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THE CONCEPT OF "URBAN MOBILITY" AND ITS INDICATORS OF STABILITY

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Transport service has got a huge economic importance in the life of a city. The interaction of industrial enterprises, service sector, consumer and commerce market is directly dependent on transport. Transport arteries of a city like blood vessels are braided with speed, accessibility and sociability. The country's economy is generally dependent on the ability of transport and industries meet the demands of internal and external market.

Various types of transport, namely surface, underground, water and air transport ensure the delivery of people to necessary destinations as soon as possible. The transport infrastructure of a city meets the needs of different social groups in the developing countries [1, p. 321].

A city is a territory used by the society for a living. People living on a city's territory should guarantee the observance of political, environmental, social and economic aspects of life.

In cities, there are two main types of flows: the movement of people and goods, as well as the concomitant information. This traffic, which is necessary for the proper functioning and development of the city, leads to overloading of transport network, which increases competition among consumers of the above mentioned flows for access to the network. This is largely due to the fact that this movement is not coordinated, what in its turn causes social conflicts [2, p. 295]. These problems are most acute in the cities in developing countries. In coming decades such countries will have growth of their population about 90 percent. These cities are already struggling to cope with the growing demand for investment in the transport systems. They have also faced with the problem of "transport poverty". Millions of people cannot use public or private transport because of the high cost of travel; disabled and elderly people often do not have access to transport because it is not suited for them; and the unsafety in a transport is a serious problem for many women, young people and minorities who are in a vulnerable position because of their religious or ethnic affiliation [3].

European cities have been making significant efforts trying to improve the conditions for the mobility of their residents over the past two decades. It should be noted that in the economic literature there are an insufficient number of approaches to the interpretation of the concept of "urban mobility". The results of the study interpretations of the term "urban mobility" are presented in table 1.

Table 1 – The interpretation of the concept of "urban mobility" in literature

Source	Definitions
Vardevanyan P.G.	"Urban mobility is the mobility of people measured by the amount of movement on foot or by transport in urban space throughout their life" [1, p. 321].
Yonkis A.	"Urban mobility is a set of management movement processes of people, cargo and logistics information system within the city in accordance with the needs and goals of its development, subject to the requirements of environmental protection, taking into account the fact that the city is a public organization which main goal is to satisfy the needs of its users" [2, p. 296].
Popov V.	"From a scientific point of view urban mobility is defined as the mobility and the ability to fast moving and action" [4, p. 156].

Source: own study based on the study of economic literature.

In our opinion, the concept of urban mobility is reflected more fully in the definition of A. Yonkis because it includes not only the movement of people, as well as the movement of goods and information within the logistics system of the city. Thus, under the urban mobility we understand the ability to meet the desires and needs of people for freedom of movement, access to communication, trade and other relations, without prejudice to other important social and environmental priorities of society in the present or in the future. A plan of a

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sustainable urban mobility is a strategic document, which is a part of existing planning practices. It meets the needs of people in the movements today and in future in order to improve the quality of life in cities and their surroundings.

From the message of the UN Secretary General Ban Ki Moon "Urban Mobility" from October 7, 2013: «Mobility is provided not only by building a broader or longer road; convenient and effective system servings of people in the best and most equitable way are necessary. We should discourage people from using their private transport to travel on trains, buses and bicycles and improve illumination of sidewalks that they could be used by more pedestrians. People should be able to get to work, schools, hospitals and places of recreation safely and quickly. A proper growth of mobility can reinvigorate the urban centers, improve performance and increase the attractiveness of cities for all users - from investors to visitors and residents» [5, p. 272].

Achievement of sustainable mobility is a difficult task for cities in Belarus. Novopolotsk is the first town in the country, which is taking steps to develop new management instruments for urban mobility. "Belarusian Union of Transport Workers" supported the city by providing their own organizational resources and intellectual powers of domestic and foreign experts. Novopolotsk and "Belarusian Union of Transport Workers" are working on the concept of sustainable mobility in Novopolotsk called "Make the city comfortable for living" and have started to implement a new project.

The new project "Development of recommendations for the implementation of sustainable development principles in the plans of urban mobility" is carried out in the framework of the program SECTOR supported by the Government of Sweden.

Indicators of mobility or transport mobility are used to assess the level of satisfaction of the needs of the urban population in the urban passenger transport services and are necessary for the formation of the transport policy of the city. Let us consider evaluation indicators of logistics system of urban passenger transport in figure 1.

