6
The Development of Transportation Infrastructure in the Russian Far East

Sergey Leonov

The process of production is finished only when the goods are delivered to the consumers. That is self-evident. And it has a great importance for the Russian Far East (RFE) with its vast territory. The transition to a market economy in Russia is impossible without creating an adequate transport network.

At present, transportation in the Russian Far East is the bottleneck of the regional economy. Transport infrastructure is poorly developed to ensure the intensive transportation of export-import goods and passengers. The provision of transportation in the Far East is much lower than in Russia as a whole: for example, railroads by 1.5-2 times, common surfaced motor roads by 2.5 times, oil pipelines by 15-20 times, and gas lines by 8-13 times. Only its provision of navigable waterways is 3 times higher than in the Republic.

CENTRAL MINISTRIES AND THE INFRASTRUCTURE POLICY FOR RFE

The lack of balance between industries and infrastructure (inadequate development of infrastructure) is the legacy of the so-called "otraslevaja sistema," which is a branch system. Thus, our economy was entirely directed by central ministries. Central budget funds were allocated to these ministries, each of which made its own decision as to how these funds were to be invested. Each ministry managed to achieve appointed targets with allocated central funds by investing them in the territories within the former Soviet Union, according to independent decisions on how to best achieve given production targets. The costs of production in each region within the former Soviet Union varied greatly, and the decisions by the ministries reflected the cheapest way to reach the targets, given the costs of production (including unnecessary infrastructure development and labor). In a particular region several ministries may have been operating simultaneously; however, there was no horizontal coordination between individual ministries. Each ministry tended to allocate the bare minimum

of funds for infrastructure development, which as a result led to the establishment of small scale, inefficient facilities, often of poor quality.

We can show this with the example of the Far East of Russia. This region is relatively large, with an area of approximately 6 million km^2. The territory is also endowed with an abundance of natural resources: coal, gold, silver, tin, and other ores. For many years the largest investments in the Far East were directed into extractive industries rather than processing industries or transportation. The reasoning behind such one-sided development was that the ministries deemed investment into extractive industries to be more efficient due to the low cost of extracting and high costs of processing natural resources. Thus, extractive industries have traditionally played a leading role in the Far East. Until the end of the 1970s this investment policy resulted in high growth of Far Eastern industries – up to 9% annually (ranging from 8% in forestry to 14% in fishery and non-ferrous metals). But at the same time, the balance between industries and infrastructure was destroyed. By the middle of the 1980s this imbalance in the Russian Far East had become so severe that there was almost no opportunity for economic growth. In order to rectify this situation, it was necessary to solve a wide range of problems, including:

- poor transport infrastructure and inadequate industrial services (electric power production, construction);
- difficulties in increasing the volume of extracted raw materials as well as a lack of processing facilities.

The process of perestroika was employed in the Far East in order to solve these problems. Perestroika in the Far Eastern economy began by devising a long-term program entitled "Far East." But it was not perestroika in the true sense of the word, as the government decided to improve the situation in the Far East by using the "old good method" of direct targets for ministries and enterprises.

Since the beginning of 1988 in the U.S.S.R., the economic regime of "self-financing" was declared for all enterprises and ministries as a general model for the Soviet economy, which meant that each ministry had to raise their own funds to meet the production targets, with greatly reduced and centrally allocated funds. It was also at this time that the Soviet Union as a whole began to suffer from a severe national deficit. Under such conditions the regional economy and its investors (central ministries) were less willing to comply with the Gosplan commands than they had in previous years. But the central government had no effective way to enforce the commands (economically the Union went into further decline, reflected in the size of the real budget deficit which increased from 80 bil.

rubles in 1988 to 110 bil. rubles in 1989). It was no wonder that the situation with the transport infrastructure became worse. After the August events of 1991, the Soviet Union collapsed and all central ministries and organizations of the former Soviet Union were abolished. It was the start of a period when no program for economical reform existed. A new period of solving regional problems started with the beginning of economic reforms in Russia in 1992. Economic reform, as it was announced by the government, would have included two main areas:

1) macroeconomics regulation of economical activities;
2) stimulation at a micro level (at the level of "krai" and "oblast"[territories]).

However, 1992 and the first half of 1993 show that in the field of industrial and regional transportation, political activity was nonexistent. Moreover, the privileges which the government gave arbitrarily to particular regions or industries only made the social situation more unpredictable. Ultimately, each territory and industry competed with each other to receive these privileges.

