



ADVANTAGES AND DISADVANTAGES OF CARGO LAGGAGE CARRIAGE BY RAILWAY TRANSPORT

<https://doi.org/10.5281/zenodo.7186305>

Khusenov Utkir Uktamjon ugli

doctorate student, Tashkent State Transport University

otkirxusenov@mail.ru

Rustamjonov Boburjon Erkinjon ugli

independent researcher, Uzbekistan Railways JSC

rustamjonov27071996@gmail.com

Sadullaev Bekhzod Alisher ugli

master's degree, Tashkent state transport university

sba151226@gmail.com

Annotation: This article deals with the advantages and disadvantages of transport cargo luggage on the railway transport. The example shows the amount of the fares change for transportation and the speed of freight delivery during the small-lot transportation. The result suggested that one of the effective ways to improve the use of the carriage and container parks and to accelerate the freight delivery is an organization of the container transportation as a part of the postal and baggage trains.

Key words: inventory fleet of cars, industrial enterprise, shunting work, car traffic, freight traffic.

ДОСТОИНСТВА И НЕДОСТАТКИ ПЕРЕВОЗОК ГРУЗОБАГАЖА НА ЖЕЛЕЗНОДОРОЖНОМ ТРАНСПОРТЕ

Хусенов Уткир Уктамжон угли

докторант, Ташкентский государственный транспортный университет

otkirxusenov@mail.ru

Рустамжонов Бобуржон Эркинжон угли

самостоятельный соискатель, АО «Ўзбекистон темир йўллари»

rustamjonov27071996@gmail.com

Саъдуллаев Бехзод Алишер угли

магистрант, Ташкентский государственный транспортный университет

sba151226@gmail.com



Аннотация: В этой статье представлены достоинства и недостатки перевозок грузобагажа на железнодорожном транспорте, показано изменение стоимости и скорости перевозки мелких партий грузов на соответствующих примерах. В результате в качестве наиболее удобного и эффективного способа перевозки мелких партий грузов на железнодорожном транспорте предлагается перевозка этих грузов вагонами-контейнерами в составе пассажирских поездов.

Ключевые слова: инвентарный парк вагонов, промышленное предприятие, маневровая работа, вагонопоток, грузопоток.

In recent years, with the development of the country's economy and with the emergence of small and medium-sized firms engaged mainly in trade intermediary operations, the volume of goods sent in small lots has increased. Until recently, most enterprises performed only production operations, not caring about flow management before and after the main production. This was caused by the administrative control system in the country, the lack of competition and market relations. New economic conditions, the formation of the market, the emergence and intensification of competition between enterprises require an active change in their work and an increase in competitiveness by responding to market needs and effectively managing transport and cargo flows. Large enterprises will not be able to sell their products without an extensive distribution network, therefore, it is necessary to ensure their interaction with regional distribution centers. Material and technical supply and marketing should ensure the rational promotion of products from the areas of its production to the areas of consumption and, at the same time, minimizing distribution costs [1]. At the same time, competition with road transport is intensifying in the transportation market, which is ousting railways from the sphere of small-lot cargo transportation. All this in aggregate, as well as the need to consider the transportation process from the standpoint of logistics, required a review of the advantages and disadvantages of cargo and luggage transportation by rail with the development of proposals for improving these transportations. Material and technical supply and marketing should ensure the rational promotion of products from the areas of its production to the areas of consumption and, at the same time, minimizing distribution costs [1]. At the same time, competition with road transport is intensifying in the transportation market, which is ousting railways from the sphere of small-lot cargo transportation. All this in aggregate, as well as the need to consider the transportation process from the standpoint of logistics, required a review of the advantages and disadvantages of cargo and luggage transportation by rail with the development of proposals for improving these transportations. Material and technical supply and marketing should ensure the rational promotion of products from the areas of its production to the areas of consumption and, at the same time, minimizing distribution costs [1]. At the same time, competition with road transport is intensifying in the transportation market, which is ousting railways from the sphere of small-lot cargo transportation. All this in aggregate, as well as the need to consider the transportation process from the standpoint of logistics, required a review of the advantages and disadvantages of cargo and luggage



transportation by rail with the development of proposals for improving these transportations. which displaces railways from the sphere of small-lot cargo transportation. All this in aggregate, as well as the need to consider the transportation process from the standpoint of logistics, required a review of the advantages and disadvantages of cargo and luggage transportation by rail with the development of proposals for improving these transportations.

