2005	2007	2008	2009	2010	2011
Length of the inland waterway Labe-Vltava	303.0	303.0	303.0	315.2	315.2	315.2
<i>of which:</i>						
canalised waterways	263.0	263.0	263.0	274.3	274.3	274.3
regulated waterways	40.0	40.0	40.0	40.9	40.9	40.9
Total length of navigable inland waterways¹⁾	663.6	663.6	663.6	675.8	675.8	675.8
Canals						
total	38.6	38.6	38.6	38.6	38.6	38.6
<i>by class of inland waterways</i>						
class I to IV	38.6	38.6	38.6	38.6	38.6	38.6
Navigable rivers and lakes						
total	625.0	625.0	625.0	637.2	637.2	637.2
<i>by class of inland waterways</i>						
class I to IV	515.7	515.7	515.7	527.9	527.9	527.9
class Va	109.3	109.3	109.3	109.3	109.3	109.3

Source: MoT

1) Including damlake waterways and lake waterways serving mainly for recreational passenger transport and for sportive navigation

Air transport infrastructure

	2005	2007	2008	2009	2010	2011
Total number of airports	88	91	91	88	91	91
<i>of which:</i>						
public international airports	9	8	7	7	7	6
public domestic airports	57	58	58	57	57	58
private international airports	5	6	8	7	6	5
private domestic airports	13	13	12	11	12	15
public domestic and private international airports	4	6	6	6	9	7

Source: MoT

1.2 Performance

Deficiencies can be seen in many areas: the backbone transport network is not complete, the existing road routes are not of a good quality and are often inappropriately routed through built-up areas. In particular, suburban and urban roads suffer from congestion because of the lack of by-passes, causing frequent traffic jams. The inadequate infrastructure also causes increased emissions of air pollutants, noise pollution, especially in built-up urban areas and a high number of road accidents ending in serious injury or death. The high accident rate causes traffic jams, which further exacerbate the negative effects on economic performance resulting from inadequate infrastructure capacity. Problems of the poor quality and capacity of transport infrastructure are also faced by rail transport, as a consequence of which it demonstrates a lack of competitiveness when compared with road transport over most of the important routes. In order to improve the efficient use of resources and reduce negative impacts on the environment, it is desirable to increase the use of railways in freight transport as this would relieve the congested road network. In order to ensure the most efficient use of available transport capacity, it is necessary, by introducing an effective traffic system control and toll charges for individual modes of transport, to achieve the efficient combination and integration of these transport modes. To a certain extent, greater use of rail transport is also dependent on the increase of number of multimodal terminals for passenger and freight transport. These then must also be defined in the legislation as an integral part of transport infrastructure. The share of inland waterway freight transport, which is one of the most environmentally friendly modes of transport, is also low. However, the possibility of using waterways for a long distance freight transport is limited by restricted access to a maritime port due to the lack of navigability of key sections of the Elbe.

An indispensable role in fast long-haul transport is played by air transport. The quality of airport infrastructure is a significant factor in global trade and competitiveness. In connection with the steady increase in the volume of air transport, strengthening the capacity of Prague – Ruzyně airport is a priority.

2 MAJOR PROJECTS AND FUNDING

Major transport infrastructure projects

The major transport infrastructure projects of European and national significance include:

- The completion of the basic network of motorways and expressways within the so-called Trans European Transport Network (TEN-T); those within the core network (by 2030) and the comprehensive one (by 2050);
- Modernisation of Class 1 roads with a focus on building express ways and by-passes for towns and in sections with sufficiently dense traffic flows, the reconstruction of selected Class 1 roads into motorways (by 2050);
- Completion of railway transit corridors (by 2018) and modernisation of the other routes within the TEN-T network and tracks of national importance (connection of all regions to high-capacity railway infrastructure (by 2050));
- Modernisation of railway junctions on the TEN-T network (by 2018, the Prague and Brno junctions by 2030);
- Modernisation of routes which are important for servicing large industrial zones (e.g. Mladá Boleslav, Kvasiny, Nošovice and others);
- Ensure interoperability of the railway network, introduction of GSM-R (Global System for Mobile Communications – Railway), ensure interoperability of the railway network, introduction of ETCS (European Train Control System);
- Construction and modernisation of inland water routes within the core TEN-T network, including RIS;
- Development of the logistics of freight transport, building a network of multimodal transport terminals to parameters based on the AGTC agreement (European Agreement on Important International Combined Transport Lines and Related Installations) ;
- Support for the introduction of intelligent transport system in all modes of transport including on-board applications (on an ongoing basis).

