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Application Of Logistical Principles In The Development Of Directions In The Region

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ABSTRACT

At the level of international relations, system of delivery of goods by several modes of transport and from one mode of transport to another without the participation of the owner is widely used in world practice today. The article discusses the types of loads falling on the road surface from each axis of freight transport, and the fact that this situation will lead to premature wear of highways. Practically significant recommendations are also proposed for organizing multimodal transportation in domestic transportation in order to increase the competitiveness of manufactured products and reduce the congestion of highways from the traffic flow.

KEYWORDS

Transport, logistics, security, automobile, railway, network, multiset, development, road scheme, optimal, criterion, netto price, freight traffic.

INTRODUCTION

The delivery of items to consumers is done as a handle comprising of a series of steps performed by diverse carriers that are to some extent not interconnected. Because of this, optimizing a chain of progressive stages in space and time is a much more complex task.

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The main service function of transport in the distribution of goods is to ensure its delivery in terms of transport and logistics.

Multimodal transportation is the transportation of one protest by at slightest two types of transport on the premise of a single contract. This non-standard approach acts as a multimodal transport operator (MTO) that carries out transportation and is dependable for all transportation regardless of the number and sort of vehicles. In this case, the executor, i.e., the operator, does not have to be compelled to have all types of vehicles. The fundamental distinguishing feature of multimodal transportation is the circulation of equipment and additional documents for transportation, as well as an increase in the term and cost of transportation. This type of transportation is complicated in the planning and organization of the entire logistics system.

LITERATURE REVIEW

An investigation of the literature on multimodal cargo planning appears that analysts use three fundamental levels in arranging, namely strategic, tactical and operational levels, from which tactical level issues are studied extensively, taken after by strategic and operational level issues (SteadieSeifi M., et al., 2014).

The utilize of territorial transit multimodal transport using Petri Net (E-Net), Firework and other reenactment modeling programs, the solution of multimodal transport network issues utilizing multi-purpose optimization, the possibility of surveying the transformation of its transport networks based on the regional development plan were analyzed (I. Kabashkin, 2015, V.I. Zhukov, S.V. Kopylov, 2015, V.F. Shangin, L.M. Poddubnaya, 1991, Mouna Mnif, Sadok Bouamama, 2017).

Forms of design of multimodal transport network and methodological bases of carrying capacity are considered (S.M.Goncharuk et.el., 2012.).

A general scheme for the formation of a multidisciplinary network of road and rail transport in Surkhandarya region has been created, focusing on the ideal distribution of cargo traffic in this division (A.A. Shermukhamedov, A.U. Kuziev, 2020).

Despite the great attention paid to the above-mentioned issues, there are numerous problems and issues that need to be addressed in this regard.

Particularly, the optimization of traffic flows and transport network within the region and their optimal development in the future, the problem of multimodal transport, the development or selection of methods for substantiating and solving numerical models are topical issues today.

The main difficulties in the organization of multimodal transport are: to begin with, the interaction of different modes of transport and the method of coordination of work, furthermore, the lawful relationship, and thirdly, the lack of lasting routes.

RESEARCH METHODOLOGY

It requires the improvement of the transport and logistics sector to optimize the delivery of future cargo flows to domestic and foreign markets and reduce their cost. A key figure in

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the improvement of transport and logistics is the level of demand for transport in the locale, i.e., a well-developed economic infrastructure.

The overall evaluation of the level of transport provision of the region is based on the markers of the average length of roads (L) per 1000 km² of area (S) and 1000 population (N). A separate investigation of the density of the regional transport network on these indicators showed that it is conceivable to draw conflicting conclusions about the level of their transport coverage. At the same time, although the territory and populace of each region is the national riches of the state, it does not fully reflect its economic potential. Therefore, in his scientific works he recommended the use of integral indicators in assessing the level of transport coverage of the regions (K.U. Uldjabaev, 1999).

$$Y_{tt} = L / \sqrt[3]{SNB},$$

Where B - gross domestic product, billion soums.

In the article, 1 km of highway is conditionally accepted as 0.12 km of railway in terms of traffic speed.

The level of transport provision of the studied economic zone has been calculated (A.O. Kuziev, 2020) and has a better value than the current average in the country (Table 1). However, this does not mean that the transport supply in the region is sufficient.

It is necessary to establish multimodal transportation in the region. To do this, it is necessary to develop a scientifically based methodology.

Table 1

Indicators of the level of transport coverage of the region

(As of January 1, 2019)

Province	The length of the transport network		Area, thousand km²	opulation, thousand people	Transport network density per 1000 km² area (S) and per 1000 population (N)						The degree of integral provided by transport	Transport-provided integral chain даражаси
					Railway			Motor roads				
	Railway, km	Motorway, thousand km			L/S	L/N	$L/\sqrt[3]{SNB}$	L/S	L/N	$L/\sqrt[3]{SNB}$		
Surkhandarya region	419	2869	20,1	2513,1	20,8	0,17	4,0	142,7	1,14	27,5	7,3	1,4
Republic of Uzbekistan	5167,8	42676	448,9	33375,8	11,5	0,15	2,62	95	1,27	21,64	5,2	1,00

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ANALYSIS AND DISCUSSION OF RESULTS

There are 16170.6 km of motor roads in Surkhandarya region in total.

