

UDC 332.12:656.07

[DOI 10.26661/2522-1566/2018-4/06-13](https://doi.org/10.26661/2522-1566/2018-4/06-13)**ANALYSIS OF THE FEATURES, DIFFICULTIES AND ADVANTAGES
OF TRANSPORTATION OF LESS-THAN-TRUCK LOADS**

LIDIYA SAVCHENKO, PhD
(technical science), Associated
Professor at the Department of
Logistics, National Aviation
University, Kyiv

MARIYA LYSENKO, student
of the Department of Logistics,
National Aviation University,
Kyiv

ANASTASIYA IHNATOVA,
student of the Department of
Logistics, National Aviation
University, Kyiv

**MYROSLAVA
SEMERIAHINA**, Senior
Lecturer at the Department of
Logistics, National Aviation
University, Kyiv

Purpose.

The paper purpose is to analyze the features, difficulties and advantages of transporting groupage cargo.

Design/methodology/approach.

Basic research methods are the methods of economic analysis, systematization, synthesis and comparison.

Findings.

The article gives a clear understanding of the combined, consolidated (less-than-truck loads) cargo and the peculiarities of the carriage of this type of cargo. The advantages of transportation of less-than-truck loads, requirements to them are given.

The emphasis has been placed on the economic benefits of consolidated cargo transportation, and conditions are put in place to achieve a reduction in the cost of combined transport. The stages of transportation of less-than-truck loads, participants of the process of the corresponding transportations are considered. The possibilities of consolidation are analyzed – the use of multilevel consolidation and re-consolidation. The emphasis is placed on the need for clear information provision for transportation of combined goods, examples of technical means that can be used in this case are given.

Research limitations/implications

The limiting factor in the development of transportation of less-than-truck loads is the complexity of their organization and control, as well as the need for a clear transfer of control over the cargo of each shipper during transportation. It is a well-known fact that the more participants in the transportation process, the more difficult is the transfer of responsibility for the cargo, which complicates the proceedings in disputes for its damage.

Originality/value

The significance of the work consists in focusing on the efficiency of transportation of less-than-truck loads and the complexity of its organization and control. Clear understanding of the stages of the process of consolidated goods transportation allows you to see possible bottlenecks of the transportation process.

Keywords: *less-than-truck loads, consolidated cargo, organization of transportation, transportation costs.*

АНАЛІЗ ОСОБЛИВОСТЕЙ, СКЛАДНОСТЕЙ ТА ПЕРЕВАГ
ПЕРЕВЕЗЕНЬ ЗБІРНИХ ВАНТАЖІВ

**САВЧЕНКО ЛІДІЯ
ВОЛОДИМИРІВНА,**
*кандидат технічних наук,
доцент кафедри логістики,
Національний авіаційний
університет, м. Київ*

**ЛИСЕНКО МАРІЯ
ІГОРІВНА,** *студентка кафедри
логістики, Національний
авіаційний університет, м. Київ*

**ІГНАТОВА АНАСТАСІЯ
ОЛЕКСАНДРІВНА,**
*студентка кафедри логістики,
Національний авіаційний
університет, м. Київ*

**СЕМЕРЯГІНА МИРОСЛАВА
МИКОЛАЇВНА,** *старший
викладач кафедри логістики,
Національний авіаційний
університет, м. Київ*

Актуальність досліджуваної теми полягає в тому, що для успішного розвитку економіки потрібно зменшити витрати на виробництво товарів і послуг у всіх галузях. Процеси переміщення є невід'ємною частиною виробництва товарів та послуг, тому одним із напрямків зменшення вартості товарів і послуг є зниження вартості транспортування товарів. У цьому контексті розглядаються перевезення невеликих партій вантажу різних відправників у одному транспортному засобі – збірні перевезення. Предметом дослідження є транспортування консолідованого вантажу.

Метою даної публікації є аналіз особливостей, складнощів та переваг транспортування збірних вантажів. Базові методи дослідження - методи економічного аналізу, систематизації, узагальнення, порівняння.

