Occasional Paper

Problems of Geography
Military and Economic Transport Logistics in Russia’s Far East

Emily Ferris
Problems of Geography
Military and Economic Transport Logistics in Russia’s Far East

Emily Ferris
189 years of independent thinking on defence and security

The Royal United Services Institute (RUSI) is the world’s oldest and the UK’s leading defence and security think tank. Its mission is to inform, influence and enhance public debate on a safer and more stable world. RUSI is a research-led institute, producing independent, practical and innovative analysis to address today’s complex challenges.

Since its foundation in 1831, RUSI has relied on its members to support its activities. Together with revenue from research, publications and conferences, RUSI has sustained its political independence for 189 years.

The views expressed in this publication are those of the author, and do not reflect the views of RUSI or any other institution.

Published in 2020 by the Royal United Services Institute for Defence and Security Studies.

This work is licensed under a Creative Commons Attribution – Non-Commercial – No-Derivatives 4.0 International Licence. For more information, see <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

RUSI Occasional Paper, October 2020. ISSN 2397-0286 (Online).
# Contents

Acknowledgements v

Executive Summary vii

**Introduction**
- Defining the Russian Far East 2
- Methodology and Structure 3

- Russia’s Strategic Thinking 6

II. Problems of Geography, Demography and Power in the Russian Far East 9
- Demography 11
- Power Plays 14

III. Strategic Military Opportunities and Threats in the Russian Far East 17
- Military Logistics and Rail in Russia 18

IV. The Russian Far East’s Economic Prospects: Infrastructure, Trade and Investment 23
- The Importance of Infrastructure 25
- Russia’s Railways 30
- Port Systems 33
- The Northern Sea Route 35
- Investment Deals Stymied 37

Conclusion 39

About the Author 41
Acknowledgements

This publication was funded by the Russia Strategic Initiative, U.S. European Command, Stuttgart Germany. Opinions, arguments, viewpoints, and conclusions expressed in this work do not represent those of RSI, U.S. EUCOM, the Department of Defense, or the U.S. Government. This publication is cleared for public release.
Executive Summary

- Key goals for the Kremlin in the Russian Far East (RFE) include maintaining Russia’s status as a military power, defending its remote eastern borders, and guaranteeing Russia’s economic security, which is highly reliant on oil, gas and coal production and exports from eastern regions. Transport infrastructure is a key and under-analysed issue for the RFE. Most of Russia’s transport networks and civilian population are located in the west, leaving the eastern Siberian and far eastern regions underfunded, under-populated and under-resourced.

- Moscow is aware of the need to economically develop the RFE and improve its political structures, but strategic planning is a challenge. There are disagreements between government departments about where funding should be allocated. The Kremlin tends to introduce large investment programmes or infrastructure projects that mask a lack of proper planning, and often have few tangible economic, political or even security benefits. Without systematic investment in infrastructure or proper logistical centres to support these plans and link up remote areas, many cities and villages will have low prospects for economic growth.

- Russia is hugely reliant on the export of its natural resources, but poor transport infrastructure hinders this process. Official strategies to upgrade infrastructure produced by the Ministry of Transport, and a development strategy for the RFE, have significant funds apportioned to them, but the funding is unevenly distributed regionally. Remote areas, even though they are resource rich, have been allocated comparatively few financial resources to improve their road, rail and port links.

- Demography, geography and education all impact on the RFE’s development. Difficult climatic conditions drive up transport costs, which make developing the RFE and moving military forces around difficult without investment in education and construction. Most of Russia’s population is in the west, and road and rail networks between the east and west of the country are poorly connected. Schemes to encourage citizens to move east have largely failed. Other state-sponsored initiatives such as tax breaks or specific areas earmarked for business development have not been taken up by many foreign businesses, with most financially lucrative schemes located in St Petersburg and Moscow. There are relatively few research institutes in Russia devoted to infrastructure, and none in the RFE.

- Plans to increase capacity along main routes in the RFE such as the Trans-Siberian railway or the Baikal–Amur Mainline have been met with scepticism among government departments, and many rail lines are already at full capacity. In more remote regions, air, sea or road routes are not an option, and Russia is reliant on its rail system for transporting freight, passengers and military personnel.

- Many investment projects in Russia’s port systems have fallen through. Expansion plans along the Northern Sea Route have encountered serious investment issues, with few repair stations along the route, and planned increases in freight traffic already behind
schedule. Deals with Chinese, Japanese or South Korean investors have been abandoned, owing to corrupt practices, or as a result of feasibility studies that suggested the deal was not economically viable.

- The RFE has its own network of powerful political players, which complicate the investment picture. Their personal relationships and competing demands make it more of a challenge to implement planned projects. This includes Yuri Trutnev, Putin’s presidential envoy to the Far East, Oleg Belozerov, chairman of Russian Railways (RZhD), and Sergei Ivanov, the minister for the environment.

- RZhD’s monopoly over the railway sector has fostered a corrupt business environment. Preferred subcontractors are given tenders for construction contracts, and purchasing deals are not competitive. This has put off many prospective investors from abroad, contributing to the inadequate state of Russia’s transport infrastructure.

- As a land power, Russia knows the importance of developing strong military logistical infrastructure to support its troops. Chief of Staff Valery Gerasimov has voiced concerns that Russia’s logistical shortcomings might be holding back the army’s development. Exercises such as Vostok 2018 demonstrated the resourcefulness of the army’s railway engineering troops (ZhV), and their ability to mobilise at pace. The ZhV play an important role in ensuring communications and resources are able to travel between the frontline forces to the rear.

- Russia is investing in improving its military logistical planning, and there is a growing focus on upgrading sections of the armed forces that deal with railway logistics, including the ZhV. There are military academies in Russia devoted to transport logistics, but the numbers of specialised graduates are relatively low. The ZhV plays an important auxiliary role in many military exercises, and they are involved in the construction of new rail lines – they have representative departments along civilian railway lines, acting as the contact point for any technical issues that may arise there.
Introduction

‘There are two eternal problems in Russia – fools and roads’.  
Nikolai Gogol

Russia is vast – it is two and a half times the size of Europe – and its often-inhospitable terrain means it has long wrestled with the problem of developing adequate infrastructure. This presents the Kremlin with both strategic and logistical issues. Maintaining Russia’s status as a military power, defending its remote eastern borders, and guaranteeing its economic security through the production and export of oil, coal and gas are all key goals for the Kremlin. However, Russia’s railway, road and port systems are a significant vulnerability for its military and economic ambitions.

Russia’s power structures have become increasingly Moscow-centric since President Vladimir Putin came to power in 2000. This has meant regional administrations in the Russian Far East (RFE) continue to be overlooked economically and politically. Putin has curtailed regional governors’ autonomy, while the regions are often funded in piecemeal ways and in significant debt to Moscow. Notwithstanding numerous state-initiated development plans for the RFE and the establishment of the state-controlled Ministry for the Development of the Russian Far East and Arctic, locals often feel detached from mainstream Kremlin policymaking, particularly in the remote regions that border China and Mongolia.

Some political elites in Moscow and the regions are aware of the need to develop the RFE to support Russia’s ambitions in the Asia-Pacific region. But these same players also view the RFE as a convenient money-making opportunity that can be exploited to further their own financial ends. They are aware that patronage networks risk being uprooted if new players enter the market. The Kremlin’s approach to the RFE often takes the form of hyped investment

3. Although air systems are important, they play a reduced role in Russia’s growing cargo volumes, and are not considered a cost-effective means of transport for its import/export flows.
5. Ibid.
programmes or grandiose infrastructure projects, which do not allocate funding to the right areas, and ultimately have few tangible economic, political or security benefits.\textsuperscript{6}

Most of Russia’s dense transport networks, and its civilian population, are located in the west of the country, leaving the RFE underfunded, under-populated and under-resourced. Concentrating the population in the west makes economic and practical sense – it has fewer geographical challenges and climate variations, and is closer to the EU, which remains Russia’s largest trading partner. This has left the east more vulnerable to economic and security changes. This paper aims to determine whether this uneven transport network density has impacted Russia’s economic and security interests in the RFE.