The Russian Central Government (CG) understands that in a situation where the western and southern ports of the former Soviet Union are lost, the Far Eastern transport infrastructure becomes the real gate for the Russian economy into the Asia-Pacific Region.

The CG declares that it is necessary to develop the transport infrastructure of RFE. But in a situation where no real regional transportation policy exists, with a severe budget deficit and a power struggle among central authorities, the problem of infrastructure development of the RFE remains only a declaration. Now RFE is trying to solve its problems practically without central government assistance.

THE TRANSPORT COMPLEX OF THE RUSSIAN FAR EAST

The transport network of RFE is mostly developed in the southern zone of the region (7% of the territory) which comprises three-fourths of the rail and motor roads. The southern zone of RFE includes the three most populated administrative regions of the Far East: the Primorsky Territory, the Khabarovsk Territory and the Sakhalin Region. The main transport route, basic communication units, and the most important and largest sea and river ports and airports are situated there. In RFE about 8.4 thousand kilometers of Trans-Siberian and Baikal-Amur Mainlines, 22 thousand kilometers of inland navigable waterways, and thousands of miles of sea routes all help connect these areas with foreign countries all over the world.

Railway Transport

At present, 70% of the interregional and foreign trade cargo of RFE is accomplished by means of the railway network located in the southern zone. The total length of the railways is 8.4 thousand km. There are two railway arteries crossing the territory of the Far East of Russia – the Trans-Siberian Railway (TSR) and Baikal-Amur Mainline (BAM) – which connect the eastern and western parts of the country. The continental network and that of the island of Sakhalin are linked by the Vanino-Kholmsk sea-going ferry, which travels 270 km in length. The Sakhalin Region and Primorsky Territory have the densest railway network among the administrative units of the southern zone, but the available network was established in the earlier stages of regional development and has not been developed within the last 15-20 years. The most active railway construction was carried out between 1970-1985 in the Amurskaya Region and the Khabarovsk Territory, where BAM sections come over. However, the construction of the Mainline did not bring the anticipated changes in the level of transport service for these territorial units or for the entire regional economy. This railway has now proved to be only partially loaded, in fact, only 10-15% at individual sections, due to a lack of transit cargo flows predicted in the 1970s (such as those of Siberian crude oil to Japan and other Pacific Rim countries). Moreover, the adaptation of the main part of the Trans-Siberian Railway to electric traction has not yet been accomplished, but the majority of the connecting one-way lines have been built according to the simplified standards of upper tract structure, so the train speeds are limited to 28-30 km/hr.

The Fleet of Operating Vessels and Transshipment

The offices of the largest ship-owners such as FESCO, Primorsky Shipping Co., Sakhalin Shipping Co., Kamchatka Shipping Co. and Arctic Shipping Co. are situated in Vladivostok, Nakhodka, Kholmsk, Petropavlovsk-Kamchatsky and Tiksy. There is also a transport shipping company and refrigerator fishing fleet named "Vostoktransflot," which is the largest in Russia.

These companies have about 600 vessels of an aggregate 5 million deadweight. The fleet of operating vessels consists of different types of ships: bulkers, Ro-Ro ships, container ships, refrigerators, timer and wood chip carriers, car and railway ferries, passenger ships, tankers and ice-breakers. In the Far East the fleet of operating vessels carries out the largest quantity of cargo compared with other types of transport. In 1992 merchant marines carried about 50 million tons of different cargo. But

because of weak transport infrastructure there prevails domestic transshipment. Only 46% of the total volume of transshipment are of export-import cargo, including up to 15% of foreign cargo.

Today, more than 50% of the ships have become outdated. They are 18 years old. The purchase of new ships is very difficult because of very high prices in the domestic market. So, it is natural to expect the increase in foreign fleet transshipments. In 1985 the share of foreign ships in transshipment to the Russian Far East was 39%, and in 1992 it increased to 43%. It is expected that more than 50% of the foreign trade transshipment to the Russian Far East will be carried out by foreign shipowners. In this situation it is necessary to solve the problem of the development of ports in order to improve the service for foreign and domestic ships. It is also necessary to increase cargo flows for coastal trade with the Asia-Pacific countries – Japan, Korea and China.

Main Ports

There are 22 large ports and about 100 small sea ports in the Russian Far East. The most important are the 10 of them with an annual cargo turnover of not less than 1 million tons and year-round navigation.

