

Investment activities

Investment programme approaches

The Company's investment programme is designed to:

- › ensure uninterrupted transportation service;
- › embrace the most promising projects in terms of both commercial and budget efficiency;
- › minimise federal government spending on investment projects.

All the investment projects have commercial and budget efficiency estimates in place and are ranked using the cost/benefit analysis.

The projects' commercial efficiency is assessed based on the net cash flow from investing and operating activities, with the resulting estimates taking into

consideration the financial aftermaths for the investment project owner assuming that such owner fully covers the project costs and reaps all of its benefits.

With a payback period of up to 20 years and an IRR of at least 10%, an investment project is deemed to be sufficiently efficient.

Investment highlights in 2018

Russian Railways' Investment Programme for 2018 was approved by the Company's Board of Directors (Minutes No. 4 dated 20 November 2018).

Target volume of the Company's investment programme in 2018 was RUB 547.4 bn, with the actual programme costs amounting to RUB 530 bn (including RUB 14.6 bn in capitalised interest). The investment expenses included:

- › RUB 460.4 bn using the Company's own cash;
- › RUB 66.7 bn in government support;
- › RUB 2.9 bn raised to add certain non-public infrastructure assets to the infrastructure portfolio of Russian Railways.

Out of total investment spending, RUB 162.8 bn was allocated to support projects implemented in pursuance of instructions of the President and the Government of Russia, and the remaining RUB 367.2 bn was earmarked for the Russian Railways projects.

The Company's investment programme has seven key focus areas:

- › projects implemented in pursuance of instructions of the President and the Government of Russia;
- › rail infrastructure development projects;
- › safety enhancement initiatives;
- › infrastructure debottlenecking;
- › projects to enhance transportation accessibility;
- › rolling stock renewal initiatives;
- › other projects.

ACTUAL EXPENSES UNDER RUSSIAN RAILWAYS' INVESTMENT PROGRAMME TOTALLED

RUB

530
bn

Projects implemented in pursuance of instructions of the President and the Government of Russia

Those are comprehensive infrastructure projects financed by both Russian Railways and the federal government and governments of Russian regions.

Development of the Central Transport Hub

In 2018, the investment expenses amounted to RUB 50.1 bn (including RUB 16.2 bn allocated by the federal government).

The Central Transport Hub is designed to ensure transport accessibility against the expected rise in passenger traffic, reduce overall travel times and improve the passenger experience. It will help decrease traffic density on the highways, subway and key stations of Moscow and the Moscow Region, while also improving the quality of services (including for passengers with reduced mobility).

The first stage of the Moscow Central Diameters project was launched, covering the routes from Odintsovo to Lobnya (MCD 1) and from Nakhbino to Podolsk (MCD 2).

Upgrade of rail infrastructure of the Baikal–Amur and Trans-Siberian main lines designed to enhance the throughput and carrying capacity of the railways

In 2018, the investment expenses amounted to RUB 48.5 bn.

The project seeks to boost freight transportation volumes from the key mineral deposits of the Eastern Operating Domain by removing infrastructure constraints on the Baikal–Amur and Trans-Siberian Railways. Implementation of this project will help increase the carrying capacity of the main lines to 180 mt by 2024 and 210 mt by 2025.

Development and renovation of the rail infrastructure serving ports of the Azov and Black Seas

In 2018, the investment expenses amounted to RUB 39.9 bn (including RUB 21.7 bn allocated by the federal government).

In 2018, 90.7 km of second tracks were constructed. As planned, freight volumes transported to the ports of the Azov and Black Seas totalled 84 mt.

Development and renovation of the rail infrastructure serving ports of the North-Western basin

In 2018, the investment expenses amounted to RUB 15.5 bn.

Authorised train mass metrics were successfully increased in 2018, with the carrying capacity of the operating domain's infrastructure rising to 147 mtpa (up 9 mtpa y-o-y) thanks to the deployment of heavy-duty trains. The throughput capacity reached 120 pairs of trains per day (up 5 train pairs y-o-y).

Comprehensive development of the Krasnoyarsk Railway's Mezhdurechensk–Tayshet section

In 2018, the investment expenses amounted to RUB 3.7 bn, (including RUB 2.5 bn allocated by the federal government).

2018 saw commissioning of even-numbered tracks at the Ilanskaya Station and

launch of the Dzheb–Shchetinkino section of the second Dzhebsky Tunnel. After commissioning of the adjacent second track on the Dzheb–Shchetinkino section the throughput capacity of the Kuraġino–Sayanskaya section in 2019 will increase to 37 train pairs per day (up 6 train pairs).

Construction of the Moscow–Kazan High-Speed Railway

In 2018, the investment expenses amounted to RUB 1.9 bn, (including RUB 0.1 bn allocated by the federal government).