Наукова значущість роботи полягає в дослідженні особливостей організації перевезень збірних вантажів, проблем, що виникають при цьому та шляхів їх вирішення. У висновках зазначається, що економічність та зручність – це основні переваги змішаних перевезень

На практиці ефективно використання вантажного простору може забезпечити істотне скорочення транспортних витрат, а отже – зменшити виробничі витрати та підвищити конкурентоспроможність продукції.

Ключові слова: збірний вантаж, консолідований вантаж, організація перевезень, транспортні витрати.

АНАЛИЗ ОСОБЕННОСТЕЙ, СЛОЖНОСТЕЙ И ПРЕИМУЩЕСТВ
ПЕРЕВОЗОК СБОРНЫХ ГРУЗОВ

Актуальность исследуемой темы заключается в том, что для успешного развития экономики необходимо снизить затраты на производство товаров и услуг во всех отраслях. Процессы перемещения являются неотъемлемой частью производства товаров и услуг, поэтому одним из направлений уменьшения стоимости товаров и услуг является снижение стоимости транспортировки товаров. В этом контексте рассматриваются перевозки небольших партий груза различных отправителей в одном транспортном средстве – сборные перевозки.

Предметом исследования является транспортировка консолидированного груза.

Целью данной публикации является анализ особенностей, сложностей и преимуществ транспортировки сборных грузов.

**САВЧЕНКО ЛІДІЯ
ВЛАДИМИРОВНА,** *кандидат
технических наук, доцент кафедры
логистики, Національний
авіаційний університет, г. Киев*

ЛЫСЕНКО МАРІЯ ІГОРЕВНА,
*студентка кафедри логістики,
Національний авіаційний
університет, г. Киев*

**ІГНАТОВА АНАСТАСІЯ
АЛЕКСАНДРОВНА,** *студентка
кафедри логістики, Національний
авіаційний університет, г. Киев*

**СЕМЕРЯГІНА МИРОСЛАВА
НИКОЛАЕВНА,** *старший
преподаватель кафедры логистики,
Національний авіаційний
університет, г. Киев*

Научная значимость работы заключается в исследовании особенностей организации перевозок сборных грузов, проблем, возникающих при этом, и путей их решения. В выводах отмечается, что экономичность и удобство – это основные преимущества смешанных перевозок. На практике эффективное использование грузового пространства может обеспечить существенное сокращение транспортных расходов, а следовательно – уменьшить производственные затраты и повысить конкурентоспособность продукции.

Ключевые слова: сборный груз, консолидированный груз, организация перевозок, транспортные расходы.

Formulation of the problem. At the present stage of the development of international trade, there is an increase in the supply of small wholesale lots of goods. This is connected, on the one hand, with changes in the commodity structure of world exports under the influence of scientific and technological progress and the increase in commodity exchange by science-intensive and high-technology products, which, as a rule, have small physical dimensions and weight; on the other hand, with the decrease in the importance of extracting and increasing the share of manufacturing industries in the structure of world industry, which is explained by a decrease in the material consumption of production, the replacement of mineral raw materials by artificial, as well as the use of high-tech machinery, machinery and equipment.

The economic and political changes that are constantly taking place in the global economy place more and more demands on the transport system. Indeed, a large number of shippers moves small batches of goods that can not completely fill the cargo volume of a vehicle or container, which leads to the need to combine cargo owners to obtain transport services and, thus, to achieve significant savings in the movement of cargoes.

The urgency of the problem lies in the fact that the successful development of the economy requires reducing costs for the production of goods and services in all sectors of the economy. The processes of moving are an integral part of the production of goods and services, therefore one of the directions for reducing the cost of goods and services is to reduce the cost of transporting goods.

Analysis of recent research and publications. A lot of scientific works are

devoted to problems and prospects of development of a transport component in logistics systems, among which it is worth highlighting the works of Dikana VL, Larina RR, Palamarchuk O., Sviridko S.V., and others. [1-5].