There are 4 basic transshipment ports – Vladivostok, Nakhodka, Vostochny and Vanino. They have a direct connection with the Trans-Siberian and Baikal-Amur Railways. The Russian Far Eastern ports are not transportation-industrial zones. They only perform transportation and transshipment functions. In 1992, export services at the transport of Khabarovsk territory were only $28,000.

The share of transit cargo consists of more than 80% from total turnover. The main export-import flow of cargo from Russia to the Asia-Pacific countries goes through these ports. The domestic cargo also transits through these ports from the central parts of Russia to the Far North and Sakhalin Island.

So the influence of the RFE ports on regional economic development is insignificant. It is paradoxical, but the export ties of Yakutia and Siberia are more developed than those of the Primorsky and Khabarovsky Territories.

The Port of Vladivostok is located in a very convenient place for international commercial activities. Its harbor comprises 30 operating berths with a depth of 9-12m. But the commercial port is limited to only 16 berths and its capacity is about 2 thousand vessels a year. The problem is that other berths are full of enterprises fulfilling non-commercial activities.

In 1992 the total cargo turnover of the commercial port consisted of 4.4 million tons. Vladivostok is the largest regional port in the transshipment of general cargo, the share of which is almost 50%. But because of the deficit of its own berths, the port's productivity is not high. The average total cargo processed per day is 1,500 tons. Because of straitened conditions, the containers are stored up to the height of 5 tiers. Due to such activity the port annually overloads up to 60 thousand containers.

At present the local city administration has decided to allocate additional area in the city boundaries for doubling the capacity of the container port. Vladivostok also has the largest Russian fishery port, where 1.5 million tons of prepared fish are handled. Up to 80% of this volume leave the port in refrigerators by railway to other regions of Russia.

Vladivostok's ports handle up to 2.2 thousand railway cars daily with different cargoes that are received by transit. And the import of cargo by rail exceeds their back export by almost 1.5 times.

The Port of Nakhodka is the largest in the Far East in total length of berth and number of calls. The whole berth's length is about 10 km, but its depths are not more than 9m.

There are about 10 different service organizations in the harbor, including commercial, fishing and oil ports. In 1992 the total cargo turnover of these enterprises reached up to 12.4 million tons, including: 7.5 million tons of dry cargo in commercial port and up to 1 million tons of cargo in the fishing port.

In the cargo turnover structure of the commercial port, such export cargoes as timber, coal and rolled metal prevail. The share of import cargoes is 21%, with the principal amount belonging to grain, food and equipment. About 1 million tons are the domestic cargoes directed to the Far North region.

After 1979, when the container terminal was shifted from Nakhodka to Vostochny, the world prestige of Nakhodka as a container port declined. Since that time the level of the port's berth loading-unloading operation averaged 67%. It was a period of big economic troubles for the port. Because of the less powerful loading-unloading equipment and out-dated berths, the port could not compete with Vladivostok and Vostochny, where the handling capacity on the average was 20% higher.

Nowadays, with the opening of the Free Economic Zone (FEZ) in Nakhodka and nearby areas, the commercial port of Nakhodka stepped up its operational commercial activity. In 1992 they began a reconstruction of their berths, including deepening them to 13m. Joint ventures for the

reconstruction and servicing of foreign vessels were created. According to the FEZ development plan, the entire processing of raw materials, manufacturing of packing materials and other technological and loading operations had to be done.

The Port Vostochny is situated 20 km from Nakhodka. This port has the largest bulk cargo and container turnover. In 1992 the port's total cargo turnover was 7.2 million tons. The port specializes in handling transit export-import cargoes, including coal, timer, technological wood chips and fertilizers. The share of general cargo is about 2 million tons

In comparison with other Far Eastern ports, Vostochny has the largest depth near its berths, up to 16 m, and the most modernized Japanese loading equipment. Therefore, it has the opportunity to intensify the handling operations with ships and cars.

Port Vostochny is famous within world trade routes as the starting point of the so-called Trans-Siberian Land Bridge – the shortest way from the Asia-Pacific countries via our country to Europe, the Middle East and back. The "Trans-Siberian Container Service"(TSCS) has been operating on this route for almost 20 years. The average transshipment time for containers on this line from Yokohama to Amsterdam is 25 days. Now, the popularity of TSCS in comparison with an All-Ocean-Conference Carrier, is decreasing. The main reason for this is the delaying of the containers at the RFE ports or overland at the Trans-Siberian Railway on land. As a result, it can worsen the landbridge transit time by 5 to 8 days, making the service unacceptable and non-competitive.