**Defining the Russian Far East**

The RFE comprises 41\% of Russia’s territory, and includes eastern Siberian regions up to the coastal city of Vladivostok on the Sea of Okhotsk.\textsuperscript{7} In November 2018, the regions of Buryatia and Zabaikal were also designated as part of the RFE.\textsuperscript{8} These regions are economically important for Russia, containing significant quantities of natural resources, such as oil, gas, coal and precious metals. Russia produces these to meet some domestic demand, but is increasingly exporting to Asian markets, such as China, South Korea and Japan.

Existing literature on the RFE tends to focus on the region’s economic potential, recognising that the RFE is an important political issue for the Kremlin.\textsuperscript{9} There has been much research on the so-called ‘pivot to Asia’, and how Russia may benefit from increasing its economic cooperation with countries such as China and Japan.\textsuperscript{10} While focus on investment in the RFE had been well-researched before Russia’s 2014 annexation of Crimea, there has been little focus on the region by Western scholars since then, and even less on the role of transport infrastructure in the region’s development.

The RFE’s challenging terrain and history of border incursions play an important role in Russia’s strategic security thinking, although the risk of military conflict with neighbours such as China is low. As a land power reliant on ground forces, Russia knows the importance of developing strong military logistical infrastructure to support its troops and transport its materiel, and is investing

\textsuperscript{6} Author interview with academic expert on Russia–China relations, May 2020.
in military rail engineering accordingly. However, in the RFE, Russia’s rail and road systems and their linkages to ports are in need of repair and, in some cases, constructing from scratch.

As Moscow attempts to position the RFE as an investment hub that could act as a commercial freight route between China and Europe, the RFE’s ports, roads and rail systems will need to accept a significant increase in cargo and passenger flows. But with a population of just over 6 million people – with under a third located in the Primorsky region, bordering China – the RFE’s demography and lack of institutions specialising in transport engineering will hinder the construction of military and freight conveyance infrastructure. Long-distance travel by road and rail, alongside difficult climatic conditions, all drive up transport costs, which make developing this region and moving forces around difficult, without investment in education and construction.

This paper seeks to contribute to the post-Crimea information gap on the RFE, and to the infrastructure security question. It discusses whether it would be financially expedient for Russia to invest in infrastructure to improve its military mobilisation. This paper builds on the author’s existing research into the role of Russia’s transport infrastructure in the RFE and highlights how infrastructure weaknesses are limiting its economic ambitions in the region. It unpacks the Kremlin’s strategic approach to the RFE, the extent to which Russia’s transport infrastructure in this region is limiting both its military and economic developments, what this reveals about Russia’s intent and capability to upgrade the RFE, and whether transport logistics may have an impact on Russia’s future as a land power.

**Methodology and Structure**

Research for this paper included reviewing existing literature on the country’s historical and modern approach to the RFE and some of its persistent problems of geography and border defence. The review encompassed open-source Russian- and English-language articles, including official data from Russia’s Federal State Statistics Service (Rosstat), information from the Russian Ministry of Defence, and journal articles from military and academic communities.

Scoping interviews were conducted with 20 specialists on infrastructure, ranging from academic professionals to practitioners with expertise in the mining, railway and port infrastructure industries, as well as experts on the RFE. These interviews aimed to verify details identified in

---

the literature review and guide the paper’s arguments. They also formed the basis of some of the research sub-questions in the paper.

Two structured online research events were held, featuring speakers and participants based in several countries, including Sweden, the US and Russia. These events discussed several research sub-questions identified during the literature review and scoping interviews, and acted as an informal sounding board for some of the author’s initial ideas. The first event focused on the Russian military’s use of maritime and land infrastructure in the RFE and northern Arctic. The second offered a deeper dive into the RFE and its local political issues, as well as Russia’s foreign policy aims.

To address the question of Russia’s transport and logistical inadequacies, the paper will examine a range of topics, including Russia’s challenging geography, its military and economic ambitions in the RFE and the practical problems in its logistical chains, all of which form the basis of the paper’s four chapters. Chapter I identifies the growing importance of the RFE for Moscow, and some of Russia’s security and geopolitical considerations in the region. Chapter II unpacks the geographical, demographic and political problems of developing the RFE, and the regional power dynamics at play. Chapter III identifies the military importance of the RFE, and examines the logistics and auxiliary forces that support Russia’s ground troops. Chapter IV discusses the economic prospects of the RFE and analyses its transport infrastructure, specifically its rail and port systems. The conclusion summarises the likely security and economic developments there in the coming years.

14. The majority of interviewees requested anonymity, and they are referenced throughout by their job descriptions. Follow-up interviews were conducted with half the interviewees, as research on the project progressed, to ensure the focus remained clear.

15. Follow-up interviews were conducted with some expert participants from these webinars, to discuss issues that the workshop identified.

RUSSIA’S LARGE TERRITORY and climatic extremes make it challenging to convey large volumes of cargo, passengers and troops across the country. There are no cost-effective water routes from the European part of Russia to Asia, with land transport the only viable option. This means road and rail infrastructure is crucial to Russia’s strategic geographical thinking in remote regions such as the RFE.

Historically, any renewed focus on the RFE from Moscow was driven by concerns about the potential loss of its eastern territories. But recently, this interest has also been driven by economic and security factors. Successive Soviet governments always had some security or economic interests in the RFE, but the current administration has refocused its attention on the region since around 2006. At that time, Russia’s Security Council noted that without substantive economic improvement to the RFE, Russia’s national interests and economic success would be threatened. In 2006, Putin noted that a declining population, disparities in regional production and a lack of foreign investment all posed a risk to Moscow’s political and economic position in the Asia-Pacific region, as well as to Russia’s entire national security.

While Moscow paid some lip-service to this, the RFE discussion was then forgotten, with more important projects in the west taking precedent. Two years later, Putin again singled out the role of Russia’s transport system for improving regional development, emphasising that better-quality roads and railways would help to access numerous mineral deposits.

18. Ibid.
19. Ibid.
There was little tangible progress on this until 2012, when Russia hosted the Asia-Pacific Economic Cooperation (APEC) summit in Vladivostok. Preparations for the event prompted a surge of activity as roads and bridges were constructed to showcase the region’s economic potential to foreign guests.\(^{21}\) The government spent RUB 666 billion ($9 billion), but shortly after the summit was completed, allegations of corruption surfaced in the press, with funds siphoned off from many construction projects and with roads poorly laid.\(^{22}\) Many planned bridges and infrastructure projects were never finished.

Following the APEC summit, Putin has made much of promoting economic growth in the RFE, and it is mentioned almost every year in his address to the Federal Assembly. In his 2019 speech, he claimed that the RFE and eastern Siberia were ‘strategic areas’, making particular mention of the construction and modernisation of roads, railways and sea ports.\(^{23}\)

But Moscow’s growing diplomatic isolation following its annexation of Crimea and military intervention in eastern Ukraine prompted a renewed focus from the government on the RFE as a potentially lucrative region capable of bridging Russia’s trade corridors with Asian partners such as China. Since 2014, there has been a modest reorientation of Russia’s trade volumes to the east – turnover with China in 2013 was $88 billion, growing to $108.3 billion by 2019.\(^{24}\) But without serious investment, the RFE is not capable of matching the government’s strategy to deepen links with the Asia-Pacific region.