Determination of effective methods of transportation of cargo and luggage on railway transport

Cargo luggage - an object of railway transportation carried in passenger and mail-luggage trains. Cargo luggage from individuals and legal entities is accepted for transportation with a weight of individual pieces of baggage not exceeding 80 kg per piece between railway stations open for baggage operations. Acceptance from individuals and legal entities for transportation of indivisible pieces of luggage (gas stoves, refrigerators, etc.) weighing up to 165 kg is carried out from and to stations open for cargo-luggage operations with reloading along the route. General baggage and cargo rates apply on all railway lines open for public use and included in permanent operation. The minimum estimated weight for sending baggage and cargo is 10 kg. When calculating the cost of baggage and cargo baggage, the weight of cargo baggage up to 10 kg is rounded up to full 10 kg. The weight of baggage in all cases is rounded up to the full 10 kg. The minimum weight for sending baggage and cargo is 5 kg with payment as for 10 kg [2].

For the transportation of cargo luggage on railway transport, JSC "Uzjeldorpass" has luggage compartments. We analyzed the work of the Tashkent baggage department of Uzzheldorpass OJSC. The result of the analysis showed that the Tashkent baggage department receives income mainly for the transportation of cargo luggage (55-58% of total income) and the amount of transportation increases from year to year. The income of the luggage compartment for the transportation of cargo luggage can be further increased by the use of preferential tariffs in international messages, since the main negative factor in the transportation of these messages is high customs duties.

In local communications, the transportation of cargo and luggage is much easier, i.e. there are no customs fees. For a visual analysis, we have determined fees for the transportation of household appliances weighing 600 kg in containers and in baggage cars.

When transported in universal 3-tonnage containers, the tariff distance is 361 km [3-4]. By distance, we determine the freight charge, according to the appropriate scheme (according to the table), depending on which wagons (that is, the general fleet or owned by enterprises or leased by them) the cargo is transported. Under tariff scheme No. 93, the freight charge is 41 Swiss francs. Frankov [5]. We multiply the received freight charge by a coefficient equal to 0.95 (special discount applied in local traffic), multiply the received amount by the central bank rate for conversion into national currency and then add the VAT coefficient equal to 0.2. The total freight charge is: $41 \times 0.95 \times 2400 \times 1.2 = 112176$ soums. Additional fees for transportation average 125,000 soums. The total cost of transportation of this cargo in universal 3-ton containers is 198416 soums.

The carriage fee for cargo luggage in passenger trains is calculated for each piece of luggage (10 kg). The cost of transportation of household appliances weighing 600 kg from the Tashkent baggage compartment to Samarkand was taken from the software for calculating the freight charge of Uzjeldorpass OJSC. Those. for the considered distance, the cost of transportation of 10 kg of cargo luggage is charged a freight charge of 3056 soums. This cargo occupies $600/10=60$ pieces of luggage. Then the freight charge is

$$Tp.p.=60 \times 3056=183360 \text{ soum}$$



Additional charges for the carriage of cargo luggage in a baggage car are determined for each piece of cargo luggage (80 kg). Then, the considered cargo weighing 600 kg in the baggage car occupies $600/80=8$ baggage pieces. Additional fees are made up of the following amounts:

1. Marking 1st place - 2500 soum. Then $8*2500=20000$ soum.
2. Luggage storage 1 piece per day - 3000 soums. Since the cargo luggage is stored at the starting and ending points, $2*8*3000=48000$ soums are charged for storage.
3. Notification by phone - 1100 soum.
4. Use of cart 1 pc. – 4400 sum. Then $8*4400=35200$ soum.
5. Application form and "inventory" form - 1000 soums. Then $8*1000=8000$ soum.
6. Loading and unloading from 500 kg to 1000 kg - 14800 soum.

As a result, additional fees for the transportation of cargo and luggage amount to 127,100 soums. Then the total cost of cargo transportation in the baggage car is

$$T_{r.c..} = T_{add} + T_{r.p.} = 127100 + 183360 = 310460 \text{ soum.}$$

As a result, we can say that the transportation of household appliances weighing 600 kg, from the point of view of the cost of transportation, should be carried out in universal containers. However, when choosing rational methods of transportation, it is also necessary to take into account the speed of delivery of goods.

