ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 6, Issue 9 , September 2019

Perspective directions of development of high-speed movement of passenger trains and electronic document circulation on freight transportation of railway transport of the Republic of Uzbekistan

Ibragimov N.N., Eshmetova D.A., KamaletdinovSh.Sh.

Professor, Deparment of Transport service and logistics, Tashkent institute of railway engineers, Uzbekistan,
Tashkent Engineer, in Afrosiab high-speed electric train, Uzbekistan, Tashkent
Phd Student, Deparment of Automation and telemechanics in railway transport, Tashkent institute of railway engineers, Uzbekistan, Tashkent

ABSTRACT: The relevance of the work is due to the fact that in recent years the tasks related to the prospects of development of high-speed passenger transport for high level of service and quality in railway transport have been particularly relevant. The aim of the development strategy is to form and continue the development of the railway industry. This article discusses the sale of E-ticket electronic rail tickets, which is a new system - the possibility to return the purchased ticket online, also offers a model of passenger transport and needs include several modes of transport for door-to-door travel.

KEY WORDS: High Speed Traffic/Upper Track/Safety Requirements/Curves/Resistance/Electronic Rail Tickets.

I.IMPLEMENTATION OF PROJECTS JSC "UTY"

Under the leadership of the first President Islam Karimov in our country, great attention was paid to the development of railway transport. At present, large-scale reforms are being carried out in this sphere, much creative work is being carried out, and the volume of passenger and cargo transportation is increasing [1].
JSC "UTY" - Implements a number of projects in suburban transport aimed at improving speed, comfort and reliability, as well as achieving the profitability of mass passenger transport on the most stressed areas.
The aim of the Development Strategy is to form and continue the development of the railway industry as an integral part of the economy of the Republic of Uzbekistan, increase the traffic and transit potential of the country, create new jobs, increase the level of localization of products, implement coordinated policy in the field of transport and technical regulation, as well as ensure safety and increase the level of comfort and reliability of train traffic, increase the investment attractiveness of railway transport.
Throughout its existence and operation, railway transport works in close connection with other branches of the national economy of the Republic of Uzbekistan. One of its main tasks is to meet the needs of the economy for timely freight and passenger transport. The work in this direction is carried out in various aspects and is aimed at ensuring the safe maximum possible passage and carrying capacity of the railway network of the Republic of Uzbekistan [2].
Formation of freight and passenger flows, optimization of railway operation costs, ensuring train traffic safety is carried out in close cooperation with foreign partners, within the framework of international agreements.
Considering that the Republic of Uzbekistan occupies a strategic geographical position in Central Asia and is the center of geopolitical development of the region, the main transit corridors connecting the North and South, East and West of the continent pass through the territory of the Republic of Uzbekistan. This is one of the determining factors in the planning of JSC development and identification of issues requiring additional development and optimization.

ISSN: 2350-0328
International Journal of Advanced Research in Science, Engineering and Technology
Vol. 6, Issue 9 , September 2019

II. HIGH-SPEED RAILWAY OF UZBEKISTAN AND E-TICKET SYSTEM

Passenger high-speed railway with a length of more than 780 km, connecting the largest cities of Uzbekistan - Tashkent, Samarkand, Bukharu, Karshi, Navoi.
The road passes through 7 regions: Tashkent, Syrdarya, Jizak, Samarkand, Kashkadarya, Navoi and Bukhara. Uzbekistan 's fastest train is the Spanish Talgo 250, named "Afrosiyob." The average speed of the train is 160 km/h, on certain sections it is accelerated to 230 km/h. "Afrosiyob" runs daily on the Tashkent-Samarkand-Karshi and Tashkent-Samarkand-Bukhara route [3].
Train salons are equipped with air conditioning, soft chairs with hinged back and table.
Launched on 8 October 2011, the line is served by the "Afrosiyob" electric train running seven days a week. It is the second railway line in the CIS to operate high-speed trains. Currently, 4 high-speed trains are running on the line.
Factors affecting speed:
• The line is located not in a straight line and runs along various high-rise levels with a heterogeneous relief (thus, in Jizak region the highest point of the railway is 699 meters, and in Syrdaryinsky only 155 meters),
• The line has sections of rail track and contact system with speed limits,
• Large number of curves.
The largest passenger traffic in Uzbekistan remains between the largest cities of the country - Tashkent and Samarkand. On the second place is the flight Tashkent - Bukhara, and on the third - Samarkand - Bukhara.
The railway in Uzbekistan, unlike many other republics of the former USSR, continues to develop. In September 2017, the construction of a railway from Bukhara to Miskin with a length of 355 km was completed [2]. The high-speed train "Afrosiab" on the new line Tashkent - Kitab, as well as JSC "Uzbekistan temiryullari" launched a new system for the sale of electronic railway tickets E-ticket.
One of the significant differences of the new system is the possibility to return the purchased ticket online. Previously, tickets had to be returned directly to O 'ztemiryo 'lyo' lovchi, with a passport presented, all kinds of forms and forms filled out.
Only cards of national payment systems are accepted for payment. In the near future it will be possible to pay through the international payment systems Visa and Master card. At the same time, the cost of the electronic ticket is lower than that of the one purchased at the cash register.
One more advantage – the simplified design and much more convenient interface. For example, if in the early version purchase of the ticket could be carried out for 7 conditional steps, then now it is necessary to pass only four steps. This service is presented in three languages – Uzbek, Russian and English.
On interstate runs will be to print the issued electronic travel document from a personal account of the user in A4 format enough without visit of railway cash desks as on it at an input to the station and on pretrip survey by the inspector a mark is given by printing.
Production of modern passenger compartment cars is developed. Modification of ways and purchase of new electric locomotives allowed to increase motion speed to 160 km/h on many sections.