**Russia’s Strategic Thinking**

In keeping with Russia’s tradition of top-down strategic planning, the government established several strategies and state departments to develop the RFE. These include the Ministry for the Development of the Russian Far East and Arctic (MDFE), the Programme of Social and Economic Development of the Far East and Baikal region (revised in 2014 and 2016) and several other laws that govern Russian and foreign investors in the region, granting favourable tax breaks or reduced bureaucratic obstacles.\(^{25}\) The Kremlin believes that through state planning, administrative reorganisation and bureaucracy, it can circumvent many of the RFE’s problems.\(^{26}\)
But when this strategic planning system fails, the authorities have to switch to ‘manual control’ to ensure plans are implemented, and the senior leadership then has to micromanage regional and even local issues.  

The MDFE, established in 2012 and at the time headed by former Khabarovsk governor Viktor Ishayev, began as a series of policy wishlists for the RFE, with proposals for major funding from the public and private sectors, many of which had been tried (and had failed) during the Soviet era. However, it has been plagued with funding issues for years, with unplanned programmes signed off with urgency due to Putin’s directives. Ishayev was replaced after just one year, after he failed to move projects forward quickly enough. Since then, successive administrations readjusted the investment programme, from a focus on rail to special economic zones, where investment from corporations would be prioritised in certain areas of the RFE.

But the ministry’s portfolio has become diluted over time, and it has very limited powers that do not extend to controlling businesses. There is also serious competition, and clashes with other ministries such as the Ministry of Economic Development, which has criticised the regional tax breaks for businesses, and the Ministry of Finance, which does not approve of the vast sums apportioned to the region. The disagreements have forced Putin to step in and chide the ministries for failing to progress.

There is an official State Commission on the Socio-Economic Development of the Far East, chaired by Prime Minister Mikhail Mishustin, which meets every six months with regional governors and other major business players such as Gazprom and Rosneft to discuss strategic approaches. However, any decisions taken there must still be approved by the MDFE before they can be implemented.

Despite all this, there are few serious feasibility studies about how realistic the Kremlin’s plans are, with a growing sense among officials that the projects have failed to live up to expectations. Without systematic investment infrastructure or proper logistical centres to support these plans and link up remote areas, many cities and villages remain under-invested, with low prospects for economic growth. Analysts of the RFE development strategy broadly agree that its under-
developed transport network and lack of connectivity is a weakness holding back Russia’s foreign policy goals and domestic economic development.\(^{35}\)

Moscow’s approach focuses on specific parts of the RFE that it earmarks for development. The Primorsky region tends to receive most of the Kremlin’s attention and funding. In a locally unpopular decision in 2018, Putin moved the regional capital and administrative centre of the RFE from Khabarovsk to Vladivostok – a status that the former had held for more than 20 years.\(^{36}\) This made Vladivostok the priority for investment prospects and federal funding.\(^{37}\) The Primorsky region is also an important part of Russia’s Asia-Pacific economic strategy. Moscow maintains that Vladivostok’s port is capable of accepting greater cargo volumes from Asia to Europe via Russia’s land routes, ensuring that it is not reliant on western Siberian oil and gas deliveries to Europe.\(^{38}\)

As can be seen from Russia’s own Strategy for the Development of Maritime Activities up to 2030, Primorsky also has an important security role.\(^{39}\) Vladivostok hosts Russia’s Pacific Sea Fleet, and while it is much smaller than it used to be during the Soviet era, the Kremlin has refocused efforts on bulking up its capabilities in recent years to safeguard strategic interests in the Asia-Pacific region.\(^{40}\) While an in-depth analysis of Russia’s maritime security is beyond the scope of this paper, an expanding fleet will require expanding Russia’s ports, but with few successful investment projects so far, inadequate infrastructure or repair systems are likely to stymie the fleet’s growth potential.


\(^{37}\) Ibid.

\(^{38}\) Victor Larin, ‘External Threat as a Driving Force for Exploring and Developing the Russian Pacific Region’, Carnegie Moscow Center, 30 May 2013.


II. Problems of Geography, Demography and Power in the Russian Far East

RUSSIA’S GEOGRAPHICAL THINKING is inextricably linked to its politics and security. It is no coincidence that Putin is the chairman of the Russian Geographical Society, while Minister of Defence Sergei Shoigu and Oleg Belozerov, chairman of Russian Railways (RZhD), the state-controlled rail company and umbrella organisation for all rail and freight infrastructure, also sit on its board of trustees. This suggests a strong link between Russia’s sense of place, infrastructure and defence capabilities.

Geography is often cited as a driver behind many of Moscow’s foreign policy decisions – a lack of natural barriers, such as seas or mountains, have meant that securing borders against enemies has for centuries factored into its rulers’ understandings of how security in Russia works. Russia’s acquisition of territory, from imperial to present-day rule, created the challenge of defending large swathes of land.

Although the actual risk of conflict between Russia and some of the RFE’s neighbours is low, one of Moscow’s main concerns in the region is the protection of its borders, as reflected in Russia’s 2009 National Security Strategy. Parts of the RFE border Mongolia, China and North Korea, with a history of invasion and conflicts; other parts were formerly under Chinese rule, with locals occasionally expressing concerns in the media that Beijing still has territorial ambitions there. Successive Russian governments have exploited these concerns, despite Russia and China’s ostensibly positive political relationship. This is despite the fact that some regions such as Amur rely on China for almost all its trade, and ensures that any attempts to develop the RFE have become securitised.

45. Ibid.
Russia is concerned that the RFE’s struggling economic development creates a national security problem, given the RFE’s comparatively economically powerful neighbours such as China. Although Russia is keen to attract Chinese investment to the RFE, it is also cautious of China as a competitor on the global arms market, as well as China’s political interests in the Central Asian republics, regions that Russia still considers to be within its historic sphere of influence.46 Other sources of irritation include China’s plans to expand the Belt and Road Initiative and its investments in countries such as Belarus and Ukraine – places in which Russia has significant strategic interests.47

In the past century, borders in the RFE changed hands several times. The Soviets seized Bolshoy Ussuriysky Island in 1929 from China. There have also been several other confrontations in the Primorsky region, such as the Battle of Lake Khasan in 1938, in a dispute over Japanese ownership of the territory near the lake, which the Soviets ultimately retained.48 In a more cordial political climate in 2004, Russia agreed to a landmark decision to return control of part of the (mainly unpopulated) Bolshoy Ussurisky Island to China, resolving a 150-year border dispute.49 This was a controversial deal and Russian residents on the island have complained of flooded properties, a lack of investment and a sense of abandonment by Moscow since the agreement was brokered.50 The current political climate is highly unlikely to be conducive to any further border agreements.

Previous battles in the RFE also illustrate the military importance of infrastructure, and how vulnerabilities can impact the course of a conflict. The 1904–05 Russo–Japanese War was an unsuccessful campaign for Russia. Naval reinforcements from the European part of Russia had to take circuitous routes around the country and there were few ports in which to dock. Japan was therefore able to engage and divide Russia’s naval forces swiftly.51 At the time, the

50. Ibid.
Trans-Siberian Railway (TSR) was an incomplete single-track line, limiting the amount of rail cars that could reinforce communications and troops.52

But several years later, during the Manchuria offensive of 1945, Soviet forces illustrated how quickly they had been able to overcome the country’s geographical limitations. An important campaign of the Second World War, the Soviets were able to mobilise more than 1.5 million troops along multiple fronts in the RFE, across 4,400 km of challenging terrain.53 With the TSR now complete and capable of accepting additional cargo, it was used to quickly transport thousands of troops to reinforce units in the RFE, resulting in ultimate success in battle.

The offensive contributed to serious political tensions between Moscow and Tokyo, exacerbated by the Soviet Union’s annexation of the Kuril Islands (known in Japan as the Northern Territories), creating a territorial dispute that has still not been resolved.54 Today, although much has been made of high-level meetings between Putin and former Japanese Prime Minister Shinzō Abe, few economic agreements have been brokered, largely because most investment deals depend on a resolution to the disputed Kuril Island chain. Amendments to Russia’s constitution, passed in July 2020, include clauses that prevent territorial concessions, although a loophole that might pertain to Japan allows some exceptions, leaving the door open for future negotiations.55 Perhaps more urgently for Russia, Japan is a US military ally and Moscow is concerned that granting them any sovereignty over the Kurils could prompt Tokyo and Washington to move military hardware onto the islands.

