



**Economic and Social  
Council**

Distr.  
GENERAL

TRANS/WP.5/2002/5  
31 May 2002

Original: ENGLISH

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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

Working Party on Transport Trends and Economics  
(Fifteenth session, 2- 4 September 2002,  
agenda item 12 (b))

**QUALITY-OF-SERVICE CONCEPT**

Transmitted by the Governments of Czech Republic, Hungary and  
the United States of America.

Note: At its fifty-ninth session the Inland Transport Committee, following an earlier decision taken at its fortieth session (ECE/TRANS/42, para. 45), agreed to circulate the questionnaire on the most significant criteria for the determination of new and important developments with regard to inland transport in the member countries of general interest to Governments (ECE/TRANS/119, para. 52).

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## CZECH REPUBLIC

In 1998 the Czech Republic approved the Transport Policy of the Czech Republic as a policy document. The main tasks of the transport policy consist in the alignment of the Czech transport legislation with that of the European Union, and the development and modernization of the transport infrastructure and a high quality link-up with the European transport network, the support for public transport, the creation of conditions for the competition and access to the transport market in line with EU rules, and the achievement of the harmonization of road transport and rail transport. Particular phases and tasks following from the transport policy have been specified in other strategic materials.

In view of achieving, as fast as possible, an interconnection of the Czech Republic with EU member countries, and with regard to the building of future enlarged trans-European transport infrastructure, the Government approved in 1999 in the document "Proposal for the development of transport networks in the Czech Republic until 2010" priorities of the transport infrastructure development construction. Moreover, in 1999 the Government noted the "Time schedule and financial provision for the implementation of the Proposal for the development of transport infrastructure networks in the Czech Republic until 2010".

The above two basic binding documents according to which the future development in the transport sector and the construction of the transport infrastructure in the Czech Republic will be implemented take account of both the domestic transport network needs and the conclusions of the ?IN? process, while creating conditions for a systematic building of the future enlarged trans-European transport network with appropriate parameters. From the technical point of view the quality of transport infrastructure and the issue of access to the transport network makes up only part of the quality of the transportation. Another important field is the level of services provided to transport infrastructure users within the transport process proper, and the provision of high quality information to customers.

The Government makes every effort to ensure a higher share of public transport in passenger transport and a higher share of the rail or combined transport in the carriage of goods. Due to the cancellation of a number of connections and their link-up with the remaining network, the servicing of certain residential centres with transport has declined to such a degree that the accessibility to such centres is possible by private car traffic only. For reasons of the rationalization of public passenger transport, it is envisaged that only residential areas having more than 200 permanent residents and with a commuting distance of up to 2 km to the nearest public transport stop will be served by basic transport services. Five to six connections daily on working days and three connections on public holidays are considered as a minimum. In goods transport the situation is somewhat different even if here an increase in road traffic manifests itself. What belongs to the advantages of road transport is its speed and operability of local supplies in terms of the time that usually proceeds along the supplier-customer axis with involvement of a foreign carrier. However, there is a shortage in the capacity and development tempo of roads. Accordingly, it is obvious that the current proportion of rail goods transport will remain for certain commodities and is likely to increase in the future.

To achieve a sustainable share of public passenger transport in the transport market, and perhaps to increase this share, the introduction of the so-called integrated transport systems

(IDS) is considered as a substantial instrument. The IDS represents an advanced form of passenger mass transport aiming at providing for a high quality carriage of passengers by various means of transport according to uniform conditions of tariff and carriage with the use of a single transport document.

Also the coordinated timetables, interchange stations and high quality information are important elements of an integrated system. Together with the communities, as well as with transport operators, the State will participate in the building of interchange stations or places for switching the transport modes to enable easy changing between individual and collective transportation as well as between particular public transport modes. Such elements of integrated transport systems should be offered at public parking places designed for individual means of transport thereby making it possible to proceed in the journey by public transport.

In the Czech Republic the integrated transport system is being introduced within the Prague region, Ostrava, Zlin and Olomouc areas, and the introduction of the IDS is under preparation in other cities.

## **HUNGARY**

### Information on the concept of quality of transport service with reference to railway transport

The Hungarian State Railways Co. Ltd. introduced its system in 1997 to control, analyse and evaluate the quality of undertaking railway services, by the way of presentation of quantitative, qualitative and economic parameters with the effects influencing them, for the core activities, day by day and monthly, to the top management and a general commissioner was appointed to implement and manage the system.

For monthly report and analysis the regulation, which introduced the system, has provided 10 parameters concerning the quality of passenger train services, 7 for the services at stations and 15 parameters on the activities in freight transportation. A crucial parameter has been the punctuality with a list of codes for 89 different possible effects and causes resulting in delay. Some other important parameters are the comfort of the coaches and the information channels in passenger transport and shortages in wagon supply, deficiencies of shunting services, refusals by receiver railways, value of damages in freight transportation.