In 2018, the design and cost estimates and engineering surveys for the project were completed, with Russia's State Expert Review Board giving a green light for the Vladimir–Nizhny Novgorod section.

Construction of the Prokhorovka–Zhuravka–Chertkovo–Bataysk line (new rail line on the Zhuravka–Millerovo route)

In 2018, the investment expenses amounted to RUB 1.7 bn.

In 2017, the Company completed construction of the two-track electrified Zhuravka–Millerovo line (137.5 km), with the line put into operation on a permanent basis.

2018 saw the issuance of preliminary permits.

Construction of a western bypass at the Saratov Transport Hub of the Privolzhskaya Railway with the expansion of the Lipovsky–Kurdyum section

In 2018, the investment expenses amounted to RUB 0.9 bn.

The main aim of this project is to expand the railway infrastructure with a view to enhancing the carrying capacity on the approaches to the Saratov Transport Hub and increasing freight volumes by at least 49.2 mt compared to 2015. This initiative is designed to complement the Development and Renovation of the Rail Infrastructure Serving Ports of the Azov and Black Seas project. In 2018, drafting of design documents was underway.

Infrastructure expansion and upgrade on the Severnaya and Sverdlovskaya Railways allowing for additional cargo traffic as part of the Northern Latitudinal Railway project

In 2018, the investment expenses amounted to RUB 0.6 bn.

The project aims to put in place a latitudinal railway connecting the Severnaya and Sverdlovskaya Railways as an essential element in the Arctic Transport System and associated infrastructure. The project will help reduce the length of transportation routes linking mineral deposits in the northern part of West Siberia to the ports of the Baltic, White, Barents and Kara Seas and thereby contribute to the development of the Russian Arctic.

To that end, a concession agreement was signed between the Federal Agency for Rail Transport (Roszheldor) and SShKh in 2018.

INVESTMENT EXPENSES UNDER PROJECTS IMPLEMENTED IN PURSUANCE OF INSTRUCTIONS OF THE PRESIDENT AND THE GOVERNMENT OF RUSSIA TOTALLED

RUB

162.8
bn in 2018

Rail infrastructure development projects

Those are priority projects requiring accelerated financing to ensure planned freight and passenger transportation volumes. In 2018, expenses under these projects were as follows:

- › RUB 2.1 bn for upgrade of the Baikal–Amur and Trans-Siberian Railways (Stage 2);
- › RUB 0.7 bn for electrification of the Rtishchevo–Kochetovka section;
- › RUB 0.7 bn for electrification of the Ozherelye–Uzlovaya–Yelets section

(adjustments required for passenger transportation);

- › RUB 0.9 bn for the throughput increase on the Artyshta–Mezhdurechensk–Tayshet section;
- › RUB 1 bn for the construction of the Selikhin–Nysh railway line with a passage across the Nevelsky Strait;
- › RUB 0.2 bn for the development of the Perm–Solikamsk connection;
- › RUB 0.1 bn for the development of the Perm Railway Hub and the construction of a river crossing;

- › RUB 0.1 bn for the reconstruction of the Morozovskaya–Volgodonskaya section of the North Caucasus Railway

INVESTMENT EXPENSES UNDER RAIL INFRASTRUCTURE DEVELOPMENT PROJECTS TOTALLED

RUB

5.9
bn in 2018

Safety enhancement initiatives

As part of the Transportation Safety investment project, the Company implemented a set of initiatives in the run-up to the 2018 FIFA World Cup and the 2019 Winter Universiade in Krasnoyarsk.

As part of the Transport Safety of Infrastructure Projects initiative, Russian Railways completed engineering surveys for infrastructural development in restricted areas involving installation of transport safety equipment at four bridges on a railway route bypassing Ukraine and five facilities on a route bypassing Krasnodar.

INVESTMENT EXPENSES UNDER SAFETY ENHANCEMENT INITIATIVES TOTALLED

RUB

92.8
bn in 2018

Infrastructure debottlenecking

This category includes projects to:

- > construct second tracks;
- > extend station tracks;
- > develop railway hubs and border crossing stations;
- > develop marshalling yards;
- > construct and upgrade engineering structures;
- > upgrade the tracks and rail infrastructure on the island of Sakhalin;
- > develop the Tobolsk–Surгут–Korotchaevo railway section;
- > reconstruct railway facilities in the Chechen Republic.

Railway track upgrade

In 2018, the investment expenses amounted to RUB 106.6 bn.

In 2018, 4,700 km of tracks were upgraded¹ in line with the approved targets.

Upgrade of rail infrastructure on the island of Sakhalin

In 2018, the investment expenses amounted to RUB 5.3 bn.

60.1 km of track panels were laid on a dual gauge track with three rails.