In accordance with the Rules for calculating the terms of delivery of goods by rail, the norms for the daily mileage of wagons in kilometers are established, depending on the distance of transportation (Table 1).

Table 1

Norms of daily mileage when transporting wagon, container and small shipments at a freight speed

Transportation distance from to (km.)	Daily mileage (km.)	
	Carriage shipments	Container and small shipments
Up to 99	110	75
200...599	160	75
600...999	240	100
1000...1999	310	140
2000...2999	330	180
3000...4999	380	230
5000...6999	400	270
7000 and above	420	300

The terms of delivery of goods, calculated on the basis of the norms of daily mileage, increase by:

- 2 days - for operations related to the departure and arrival of cargo (a day for the departure railway and a day for the destination railway);
- 1 day - when transporting goods at a distance of up to 1000 km. 2 days for transportation over a distance of more than 1000 km of goods transported in small shipments and in containers for their accumulation and sorting on cargo sorting platforms;



· 1 day - for operations related to the forwarding of wagons; when transferring to another mode of transport; upon acceptance from another mode of transport of goods transported in direct mixed traffic; when determining the weight of the cargo on the wagon scales nearby the departure station of the railway station.

The term of delivery of goods increases for the entire time of delay of goods by customs and other organizations along the route for more than one day of delay of goods along the route to correct loading, eliminate overload of goods, correct the technical or commercial condition that arose for reasons beyond the control of the railway, etc.

In the example under consideration, the distance (S) of cargo transportation is 361 km, it falls within the interval 200 ... 599, therefore, the speed of cargo transportation by containers (V) is 75 km / day.

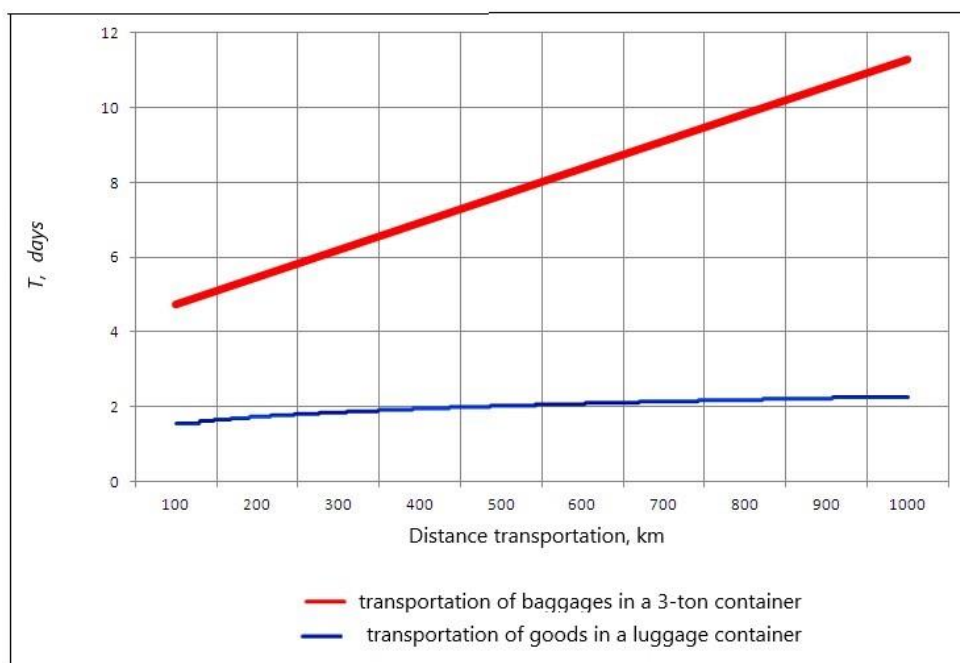
We determine the delivery time by the formula:

$$T = S/V = 361/75 = 4,81 \text{ day}$$

In addition to 4.81 days, we add another 2 days for operations related to the departure and arrival of cargo (a day for the departure railway and a day for the destination railway). In total, the total duration of the cargo delivery time will be equal to:

$$T_{\text{gen.}} = 4,81 + 2 = 6,81 \text{ day.}$$

Thus, we calculated the speed of cargo delivery by containers at a distance of 100 to 1000 km. The speed of delivery of cargo luggage in a baggage car is determined depending on the schedule of passenger trains with baggage cars. The results of comparing the delivery time of goods when transported in a 3-ton container and a baggage car as part of passenger trains are shown in fig. one.



