COMPARATIVE ANALYSIS OF THE ACTIONS TOWARDS SUSTAINABLE TRANSPORT SYSTEM DEVELOPMENT IN LATVIA AND LITHUANIA

Aidas Vasilis Vasiliauskas¹, Igor Kabashkin²

¹ VGTU Transport management department, Plytinės 27, Vilnius LT-10223, Lithuania,
² Transport and Telecommunication Institute, Lomonosova 1, Riga, LV-1019, Latvia

E-mails: ¹ aidasv@ti.vgtu.lt, ² kiv@tsi.lv

Abstract. The essential economic and social benefits, which are so difficult to balance against the high social and environmental costs, make transport a crucial sector for sustainable development.

The purpose of this paper is to reveal the essence of sustainability, to point out the main ideas and strategies adopted by the EU to implement the objective of sustainable transport system, to provide a comparative analysis of Lithuanian and Latvian National sustainable development strategies, analyzing more closely main measures that assure development of sustainable national transport systems.

Keywords: sustainable development, sustainable transport, transport system.

1. Introduction

Transport is of fundamental importance to human society, providing mobility and facilitating industry and trade [1–15]. About 6% of the EU population work directly for the transport services sector, with additional transport-related jobs in other sectors, such as vehicle manufacturing and infrastructure construction. Value added by the transport sector amounts to some 6% of GDP, whilst about 14% of household spending is on transport. The sector is thus of considerable economic importance.

However, not all operators believe they are working in a truly equitable market. And not all regions or households have equal access to the benefits of transport. Nor is transport only beneficial. Tens of thousands die on the roads each year in Europe, as well as in other transport accidents. There are also many environmental impacts, including land take and fragmentation of natural habitats, climate change, noise, and air, soil and water pollution. In addition, ever-increasing delays and congestion on roads, railways and at airports are of continuing concern.

The essential economic and social benefits, which are so difficult to balance against the high social and environmental costs, make transport a crucial sector for sustainable development, as recognized in the EU sustainable development strategy.

The purpose of this paper is to reveal the essence of sustainability (section 2), to point out the main ideas and strategies adopted by the EU to implement the objective of sustainable transport system (section 3), to provide a comparative analysis of Lithuanian and Latvian National sustainable development strategies (section 4 and 5) analyzing more closely main measures that assure development of sustainable national transport systems.

2. Concept of sustainable development

Sustainable development is a pattern of resource use that aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but in the indefinite future. Sustainable development is the way in which developing nations undergoing the process of industrialisation will avoid becoming like current industrialised carbon intensive nations with high level of emissions.

Sustainable development ties together concern for the carrying capacity of natural systems with the social challenges facing humanity. As early as the 1970s “sustainability” was employed to describe an economy “in equilibrium with basic ecological support systems”. Ecologists have pointed to the “limits of growth” and presented the alternative of a “steady state economy” in order to address environmental concerns.

The field of sustainable development can be conceptually broken into three constituent parts: environmental sustainability, economic sustainability and sociopolitical sustainability (fig. 1).
The main provisions of sustainable development were finally agreed upon at the World Summit – the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, where sustainable development as the main long term civil society’s development ideology was legitimated. The main principles of sustainable development in the Rio Declaration on Environment and Development were formulated, and the action programme for sustainable development implementation in the adopted Agenda 21 was submitted.

Fig. 1. Scheme of sustainable development

The European Union is an unquestioned leader in sustainable development. The common guidelines of sustainable development were officially formulated in the Review of the European Community Programme in relation to the environment and sustainable development “Towards Sustainability” and adopted by the European Parliament and the European Council in 1998. The European Union Sustainable Development Strategy was approved by the European Council in Göteborg in 2001. A serious consideration in the Strategy is given to the importance of decoupling the economic growth from the resource consumption and the impact on the environment [3, 8, 10, 12].

3. EU actions towards establishment of sustainable transport system

Sustainable transport is a concept developed in reaction to things that have gone visibly wrong with transportation policy, practice and performance through much the world over the last half of the twentieth century.

The term sustainable transport, also commonly referred to as sustainable transportation or sustainable mobility, has no formal definition, but is a logical follow-on from the earlier term Sustainable Development whose origins in turn were the 1987 Our Common Future (1987, World Commission on Environment and Development of the United Nations). Thus it is often defined in words such as this: “Sustainable transportation is about meeting or helping meet the mobility needs of the present without compromising the ability of future generations to meet their needs.”

