

An Overview of Russian Railways: Current Reforms and Expansion in the Far Eastern Region (Summary)

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This paper provides an overview of Russian Railways, which is in the process of carrying out reforms, and of major trunk railway lines in Russia's Far Eastern region. On the Russian side, it focuses on the Baikal-Amur (BAM) Railway and the Trans-Siberian Railway (in both cases, examining the sections between Taishet and ports in the Far Eastern Region), as well as the Zabaikalskaya Railway (Karymskaya–Zabaikalsk), while on the Chinese side it looks at the railways from the Russian border to China's three northeastern provinces.

Historically, the focus with regard to the Trans-Siberian Railway has been on international container transport. In contrast, information about international use of conventional cargo other than container freight is scant. However, there is a strong possibility that in the future, international use of the Trans-Siberian and BAM railways will not merely involve containers, but will expand to include the transport of general cargo, such as timber, oil and coal. The railways are already used for the export of oil to China and an expansion in the volume exported is planned.

Russian Railways

1. Overview of Russian Railways

From 1842, through the imperial period and the Soviet era and into the federal Russia of the modern age, Russia's railways were administered by the state-owned and state-operated Ministry of Railways. However, the Russian government, which is aware of the need to modernize rail transport, has embarked upon sweeping reforms.

The aims of these reforms are stated to be as follows:

1. The creation of an effective regulation system in the industry.
2. The creation of effective financing mechanisms for infrastructure development and the modernization of the rolling stock.
3. The development of competition between various types of transport and within the railway segment.
4. Higher service quality and the stable provision of transport services throughout the country.
5. The reduction of the burden of transport costs on the economy.

The basic principles governing the reforms are stated to be as follows:

1. The separation of state regulation and financial management in railway transport.
2. The formation of an organizational structure divided up according to the main kinds of activity (freight operations, passenger operations, etc.)
3. The division of the existing sphere of activities into three sectors: natural monopoly, temporary

monopoly (potentially competitive) and competitive activities.

4. The retention of state control over the monopoly sector (infrastructure).
5. The privatization of the competitive sector enterprises.

Under the plan, it was stipulated that the reforms were to take place in three phases: phase 1 (2001–2002), phase 2 (2003–2005) and phase 3 (2006–2010).

On 23rd September 2003, the Ministry of Transport of the Russian Federation completed its work on relevant laws and the joint-stock company JSC "Russian Railways" was established, with 100% of investment being provided by the federal government. The assets of the federal railways and the management functions were separated and transferred, and JSC "Russian Railways" began operating on 1st October of that year. With this, the first phase of the three-phase reform of Russia's railways ended. As of the end of 2004, the second phase was underway, but the pace of reform was lagging behind the initial plan.

Russian Railways has a capital fund of 1.5452 trillion rubles (about \$50 billion), with 100% of shares belonging to the federal government. Its total assets are estimated at 12 billion rubles.

Russian Railways consists of 987 enterprises and 185 subsidiaries, and has eight offices overseas. It has a total of about 1.2 million employees, equivalent to 2% of the economically active population. It accounts for 78.8% of all rail transport in Russia.

Its total earnings in 2003 were 617.5 billion rubles, making it one of Russia's five largest companies. Profits in that year were about 2.5 billion rubles.

During the era of the Russian Ministry of Railways, the 17 regional railway corporations were 100% government-invested state-owned companies, but with the establishment of Russian Railways, they became regional railway branch offices.

The volume of freight handled on Russia's railways in 2003 was 1.1608 billion tons, an increase of 7.1% on the previous year and a rise of 1.2% on the figures in the plan. What Russian Railways is aiming to do is not merely to achieve an increase in the transport of highly profitable cargo (oil, iron ore, cement, etc.), but rather to contribute to the national economy. Consequently, the transport of the less-profitable coal accounts for 22.4% of all cargo transported. The other major cargoes include oil and oil products (17.7%), construction materials (14.5%), and iron and manganese ore (8.0%). The biggest increase was seen in the transport of oil and oil products (up 15.4% on the previous year).

The greatest hope for the future is container freight.

The volume of container freight transported in 2003 was 14.7 million tons. Container cargo has risen by 80% over the past four years. This year, a further increase of 19% is anticipated. Furthermore, Russian Railways believes that container volumes will rise to 25 million tons in 2006 and at least 32 million in 2010. There are plans to operate high-speed container trains at some stage.