Develop the Tobolsk–Surгут–Korotchaevo railway section

In 2018, the investment expenses amounted to RUB 3.3 bn.

In 2018, the following pieces of infrastructure were put into operation:

- > 45.8 km of tracks, including 26.2 km of main tracks;
- > 142 turnouts.

Reconstruction of railway facilities in the Chechen Republic

In 2018, the investment expenses amounted to RUB 0.4 bn.

Target key performance indicators were successfully achieved by the end of the year, with 54 km of power supply lines along the Shelkovskaya–Karginskaya and Karginskaya–Kizlyar sections reconstructed, including power supply units at five railway crossings.

Construction of second tracks, extension of station tracks, and development of railway hubs and border crossing stations

In 2018, the investment expenses amounted to RUB 3.5 bn.

The project aims to increase the throughput and handling capacities of the key railway routes with a view to allowing passage of freight trains with a unified mass of 6,300 t and length of 71 standard cars.

Development of marshalling yards

In 2018, the investment expenses amounted to RUB 2.8 bn.

The project aims to ensure the development of track infrastructure and equip marshalling yards with comprehensive mechanisation and automation systems with a view to increasing handling capacities at railway stations.

Construction and upgrade of engineering structures

In 2018, the investment expenses amounted to RUB 7.7 bn.

The project involves construction and upgrade of bridges and tunnels, including the ones designed for pedestrians.

Construction preparations. Design of future facilities

In 2018, the investment expenses amounted to RUB 1.2 bn.

During 2018, work was underway to duly substantiate construction investment decisions and prepare design documents for infrastructure development projects scheduled for the future.

INVESTMENT EXPENSES UNDER INFRASTRUCTURE DEBOTTLENECKING INITIATIVES TOTALLED

RUB

130.8
bn in 2018

¹ Overhauls under the track upgrade programme and track overhauls with used materials.

Enhancement of transportation accessibility in Russia

This category includes projects to develop suburban transit infrastructure and renovate train stations from the long-haul network. 2018 saw completion of the following projects:

- › upgrade of the Rostov-Glavny train station;
- › construction of a transport interchange hub in Gudermes;
- › commissioning of the Volgograd, Yekaterinburg and Nizhny Novgorod train stations and putting into operation of St Petersburg's Moskovsky station;
- › upgrade of St Petersburg's Finlyandsky, Vitebsky, Baltiysky and Ladozhsky (Stage 5) stations;
- › upgrade of the Samara train station.

INVESTMENT EXPENSES UNDER TRANSPORTATION ACCESSIBILITY ENHANCEMENT PROJECTS TOTALLED

RUB

11.3

bn in 2018

Rolling stock renewal initiatives

2018 saw the purchase of:

- › 631 locomotives, including:
 - 439 electric and diesel locomotives for freight transportation, including those used for pulling heavy-duty trains,
 - 144 shunting diesel locomotives used for shunting, road-switching and hump-shunting operations,
 - 48 passenger locomotives;
- › 310 cars for multiple unit trains, including 180 cars for electric Lastochka trains and 130 cars for electric EP3D trains.

INVESTMENT EXPENSES UNDER THE ROLLING STOCK RENEWAL INITIATIVES TOTALLED

RUB

116.7

bn in 2018

Other projects

As part of the project to introduce resource-saving technologies in railway transportation, 1,790 units of resource-saving equipment were installed across the Company's operations in 2018.

The initiatives to build section houses for railroad employees helped increase the Company's housing stock by 7,190 sq m (or 143 housing units).

2018 also saw efforts to build and renovate boarding houses, health resorts, recreation centres and other healthcare facilities, including Russian Railways' facilities of social significance such as recreational camps for children.

INVESTMENT EXPENSES UNDER OTHER PROJECTS TOTALLED

RUB

9.7

bn in 2018

Investment programme for 2019

Total allocations under the 2019 investment programme will total RUB 681.9 bn, including:

- › RUB 549.9 bn of the Company's own cash;
- › RUB 49.6 bn of allocations from the federal government;
- › RUB 47 bn of funds provided by the government of Moscow;
- › RUB 35.4 bn of funds provided by the Russian National Wealth Fund (preferred shares).

The investments will be distributed as follows:

- › RUB 291.2 bn to develop rail infrastructure;
- › RUB 114 bn to enhance safety;
- › RUB 136.5 bn to address the issues of rail infrastructure debottlenecking;
- › RUB 11.4 bn to enhance transportation accessibility in Russia, including by developing suburban transit infrastructure and renovating train stations from the long-haul network;
- › RUB 117.9 bn to renew rolling stock (including RUB 95.6 bn to renew traction stock);
- › RUB 10.9 bn to deliver on other projects (including promotion of resource-saving technologies, social initiatives, etc.).