These historic and current economic and security considerations mean that Russia’s goals of deepening trade with Asian partners are not straightforward. Although a detailed analysis of foreign investment prospects is beyond the scope of this paper, businesses do have numerous challenges when operating in the RFE, including corruption schemes and unfair state tenders that advantage certain patronage networks and companies. However, one of the key challenges that Moscow must overcome to develop this region is demography.

Demography

Political observers of Russia tend to point to its demographic decline as a serious weakness that holds back economic growth.56 But while Russia’s population is relatively stable at 146 million

52. Ibid.
people, it is the distribution and density of its demography, and the way that villages and towns in the RFE are poorly linked to one another, that pose the real problem for the Kremlin.\(^57\)

Most of Russia’s population is concentrated in areas with less extreme weather conditions, west of the Urals, even though this area makes up just 20% of its land mass.\(^58\) Russia’s road network is poor, and around 50% of the territory is considered ‘unconnected’ to export markets. They are designated as such because these regions are either under permanent frost, are more than 27 hours from Moscow, 54 hours from the TSR or 35 hours from the nearest port.\(^59\)

The RFE’s population distribution pattern was artificially created when Soviet authorities forcibly resettled many indigenous people and used prisoners to make up for labour shortfalls in less densely populated regions. Economic policies that promoted the development of large industrial facilities created mono-towns, which orbit one particular industry that employs most people of working age.\(^60\) There are now several hundred of these mono-towns, whose economic growth has stagnated and which have been broadly neglected by Moscow. State programmes established to lift them out of poverty were terminated ahead of schedule because they were so ineffective.\(^61\) This Soviet legacy and migration from rural to urban regions has skewed Russia’s economic geography, with the west attracting the most funding, personnel and attention from the Kremlin.

During the Soviet era, regional economic policies took into account the importance of exploiting natural resources with minimal transportation costs, with many manufacturing sites established in eastern Siberia, close to where the resources were located. Soviet planners prioritised military and industrial centres in the middle of the country, in Siberia or the Urals, rather than close to Russia’s borders, which could be vulnerable in the event of a land takeover. But as the imminent threat of invasion declined, it became apparent that Soviet planners had failed to understand the true economic costs of infrastructure and transportation. Following the Soviet Union’s collapse, many of its rail and road networks fell into disrepair.\(^62\)

This is largely for practical reasons. As Table 1 shows below, the population density in almost all 11 regions of the RFE is very low. In comparison with much denser populations in the west, such as the regions of Kostroma (10.6 people per km\(^2\)), Saratov (24.1) and Ryazan (28.1), the RFE is

\(^{57}\) Rosstat, Rossiya v tsifrakh [Russia in Figures].
\(^{58}\) Markevich and Mikhailova, ‘Economic Geography of Russia’.
\(^{59}\) Brown, ‘Russia’s Revised Constitution Shows Putin is No Friend of Japan’.
\(^{60}\) Ibid.
\(^{61}\) Crowley, ‘Global Cities Versus Russian Rustbelt Realities’.
sparsely populated.\textsuperscript{63} Given this, it makes economic sense for Moscow to prioritise developing Russia’s western infrastructure to meet the population’s needs.\textsuperscript{64}

In a bid to overcome the east’s demographic challenges, the authorities introduced the Far Eastern Hectare scheme in 2016, offering free land for those willing to move to more hostile areas of the RFE.\textsuperscript{65} The programme has been expanded to include the whole of the Russian Arctic (parts of some RFE regions are located in the Arctic Circle), but few have expressed interest in the scheme, owing to bureaucratic obstacles in applying for land rights and poor-quality soil.\textsuperscript{66}

<table>
<thead>
<tr>
<th>Region</th>
<th>Population Density (People per km(^2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yakutia</td>
<td>0.3</td>
</tr>
<tr>
<td>Republic of Buryatia</td>
<td>2.8</td>
</tr>
<tr>
<td>Trans-Baikal</td>
<td>2.5</td>
</tr>
<tr>
<td>Amur</td>
<td>2.2</td>
</tr>
<tr>
<td>Khabarovsky</td>
<td>1.7</td>
</tr>
<tr>
<td>Primorsky</td>
<td>11.6</td>
</tr>
<tr>
<td>Kamchatka</td>
<td>0.7</td>
</tr>
<tr>
<td>Magadan</td>
<td>0.3</td>
</tr>
<tr>
<td>Chukotka</td>
<td>0.1</td>
</tr>
<tr>
<td>Birobidzhan (Jewish Autonomous Region)</td>
<td>4.4</td>
</tr>
<tr>
<td>Sakhalin</td>
<td>5.6</td>
</tr>
</tbody>
</table>

\textit{Table 1: Regional Population Density in the Russian Far East (2019)}

A small population in the RFE means a lack of qualified workers, which makes it particularly difficult to design complex transport infrastructure to address the region’s specific needs. Unlike during the Soviet era, there are only a handful of companies that produce equipment for transport infrastructure. Aside from several military departments devoted to conveyance (examined later in the paper), there are very few institutions offering prestigious engineering


courses to study transport or logistical development. Most of these railway engineering institutes are located in the west, such as the Moscow State University of Railway Engineering (MIIT), with none in the RFE itself. Although institutes such as MIIT have more than 100 courses dedicated to the study of railways, they focus on rail management, rather than technology.

Power Plays

There are many powerful political personalities involved in the RFE’s development, suggesting a real willingness by the Kremlin to contribute intelligent and influential people to the region. But numerous and competing interests make it challenging for the Kremlin to establish a strategy for the RFE. The fact that the region is still struggling to develop indicates there are more fundamental problems at stake, including issues in the chain of command, as well as an inability among the government and private sector to take personal responsibility for actions.

One of the most important players in the RFE and infrastructure sector is Sergei Ivanov, Putin’s former chief of staff. A former Minister of Defence (2001–07) and KGB officer, Ivanov has been Putin’s special representative for the environment and transport since 2016. His security background reveals how the Kremlin views the close links between transport infrastructure and national security. Ivanov has long argued for the development of seaports in the RFE and criticised the poor quality of roads and railways in the region. He has also raised awareness of the importance of security in the RFE, calling for the upgrading of military formations and bases. Ivanov frequently visits the region, speaking out against the potential for any privatisation of RZhD.

There are other powerful individuals, including Yuri Trutnev, Putin’s presidential envoy to the Far East, who leads on all the RFE’s development programmes, on Mishustin’s personal orders. Trutnev was an influential former Minister for Natural Resources and the Environment.
(2004–12), and his criticism of regional political rivals has often prompted their dismissal. He also has close links with many regional industrial players – the chairman of the board from companies such as the Eastern Mining Company is also a member of the Public Council, which operates under Trutnev’s ministry, and is thought to receive favourable business conditions such as tax breaks as a result. There have been allegations against Trutnev in the past that he and other ministers have not paid funds to the regional tax budget, as revealed by an analysis of disclosure services from the Federal Tax Service. He is also thought to be one of Russia’s wealthiest ministers, with a declared income in 2018 of RUB 538.4 million. Trutnev has been outspoken about his disapproval of relying on rail for resource exports, even though Putin has overruled him on this several times.

There are numerous businesspeople with a stake in manufacturing and infrastructure projects, including Gennady Timchenko (owner of Volga Group, a private investment company) and Igor Sechin, CEO of state-controlled Rosneft, which has significant interests in the oil and gas sectors of the RFE. Sergei Chemezov, head of defence and engineering company Rostech, is involved in a major copper-producing project and has a joint venture with Shenhua, a state-owned Chinese coal company (now known as the China Energy Investment Corporation), to upgrade Port Vera in the Amur region for coal export – although there has been little movement on this since the initial agreement in 2014.

