

ANALYSIS OF SITUATIONS OF TRANSPORTATION OF BULK CONSTRUCTION GOODS BY MOTOR VEHICLES

Muratov Abobakr Kholikberdievich
Doctor of Philosophy in Technical Sciences,
Termez State University, Uzbekistan

Abstract:

It is advisable to effectively use the working hours of road vehicles and shipping points in the transportation of volatile construction cargo, as well as to effectively distribute it through Route routes. This article focuses on the effective organization of operational and effective planning processes for the work of road vehicles entering the loading point in different directions, including in discrete cases and in continuous time.

Keywords

Automobile, construction cargo transportation, lost time, the point of shipment of goods, cargo reception point.

Introduction

Scientific research is underway in the world in such areas as modeling queuing processes, improving the efficiency of the system, optimizing the volume of maintenance work, and matching the intensity of flows entering the system with service capabilities. In this direction, special attention is paid to modeling the processes of fast and efficient planning of the operation of vehicles included in the gross service system, including in discrete cases and in continuous time [2, 6, 7]. At the same time, methods aimed at reducing inefficient losses and costs in the transportation process, mutual coordination of the activities of vehicles and loading and unloading machines are becoming important.

In our republic, large-scale measures are being implemented to carry out research on the improvement of the technology of transportation of volatile construction cargo based on the methods and approaches of modeling and management of the process of servicing road vehicles, gross service theory.

In the state program on the implementation of Uzbekistan in the development strategy until 2026, to double the production of building materials, reduce the time going to construction by 30 percent due to the development of new types of products and other construction costs, and reduce the cost of construction by 20 percent, the tasks of organizing a network of transport and logistics centers and reducing freight costs by up to 30 percent, taking into account the main points of cargo formation in the regions, are established [1]. In the implementation of these tasks, it is important to develop a scientifically based

methodology that allows you to determine the parameters of the service that provide the least economic losses based on the mutual adaptation of the service capabilities of road transport and loading tools.

The effective use of the working hours of road vehicles and shipping points in the transportation of removable construction cargo can be in the following two cases [3, 4, 5]:

- in the process of shipping, the service availability of shipping points will depend on the number of road vehicles entering the loading point;
- the time of arrival of road vehicles at the loading point must correspond to the service time intervals of the loading vehicle.

Otherwise, the unproductive waiting time of loading vehicles or road vehicles will be exceeded. In this case, it will be necessary to match the indicators of the means of road transport with regard to the flow of access to the service system and the service capabilities of the means of loading at shipping points. To load the number of points, the impeller will consist in planning the intensity of the incoming flow, which is formed depending on the intensity of the flow of road vehicles, in accordance with the service capabilities of the shipping points.

Such planning should be directed towards ensuring that the sum of economic losses arising from the mutual waiting times of road vehicles and loading vehicles is the minimum.

In the case of increasing the efficiency of joint operation of vehicles and loaders, the excessive cancellation of vehicles at loading or unloading addresses is reduced, the sum of routes corresponding to the destination of departure is traced to ensure the increase in cargo and the continuous consistent operation of vehicles. The path that can be allowed must ensure that a given graph is maintained at such a time along with other constraints.

Solving such issues has a great effect on the mass transportation of fissile, building loads (soil, sand, Flint, gravel, etc.). The transportation of volatile goods on radial routes is shown in Figure 1.