One early and often cited definition offered back in 1994 by the Organization for Economic Cooperation and Development (OECD) defined sustainable transport as: “Transportation that does not endanger public health or ecosystems and meets mobility needs consistent with (a) use of renewable resources at below their rates of regeneration and (b) use of non-renewable resources at below the rates of development of renewable substitutes”. This provided a conservative benchmark view of what sustainable transport is all about which is still often put forward in the public debate.

The World Business Council for Sustainable Development uses the term “sustainable mobility”, and defines this as “the ability to meet the needs of society to move freely, gain access, communicate, trade, and establish relationships without sacrificing other essential human or ecological values today or in the future”.

Transport is of fundamental importance to human society, providing mobility and facilitating industry and trade. The essential economic and social benefits, which are so difficult to balance against the high social and environmental costs, make transport a crucial sector for sustainable development, as recognized in the EU sustainable development strategy.

How to reconcile these conflicting costs and benefits, and how to introduce more equity into transport markets, were already subjects of the 1992 White Paper on the future development of the common transport policy.

The thesis that the imbalances and inefficiencies of EU transport systems could be corrected by appropriate pricing structures was developed further in the 1995 Green Paper on transport.

In 2001, the Commission issued a further White Paper which sets out a comprehensive strategy, including over 60 specific measures, to break the link between transport growth and economic growth and to restore the balance between the modes [2].

The European Union Sustainable Development Strategy approved in Göteborg in 2001 included the following headline objectives to improve the transport system:

• decouple transport growth significantly from growth in gross domestic product in order to reduce congestion and other negative side-effects of transport;

• bring about a shift in transport use from road to rail, water and public passenger transport so that the share of road transport in 2010 is no greater than in 1998 (the most recent year for which data are available).

In June 2001, the conclusions of the Gothenburg Council stated that ‘A sustainable transport policy should tackle rising volumes of traffic and levels of congestion, noise and pollution and encourage the use of environment-friendly modes of transport as well as the full internalisation of social and environmental
costs. Action is needed to bring about a significant decoupling of transport growth and GDP growth, in particular by a shift from road to rail, water and public passenger transport’ [7].

4. Analysis of measures to develop sustainable transport system in Lithuania

In Lithuania, The Lithuanian National Sustainable development Strategy was approved by the Government on 11 September 2003. The main long-term, mid-term and short-term objectives and tasks were formulated, and the most important implementation measures in various sectors and their branches were envisaged in the Strategy [4].

In order to create an efficient and sustainable national transport system, the main long-term objectives were set out as follows: to coordinate development of all types of transport by giving higher priority to the transport with lower negative impact, increase energy efficiency of transport sector and use of alternative and more environment friendly fuels, reduce environmental pollution and input into the global climate change, and increase traffic safety, while establishing economically effective transport system.

The main implementation measures of long-term objectives are:
1. To promote modernization of transport means with a help of economic and legal measures by giving priority to those means, which are less fuel consuming and less polluting the environment.
2. To economically promote development of a network of petrol stations, which sell less polluting the environment.
3. To implement measures for the infrastructure development of different types of transport and improvement of their interaction as well as programmes for the development of a network of bicycle tracks foreseen in the Long-term Economic Development Strategy of Lithuania until 2015 [5].

In order to monitor the implementation of the Strategy, a list of national sustainable development indicators provided below was prepared taking into account indicators recommended in EU documents and the national specifics of Lithuania. All these indicators are from the group of indicators measuring economic development (and are related to transport sector performance):
1. Distribution of cargo and passenger transfers according to modes of transport;
2. Investments into the development of different modes of transport;
3. A part of biofuel in total amount of fuel consumed in transport sector;
4. Density of motor vehicles;
5. Density of cars;
6. Number of cars older than 10 years;
7. Number of road accidents per year.
8. Road network;
9. Railway network [6];

5. Analysis of actions towards development of sustainable transport system in Latvia

The economic growth of Latvia has been rather rapid up to now, still the Latvian economy is featured by certain factors restricting the development, which are likely to hinder the economic growth in the future. To ensure a balanced and sustainable growth the Government’s objectives shall require the minimisation of disproportions having occurred up today and prevention of any further occurrence of such disproportions [1].