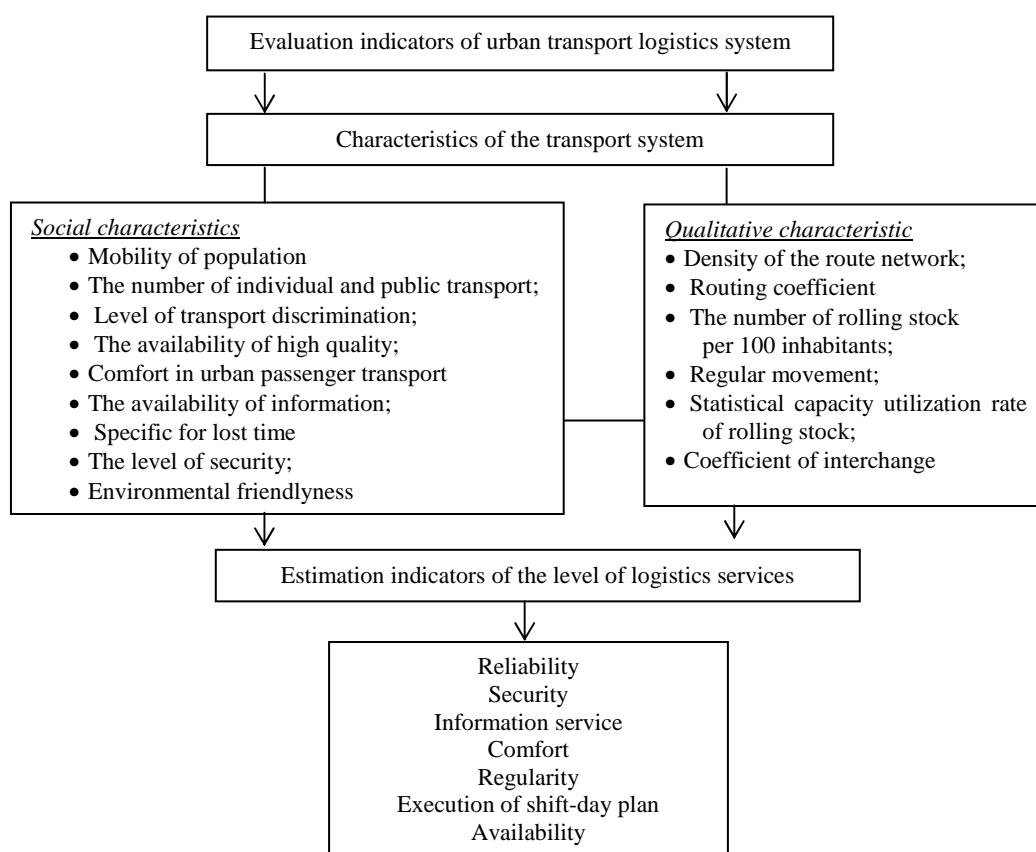


Fig. 1. Evaluation indicators of urban transport logistics system

Source: [6, p. 5].

In the literature on economics authors single out a system of indicators of urban mobility, which includes three groups of indicators: physical, servicing (safety, reliability, comfort, regularity) and financial. However, the achievement of sustainable mobility, including the required level of service indicators depends directly on funding. In this connection special attention should be paid to the financial performance of urban mobility. So, the financial indicators include: the proportion of public transport in a gross regional product, a

partial covering of the costs of urban transportation by the income of companies, the percentage of urban transportation subsidy from the state budget, the dynamics of renovation of the fleet of vehicles.

Thus, the aim of our further research is to study the financial aspects of urban mobility in Novopolotsk, compare our results with the situation in the leading European countries and to determine the optimal parameters of financial indicators for sustainable urban mobility and ways to achieve it in Novopolotsk.

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CITY LOGISTICS AS A SEPARATE SCIENCE

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In the article we investigate a new scientific and practical area which explains how to optimize the movement cargoes and people within the city called the City Logistics. On the basis of economic literature we picked out some approaches to the economic essence of the concept "urban logistics", and gave our own definition to this notion, according to which the city logistics is a complex logistics solutions and processes aimed at consolidation, coordination, optimization of human, material, information, and financial service flows in accordance with the market conditions of life safety of the metropolis.

Today transport is the blood of the economy and economic cycles depend on its effective functioning. Inhabitants of large cities spend from one hour to six a day in transport (it is a quarter of a person's life), and most of this time – on a road. To make the movement within the transport system easier logistics suggests the optimization of transport infrastructure under the transport streams. Nowadays the best practices and realized technologies that are capable of managing the country's transport network has Switzerland. Swiss Federal Institute of Technology (Zurich) in collaboration with the American partners is implementing a project "All Switzerland". Of course, technology is not a panacea. So a Latin American city which is not highly developed has a greater flux density due to the fast driving motorists. In Asian cities with a bad network of traffic-light and absence of traffic controllers, a density of urban stream of cars is also high. People have to pay for a traffic safety [15, p. 18]. However, the savings on security can lead to sad consequences.

Because of the growing number of cities and the increase in the number of consumers there is a problem of timely and quality cargo deliveries in urban areas. We also want to mention the negative effects caused by the trucks on the roads. In fact trucking competes with the private public transport, carrying people for bandwidth on the streets and highways of the city and contributes significantly to traffic congestion on the roads and to other external effects of activities such as air pollution, exhaust gases, noise and traffic safety [6, p. 146].

Thus, the main reasons for the high inefficiency of transportation are: traffic jams in urban areas, which have to move vehicles intended for freight; lack of the necessary infrastructure and parking lots; a low load factor of vehicles; the policy of delivery "just in time" and e-commerce [6, p. 146].

As for the latter point, it is important to note that the distribution of "just in time" strategy and e-commerce are the reasons for a large number of flights performed with a small vehicle load for delivery to the same point of consumption. The linking transport solutions for the delivery of goods to the public transport and city life support system should be realized through a particular functional area - urban logistics [6, p. 146].

It should be noted that there are insufficient number of sources which deal with the notion of "urban logistics" in literature on economics.