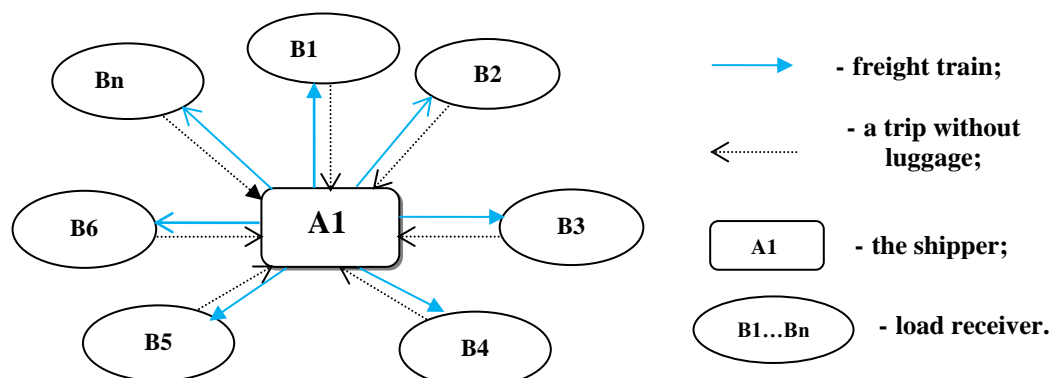


Figure 1. The scheme of cargo transportation along radial routes.

=====

The loads transported according to the above scheme are of the same type, regardless of their differences in different nomenclature and volumes (removable, etc.) the load is calculated and transported in the same vehicle. At the same time, observations show that each consignor (sender method) carries out transportation on the basis of his own interests, not taking into account the interests of other consignors, especially the consumer in the area served. This leads to many problems in terms of stability, increasing the volume of freight traffic: to the use of excess vehicles, to an increase in the weight that falls on the axis of the car in the process of using vehicles, and, accordingly, to an increase in transportation costs (economic). It also has harmful effects in forms such as noise, carbon dioxide (carbon monoxide), environment (ecology), decreased road permeability, and risk of Unfortunate Events (Social) [8].

As a result of the studies carried out, it is advisable to improve the loading and unloading process in order to work in accordance with it, take into account the volumetric weight of the loads, determine the number of daily freight trips, the productivity of the loading vehicle per hour, and ensure the creation of a route-assignment schedule for each car.

REFERENCES

1. Decree of the President of the Republic of Uzbekistan dated 28.01.2022 №UP-60 "On the Development Strategy of New Uzbekistan for 2022-2026"
2. Butayev Sh.A., Sidiknazarov K.M., Murodov A.S., Kuziev A.U. (2012). Logistics (flow management in the supply chain). - T.: "Extremum Press", 2012. -577 pp.
2. Abobakr Kholikberdievich Muratov. (2022). Increasing The Efficiency of Cargo Delivery to Consumers. Eurasian Journal of Engineering and Technology, 12, 20–23. Retrieved from <https://www.geniusjournals.org/index.php/ejet/article/view/2688>
3. A.U. Kuziev., A.Kh. Muratov (2021). Application Of Logistical Principles In The Development Of Directions In The Region. The American Journal of Engineering and Technology (ISSN – 2689-0984). Volume-03 Issue-05. May 31, 2021 | 143-149 Doi: <https://doi.org/10.37547/tajet/Volume03Issue05-20>
4. Muratov A.X. Statement and Mathematical Model of the Problem of General Service in the Transportation of Cargo by Motor Vehicle. European Multidisciplinary Journal of Modern Science. 6, (May 2022), pp.288–291. <https://emjms.academicjournal.io/index.php/emjms/article/view/392>
5. Urokovich, K.A., & Dostmurodovich, S.O. (2022). Issuing the Plan for the Development of the Automobile Road Network. INTERNATIONAL JOURNAL

OF INCLUSIVE AND SUSTAINABLE EDUCATION, 1(5), 195–201. Retrieved from <https://inter-publishing.com/index.php/IJISE/article/view/450>

6. Muratov Abobakr Kholikberdievich. (2023). Mathematical Model of the Process of Transportation of Construction Goods by Automobiles. Genius Repository, 24, 38–41. Retrieved from <https://geniusrepo.net/index.php/1/article/view/375>

7. Muratov Abobakr Kholikberdievich. (2023). EFFICIENT ORGANIZATION OF THE PROCESS OF SERVICING AUTOMOBILE FLOWS ARRIVING AT THE POINT OF SHIPMENT. European Journal of Interdisciplinary Research and Development, 21, 236–240. Retrieved from <http://ejird.journalspark.org/index.php/ejird/article/view/875>

8. Maja Kiba-Janiak. EU cities' potentials for formulation and implementation of sustainable urban freight transport strategic plans // Transportation Research Procedia. Volume 39, 2019. Pages 150-159.