For their analysis all the parameters are related both to those in the previous month and in the same month last year.

In 2001 a special department under the direct supervision of the general manager of the national railway company was set up, led by a specialist from outside for ensuring and controlling the quality. Simultaneously, officials have been appointed for quality issues at units of a direct effect on the primary services.

In 2001 the management of the company adopted the conception to develop the quality on the basis of the strategy of development of the services. The quality conception's (QC) horizon 10/15 years with four phases:

- to implement quality management by products (QMP) which are the services to be testified in the passengers and freight transport and to measure the implementation of their quality, in 2002.
- to bring into existence quality management by systems (QMS) at all special directorates of the company (Passenger, Freight, Engineering, Traffic, Permanent Way, Signalling and Telecommunication), by 2004 as expected.
- to develop the quality management of total extent to the company (TQM), by 2008 as the basis.
- to aspire to the European Formula of Quality Management (EFQM) for the organizational excellence as the final goal in this respect.

The modernization and actualization of this system to control, analyse and evaluate quality has begun by investigating the parameters for:

- the basic requirements in quality
- the comfort
- the image
- the information of clients
- the service performances

in both passenger and freight transport.

As for the application of the quality conception,

- with respect to phase one, the quality of domestic InterCity services, terminus stations and express freight trains are to be testified by 30 June 2002 and that of railway traffic nodes by 2003. Testifying processes are carried out from the customers' points of view.
- Advancing to phase two, more than 20 service units of the national railway company with 15% of its employees have been testified already by ISO 9000 standards, 15 of which won the qualification ISO 9001:2000 standard, among them the normal/broad gauge transshipment area at Záhony in the north-eastern corner of Hungary with capacities for trans-loading 10 million ton per year and with 6 thousand employees.

Considering the auditing in process the number of testified units may double by the end of 2002 and all special directorates will possess their quality management systems of ISO 9001:2000 standard by the end of 2003.

## UNITED STATES OF AMERICA

### Prepared by the U.S. Department of Transportation

The concept, quality of transportation service, is more usually discussed as transportation performance in the United States and has been studied and applied by both governmental bodies and the private sector. While there are no official agreed upon measures of transportation performance or service, there has been progress in describing the characteristics and measures that are useful in understanding how well transportation facilities or systems are performing. Performance measures are important because they can provide decision makers with information on how transportation policies, planning and programmes are meeting the needs of the national economy, national security and overall social well-being. Quality of service measures focus on how transportation systems or facilities perform in terms of travel times, speed, cost, reliability, safety and damage/ loss.<sup>1</sup>

There are three important attributes of transportation systems that performance measures should address: (1) how the system is performing in meeting the Nation's needs, (2) how the system is meeting the needs of users or consumers, and (3) what are "outcomes" or consequences of transportation, both positive and negative, on economic, social and environmental objectives of the Nation. In a 1995 report<sup>2</sup> a proposed typology for performance based transportation planning was suggested in which transportation performance was related to three societal objectives: economic development, environmental quality and quality of life. At each stage of the planning process more and more precise measures of transportation performance are applied in measuring efficiency, effectiveness and externalities.

Criteria have been suggested for developing a performance measurement framework. They are: Simplicity, Multidimensionality, Compatibility, Objectivity, Feasibility and Directness. These guidance criteria should produce proposed performance measures that allow for valid cross-modal comparisons and understanding of the trade-offs among transportation efficiency and other social, economic and environmental considerations.

A proposed typology for performance measurement has been suggested. It divides the measures into two primary groupings: ECONOMIC and SOCIAL. Under each, three measurement areas of concern are identified: EFFECTIVENESS, EFFICIENCY and EXTERNALITY. The effectiveness measures describe how well the transportation system is providing for the movement of goods and people, in terms of accessibility and quality. Efficiency measures relate to both cost and cost-effectiveness in providing transportation service to households, individuals and commercial entities.

The relationship of expected revenues to the costs of developing, operating and maintaining transportation systems are important measures that need to be addressed. Environmental measures address the impacts of transportation on broad societal goals and concerns. Included are economic impacts, social affects, safety and security requirements, environmental impacts and resource and energy demands.

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<sup>1</sup> A primary reference for much of the material presented is the report, National Transportation system Performance Measures, U.S. department of Transportation, April 1996.

<sup>2</sup> G. Mazur and M. Meyer, Performance Based Transportation Planning: Converting Concept to Practice, 1995 Annual Meeting of the Transportation Research Board.