III. PASSENGER TRANSPORT AND NEEDS MODEL

Considerable part of those which for performance of trip from door to door use several modes of transport is among passengers of the railroads[4].
The model of the commixed public conveyances approved by the DB International company includes railway communications, internal flights and automobile components. The most important advantage of this development is the attempt of more accurate accounting of influence of trips several modes of transport on the need for transport service in general. For example, the single trip can be executed several modes of transport: automobile from the house to the airport, air between the airports and railway to terminal point.
There is set of the reasons for which the commixed transportations often were not considered when forecasting passenger traffics.
For modeling of trips with use of different types of transport it is necessary to define the airport, nearest to each transport zone, with the corresponding automobile and railway corridors, to consider "resilience" of routes (in terms of the speed and capacity) to changes of passenger traffics. After that there is possible calculation of matrix of average need for mode of transport for trips to the airport and from it [5].
The predicted number of trips paid off and distributed between modes of transport by means of the mathematical formula removed on the basis of matrix of "resilience" and the choice of mode of transport taking into account the

ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 6, Issue 9 , September 2019

purpose of trips. The average generalized cost of trip has been entered into model after the corresponding converting of tariffs, payments for uses of highways, operating costs of motorists in binding to duration of trips[5].
Using these data, the model formed four matrixes of transport requirements: for cars, buses, railway and air transport which can be tied further to concrete route or its site on each transport network.

IV. DEVELOPMENT OF ELECTRONIC DOCUMENT MANAGEMENT IN FREIGHT TRANSPORTATION

Today, all contracts concluded by JSC "UTY" with customers are made out on paper. Transition electronic interaction with customers in the provision of services to them, the sphere of rail freight transport, of course, is one of the promising areas of development. There is no arguing, all right. However, in this case it would be good to take into account the existing realities.

A significant step in the transition to paperless technology of work organization is the rejection of the use of strict reporting forms. The original purpose of strict reporting forms is to protect against unauthorized use. The use of electronic documents allows to carry out control functions by means of EDS. As perspective directions of improvement of technology of work with application of as for registration of PD it is expedient to analyze need of a car sheet, having reconsidered its form and fullness proceeding from modern technological problems.
The use of electronic documents will improve the technology of transmission of notifications. The need to send notifications is regulated by the UZHT and the Rules of transportation of goods. Fixing the time of transmission of notifications allows you to subsequently correctly calculate the fee for the use of cars or for the storage of cargo. A significant technological problem is that one GU-2 book is used to record two different notifications (about the arrival of cargo at the station, about the upcoming submission to the driveway). As a solution, it is proposed to send a notification of the arrival of the goods automatically upon putting the calendar stamp of the destination station in the AC.
To make truly significant progress in automating operational management, its principles need to be revised. Information systems should become a direct part of the technological process, ensuring the control of technological discipline and reflection of all operations in real time. Thus the reporting received from information systems for all levels of management shall be formed centrally, on the basis of primary information on technological operations and provided to all levels of management from top to down from uniform data warehouse.
Application of such system in a complex with legal procedures will allow to conduct electronic technological document flow, to control production discipline, will exclude the duplicating streams of information and possibility of distortion of the contents of reports at intermediate stages.

REFERENCES

1. Official website "Afrosiyob" [Electronic resource]. - Access mode: https://ru.wikipedia.org/wiki/Afrosiyob.
2. Official Railway website [Electronic resource]. - Access mode: http://railway.uz/ru/gazhk/istoriya/.
3. Official website "IA REGNUM" [Electronic resource]. - Access mode: https://regnum.ru/news/1428490.html.
4. Emelyanov, S.V. Multicriteria methods of decision-making/S.V. Emelyanov, O.I. Larichev. - Moscow: Knowledge, 1985. - 32 p.
5. T.Birkner.Railway Gazette International,2013,№11,p.52-53.