It should be noted that the entry of private companies into the freight wagon market is increasing. More than 200,000 private freight wagons are currently used, with the freight carried in them accounting for 20% of all cargo.

At the same time, handling by private forwarding agents is on the rise and is particularly noticeable in the transport of highly profitable cargo, accounting for 40% of all oil products, 25% of minerals and fertilizer, and 22% of cars.

2. The BAM Railway

The total length of the BAM Railway (Taishet–Sovgavan) is 4,300 km, around 1,000 km of which runs through an area of permafrost; in addition, the railway crosses eleven major rivers and seven mountain ranges. Over its entire length, there are eight tunnels, 142 bridges (at least 100 m long) and 241 stations.

For most of its length, the BAM Railway is single-track, but the section between Taishet and Lena (704 km) is double-track. Moreover, the Taishet–Lena–Taksim section (1,429 km) is electrified. In all other sections, the train is pulled by a diesel engine. The track uses broad gauge rails (1,524 mm) for its entire length. In addition, there is a plan to make the whole line double-track and introduce automatic blocks by 2008.

The annual transport capacity of the BAM Railway is 180 million tons along its western section, where progress has been made in introducing double-track, electrified lines, while on the single-track eastern section it is said to be 9 million tons. However, the true volume transported is considerably less than this capacity, totaling no more than about 8 million tons on the western section and about 5.5 million tons on the eastern section. In contrast, around 10 million tons of cargo are transported on the line linking the Trans-Siberian Railway and the BAM Railway (Bamovskaya–Tynda).

In order to revitalize the BAM Railway, Russian Railways is devoting its energies to the following: i) the development of three branch lines; ii) the cultivation of transit transport; and iii) business relating to the Eastern Siberia–Pacific coast oil pipeline plan.

3. The Trans-Siberian Railway

The name Trans-Siberian Railway usually refers to the line between Moscow and Vladivostok (9,289 km). Taishet is located about halfway between the two, 4,774 km from Vladivostok.

Apart from the bridge over the Amur River, the entire line is double-track. The electrification of the whole line was completed in December 2002.

Statistics relating to the transport capacity and actual performance of the Trans-Siberian Railway are not published. According to the homepage of Russian Railways, the annual transport capacity is 100 million tons,

including 200,000 TEU of containers. Moreover, according to sources at Russian Railways, only about half of the total capacity is being used.

With regard to international container transport, there is data published by VICS (Vostochny International Container Service), which is in charge of cargo handling at Vostochny Port. According to this, container freight passing through Vostochny and originating in or destined for East Asia (the ROK, China, Japan) is expanding rapidly year after year; 177,167 TEU was handled in 2003, but this figure rises to 204,650 TEU (up 53% on the previous year) if empty containers are included. Apparently, this upward trend continued in 2004.

Russian Railways, which welcomes the strong performance of container transport using the Trans-Siberian Railway, has had a target of 300,000 TEU in its sights in recent years.

4. The Transport Tariff Policy of Russian Railways

The structure of the tariff of Russian Railways is complicated. ERINA has obtained tariff 10-01 and has examined it in detail. The tariff policy can be summarized as follows:

- i) Different tariffs are set according to the type of cargo, with specific tariffs for such commodities as oil, coal and timber.
- ii) The basic charge is proportional to the weight of the cargo and the distance it is transported; as a coefficient applies depending on the distance and quantity, the unit cost per ton per kilometer is set so that it is cheaper the further the cargo is to be transported and the greater the amount of cargo to be transported at one time. In particular, it is comparatively fairly cheap to charter a train if there is only one destination for the cargo.
- iii) The basic charge is set in such a way that it is 30-50% more expensive to use the wagons owned by Russian Railways than to use wagons that the users themselves provide. Consequently, the transport charge, including the charge for using the wagons owned by Russian Railways, is 70-80% more expensive than if the users provide the wagons themselves; this is an incentive for users to arrange their own wagons in advance and use rented wagons.
- iv) Different tariffs apply in the case of rail lines linking areas within Russia with its ports and lines linking those areas with overland borders. Transport charges on lines to overland borders are about double the amount charged for transport to ports. Rail transshipment charges and border-crossing charges are not included in these prices. Consequently, in the case of the overland rail transport of oil from Eastern Siberia to China, the per unit and per kilometer charges are about twice as high as that for transport to ports in the Far Eastern region.

5. Issues

There are a number of issues relating to Russia's railways, including the Trans-Siberian Railway and the BAM Railway.

