

## FEATURES OF CREATION OF LOGISTIC CENTERS IN CONDITIONS OF SIBERIA AND FAR EAST OF RUSSIA

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***Abstracts:** In the paper the transportation problems of Siberia and Far East of Russia are discussed. It was suggested to create a number of transport logistic centers in the region on the basis of hub system (“Hub-Spoke”) to increase efficiency of transportation of goods.*

***Key Words:** Transport of Russia, Siberia and Far East, logistic centers, hub system (“hub - spoke”), logistic operation, articulated lorry, transit, Public Private Partnership (PPP)*

Within many years in the economic plans and forecasts the regions of the Asian part of Russia - Siberia and Far East - are considered as the most perspective.

The main precondition is their significant natural-raw potential. In the Asian part of the country, where on 43 % of territory 6 percents of the population live only, more than 60 percents of ores of non-ferrous metals, almost 100 percents of diamonds, third wood and two third of fish resources are concentrated.

Just here there are strategic stocks of carbohydrates, due to which Russia strengthens the global political and economic positions.

One more feature of the Asian part of Russia - direct boarder with China and Japan. This factor, in opinion of a number of the experts, creates opportunities of direct regional integration in actively growing

economic systems of Asia-Pacific region. There is the possibility of construction of circuits of deliveries in a direction Asia - Europe on the basis of transit potential of Russia, first of all – “Transsib Railway”.

The transport development of Siberia and Far East objectively requires a scientific substantiation, development and realization unique paradigm. It should answer not only priorities of socio economic development of the Asian part of the country, but also strategy of development of Russian Federation as a whole.

Major element of this paradigm will become creation in Siberia and in Far East of the country the system of the logistic centers.

The concept of logistic centers grows out of searches of alternative ways of development of transport system, which be actively ordered in the advanced countries since the seventieth years.

The realization of the concept of logistic centers in conditions of Siberia and Far East will have a number of features.

First of all, logistic centers of the Asian part of Russia should play a role intermodal and unimodal transport hubs.

The organization of transportations in system of hubs (differently, in system “hub and spoke”, is effectively applied in sea container business and in aircraft. This system is used and in practice of automobile freight traffic of a number of countries, for example, American continent. Recently it all use in system ground intermodal transport more active.

In similar system a through service between items of a transport network are replaced with a combination of transportations between the allocated items - so-called hubs - and traffic between points of origination (destination) and hubs serving the appropriate zone.

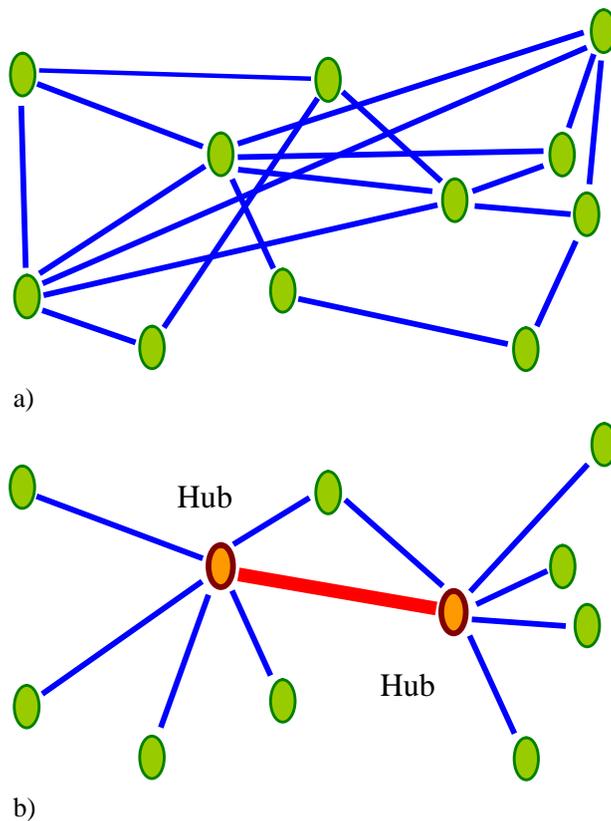
It is not enough for creation of system “hub and spoke” only intermodal terminals. The uniform system of organization of transport process is necessary, at which the disorder competition of the transport operators is inadmissible. It should be replaced by cooperation in conditions of deep functional specialization and division of the market

between segments of main and regional transportations.

The governing advantage, which is provided by the system “hub-spoke” consists in reduction of general number of transport connections and due to it - concentration of freight flows (Fig. 1). It allows to achieve economy of scale and reduction of total costs. For transport development of the Asian part of Russia with its rather weak freight flows this factor is represented critically important.

The second feature of development of creation of logistic centers in regions of Siberia and Far East lies in accommodation and specialization of these objects by an essential image will determine development of an infrastructure of different modes of transport and distribution of cargo bases between them.