Rice. 1. Comparison of the terms of delivery of goods when transported in a 3-ton container and a baggage car as part of passenger trains.

From fig. 1, it becomes clear why a large number of shippers refuse to transport goods in containers, and transport goods in cars. However, if the goods are transported in baggage cars at



passenger speed, as part of postal-luggage passenger and fast trains, then consignors who have refused railway transport services may again turn to railway services.

Conclusion:

1. The transition of the country's economy to market relations, the introduction of various forms of ownership, influenced the formation of new commercial structures, the emergence of a large number of small enterprises and firms. In the transportation market, competition with road transport is intensifying, which is ousting railways from the sphere of small-lot cargo transportation. All this in aggregate, as well as the need to consider the transportation process from the standpoint of logistics, required a review of the advantages and disadvantages of cargo and luggage transportation by rail.

2. Acceptance of cargo luggage on railway transport is carried out in the luggage compartments of Uzzheldorpass OJSC. The result of the analysis of luggage compartment income showed that the amount of traffic is increasing from year to year. The income of the luggage compartment for the transportation of cargo luggage can be further increased through the use of preferential tariffs in international messages, since the main limiting factor in these messages is high customs duties.

3. Since small-lot cargoes are currently transported by rail transport mainly in postal-baggage cars and in containers of various carrying capacity, it is necessary to compare the cost of transportation and the delivery time of goods when transported in a container and a baggage car as part of passenger trains.

4. The results of comparing the cost of transportation and the delivery time of goods (in the example of household appliances weighing 600 kg) in a container and a baggage car showed that, from the point of view of the cost of transporting small-lot cargo, it is advisable to carry it out in universal containers. However, from the point of view of the delivery time of goods, transportation in baggage cars as part of passenger trains is the most effective, in which the value of the integrated indicator of the quality of transport service is the best.

5. One of the effective ways to improve the use of the wagon and container fleet and speed up the delivery of goods is to organize the transportation of containers as part of mail and baggage trains. The organization of container transportation as part of mail and baggage trains is based on the use of scheduling, coordination of joint activities of railway stations, motor transport enterprises, consignors and consignees.

LIST OF LITERATURE

1. Суюнбаев, Ш. М., Жумаев, Ш. Б., & Ахмедова, М. Д. (2020). Процесс расформирования и формирования многогруппного поезда на железных дорогах АО «Узбекистан темир йуллари». Транспорт шёлкового пути, (3), 30-38.

2. Khudayberganov, S. K., Suyunbayev, S. M., Bashirova, A. M., & Jumayev, S. B. (2020). RESULTS OF APPLICATION OF THE METHODS “CONDITIONAL GROUP SORTING” AND “COMBINATORIAL SORTING” DURING THE MULTI-GROUP TRAINS FORMATION. Journal of Tashkent Institute of Railway Engineers, 16(1), 89-95.

3. Суюнбаев, Ш. М., & Саъдуллаев, Б. А. У. (2020). ФОРМИРОВАНИЕ МНОГОГРУППНЫХ СОСТАВОВ НА ДВУСТОРОННЕМ СОРТИРОВОЧНОМ УСТРОЙСТВЕ. Universum: технические науки, (9-2 (78)).