The port has adopted a plan to expand the container terminal and to construct new railway tracks. The development plan includes the possibility of constructing a second coal handling terminal, a new grain handling terminal and a new terminal for LNG carriers. The cost is expected to be about $160 million for the reconstruction. The cargo turnover of the port should increase up to 30 million tons a year

The Port of Vanino, which is situated in the Khabarovsk territory on the Northern coast of the sea of Japan, plays a very important role in shipping operations. Its cargo turnover was 7.8 million tons in 1992. Every year about 3.5 thousand ships and 170 thousand railway cars are processed at the port. The year-round operation of the Vanino port is ensured by the ice-breaker fleet.

Up to 60% of port Vanino's turnover is connected with a ferrying service between Vanino and Kholmsk (Sakhalin territory). There are six ferry-bridges on this line. The main amount of cargo travels in railway cars through the port of Vanino to Sakhalin directly. Timber loading for

Japan prevails among export cargoes. The main portion of import cargo consists of general cargo and grain. There are 17 berths with a total length of about 2.6 km and a depth of 10 m. There is also a container terminal where about 40 thousand ISO containers are handled.

The port of Vanino has direct exits to two railways: Baikal-Amur Railway and Trans-Siberian Railway. In comparison with Vladivostok or Nakhodka, it cuts the land route for transit cargo delivery to Europe and the Russian West Region by almost 1000 km. This advantage opens big perspectives for Vanino.

The plan for the port's development provides for the construction of new berths for the export of petrochemicals, fertilizers, coal and other provision (refrigerated) and will increase the port's capacity up to 30 million tons per year. To achieve such a result it is necessary to reconstruct the part of the railroad between Komsomolsk and Vanino (430 km), including the construction of a tunnel. The total amount of expenditures for the work will comprise 250 billion rubles or $850 million (including $600 million for the port's equipment).

Nowadays a rapid privatization process is taking place in the ports due to its economic independence from powerful central government structures. Thanks to this process, market relations and commercial activity are rapidly developing. Under the condition of competition, the specialization of cargo flows deepen, the sphere of services introduced to clients enlarges, and the limits for attracting foreign capital investments and foreign partners are opened.

Today, the main Far Eastern ports (Vladivostok, Nakhodka, Vostochny and Vanino) are concentrating on joint ventures dealing with sea transportation in the region. American, Korean, Japanese and West-European firms play the leading roles of foreign partners in Russian business. This fact is confirmed by the possibility of developing the ports of Nakhodka and Vanino as Free Economic Zones and reconstructing the small ports of Southern Primorsky (such as Posyet and Zarubino) into the basic ports for the "Tumen River Area Development Project" (under the UNDP guidance).

River Transport

Covering a significant portion of the Far Eastern area, the rivers of the Amur and Lena basins are known to play a traditionally great role in providing intra-territorial traffic. There are two river shipping companies operating in the Far East – the Amur Shipping Company and the Lena Shipping Company.

The Lena Shipping Company is operating in the Lena river basin. The main Lena ports are Osetrovo, Yakutsk, Kirensk, Belogorsk and Olekminsk. Only Osetrovo port has a convenient railway approach. In other ports, cargo is transferred by motor cars.

The Amur Shipping Company is operating in the southern part of RFE, in the Primorsky and Khabarovsk Territories of the Amur and Chita regions. To carry dry cargo, containers, and petroleum products, self-propelled and towed vessels of 500 to 4,500 ton capacity are used. Cruise liners and high-speed hydrofoil boats are used for passenger traffic. Various river and sea-going ships carry cargo from the Amur river ports to the North of RFE, more specifically, to Sakhalin, the Amur Region and to seashore destination points in the Primorsky territory and Magadan Region.

The Amur River has also turned out to be a large international transportation artery. In 1990 the Amur Shipping Company carried 587.2 thousand tons of commercial cargo to and from Japanese ports, 36.6 thousand tons to and from Chinese ports, and 37.6 thousand tons to and from Korean ports. The Company's vessels carry sand, timber, fertilizers and construction materials for export, while equipment, machinery, refrigerating chambers, consumer goods, and food are brought back as import goods.

The Amur Shipping company has recently expanded the geography of its outward voyages. The ports of Poyarkovo, Khabarovsk, Komsomolsk and the port station of Nizhneleninskoe have also been opened to be visited by the Chinese ships, while China has opened the ports of Cehe, Fujin, Jiamusi and Harbin. Future plans include arranging the traffic of commercial cargo from Japan and the Republic of Korea to Northeastern China using the waterways of the Amur and Sungari.