By virtue of the marked above features of a transport network of the Asian part of Russia (fragmenting and weak development of a modal infrastructure) logistic centers will become natural units of joining existing and recreate transport infrastructures. The decisions on accommodation and the sequences of input in build separate logistic centers, in turn, will define(determine) priorities of selection and realization of the projects of the transport communications. Differently, the network in considered region should develop in many respects not by a principle “from cities to city”, and by a principle “from logistic centers to logistic center”.



It is obvious, that in view of characteristic for Siberia and Far East of distances a key main kind in system of logistic centers should be a railway transportation. In view of it logistic centers should be created, first of all, in those points, where is possible and is necessary it effective joining with lines of other modes of transport (Fig. 2).

Internal water transport, by keeping the role of an alternative kind of communications in the great Siberian rivers basins, will receive reliable connection with ground transport

system through logistic centers placed in the largest ports.

Cargo hubs of air transport, which creation is actively discussed last years, first of all, with reference to region of Siberia, should by a natural image “blend with” in system of logistic centers.

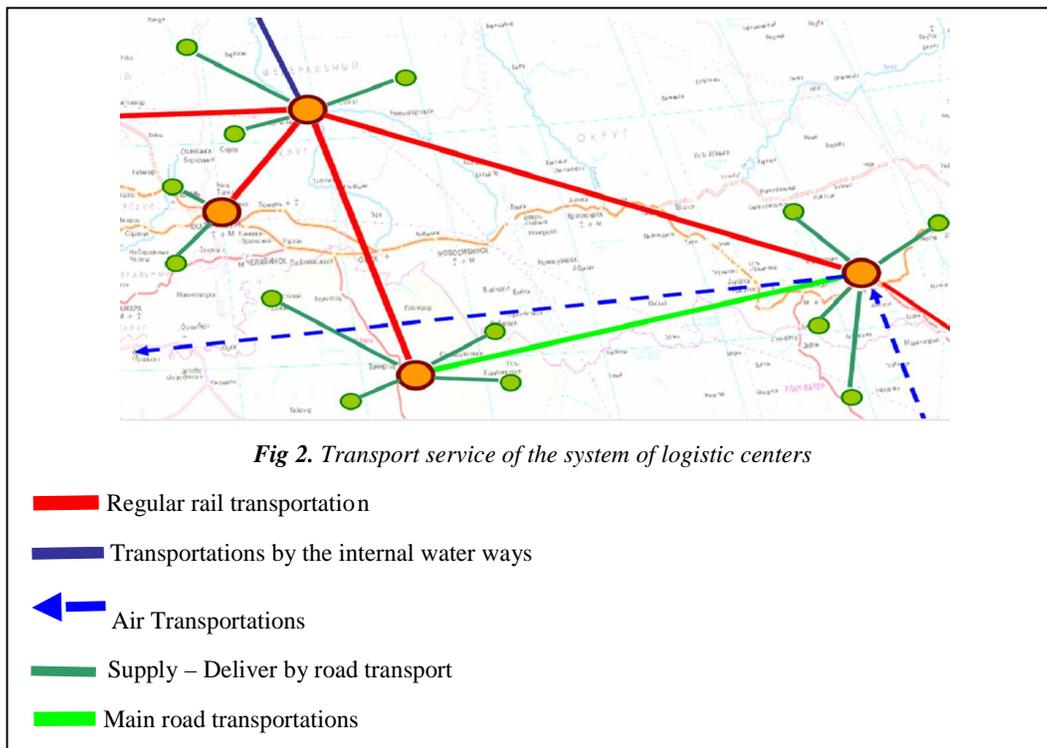
As to road transport, its task, first of all, should become effective transport service of zones of gravitation of logistic centers with granting to clientele of maximal volume of logistic services adding intermodal transportation on a site supply - conveyance.

For logistic centers of Siberia and Far East a zone of gravitation will be much more extensive, than for similar objects in the European part of Russia. "First" and "last mile", as sometimes call supply- conveyance of transportation abroad, can be stretched on tens kilometers. Therefore separate important task will become development and essential increase of quality of a road network in zones of gravitation of logistic centers - and it, in turn, can become the essential factor of regional development and tool of the decision of a task of connection of the isolated today occupied points with a basic transport network of the country. In this case speech will go about stable connection of the occupied points

not with a transport network in general, and with national logistic system.

At the same time, in conditions of Siberia and Far East the role of road transport can not be limited to regional service. The main automobile transportations will become necessary on those directions, where logistic centers for whatever reasons will not have among themselves of regular railway communication. In these conditions will become economically justified the realization in Russia of the concept of trailers especially of large carrying capacity, which finds in world practice rather wide application.