The major transport infrastructure projects of regional significance include:

- Modernisation of those railway tracks which are important for urban and suburban transport (solving transport problems in densely populated areas), modernisation of tracks of regional significance where there is potential to introduce backbone lines for regional transport services;
- Modernisation of Class 2 and Class 3 roads which on a regional level provide connections to transport infrastructure of national and European importance (metro, tram systems, tram-train systems, trolleybus systems);
- Support the development of infrastructure for railbased urban transport;
- Modernisation of regional airports (in accordance with the Air Transport Development Policy);
- Support the development of infrastructure for nonmotorised transport
- Intermodal terminals for personal transport (connecting points for rail, bus, urban, personal and nonmotorised transports), introduction of ITS and new technologies for public transport;
- Management systems for urban road traffic.

Under the project "Development of a Long-Term Model of Transport Infrastructure Financing", the possibility of reforming the whole system of transport infrastructure financing is examined. The project will also place a major emphasis on the need to involve private capital, which would be repayable from future revenues generated by the infrastructure when built. A substantial element in the financing of transport infrastructure projects could be a state-owned company, which would form an effective interface between the state and private capital. Models used abroad have been analysed. Based on this experience from abroad, proposals for possible institutional changes in the financing of transport infrastructure will be discussed,

which would permit an efficient use of private capital to develop transport infrastructure while not affecting the level of state debt and deficit.

Ensuring Effective and More Stable Financing for the Completion of the Backbone Network

To ensure stable long-term resources of funding will be a key factor for continued financing of transport infrastructure projects. The volume of resources available at national and European level currently determines the time framework for completing backbone infrastructure. This requires investment in terms of hundreds of billion of Czech crowns and the budgetary details could be finalized only after the approval of the relevant strategy documents in the field of transport. Government attention will therefore be focused on stabilising the financial resources allocated for the development, maintenance and modernisation of transport infrastructure from the state budget, and on ensuring financial resources for infrastructure building from private resources and partly from the expansion of toll system.

New sources of funding

Due to the high cost of transport projects and the urgent need to realize them in an optimum form and as quickly as possible, alternative ways to finance them are under consideration. In addition to increased resources from public budgets by expanding toll system and drawing on co-financing from EU programmes, Government will investigate the possibility of financing infrastructure projects from private sources, in the form of Public Private Partnerships (PPP). Projects selected as being suitable for financing in the form of PPP will then be implemented if this form of financing would be the most suitable instrument from an economic point of view. In order to increase available resources gradual expansion of toll system to include Class I roads and selected Class II and Class III roads is expected. The preparations started in 2011 but will not be fully implemented until after 2013. The system should also include the internalisation of external costs. These measures should lead to the situation where the cost incurred by traffic, such as noise and air pollution, will be shared by those causing it (the principle - polluter pays).

3 STRATEGIC PLANS

If the transport infrastructure is to contribute to the competitiveness of the Czech economy and economic growth, it is necessary for individual projects to be based on thorough, rational strategic planning and to form part of a well-designed concept. Therefore, the Ministry of Transport will submit to the Government an updated transport strategy up to 2040 (Transport Sector Strategies, 2nd Phase); this will form the basis for setting priority projects in transport infrastructure and the timetable for their implementation. To expedite the preparation and the actual implementation of projects, the legislative framework must be modernized.

Currently the Czech Republic's new draft **Transport Policy for 2014-2020 and Transport Sector Strategy, 2nd Phase and Medium-Term Plan for Transport Infrastructure Development, With a Long-Term Outlook** are in preparation; these will include a Strategic Environmental Assessment (SEA) and a detailed assessment of individual infrastructure constructions, with an outlook up to 2040. Both of these documents are expected to be approved by the Czech Government by April 2013. Other planning measures aiming at improving transport safety and efficiency include an update of the existing **National Road Safety Strategy** and the forthcoming **Strategic Plan of ITS Development for the Czech Republic**.

3.1 Long Term

The main long term projects are described under the point 2)

3.2 Mid Term

Czech Republic as an EU member is also closely linked with the EU projects and is of course trying to use the EU financial funds to the extend possible. Czech Republic Government in November 2012 approved the EU Operational Program **TRANSPORT** for the years 2014 – 2020 and the financial resources allocated to this project will be used for the Czech infrastructure further development.

The following priorities are included in the TRANSPORT program:

1. Railway and multimodal transport support including sustainable transport in the cities (TEN-T network, non TEN-T network, IWW)
2. Road transport infrastructure included in TEN-T network
3. Road transport infrastructure in the ownership of state and not included in TEN-T network (state roads: motorways, expressways, main roads – Class 1 roads)

The biggest amount of financial resources will be allocated to the priority 1, approximately 55% of all the resources and quite small amount of financial resources from the TRANSPORT program will go to the priority 3.

4 ASSESSMENT METHODOLOGY

As already mentioned above, in 2011 quite an extensive project *Transport Sector Strategy, 2nd Phase and Medium-Term Plan for Transport Infrastructure Development, With a Long-Term Outlook* concerning the transport infrastructure assessment, planning and modelling was launched. This project is regularly consulted with the European Commission experts and will be considered as a basis for further development of transport infrastructure in the Czech Republic and financial support from the EU funds.

On the project level cost and benefice analysis is normally used.