Arguably one of the most significant players in the RFE’s transport network is RZhD, headed by Belozerov. His predecessor, Putin-ally Vladimir Yakunin, was unexpectedly ousted in 2015, apparently for enriching himself as the company slid further into debt and required state

---

79. Ibid.
Subsidies to bail it out.\textsuperscript{81} RZhD’s financial predicament, partly caused by decreasing profit margins, prevented the company from investing in new projects between 2013–17, and so contributed very little to upgrading the RFE.\textsuperscript{82} RZhD handles just under half of all freight on Russia’s transport system.\textsuperscript{83} Putin and Belozerov meet often, with the latter usually requesting additional financial support for rail improvements. Significantly, one of Putin’s first public reappearances in May 2020 following the easing of some lockdown measures was to meet Belozerov, reflecting his view of the importance of both the rail industry and the railway boss.\textsuperscript{84} RZhD recently unveiled its amended investment programme for 2020, with around RUB 621.9 billion earmarked for construction projects in the RFE. About RUB 200 billion will go to the Baikal–Amur Mainline (BAM) and the TSR for rolling stock repairs and upgrades. Putin has financially supported this by topping up the investment programme with federal budget funds.\textsuperscript{85} However, RZhD’s monopoly means it can give contracts to its preferred subcontractors. While purchasing deals are supposed to be competitive, RZhD often flouts this requirement.\textsuperscript{86} Its dominance makes it challenging for international freight carriers to compete in the Russian rail market, and has also squeezed out smaller independent Russian firms. In the longer term, RZhD’s monopoly is likely to reduce the competitiveness of the network.

\textsuperscript{82} Pepe, ‘The “Eastern Polygon” of the Trans-Siberian Rail Line’.  
\textsuperscript{86} \textit{Ibid.}
III. Strategic Military Opportunities and Threats in the Russian Far East

MOSCOW’S CONCERNS WITH the defence of its land borders can be seen from its military exercises, which demonstrate Russia’s ability to adapt and mobilise its armed forces in different terrain. The Kremlin has specific security concerns in the RFE, and this is reflected in its military presence there. The Eastern Military District (EMD), including the Pacific Fleet, was established in 2010 and covers the Chinese border region. Defending against a possible Chinese ground offensive is one of the EMD’s tasks, and it has four armies, compared with Russia’s other three military districts, which have only two each.87

During the 2018 Vostok military exercises, it took around four weeks to mobilise Russian forces from the central and eastern military districts, two vast areas. This demonstrated the average speed at which Russia would be able to assemble its forces to launch a military operation in Asia.88 A small Chinese contingent – around 3,000 troops – were also involved in Vostok. This was likely a signal to Beijing that Russia did not intend for these manoeuvres to be directed at China, while promoting a sense of a shared security partnership, but also showcasing Russia’s own military capabilities.89

However, one of the key focuses of Vostok was logistics, with ground force exercises designed to test battles in challenging terrain. Vostok displayed the armed forces’ ability to support civilian infrastructure in mobilising units over long distances, as well as coordinating between ground troops and the navy. Engineering units focused on setting up pontoon bridges for tanks and other infantry vehicles.90

In 2013, Chief of General Staff Valery Gerasimov had voiced concerns about the Russian military’s inability to move large numbers of troops across the country at pace. He maintained that Russia’s previous military exercises revealed the armed forces’ logistical shortcomings, and that the collapse of the Soviet Union and the changing ownership of companies that had been

90. Ibid.
responsible for rail, air and sea transport had had an impact on the ability of military troops to
move around the country.\(^9\)

However, with the Kremlin apportioning greater funds to improve railways, civilian airfields and
ports so that they could be used by the armed forces, Gerasimov claimed that \textsl{Vostok} laid many
of these concerns to rest.\(^2\)

**Military Logistics and Rail in Russia**

Although a deep analysis of the concept of the \textsl{tyl} (rear) is beyond the scope of this paper, it is an
essential concept for understanding Russia’s military logistics. Railway logistics have historically
been responsible for connecting the front with the rear, and ensuring smooth communication
between them. This was most relevant during the Second World War, as the German command
attempted to weaken Soviet communications, food and weapons supplies by attacking the
railways.\(^3\) The Railway Troops (ZhV), an auxiliary unit of engineers, supported the evacuation
of more than 18 million people from built-up areas, and quickly repaired damaged rail lines
to prevent a drop in military communications.\(^4\) \textsl{Tyl} itself does not entirely encapsulate ZhV’s
role, as they are often at the forefront of the action, including removing damaged equipment
from the front.\(^5\)

Russia’s Armed Forces are investing in improving logistical planning, particularly its railway
logistics. Much has been made of Moscow’s political or information warfare, but Gerasimov
has often maintained that Russia’s military strategy remains conventional (albeit with some
emphasis on nuclear forces), emphasising the importance of high combat readiness.\(^6\) Road
and rail is still the most effective way of mobilising Russia’s military units, and many brigades’

\(^{91}\). \textsl{Rosinformburo}, ‘Gerasimov: glavnaya tsel manevrov Vostok-2018 – proverit realnyi uroven
podgotovki obyedinenii’ [‘Gerasimov: The Main Goal of the Vostok-2018 Manoeuvres is to Check

\(^{92}\). Ibid.

\(^{93}\). RZhD, ‘K 75-letiyu Velikoy Pobedi’ [‘For the 75th Anniversary of the Great Victory’],

\(^{94}\). Alexander Gorbunov and Boris Kretov, ‘Voenno-politicheskoe znachenie zheleznyh dorog v
velikoi otechestvennoy voine’ [‘The Military–Political Significance of the Railways During the Great

\(^{95}\). Yuri Gavrilov, ‘Zakhodim s tyla’ [‘We’re Going From the Rear’], \textsl{Rossiyskaya Gazeta}, 22 March 2018,

\(^{96}\). Michael Kofman, ‘Russia’s Armed Forces Under Gerasimov, the Man Without a Doctrine’,

annual training include long-distance travel by ship or rail, to test how quickly units can deploy at short notice.\textsuperscript{97}

The ZhV is an auxiliary brigade that assists ground forces, and to a lesser extent the navy and air force. Long-distance transport of troops and equipment is routine, and is practised during training exercises, as well as in real war theatres. During the Crimea conflict in 2014, military units and their equipment were transported considerable distances by rail in southern Russia, to the border with Ukraine.\textsuperscript{98}

During the 2008 Russia–Georgia War, 400 ZhV personnel and engineers were deployed to repair rail lines in disputed territories without informing the Georgian government.\textsuperscript{99} The ZhV’s movements, a week before the war began, suggested that the conflict was well planned.\textsuperscript{100} In Syria in 2015, the ZhV also played a major role in restoring destroyed tracks and are likely to be involved in post-war reconstruction to restore rail communications.\textsuperscript{101}

One of the priorities for Russia’s state armament programme up to 2027 is to speed up the re-equipment of the ZhV, suggesting a long-term reliance and investment in railways for military transport.\textsuperscript{102} In a speech to the Ministry of Defence in 2016, Putin maintained that 70% of military equipment – including the ZhV’s – must be replaced and upgraded by 2021.\textsuperscript{103} However,
ZhV officials admitted that only around 50% of their equipment has so far been upgraded. This disparity could be for economic rather than political reasons: a combination of fluctuating oil prices and the coronavirus pandemic has prompted a slowdown in Russia’s economic growth and its GDP is expected to contract by 6% in 2020, with only modest recovery in the next two years. But Russia has the third-highest defence expenditure in the world, although some reports have suggested an overall downturn in its defence spending. However, its purchasing power parity – as Russia buys cheaper hardware from its own defence manufacturers, priced in rubles – means that a significant amount of its defence spending can be allocated to research and development. Any decline in military spending does not necessarily mean a decline in Russia’s intent to spend money on military operations or maintaining its forces.

