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## Manifestation and Record of the Externalities in the Transport Services Implementation

Alexander Stetjuha\*

*Transport and Telecommunication Institute, 1 Lomonosov str., Riga, LV 1019, Latvia*

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### Abstract

The article under consideration is devoted to the investigation of the external effects arising in the industry of transportation and manifesting the failure of the market economy. In modern conditions the theory and practice of a comprehensive assessment of the efficiency of transport systems attracts scientific and practical interest. This is reflected in the rejection of a unilateral approach to transport, where its profitability is the only factor taken into account. The article discusses the theoretical bases to explain the reasons for the origin of the external effects (externalities), and also the practical measures needed for the public administration system to neutralize the effects of these market failures. They include the internalization of negative externalities and possible steps to accounting the positive externality associated with the implementation of transport services. Accounting the external effects in conjunction with the considered tools are presupposed to improve the quality of forecasting the pace of development of different types of transport and reasonability of the amounts of the investments required for the development of transport systems in the countries and regions.

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\* Corresponding author.  
*E-mail address:* [astet@tsi.lv](mailto:astet@tsi.lv)

## 1. Introduction

The economy of any country is impossible without well-functioning transport. The transport system determines the conditions for the economic growth, for the increase of the national economy competitiveness and the life standards of population. The geographical peculiarities of some countries including Latvia determine the priority of transport in the development of competitive advantages of the country in terms of its transit potential implementation. The network of roads and railways is an important basis for the concentration, specialization and integration of production. Development of transport infrastructure is a prerequisite for the expansion of trade. The growth of the transport sector has a positive effect on the labour market, increasing the proportion of employed and their income.

The availability of high-quality and safe transport services affects the performance of all sectors of the economy and the quality of social services. In this regard the role of transport in economic and social development of the country is not limited to the efficiency of the actual transport industry, but is determined by a number of external effects. Certain studies (Abramov and Galaburda, 2002; Komarov, 1985; Kotlyarenko and Kurenkov, 2002), name them non-transport effect and damage. The economic theory names the external effects as externalities.

The most obvious example of the negative effects of activity and development of transport is the environmental pollution. As it is known, transport adversely affects almost all components of the biosphere: atmosphere, water, land resources, lithosphere and human (Myrzabekova, 2008). The damage caused by land acquisition for the transport networks and terminals should also be kept in mind. The negative external effects of transport are the consequences of transport accidents and disasters.

Positive externalities occur:

- in saving the passengers time and in economy of working capital due to the acceleration of delivery;
- in decreasing the costs of material resources stock warehousing;
- in reducing transport component in the prime cost and the price of manufactured industrial and agricultural products;
- in reducing the construction durations;
- in improving the state economic and strategic security.

The goal of this paper is to find out the reasons for the origin of externalities that occur in the transport business and to consider possible ways of overcoming them. The article describes several approaches to achieve this goal:

- theoretical foundations of externalities and the peculiarities of their manifestations in transport;
- examples of negative external effects of transport and the ways of overcoming them by internalization;
- the possibility and the need of taking into account the positive externalities of transport.

The investigation of the stated issues employed such methods as a method of scientific systematisation and synthesis of both theoretical statements and the specific economic observations. The method of abstraction technique was used for implementation of graphical models as illustrations of economic laws.

The topicality of research on accounting and the real impact (especially negative) of the externalities in the transport business increases in the context of the Paris climate agreement in 2015 (Anon, 2015) which assumes the situation analysis by the emission level and the overall progress of fulfillment of Paris commitments in 2018, followed by monitoring every 5 years. With regard to transport as a major contaminant, the global ecological problem must be solved by the adoption of valid economic decisions at the national level.

## 2. Theoretical Foundations of Externalities and the Peculiarities of Their Manifestation in Transport

Economic theory (Katz and Rosen, 1994; Fischer *et al.*, 1988) defines the external effects (externalities) as a reflection of situations of market failure, where the expenses or benefits of market transactions are not included in the price in full. The reason for the existence of external effects is the fact that the consumption or production of a

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