Now in European Union the idea of increase of allowable length and maximal complete weight of the trailers for the international transportations is actively discussed within the limits of the EU.



The most serious reason for the benefit of this offer is the expected reduction of number of vehicles on a road network, that critically important for the overloaded European highways. The efficiency and safety of heavier trailers is proved by successful practice of a number of the European countries (Sweden, Finland and others), where the national requirements already now allow their application.

The idea of “road train” for a long time and effectively is used also in a number of states of USA, in Australia, Mexico, Brazil and in other countries. The experience of Australia, in particular, shows, that the operation of similar vehicles is real at the lowest axial loading of 6 tons.

In Russian Federation currently in use road restrictions are established enough arbitrary. Macroeconomic approach to parameterization of the complex “road costs - cost of a vehicle - cost of transportation” and task solution of joint optimization of strength properties of highways and such parameters of lorries, as fully loaded mass and axial loadings, undoubtedly, would allow to achieve significant economic benefit in scales of economy as a whole. However, not waiting for statement and decision of this problem at a national level, the introduction of the special system of the road specifications for the certain regions of the country, in particular -

for Siberia and Far East is represented quite pertinent and useful. Primary factor of efficiency should become significant reduction of the cost price of automobile transportations on those directions (including between separate logistic centers), where the vehicle is no alternative one. The transportations by “road trains”, thus, will become effective addition to system of main rail transportation.

One more feature of logistic centers of Siberia and Far East will be, obviously to consist and that their creation will require a new level of PPP in development of an infrastructure.

The PPP idea is very popular both in West, and in Russia. In our country the first legal preconditions for its development, including, for transport are created.

More often PPP assumes a role of the private partner, first of all, as investor, which considers the PPP project as an opportunity of effective investments of free financial assets at the certain guarantees and support on the part of the state. But in the Asian part of Russia it is required, probably, some other approach to a choice of the partners in the PPP projects.

First, the speech goes about the largest enterprises of region, which will be interested in creation of industrially logistic centers, first

of all, for maintenance of requirements of own manufactures and chain of deliveries.

The prototype of such model can serve logistic centers created in Germany in partnership of authorities of city Ludwigshafen and the chemical concern BASF for transport service of new industrial complex of the company. One figure - processing of 300 thousand containers per one year testifies only to capacity this largest in the sort of object. But its efficiency is caused, in many respects, that it is simultaneously object of for general usage. Freight flows of BASF are integrated on it with flows of other users located in the given region.

Such model completely answers city-forming function of the large enterprises, typical for Siberia and Far East, and will allow to effectively realize this function in conditions of market economy.

The second group of the target partners are large companies and groups of the companies, which today independently develop the marketing and transport networks in the Asian part of Russia. The association of their potential in frameworks of PPP will create additional network effect both for all participants of such partnership, and for territories.

Characterizing the special role logistic centers in transport system of the Asian part

of Russia, it is impossible to bypass a theme Trans-Siberian transit.

The mention of huge unused potential of Trans-Siberian transport bridge for a long time has become a general place. The development of transit within many years is imperishable priority of the high level and is considered as a major point of growth of economy of Siberia and Far East.

Between that, from middle of the ninetieth years, when this theme has become actively discussed by the experts in the transport markets there were changes, which essentially have changed a ratio of the tariffs on competing Asian - European routes not for the benefit of Russia.

The sea container operators continued to increase individual tonnage of linear ships, achieving a scale effect and stabilization - and in a number of cases, and reduction - tariffs for sea container transportations. Simultaneously, during reforming the Russian railways the internal cross subsidizing of freight traffic was liquidated which was distributed, in particular, to container transit. It objectively has resulted in increase of the transit tariff on transportations of containers through Russia.