First of all, Russian Railways is in the middle of

conducting reforms, so there is lingering uncertainty with regard to the prospects for future reforms. There is concern among users that price increases might occur if the liberalization of freight charges takes place in the second phase. In addition, there is anxiety about whether the company can make the employee cutbacks that will inevitably arise from reforms.

Moreover, there are such issues as the financial situation in Russia's outlying railways, including the BAM Railway; measures to deal with insufficient rolling stock and the decrepit state of existing stock; the financial state and profit and loss situation at the regional railway branches and the branches dealing with specific functions; the severe weather conditions and track maintenance; the increasing weight of rolling stock aimed at increased speed; and improvements to curves and steep gradients.

The basic issue is that there is a pressing need for the disclosure of information. No matter where one looks, it is impossible to obtain statistics for the transport performance of specific lines, including the Trans-Siberian Railway and the BAM Railway. One cannot help but feel that there is a significant disparity compared with the amount of information available for China, as will be described later.

Railways Between Russia and China

1. The Zabaikalskaya Railway: Karymskaya–Zabaikalsk

This 364 km line to Zabaikalsk, which diverges from the main Trans-Siberian line at Karymskaya, is single-track and not electrified.

Moreover, Russia's domestic railways use broad gauge (1,520 mm), but China uses standard gauge (1,435 mm), so transshipment has to take place at the border. In principle, cargo transshipment takes place on the territory of the country receiving the cargo, so cargo from Russia is transshipped at Manzhouli, while that from China is transshipped at Zabaikalsk. The capacity of the existing transshipment facilities is said to be 5 million tons annually.

2. Overview of Lines on the Chinese Side: Manzhouli–Daqing–Harbin–Dalian

The distances at each point on the Harbin–Manzhouli Railway are 776 km between Manzhouli and Daqing, and 159 km between Daqing and Harbin, making a total of 935 km. Of this, the Manzhouli–Hailar section (186 km) is single-track, while the Hailar–Harbin section is double-track. In addition, there is a plan to make the Manzhouli–Hailar section double-track. None of the track is electrified.

The Harbin–Dalian Railway is 944 km long and passes through two large cities, Changchun and Shenyang. The Harbin–Dalian Railway is double-track and electrified along its entire length. There is a great deal of traffic along this line, so congestion is a problem. The section between Shenyang and Siping, where it converges with the Beijing–Shenyang Railway from Beijing, is particularly crowded.

3. Quantity Transported

According to information from the Russian side, the volume of rail exports from Russia to China in 2003 was

1.4393 million tons, an increase of 8.5% on the previous year. Looking at the situation by route, 670,000 tons was transported via Zabaikalsk (Manzhouli), 210,000 tons was transported via Grodekovo (Suifenhe), and 530,000 tons was transported via Mongolia (Erenhot).

According to information from the Russian side, 1.8 million tons of oil was exported to China by rail via Zabaikalsk in 2003. This was an increase of 74% on the previous year.

The volume of oil to be exported by rail to China in the future is due to be more than 10 million tons in 2005, rising to 15 million tons in 2006. In the future, it is thought that it will be possible to export 30 million tons of Eastern Siberian oil to China annually.

According to Chinese statistics, the volume of trade cargo transported via Manzhouli in 2002 was 8.82 million tons, of which import cargo accounted for 8.4 million tons; 4.38 million tons of this was accounted for by timber, while oil accounted for a further 1.04 million tons. In contrast, export cargo was just 420,000 tons. The second-busiest route is Suifenhe (4.95 million tons). As of 2002, no oil was imported via Suifenhe. In addition, trade cargo via Erenhot, on the border with Mongolia, was 3.83 million tons, of which oil imports accounted for 960,000 tons. Mongolia is not an oil-producing country, so it is thought that these were imports from Russia.

4. The Tariff Policy of China Railways

Cargo tariffs on China Railways consist of the cargo transport price chart and the container price chart.

The basic structure of the cargo transport price chart is a fixed charge + a charge proportionate to distance, so the per kilometer charge decreases as the distance the cargo is transported increases.