An extensive amount of Russia’s military budget has been spent on hard conventional military power that supports ground forces designed for challenging terrain, such as armoured vehicles, and it has one of the largest tank and armoured vehicle industries globally. The EMD has several motorised rifle and artillery brigades, as well as naval infantry brigades (based out of the Pacific Sea Fleet at Vladivostok), all of which emphasise the importance of agility and mobility, using road and rail.

There is clearly investment in training the ZhV, and there are specific military academies in Russia devoted to transport logistics. One of the main faculties of the Military Logistics Academy is the Railway Troops and Military Communications department. Its remit includes learning how to construct bridges and transport tunnels for military use, as well as road machinery and equipment to support the armed forces. However, in 2019, there were only

107. Ibid.
130 students enrolled.\textsuperscript{110} There are other branches of the same institute, such as the Volsk Military Logistics Institute in central Russia, but its main focus is on food and clothing specialists who provide military rations and storage, rather than technical logistics.\textsuperscript{111}

It is revealing that the ZhV’s activities were one of the main topics at the ARMY 2020 forum in August 2020 – an annual event at which Russia and some of its international security partners showcase their technology and expertise.\textsuperscript{112} The forum brought technical research specialists from the ZhV together with industry experts to discuss the repair of railway equipment for dual use, such as floating railway bridges to cross rivers, highlighting the links between civilian and military logistics.

The ZhV appears to play an important, but often unsung, role in many military exercises. The ZhV’s 7th and 50th brigades were involved in military exercises in 2019 in the EMD, which involved a planned scenario of the destruction of a railway bridge, which disrupted troop movements. The troops are also involved in the construction of new rail lines, with representative departments along civilian train lines that are the contact point for any technical issues that may arise.\textsuperscript{113}

The ZhV also assists civilians. In 2018, near the town of Svobodny close to the border with China, an overpass collapsed on to railway lines, halting the TSR and cutting the town off. A ZhV brigade, alongside RZhD, assisted with setting up a bypass and clearing the original line.\textsuperscript{114}

Although the ZhV works alongside RZhD, the troops’ mobile railway units are different to civilian ones. RZhD’s equipment is bulky and can only depart from specific train stations. If such a station is destroyed, equipment cannot pass through it. The ZhV is currently working on designing vehicles that can travel on and off rail and can operate even if the track is destroyed.\textsuperscript{115}

The Kremlin will need to invest personnel and funding in improving the ZhV to mobilise equipment and troops, as public statements about improving their quality do not always come to fruition. This, alongside the ZhV’s prominent but often overlooked role in the Vostok exercises, suggests that they are likely to become increasingly important in Russia’s strategic security thinking over


\textsuperscript{113} Ibid.


\textsuperscript{115} Ibid.
the coming years. This is relevant for the RFE, not just in response to security threats, but because the infrastructure there is more poorly developed, and requires innovative thinking to overcome its inadequacies.
IV. The Russian Far East’s Economic Prospects: Infrastructure, Trade and Investment

Although guaranteeing Russia’s economic security is a major consideration for Moscow, it might not be financially or practically expedient for the Kremlin to focus serious efforts on the RFE. The region’s economic prospects hinge on Russia’s ability not only to link up its east and west, but to connect cities and towns within the RFE. This section unpacks Russia’s economic reliance on road, rail and port infrastructure, and highlights some of the practical and political obstacles to their development.

Russia has many natural resources, including minerals, precious metals and oil and gas products, and many companies, such as the East Mining Company (thermal coal in Sakhalin) and Amur Minerals (base metals), operate there.116 But when the Soviet Union collapsed, state subsidies to remote regions were halted and the RFE struggled to transition to a market economy. Many companies left the interior of these areas and moved to the Primorsky region, which is closer to the Chinese and Japanese markets. The territory far from the coastal areas became underfunded and sparsely populated.

Today, the RFE is still dependent on mining, which accounts for 28% of its economy – in Russia as a whole, it is 10.6%.117 This makes the RFE vulnerable to external factors such as commodity prices.118 The region has significant economic potential, with more than 80% of the country’s natural resources located there. Around 65% of all Russia’s coal is produced in the RFE and eastern Siberia.119 There are also major deposits of coal, iron, oil, copper, vanadium and titanium.

118. Ibid.
Mines in the southern Yakutia region can produce 23 million tonnes of coal annually, with a total potential output of 42.5 million tonnes.\textsuperscript{120}

The Kremlin’s approach has been to attract investors and promote manufacturing. Given the region’s proximity to the Asia-Pacific region, an export model of goods and services was chosen as the most financially viable. Since 2015, Russia has hosted the annual Eastern Economic Forum (EEF) in Vladivostok to stimulate investment. Delegations from neighbouring countries such as China, South Korea and Japan attend and memorandums of understanding are signed, although this does not always translate into funding.\textsuperscript{121}

Yet, domestic firms account for around 80% of all investment in the RFE, with the remaining 20% mainly from China. Natural resources take the lion’s share of Chinese investments, but South Korean firms tend to be interested in agriculture, rather than infrastructure – even though few of those projects have launched.\textsuperscript{122} Despite efforts by the Kremlin, container traffic with Asian countries has not substantively increased. Between 2013–14, traffic grew by just 8% between Russia and China, and by 11% with South Korea, although it did increase by 31% with Japan.\textsuperscript{123}


The Importance of Infrastructure

Figure 1: Russia’s Main Railway Routes in the Far East

Infrastructure is important, but it is an overlooked aspect of Russia’s economic security. Its roads, railways and port systems are integral to the movement of cargo and passengers to sustain an economy built on the export of raw materials; improving infrastructure can help to reduce development gaps between Moscow and more impoverished parts of the RFE.124 Two key state strategies govern the RFE’s transport infrastructure – the Strategy for the Development of the RFE up to 2035 (published in 2019), and the Ministry of Transport’s strategy up to 2030.125 These are designed to work in tandem to expand the RFE’s infrastructure alongside the


exploitation of natural resources in the region, and to reduce bottlenecks at ports by expanding and modernising them.126

Putin has personally awarded the RFE’s Strategy for Development the status of ‘national’ importance, unlike any previous RFE development programme, suggesting that a degree of increased federal attention, funding and expertise will be allocated to achieve it. But while this development strategy – originally approved in 2009 and updated numerous times since then – was unveiled in 2019 with much fanfare at a session of the EEF, regional economists criticised it before it began. They noted that for the programme to ensure 6% annual economic growth, almost half the GDP generated from the RFE would need to be spent on investments, and significantly more funds would be needed to stimulate that investment in the first place.

Amendments to the strategy have implications for the transport infrastructure sector. Previous versions focused on the export of natural resources, but since the collapse of the Soviet Union, and the loss of domestic markets for the RFE’s products, the region has been reliant on countries in the Asia-Pacific region for coal and other exports.127 Therefore, the Kremlin has adjusted its strategy to boost the RFE’s coal output, despite the global trend away from fossil fuel. Moscow wants to ensure that the region becomes a major coal exporting hub, producing 57% of Russia’s entire output by 2030 and exporting it to Asia. Although the strategy was later amended to avoid over-dependence on raw materials, the current plans still include these high coal production goals. But this has prompted some Russian economists to question whether Moscow is serious in its desire to improve the RFE, given low domestic demand for its raw materials, the population’s low purchasing power, and the prolonged extent to which the RFE’s development lags behind other Russian and Chinese neighbouring regions.128

Moscow’s strategy includes plans for upgrading and constructing roads, rail and ports, and increasing rail transit traffic four fold by 2024. Most critically for Russia’s freight purposes, there are also plans to reduce transnational train journeys from nine to seven days.129 There are also ambitious plans to increase freight capacity along the BAM to 50 million tonnes by 2020, from the current 12–16 million tonnes.130 But increasing international container transit in the RFE is only achievable by expanding existing capacity along the TSR; increasing the speed of delivery, or reducing the amount of raw materials that the line handles and replacing them with other

130. Ibid.
goods that do not delay deliveries.\textsuperscript{131} This is a trade off that the Kremlin must address internally if it is to fulfil its economic goals.