Key focus areas of the investment programme up to 2025

The priority projects are primarily defined as initiatives included in the Comprehensive Plan for Upgrading and Expanding Core Infrastructure and initiatives implemented in pursuance of the Decree of the President of the Russian Federation No. 204 On National Goals and Strategic Objectives of the Russian Federation through to 2024 dated 7 May 2018:

UPGRADE OF INFRASTRUCTURE OF THE BAIKAL-AMUR AND TRANS-SIBERIAN MAIN LINES designed to enhance the throughput and carrying capacity of the railways (Stages 1 and 2).

DEVELOPMENT AND UPGRADE OF INFRASTRUCTURE SERVING PORTS OF THE AZOV AND BLACK SEAS involving comprehensive renovation of the Maxim Gorky–Kotelnikovo–Tikhoretskaya–Krymskaya section and construction of a bypass at the Krasnodar Transport Hub, construction of second tracks on the Taman Peninsula, extension of station tracks, development of railway hubs, and upgrade of power supply units. The project primarily seeks to ensure transportation of 59.8 mt of additional freight on the near and far approaches to the ports of the Azov and Black Seas and create a carrying capacity of up to 125 mt by 2020.

DEVELOPMENT OF THE CENTRAL TRANSPORT HUB'S INFRASTRUCTURE.

The project seeks to boost throughput and handling capacities of the railway infrastructure to cater to the increasing number of passengers that use the Central Transport Hub. A railway link to the Northern Terminal Complex of Sheremetyevo Airport is in the pipeline to integrate airport terminals with the rail infrastructure (the passenger traffic is expected to reach up to 2.8 million people per year by 2025). Another plan is to launch intracity train diameters and reduce intervals between trains on the Moscow Central Ring to four minutes, while also working on the development of radial routes and integration of transport stops.

DEVELOPMENT AND RENOVATION OF THE RAIL INFRASTRUCTURE SERVING PORTS OF THE NORTH-WESTERN BASIN to cater to the expected freight transportation volumes of 145.6 mt on

approaches to ports of the North-Western basin in 2020.

CONSTRUCTION OF THE MOSCOW-KAZAN HIGH-SPEED RAILWAY

(the first stage envisages work on the Zheleznodorozhnaya–Gorokhovets section and commissioning of route to Nizhny Novgorod using the existing infrastructure). The project aims to improve transport links between different regions of Russia and create a network of high-speed and ultra high-speed railway routes in the country.

DEVELOPMENT OF THE NORTHERN LATITUDINAL RAILWAY

to facilitate freight transportation from the northern parts of West Siberia (23.9 mtpa of primarily gas condensate and bulk oil) and reduce travel times to the ports of the North-Western and Ural Federal Districts.

RECONSTRUCTION OF THE MOROZOVSKAYA-VOLGODONSKAYA RAILWAY SECTION

to allow for the transit of 25 train pairs on the Morozovskaya–Yuzhnaya–Kuberle section and ensure the planned freight transportation volumes to the ports of the Azov and Black Seas by diverting train traffic to the Morozovskaya–Volgodonskaya section.

DEVELOPMENT OF THE PERM-SOLIKAMSK CONNECTION

to enable transportation of rising freight volumes from the Bereznikovsko-Solikamsky industrial hub (up 9.7 mt in 2025).

DEVELOPMENT OF THE PERM RAILWAY HUB

and the construction of a river crossing to facilitate future transportation of freight volumes by diverting most of the freight traffic to the route bypassing the city and encourage development of infrastructure for the urban land transport.

CONSTRUCTION OF A WESTERN BYPASS AT THE SARATOV TRANSPORT HUB

with the expansion of the Lipovsky–Kurdyum section designed to boost development of the far approaches to the ports of the Azov and Black Seas.

ENHANCEMENT OF THE THROUGHPUT AND CARRYING CAPACITIES

to achieve a fourfold increase in transit container traffic and reduce travel times from the Far East to the western border of the Russian Federation to seven days.

The Long-Term Development Programme encourages creation of public-private partnerships in the realm of railway transportation (including use of concession agreements) to ensure financing for new lines by leveraging state investments and funds of the infrastructure owner, cargo owners and other stakeholders. The following projects are to be implemented as part of concession agreements:

RECONSTRUCTION OF THE KONOSHA-KOTLAS-CHUM-LABYTNANGI SECTIONS

adjacent to the Severnaya Railway, including the Obskaya station, and the Panfody–Novy Urenгой–Korotchaev line of the Sverdlovskaya Railway;

CONSTRUCTION OF A RAILWAY TO CATER TO THE NEEDS OF THE KALUGA SPECIAL ECONOMIC ZONE

(including design, construction and operation of rail infrastructure between the Lyudinovo-1 station of the Moskovskaya Railway and the Kaluga special economic zone).