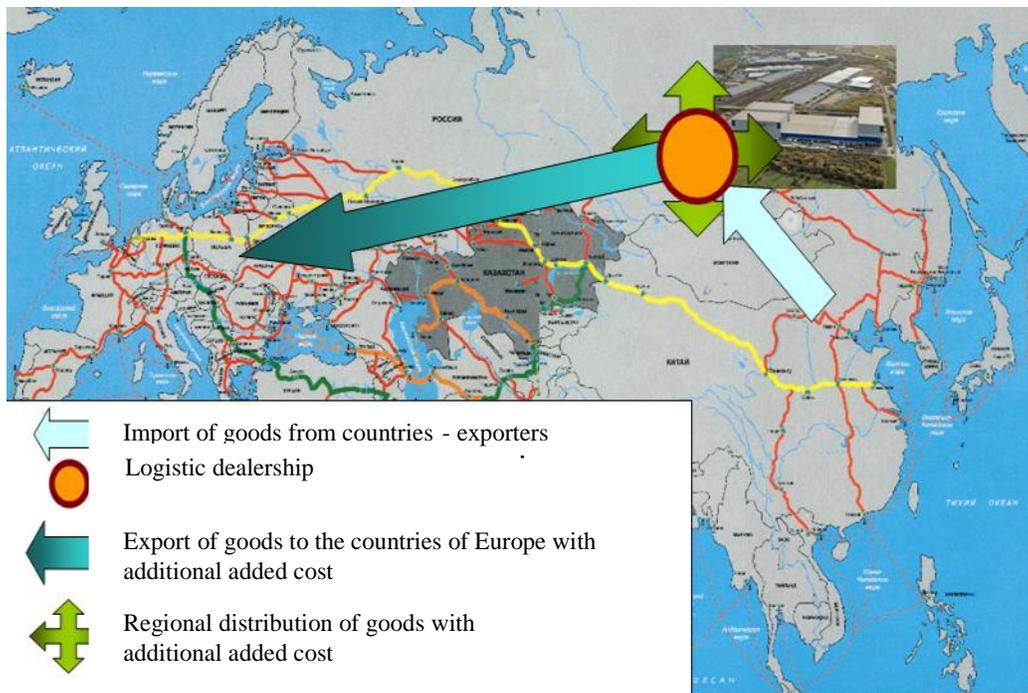
Thus, such advantages Trans-Siberian route as, for example, shorter transit time, were appreciably shown on is not present by action of the price factor. There are all bases to assume, that within the framework of the traditional scheme of transit transportation at the usual structure of costs and tariffs to

achieve essential growth of Trans-Siberian transit it will be not possible. But the creation in the Asian part of Russia logistic centers allows to realize a little bit other form of the Asian - European transit communication.

The cargoes addressed in the countries of Europe, can be exposed at these centers additional logistic processing. The speech goes about such operations, as palleting, regrouping, packing, marks and others, which now are carried out by the countries in Western Europe and consequently manage to the importers extremely dearly. The inclusion of these operations in the Russian scheme of deliveries of cargoes from Asian-Pacific Region will add simple transit transportation

by much cheaper services in escalating the added value of a final product (Fig. 3).

Other important function of logistic centers of Siberia and Far East connected with Asian freight flows, should become unloading of Moscow and St.-Petersburg as “obligatory” points of transshipment of the Asian import in Russia. Thus the integration of import and transit flows, and also logistic operations will allow achieving additional economic benefit. The enterprises and inhabitants of region should not in addition pay transportation of inward cargoes in the Moscow region and



*Fig 3. Variant of Trans-Siberian transit “with additional added cost”*

then again on East of Russia.

## THE CONCLUSION

The economic development of Siberia and Far East of Russia should carry advanced character. For modern transport and logistic technologies in this process the special place should be assigned.

The transport development of the Asian part of Russia has a number of features, which do not allow to apply in this region model of simple escalating of extent and increase of density of transport networks. Paradigm of “dotty” transport development of Siberia and Far East should be based on creation of system of regional logistic centers.

Logistic centers should be created as compact technological objects, on which the independent operators will carry out a complex of the functions directed on coordination and integration of logistic flows and on increase their added cost. The important factor of efficiency should become optimum accommodation regional logistic centers on a transport network and organization of the stable communication between them.

The realization of the concept of logistic centers in conditions of Siberia and Far East

will have a number of features, in particular:

- Logistic centers of the Asian part of Russia should play a role of transport hubs. It will allow achieving a high degree of concentration of freight flows and will raise efficiency of transport process.

- Accommodation and specialization of these objects in many respects will be defined by priorities of selection and realization of the projects of development of an infrastructure of separate modes of transport and distribution of cargo base between them. Thus the transport network of the Asian part of the country will develop by a principle “from logistic center to logistic center”.

- The development and increase of quality of a road network in zones of gravitation logistic centers can become and tool of the decision of a task of connection of the isolated occupied points with a basic transport network of the country and with national logistic by system as a whole.

- The transportations between logistic centers should be carried out, first of all, by railway transportation. However on those directions, where the regular railway communication for whatever reasons will be absent, the main automobile transportations will be claimed. Thus the realization of the

concept of truck trains especially of large carrying capacity is expedient.

- The creation logistic centers on the basis of PPP in the Asian part of Russia is expedient with attraction of the largest enterprises which are carrying out city-forming functions. The appropriate objects (industrial logistic centers) will have the “mixed” character, providing requirement of large industrial complexes and working simultaneously as logistic centers of general usage.

- The creation in the Asian part of Russia logistic centers will allow to realize the modified variant Asian - European of transit communication, at which the cargoes addressed in the countries of Europe, will be exposed additional logistic processing, and the transit transportation will be complemented by rather cheap services in escalating the added value of a final product.

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