The authorities are aware of some of these logistical inadequacies and have taken measures to mitigate them. As Figure 2 shows, the Ministry of Transport has allocated RUB 45.9 billion in its 2018–24 upgrade plans for transport and logistic centres, and RUB 927 billion for sea ports, as well as RUB 587.5 billion just for the Northern Sea Route (discussed in further detail below) – a trade route that runs over the top of Russia’s Arctic region. There are also plans to allocate RUB 34.8 billion to the RFE to improve roads and regional highways, and to link up remote territories.\textsuperscript{132} The greatest amount of funding – RUB 1,253 billion – has been allocated to rail upgrades, highlighting Russia’s long-term reliance on the network. The plan also intends to upgrade Russia’s port capacity, particularly in the Arctic Basin and northern Siberian regions such as Dikson. The plans include the construction of specialised cargo hubs in Muchke Bay in the Khabarovsk region to receive an anticipated increase in cargo.\textsuperscript{133} Most importantly, the strategy envisages an increase in Russia’s railway cargo capacity from 1,320 million tonnes in 2019 to 1,820 million tonnes by 2024 – when Putin’s term of office ends.\textsuperscript{134}

\begin{itemize}
\item\textsuperscript{131} Ibid.
\item\textsuperscript{133} Ibid.
\item\textsuperscript{134} Ibid.
\end{itemize}
Figure 2: Planned Upgrades for Russia’s Transport Infrastructure

<table>
<thead>
<tr>
<th>Planned Upgrades</th>
<th>Cost in RUB (bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Rail transport and transit</td>
<td>1253.5</td>
</tr>
<tr>
<td>2 Ports</td>
<td>927</td>
</tr>
<tr>
<td>3 High-speed rail communications and signalling</td>
<td>621.8</td>
</tr>
<tr>
<td>4 The Northern Sea Route</td>
<td>587.5</td>
</tr>
<tr>
<td>5 Regional airports</td>
<td>267.4</td>
</tr>
<tr>
<td>6 Transport and logistics centres</td>
<td>45.9</td>
</tr>
</tbody>
</table>


But as can be seen from Figure 3, upgrades over the next four years are unevenly distributed. The regions of Primorsky, Amur, Buryatia and Yakutia dominate the funding, with little allocated to remote areas such as Chukotka, the Jewish Autonomous Region (JAR), or gold-, silver- and platinum-rich Kamchatka, which has the potential to generate significant revenue if infrastructure is improved. But infrastructure costs are high, and investing in this region might not make economic sense for Moscow. Coastal regions close to Asian countries tend to be prioritised, as infrastructure and shipping costs are lower, and China’s central and northwestern provinces are developing quickly, which creates an economic incentive to construct railway routes that run close to these regions.


136. Ivanov, ‘Presentation of the Coordinating Council on Trans-Siberian Transportation’.
Other state-supported initiatives have conferred special economic status on some of the RFE’s regional districts, known as TORs (territories of advanced development), designed to ease customs and regulations and increase the feasibility of foreign and domestic investment. But the TORs that generate the most profits are in western Russia. These zones have also come under increasing scrutiny – auditors from the Accounts Chamber (a parliamentary auditing body) noted in February 2020 that the RFE in 2017 received less than RUB 1.5 billion in investment from the TORs, and tax losses almost doubled by 2018, totalling RUB 2.8 billion. The chamber maintained that many of the RFE and Siberia’s mono-towns were responsible for the tax losses, and that a declining population contributed to the downturn in revenues. A complicating factor is that these zones are designated by the MDFE without consulting local businesses about the types of investments needed, creating frictions within the community.

This makes the RFE a challenging investment prospect, and despite strategic planning documents, the Kremlin appears unable to adequately address the problem. This has contributed to the sense of disconnect for locals in the RFE, who feel that orientating their economies towards China offers their only chance of economic development. Moreover, the annexation of Crimea, and the costs that the Russian government has had to absorb to prop up the peninsula, has meant that there are fewer funds available to finance Russia’s own regions. Russia’s subsidies to Crimea have continued to increase between 2015 and 2019, but there has been a noticeable decline in the state’s financial support for its own RFE, with funding cut back each year. This exemplifies how political projects can often trump Russia’s infrastructure development plans, even if they are mandated by the Kremlin.

138. Ibid.
139. Author interview with academic expert on Russia–China relations, May 2020.
140. Ibid.
Figure 3: Transport Infrastructure Funding (2020–24)

Russia’s Railways

Russia’s extensive railway system spans more than 85,000 km, but the TSR and BAM and some of its smaller offshoots are responsible for most cross-country freight and passenger traffic around the RFE. The BAM runs north from the TSR and links up to the Pacific Ocean, with smaller offshoot connections that link up railways to ports in the RFE such as Nakhodka and Vladivostok. Rail is Russia’s main economic priority. In 2018, 1,291 million tonnes of freight was hauled by rail, compared with 1,169 million tonnes by port and water transport combined. Russia is dependent on railways, as air, sea and road routes are often unviable in inaccessible climates. As Figure 4 shows, rail network density varies between the east and west of the Urals. Siberian and Far Eastern Federal Districts all have a much lower rail network density than the Central Federal District, which includes Moscow.

Source: Rosstat, Rossiya v tsifrakh [Russia in Figures].

143. Rosstat, Rossiya v tsifrakh [Russia in Figures].
Coal is one of the main products shipped by rail. In June 2020, Mishustin approved a new programme to develop Russia’s coal industry until 2035, to increase production and establish new mining centres, in the hope that Asian markets will increase consumption. Around 439 million tonnes of coal is extracted in Russia annually, and it is the fifth largest source of income for the federal budget. The RFE is one of Russia’s main coal centres and to exploit this, better transport logistics will be required to link roads and railways up with new mining projects.

Russia’s coal transport by rail runs at an operational loss, in comparison with shipments of other commodities such as oil or metals, and is an unattractive prospect for many international freight carriers. Transporting coal is subject to speed restrictions, and heavy loads running too quickly could damage the track. This makes it more challenging for Russia to significantly boost its coal production and increase cargo shipment speeds.


Figure 4: Rail Network Density per Federal District (10,000 km²) in 2019


As a heavy-haul country, Russia’s railways are geared for freight. But Russia’s varied geography and climates mean that rail tracks must be able to withstand extremes of temperature without warping, an issue in the RFE. Humidity in summer affects the friction between the train and track, preventing the cargo from running smoothly, while they contract in the cold, which means that frequent repairs delay the smooth running of the service. Increasing the number of vehicles running along the track more frequently will damage it, requiring even more and costly repairs. Although the Ministry of Transport is aiming to add more wagons per train, this creates signalling issues, as trains must be spaced around a mile apart, reducing the system’s capacity.

146. Author interview with UK academic specialising in infrastructure, May 2020.
147. Author interview with UK academic specialising in railway infrastructure, June 2020.
148. Ibid.
The operational capacity of the line is also limited – most of the TSR is operating at maximum loading capacity, but with long standing under-investment in the Asian part of the line.\textsuperscript{149} Sceptics within the Russian government claim that plans to increase capacity along the BAM and TSR in the region will not be used. Although the government has discussed this at length, there is no consensus over the feasibility of increasing capacity.\textsuperscript{150} The TSR’s capacity has grown from just 70,000 TEU (twenty-foot equivalent units) in 1999 to 750,000 TEU by 2016, with Russia aiming to increase container traffic to China to 1 million TEU by 2020, which will increase the volume of cargo containers handled at RFE ports.\textsuperscript{151}

A further issue is that only 50% of Russia’s railway system is electrified, largely unchanged since Putin came to power in 2000.\textsuperscript{152} The TSR is electrified, increasing Moscow’s reliance on it, compared with only a quarter of the BAM, which is much closer to the RFE’s natural resources. The BAM is only single-track, limiting the tonnage it can carry; it is also operating at a loss and is close to its capacity limits. Without expanding, the BAM will not be able to increase its capacity.\textsuperscript{153} An expensive undertaking, electrification is not cost-effective if it is only lightly used and if the regions are under-populated.