Motor Transport and Roads

The network of motor roads is weakly developed and is concentrated primarily in the southern area of the region. The total length of motor roads is about 56 thousand km, but only 7.1 thousand km (12%) of them are improved surface roads. Almost 80% of the surfaced motor roads are concentrated in the southern part of RFE. But according to the level of transport coverage, only the Primorsky territory approaches the average Republic's indices for road density and connection between District centers by common surfaced motor roads (see Table 6.1). Nevertheless, even here (i.e., in the territory with the most favorable natural climatic conditions), only 27% of the motor roads have improved pavement, ultimately limiting the traveling speed and load of the vehicles.

Table 6.1 Connection between district centers by common surfaced motor roads (%)

Administrative territorial entity	1980	1983	1990	1991
Russia	85.8	90.9	91.8	92.3
Far East Region including:	49.3	56.6	59.0	59.0
Primorsky Territory	100.0	100.0	100.0	100.0
Khabarovsky Territory	54.5	59.1	59.1	59.1
Amurskaya Region	75.0	75.0	75.0	75.0
Kamchatka Region	27.3	27.3	36.4	36.4
Magadan Region	43.8	43.8	43.8	43.8
Sakhalin Region	29.4	70.6	76.5	76.5
Republic of Saha (Yakutia)	12.5	18.8	24.2	24.2

Source: Transport and Communication of the RSFSR, M., 1992

Air Transport and Main Airports

Air transport is of great importance in the Far East of Russia. Due to a lag in the development of the overland transportation network, air transport plays a key role in providing transportation for the regional population, for both long and short distances. As a result, the air transportation requirements of Far Eastern residents are 3 times higher than those of the other regions of Russia.

The problem is that air transportation has many difficulties in operation due to:

- the lack of airplanes (more than 80% of the airplanes which are used on the local airlines are out of date, and Far Eastern airplane production and repair plants were oriented only to the needs of the military complex.);
- the fuel shortage;
- the small capacity of the airports.

In spite of the high cost of air services, many air transportation enterprises are unprofitable. In 1992, air ticket prices rose 5 times, but at the same time the expenditures of the transport organizations increased 18 times. The appreciation for the dead loss of air transport in the Southern part of the Far East in 1992 was 3.5 billion rubles. In this situation the Far Eastern Air Companies try to solve their problems by increasing

international activity. Unfortunately, the Far Eastern Amur Fleet does not have enough heavy cargo airplanes. Because of this fact, the transit cargo flow on TSCS is mainly served by the airplanes of other Russian and Ukrainian air companies, which receive the biggest part of the profits.

Khabarovsk is the largest of the Far Eastern airports with an annual cargo turnover of about 60 thousand tons. This airport serves 2.5 million passengers per year including about 200 thousand on foreign air routes. It has a direct connection with Niigata, Seoul, Pyongyang, Harbin, Anchorage, and also transit routes to Tokyo, Singapore, Saigon, and Beijing.

Vladivostok is the second Far Eastern airport with a cargo turnover of about 5 thousand tons. It annually serves about 1.5 million passengers. The first international airline (Vladivostok -Niigata) was opened in April 1992.

The development of international airports in the Russian Far East is mainly connected with the conversion of some military airports, and with the aid of foreign investors. It is necessary to mention that a considerable part of the work has been done with their help, including the construction of the International Terminal in Khabarovsk and the reconstruction and development of the airports in Vanino, Vladivostok and Magadan.

CONCLUSION

1. The transportation system of the Russian Far East is very simple and limited. It is based exclusively on the Trans-Siberian and Baikal-Amur Railways. Until lately, it was oriented towards domestic, interregional transportation.
2. Russia's Far Eastern ports are not transportation-industrial zones. They only perform transportation and transshipment functions. The influence of the main ports on the RFE economic development is insignificant.
3. In the middle of the 1980s, there appeared to be two main tendencies in the development of transport in RFE:
   - As for Russia's integration into the Asia-Pacific Region, the natural and economic resources of RFE are losing their relative importance compared with the region's role in cargo transit.
   - However, the competitiveness of the RFE transport infrastructure in the Asia-Pacific transportation market is decreasing.

4. Improvements in operating and management systems, as well as new investments into specialized cargo terminals and traffic management systems, will be required.
5. During the period of economical and political instability, a great inflow of foreign investments can hardly be expected. The majority of short-to-medium term investments may be financed through domestic sources such as privatization, user fees, or the investments of joint-stock companies from the former Soviet Union.