Of this, 2,843 km (17.6%) are under the jurisdiction of the regional Main Department of Motor Roads, and the remaining 13,327.6 km (82.4%) are on the balance of local governments (inter-farm rural, urban streets and settlements).

The 182 km (1.1%) section of the road in the area is rated at 11.5 tk per truck axle, while the remaining 15988.6 km (98.9%) is designed for 8 tk.

One of the main reasons why existing roads are in need of repair before the end of the warranty period is that vehicles are moving with excessive load.

The volume of scattering cargo that a vehicle can carry can be calculated by the following formula, taking into account the size of the "cap" that appears on the upper surface of the open body. It is possible to calculate how much cargo (rubble) a HAWO with a carrying capacity of 31 tons can carry, and in this case the bullet load:

$$V_{yuk} = V_k + (b_k / 2)^3 tg\alpha_{har} = 25{,}185 + (2{,}3/2)^3 tg35 = 25{,}185 + 1{,}06 = 26{,}25 m^3,$$

where ρ – is the density of the load, for rubble.

If it is $Q_{yuk} > q_n$, then the full capacity of the body cannot be used and the load will have to be loaded at a load capacity corresponding to the rated load capacity of the dump truck (q_n),

$$V_{yuk} = q_n / \rho = 31/1{,}8 = 17{,}2\, м^3.$$

This implies that the car will be able to carry 47.24 tons of cargo at a time, and the load on the front axle will be 9.4 tk, and on the next axle - 18.9 tk. However, on public roads there are signs (M39) that the load on the bullet should not surpass 10 tk. This situation leads to the disintegration of open roads before the conclusion of the warranty period.

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The article suggests the organization of transportation within the transport arrange, which includes two sorts of transport. In this

manner, the optimization of the cargo stream is carried out in an extended single surface transport multisector. A single transport multinational organize varies from a normal network in that it has several transport sections and additional (imaginary) nodes. It is created within the taking after arrange. The available points of each sort of transport (in terms of sending, receiving, economic and technical, capacity and other indicators) are shown as nodes of the graph.

Addresses where distinctive modes of transport are associated, i.e., points where it is possible to reload from one mode of transport to another, are spoken to in the form of several addresses, respectively (Fig. 1).

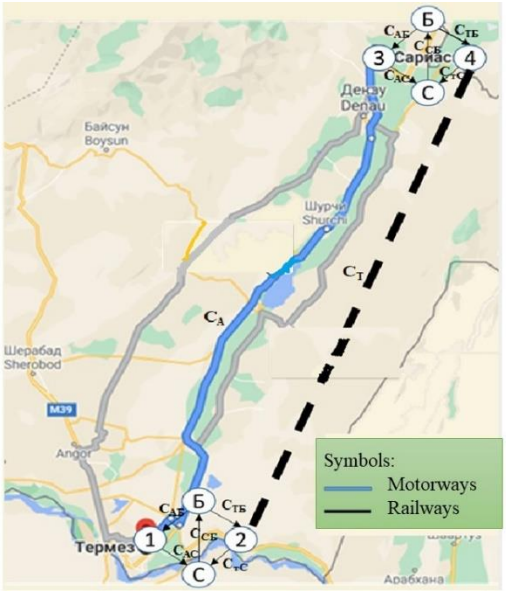

Figure 1. Scheme of transportation in different modes of transport.

The real point where the different modes of transport are connected is divided into B - sender, C - receiver conditional and neutral links numbered 1, 2, 3, 4. The oriented arc between the conditional links reflects the costs of the initial-final operation of the corresponding modes of transport, as well as the costs of reloading from one mode of transport to another. Therefore, S_{BA} and S_{SA} - the cost of road transport, S_{BT} and S_{ST} - the cost of initial and final operations on the railway, and S_{SB} - the additional costs of cargo storage (Figure 1).

There's also a railway transport network on the route Termez-Sariosiyo. The cost of transporting goods by rail is several times

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lower than by road, but the generally cost of "door-to-door" delivery by rail and the high delivery time limit the use of this mode of transport.

CONCLUSIONS AND SUGGESTIONS

The taking after measures should be taken to actualize multimodal transportation at the territorial level:

- Development of methodological recommendations for the practical application of multimodal transport within the development of flows in the region;
- Regulation of additional services on the railway in expansion to the basic duty (crowd cleaning, shunting benefit, switching bolts, protections, fines) on a contractual basis;
- Equipping railway stations with stacking and unloading equipment and expanding the capacity of warehouses for cargo storage;
- Foundation of a single dispatcher within the Transport Office, acting as a multimodal transport operator; - organization of preparing courses with employees of endeavors creating and providing construction materials and increasing the responsibility for over-burdening of vehicles.

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