The meaningful consideration of scientific research has shown that when determining the directions of the development of the logistics system, it is necessary to take into account new approaches aimed at the formation of the market of transport services. Indeed, despite the sufficient development of questions regarding the definition of prospects for the development of transport and logistics service, in domestic practice, the application of new approaches aimed at improving the development of the domestic transport services market is rather weakly considered.

The analysis has shown that by now in the domestic literature the issues of increasing the efficiency of transportation of consolidated cargo in the conditions of the transport services market have not been studied enough.

Increasing the efficiency of groupage cargo transportation on the basis of interaction of market entities is an important direction in the development of this direction, which allows us to conclude that the topic is topical both from a scientific and practical point of view.

The purpose of the paper. The aim of this publication is to analyze the features, difficulties and advantages of transportation of less-than-truck loads.

The subject of the study is the transport of consolidated cargo.

Theoretical and methodological basis of the research. The works of domestic and foreign scientists on the problems of economic

theory, the world economy, transport logistics, as well as the results of research in the field of international and national transport are the theoretical and methodological basis of the research.

Information basis is made up of data of official statistical and analytical materials of ministries and departments of Ukraine.

Normative base of the completed research was international documents and conventions, Presidential decrees, laws, Decrees of the Verkhovna Rada of Ukraine, by-laws and normative documents, data from numerous national and international congresses and conferences.

When solving the tasks set, methods of economic analysis, systematization, generalization, comparison were applied.

Presentation of the main research material. It is worth noting that the organization of mixed cargo transportation is one of the main directions of modern European transport policy. Thus, the development of combined transport in many countries proved to be effective not only for the transport sector of a particular country, but also for the development and integration of the entire international transport market in the logistics system.

Collected freight are today an integral part of modern business, especially for those companies for which this type of cargo transportation is the only optimal and suitable because of the supply of small volumes of cargo.

Consolidated cargo is the cargo of several owners, formed on one vehicle.

The specificity of the transportation of consolidated cargo is that different cargoes have different nomenclature, but the total cost and dependence, especially if it concerns international cargo transportation.

In recent years the popularity of delivery of groupage cargoes is continuously growing, and this is primarily due to the speed, efficiency, reliability and convenience of this type of freight. Delivery of modular cargoes - transportation of minor consignments of cargo, which belong to different owners, due to the use of the same vehicle along the route from the

warehouse-sender to the warehouse in the country of destination.

Modern concepts of the operation of logistics systems require new criteria and approaches to the efficiency and quality of cargo transportation. And transportation of prefabricated cargo is one of the promising directions of providing transport and logistics services in the transportation market. This kind of activity can be used both in regional transportations and on international routes. It should be noted that the consolidated is a cargo that meets the following conditions [6]:

- must be less than the maximum permissible weight of the cargo for the transport of this cargo unit (for example, a marine container, a truck body, an railway container, etc.);

- must be less than the maximum allowable volume of cargo for the carriage of this cargo unit;

- must be transported in this load unit along with other cargo.

Collective cargo is mainly moved in one vehicle and the goods are usually intended for delivery to different recipients, but not all of them have the opportunity to receive goods at airports and at railway stations. Consequently, the transportation of such goods is most often carried out by automobiles, but, if possible, rail, sea, river or water connections are used. Thus, transport companies with extensive experience can use different types of transport during transportation, combining them and achieving the maximum speed and targeting of delivery of goods at an affordable price. And intensive development, both in the world as a whole and in our country, warehouse complexes-terminals, which belong to logistics companies and provide the whole complex of services for the delivery of goods, from acceptance from the sender to the delivery to a specific recipient, will allow delivery of the prefabricated cargo on a principle "From door to door".

The most important moments for the transportation of consolidated cargoes:

- availability of consolidation warehouses in countries where goods are mainly imported;

- rapid formation of consolidated cargo, appropriate marking and dispatch for purpose;

- assistance in the execution of all customs formalities, preparation of all documents required for the passage of the customs border;
- highly qualified personnel with sufficient experience in work with prefabricated cargoes.

Consider the stages on which the process of transportation of less-than-truck loads is implemented.

At the first stage, it is getting the cargo from the supplier and moving it to the consolidation warehouse, where the formation of a consignment lot is carried out.