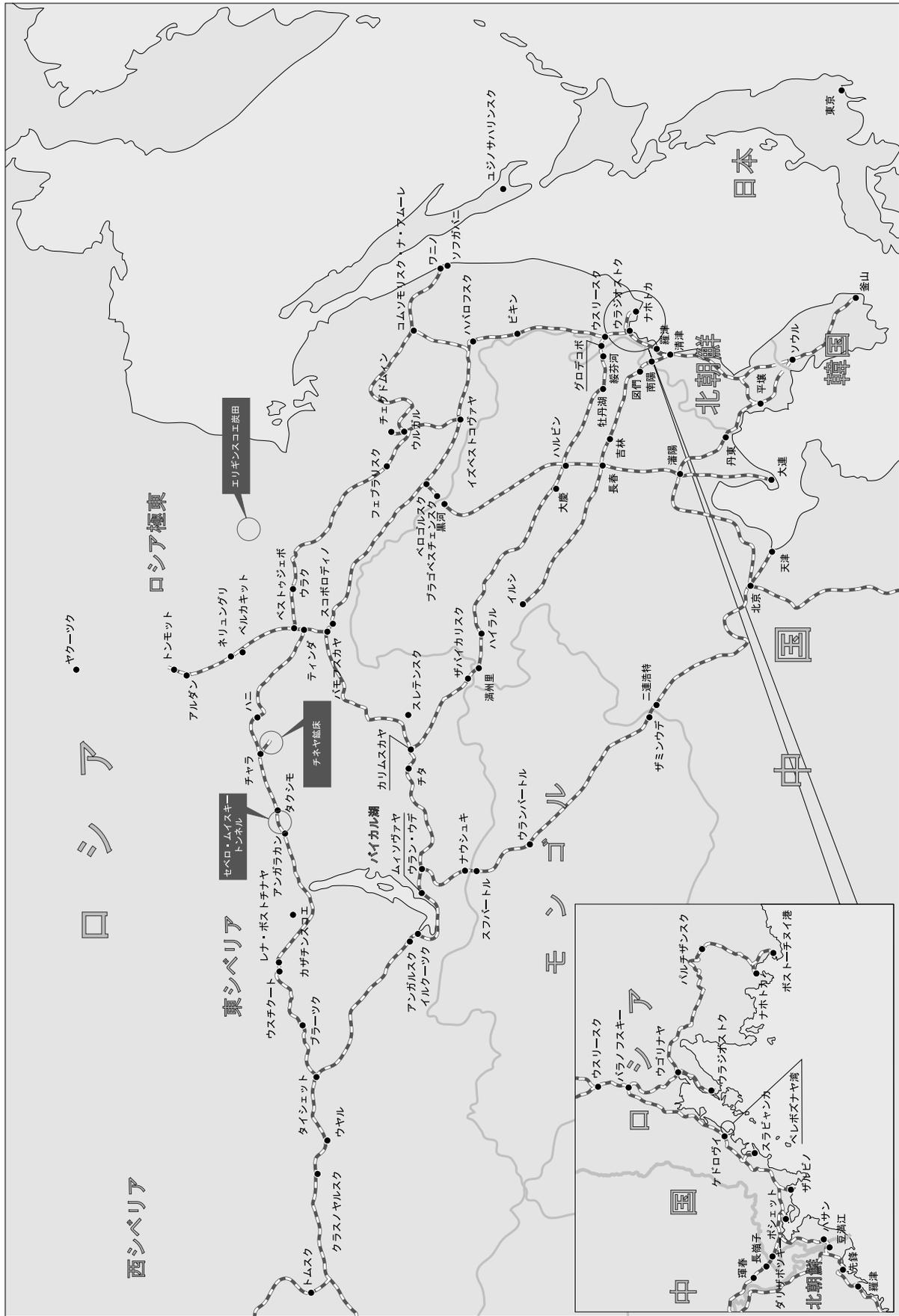
The container price chart is split into charges for 1 ton, 5–6 tons, 10 tons, 20 feet and 40 feet. The per kilometer charge decreases as the distance the cargo is transported increases.

5. Issues and Plans for Future Enhancements

One problem that has been highlighted with regard to China's railways is the lack of transport capacity to meet the country's rapid economic growth. In particular, the transport of oil, which accounts for 40% of all rail transport (on a ton/kilometer basis), is placing pressure on transport capacity. In Northeastern China too, although the electrification of the Harbin–Dalian Railway has been completed, the modernization of regional railways has been delayed. The Harbin–Manzhouli Railway is not electrified and still has some single-track lines.

Obstacles to border crossing are another issue. The railway gauges in China and Russia are different, giving rise to the need for transshipment, so modern transshipment facilities are needed in order to enable large volumes of cargo to use the cross-border routes. Furthermore, streamlined customs and border-crossing procedures are required.

東北アジアの主要鉄道



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