-
4. Суюнбаев, Ш. М., & Саъдуллаев, Б. А. (2020). ВЫБОР РАЦИОНАЛЬНОГО ВАРИАНТА ОРГАНИЗАЦИИ МАНЕВРОВОЙ РАБОТЫ НА СТАНЦИИ. In Приоритетные направления инновационной деятельности в промышленности (pp. 183-186).
 5. Rasulov, M. X., Masharipov, M. N., Rasulmuhamedov, M. M., & Suyunbaev Sh, M. (2019). The provision terms of train with locomotives and their standing time. International Journal of Advanced Research in Science, Engineering and Technology, 6(9), 10963-10974.
 6. Masharipov, M. N., Rasulov, M. K., Rasulmukhammedov, M. M., & Suyunbaev, S. M. (2019). Raschet ekspluatiruемого parka gruzovykh lokomotivov grafoanaliticheskim metodom na yazyke programmirovaniya C#. Intellectual Technologies on Transport, 17, 5-12.
 7. Rasulov, M. X., Suyunbayev, S. M., & Masharipov, M. N. (2020). RESEARCH OF DEVELOPMENT PROSPECTS OF TRANSPORTATION HUB IN JSC" UMC". Journal of Tashkent Institute of Railway Engineers, 16(3), 71-77.
 8. Машарипов, М. Н., Расулов, М. Х., Расулмухаммедов, М. М., & Суюнбаев, Ш. М. (2019). Расчет эксплуатируемого парка грузовых локомотивов графоаналитическим методом на языке программирования С. Интеллектуальные технологии на транспорте, (1 (17)).
 9. Aripov, N. M., & Vladimirovich, R. A. (2021). Rapid planning of mixed-structure train organization in the context of non-proportional wagon-flows. International Journal of Discoveries and Innovations in Applied Sciences, 1(5), 324-335.
 10. Rasulov, M. X., Rasulmukhamedov, M. M., Suyunbayev, S. M., & Masharipov, M. N. (2020). AUTOMATION OF THE PROCESS OF ATTACHING LOCOMOTIVES TO TRAINS IN CONDITIONS OF A NON-PAIRING GRAPHICS. Journal of Tashkent Institute of Railway Engineers, 16(2), 49-65.
 11. Masharipov, M. N., Suyunbaev, S. M., & Rasulmukhamedov, M. M. (2019). ISSUES OF REGULATION OF TRAIN LOCOMOTIVES OF THE RAILWAY SECTION CHUKURSAY-SARYAGASH. Journal of Tashkent Institute of Railway Engineers, 15(3), 144-154.
 12. Aripov, N., Suyunbaev, S., Azizov, F., & Bashirova, A. (2021). Method for substantiating the spheres of application of shunting locomotives at sorting stations. In E3S Web of Conferences (Vol. 264, p. 05048). EDP Sciences.
 13. Арипов, Н. М., Хаджимухамедова, М. А., & Суюнбаев, Ш. М. (2021). ИСПОЛЬЗОВАНИЕ СОРТИРОВОЧНЫХ СТАНЦИЙ И ТРАНСПОРТНО-ЛОГИСТИЧЕСКИХ ЦЕНТРОВ В КРУПНЫХ ГОРОДАХ. In Фёдор Петрович Кочнев-выдающийся организатор транспортного образования и науки в России (pp. 42-48).
 14. Shinpolat Mansuraliyevich Suyunbayev, Muslima Djalalovna Akhmedova, Bekhzod Alisher Ugli Sadullaev, & Nozimjon Nodirjon Ugli Nazirov (2021). METHOD FOR CHOOSING A RATIONAL TYPE OF SHUNTING LOCOMOTIVE AT SORTING STATION. Scientific progress, 2 (8), 786-792.
 15. Aripov Nazirjan Mukaramovich, Suyunbayev Shinpolat Mansuraliyevich, & Najenov Dautbay Yakubbaevich (2021). MANYOVR ISHLARIDA TORTUV HISOBLARINI BAJARISH UCHUN POYEZDNING NATUR VARAG'I ASOSIDA VAGONLARNING HARAKATIGA O'RTACHA OG'IRLIKDAGI SOLISHTIRMA QARSHILIKNI HISOBLASH USULINI AVTOMATLASHTIRISH. Oriental renaissance: Innovative, educational, natural and social sciences, 1 (10), 50-59.
 16. Экономическое поведение промышленных предприятий в переходной экономике / Т. Долгопятова, И. Евсеева // Вопросы экономики. 1994 г. – №8. – С. 42-44.



-
17. Правила перевозок пассажиров, багажа и грузобагажа железнодорожным транспортом Республики Узбекистан. Т. 2012 г. – 46 с.
 18. Совет по железнодорожному транспорту государств – участников содружества. Тарифное руководство № 4. Книга 1. Тарифные расстояния между станциями на участках железных дорог. М.: Транспорт, 2001. – 504 с.
 19. Совет по железнодорожному транспорту государств – участников содружества. Тарифное руководство № 4. Книга 2. Часть 1. Алфавитный список железнодорожных станций. М.: Транспорт, 2002. – 454 с.
 20. ГАЖК “Ўзбекистон темир йўллари”. Прейскурант 10-01. Тарифы на грузовые железнодорожные перевозки. Тарифное руководство № 1. Ташкент 2000. – 216 с.