At the second stage, cargo handling is carried out, based on various methods of accounting and freight tracking, including the most up-to-date information technologies. If the aggregate load is intended for delivery abroad, the next step will be the customs clearance of exports. The main stage in the delivery of aggregate cargoes is their transportation, so the movement of the consolidated batch can be carried out as regular flights of sea lines, rail transport, and on the heavy duty vehicle fleet of transport and logistics companies. It should be noted that the process of transportation of prefabricated cargoes by itself is difficult and labor-intensive in terms of freight forwarding companies [6]. First of all, this is due to [7]:

- compliance with delivery terms;
- scheduling of shipments;
- exchange of information between all participants in the transportation process.

For transportation of consolidated goods it is possible to allocate six main participants of the process of transportation. Two of which: the supplier (consignor) and consignee are at the initial and final stages of the supply chain. Other links (local, regional and international transport and logistics centers (TLCs) according to the destination) operate under the control and, in fact, on the direct initiative of the forwarding company, which serves the transportation. In the process of transportation, prefabricated cargo undergoes several stages of consolidation (consolidation of the freight lot) and reconsolidation (respectively, proportional reduction and “fragmentation” of the freight lot).

Consolidation / reconsolidation of cargoes can take place both on local TLCs (level of

district, city or region), on regional TLCs and on international TLCs (transport and logistics centers between which the main international transportation is carried out) [7]. For such a multilevel consolidation and reconsolidation, first of all, economic benefits are pursued. After all, when transporting single cargo with a large batch, the transport costs, which are set in the cost price of the goods, will be from 5% to 30% of the value of the unit of merchandise, and in the transport of prefabricated cargoes, this figure may increase to 200%. A multi-level consolidation / reconsolidation of cargoes, their transportation between different levels of TLCs, transportation of different cargo capacity and capacity can significantly reduce transport costs and maximally bring them closer to the level of costs when transporting a single product by a large batch.

In order to solve the problems of transportation of less-than-truck loads, it is necessary to create, first of all, a single information space and standardized rules for the exchange of information between all participants in the logistics chain. Information on the current state of the cargo should be relevant and accessible to each participant in the transport process at any time, which in turn will allow [7]:

- to plan the traffic in advance in each of the sections of the cargo movement;
- to establish the order of loading / unloading and loading of loads throughout the route of its follow-up;
- prepare in advance a set of transport and warehouse documents necessary for transportation and warehousing of goods, which will reduce the time for document circulation at the junction knots;
- organize the introduction of electronic document flow (where possible).

In this situation, various IT solutions for logistics automation can come in handy. It is also necessary to control the movement of the cargo throughout the route, which will enable operative interference in the delivery process in the event of unforeseen delays. Here various mobile optimizers for transportation on the basis of GPS-navigators will come to the rescue.

Then it is necessary to implement a preliminary analysis, examination and

classification of goods that are being prepared for carriage. In the course of such cargo analysis, the most important are the criteria:

- the prospect of transportation of goods in accordance with accepted international conventions, as well as the current legislation of the sending country, recipient country and transit countries;

- compliance with the customs legislation of the respective countries;

- observance of copyright;

- observance of other similar legal norms.

In this case, various databases with good search and good sorting of indicators come to the aid. Next, it is necessary to make a choice of local, regional and international transport logistics centers that are junction nodes in the overall supply chain, and to conduct an indispensable analysis of the TLC for compliance with international quality requirements. It is also worth noting that for effective stable cooperation, it is best to develop a wide network of agent networks around the world. And, of course, for a clear understanding of the system and its control, it is extremely necessary to describe the business processes among all members of the supply chain.

Conclusion. Thus, economy and convenience – these are the main, but not the only advantages of transportation of less-than-truck loads. Thus, efficient use of cargo space can achieve significant savings in transportation, which, in turn, will allow the transport industry to climb to a new level of transport services and significantly reduce transport costs.

Cargo transportation of prefabricated cargoes has become a solution for many companies, which often have to order the transportation of a small volume of goods.

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