Transport is one of the most important and dynamic fields of economy in Latvia. Transport infrastructure (roads, railway, harbours, airports, main pipelines) provide the internal needs of Latvia and serve the transit flow both east-west and north-south direction. Although there is optimal transport infrastructure location in Latvia, still in many places its low quality influences the quality and competitiveness of the transport services [13, 15]. In order to integrate Latvia’s road and railway infrastructure into the Trans-European transport network, it is necessary to set them in order according to the EU standards. Investments into the future elements of the Trans-European transport network are of importance here – the main network of roads and railway of Latvia, harbours of Ventspils, Riga and Liepāja and their terminals and airports.

The uniform system of passenger transport must be established in the country to provide high quality and available public transportation service to people, as well as common passenger and cargo transportation network for the Baltics and northern part of Europe must be established. Transport infrastructure and transportation process must be developed in such a way as to ensure integration and successful operation of Latvian transport system in the European transport system [9].

In order to create sustainable transport system, the following main objectives in the Strategy for sustainable development of Latvia were set:
- To decrease air pollution and noise caused by transport.
- To optimise production structure to decrease the cargo transport volume.
- To develop environment friendly types of transport, also public transport and railway transport.
- To increase the safety of cargo and passenger transportation.
- To develop sea transport.
- To increase the service quality in passenger and cargo transportation.

The main measures for achievement of the above mentioned objectives are as follows:
- To establish a united passenger transport system to provide high quality and available public transportation service to people.
The essential economic and social benefits, which are transport terminals, cargo distribution and logistics and communications industry. These are: sustainable development indicators were established. The implementation of the Strategy, a list of national handling the outworn vehicles. Also, as in case of Lithuania, in order to monitor the implementation of the Strategy, a list of national sustainable development indicators were established. These are: 1. Quantity of emission of vehicles and amount of emission per one km driven. 2. Number of passengers carried by public transportation. 3. The value added in GNP from transport industries. 4. The proportion of employment in transport and communications industry. 5. Length of bicycle roads, km.

Conclusions

1. Transport is of fundamental importance to human society, providing mobility and facilitating industry and trade. However, not all operators believe they are working in a truly equitable market. And not all regions or households have equal access to the benefits of transport. Nor is transport only beneficial. The essential economic and social benefits, which are so difficult to balance against the high social and environmental costs, make transport a crucial sector for sustainable development, as recognized in the EU sustainable development strategy.

2. Sustainable development is development of the society providing opportunities to reach the welfare for present and future generations by harmonizing environmental, economic and social objectives of the society and without exceeding allowable limits of environmental impact. The European Union Sustainable Development Strategy was approved by the European Council in Göteborg in 2001.

3. The term sustainable transport, also commonly referred to as sustainable transportation or sustainable mobility, has no formal definition, but is a logical follow-on from the earlier term Sustainable Development whose origins in turn were the 1987 Our Common Future (1987, World Commission on Environment and Development of the United Nations). Sustainable transport is a concept developed in reaction to things that have gone visibly wrong with transportation policy, practice and performance through much the world over the last half of the twentieth century.

4. Conclusions of the Gothenburg Council stated that ‘A sustainable transport policy should tackle rising volumes of traffic and levels of congestion, noise and pollution and encourage the use of environment-friendly modes of transport as well as the full internalisation of social and environmental costs. Action is needed to bring about a significant decoupling of transport growth and GDP growth, in particular by a shift from road to rail, water and public passenger transport’.

5. To help the decision-makers to achieve progress towards sustainable transportation a general method has been elaborated. For evaluation, modeling and simulation of the sustainable development, sustainable transportation indicators can be applied. Interest in indicators is strong, and even appears to be growing, but full standardization of indicator sets may never come – and may not even be desirable – as goals, and objectives, and the particular project vary from place to place.

6. In Lithuania, The Lithuanian National Sustainable development Strategy was approved by the Government in 2003. The main long-term, mid-term and short-term objectives and tasks were formulated, and the most important implementation measures in various sectors and their branches were envisaged in the Strategy.

7. Strategy for sustainable development of Latvia was adopted back in 2002. Main objectives and measures to reach these objectives (in particularity related to establishment of sustainable transport system) are pretty much the same as in case of Lithuania. The biggest difference however is the set of the indicators applied to measure changes of transport systems of both countries, which makes comparison of the development a bit difficult.
8. Although great efforts have been done in both countries to create sufficient and comparative indicator sets for analysis of changes in transport sector, good and comprehensive data for a great number of indicators are not available at this moment. It is the task of the future, that statistical offices shall collect data on sustainability in a well defined and controlled way.

References