All of this reinforces the idea that investing in extracting resources at a loss might not make economic sense for Russia, and raises the question of whether it is more cost effective to access them elsewhere.

**Port Systems**

Russia’s ports have a security and economic role in handling cargo volumes, and in the repair and docking of military and civilian vessels. Ports are governed by the Strategy for the Development of Russian Maritime Infrastructure up to 2030. The programme aims to increase the volumes handled through ports in the RFE to 205 million tonnes in 2020, increasing to 234 million tonnes in 2030, with around 75% of the increase accounted for by exports.\textsuperscript{154} According to Russia’s Association of Commercial Sea Ports, in 2016 the cargo turnover for ports in the RFE increased to 185.5 million tonnes, an 8.5% year-on-year rise, with significant increases at the Vanino (11.6%) and Posiet (26.6%) ports.\textsuperscript{155} However, many of the RFE’s ports are poorly maintained.

\begin{itemize}
\item \textsuperscript{149} Pepe, ‘The “Eastern Polygon” of the Trans-Siberian Rail Line’.
\item \textsuperscript{150} Ibid.
\item \textsuperscript{151} Ivanov, ‘Presentation of the Coordinating Council on Trans-Siberian Transportation’.
\item \textsuperscript{153} Ibid.
\item \textsuperscript{155} RZhD, ‘Obszor gruzooborota morskikh portov Rossii. Itogi 2016 goda’ [‘Review of Cargo Turnover of Russia’s Seaports. Results From 2016’], 20 January 2017.
\end{itemize}
and in need of repair, or have failed to attract sufficient investment to upgrade and expand, with planned projects falling through. Some ports are operating at maximum capacity, and the loading capacity restrictions of the railways that link them up will prevent the Kremlin from reaching its export goals.

One of the main issues is seasonal change, as some ports are inaccessible during the winter. In the RFE, mining companies such as Polymetal (gold) or Amur Minerals (nickel copper sulphide) operating in remote regions such as Chukotka and Yakutia must be able to access ports for supplies and to export products. One of Polymetal’s main gold mines in Chukotka is accessible via an unpaved road and is relatively close to the major sea port of Pevek, but it can only supply spare parts and supplies from July–November, as it is not ice free. Should an incident happen outside of this seasonal window, it can be challenging to locate replacement supplies.

Upgrading and expanding ports are also a long-term investment, and supply contracts usually last around 30–40 years, without which the construction of port infrastructure is unviable. More remote and hostile regions require additional support staff such as vehicle repair facilities. However, significantly for the RFE, fishing, port services and boat repairs tend to be family-run businesses, to which fewer and fewer people are attracted. Russia’s maritime security strategy, revised in 2019, acknowledges the deficiencies in its port and logistical infrastructure, which have created opportunities for neighbouring North Korean fishermen to illegally fish in Russian waters and take advantage of the large fishing stocks there, which is impacting on the livelihoods of RFE residents.

Road and rail connections between seaports in the RFE are also under-developed. Although road quality in the more populated south is improving, the north is a logistical obstacle for cargo and military activity. In 2014, only two-thirds of roads in the RFE were paved, lower than the Russian average (70.5%). Although some goods in containers are relatively simple to connect up to the supply chain, the export of products such as crude oil requires specialised storage units, and coal requires specialised storage and berthing facilities for vessels.

158. Ibid.
159. Emily Ferris and Hamish MacDonald, ‘ Russia and North Korea Are Fighting — Over Fish’, Foreign Policy, 22 April 2020.
160. Author interview with academic expert on Russia and Japan, June 2020.
161. Ibid.
162. Author interview with shipping and maritime expert, June 2020.
The Northern Sea Route

Russia’s Arctic strategy comes under the MDFE’s remit, so there is no separate strategy governing regional developments. Under the strategy, there are plans to take advantage of the Northern Sea Route (NSR) which is inaccessible for most of the year due to sea ice.

The NSR has geopolitical and economic value as a lucrative trade route that cuts down journey times. Putin has maintained that by 2025, cargo flows across the route should increase by 10 times, up to 80 million tonnes of freight. But this number is far beyond reach – traffic turnover is currently less than 30 million tonnes, and will increase only if the many promised oil and gas projects in the Arctic come to fruition. Rosatom, the state-controlled nuclear corporation that oversees the NSR’s infrastructure operations, has already made clear that cargo traffic in the Arctic is unlikely to reach the Kremlin’s goals, as production adjustments have had to be made to three large coal and oil projects that were supposed to boost transport volumes.

The NSR’s development and plans to connect up Siberian and Far Eastern river ports relies on improving the RFE’s seaports. A lack of port systems along Russia’s High North and in the RFE is likely restricting this development.

Numerous expansion plans have already run aground. The State Commission for the Development of the Arctic has refused to support proposals to expand the NSR from Murmansk to Kamchatka or the Far Eastern region of Sakhalin, saying it was ‘impractical’. Ships sailing along the NSR must enter a dry dock to be cleaned or upgraded, but due to fundamental weaknesses in Russia’s shipbuilding capabilities, there are no docks or repair facilities along routes in the RFE.

---

163. Putin, ‘Presidential Address to the Federal Assembly’.
Figure 5: Key Ports in the Russian Far East

Source: Author generated.
The port of Vladivostok houses Russia’s Pacific Sea Fleet, which is being upgraded, with 15 new warships and supply vessels expected to be delivered by 2020, supported by new submarine forces. Increasing naval activity will require concomitant upgrades in Russia’s port infrastructure. Although an in-depth analysis of the impact of inadequate port infrastructure on Russia’s naval capabilities is beyond the scope of this paper, an expanding Pacific Sea Fleet with larger vessels will require deeper ports, which will necessitate investments to dredge and capacity.

**Investment Deals Stymied**

Russia will not be able to upgrade its transport infrastructure without foreign investment. Many deals in the RFE have fallen through because of allegations of corruption or studies suggesting that investment is unviable. Russia’s own Fund for Direct Investment, which has earmarked the RFE for development, can only invest in projects that have foreign co-funders, but only a few will sign a deal.

Chinese companies have signed up to joint ventures, but many of these are delayed, due either to bureaucracy or a lack of funding or interest from Moscow. This has prompted suspicions by some Chinese entrepreneurs that Russia is not particularly willing to pull its weight in construction projects. Despite Russia’s hopes that China could invest in the RFE as part of its Belt and Road Initiative, most of its infrastructure plans bypass the RFE, and China’s overland truck routes rival Russia’s own. There have been discussions about reviving a 20-year-old project to establish freight corridors between northern Chinese cities and Russia’s ports of Nakhodka and Zarubino, but they also bypass the TSR. China’s lack of commitment means the RFE will be dependent on Japanese and South Korean investors, and neither have shown significant interest.

Other Asian partners, such as South Korea, invest very little in Russia’s ports, and have a long list of failed investment projects. In 2015, the Korean International Trade Association did express interest in setting up a council to oversee joint logistics investments at the Zarubino

---


170. Author interview with academic specialising in Russia–China relations, May 2020.


Problems of Geography

port, but the significant costs involved have caused a delay.175 There have been discussions about constructing grain terminals at the Slavyanka port and a trans-shipment complex near Vladivostok at Shkotovo, but powerful local landowners and unnamed military personnel have objected to the project for unknown reasons. Other South Korean businesses have pointed to the high transport costs involved in Russia’s natural resources sector, and despite Moscow’s attempts to persuade them to invest in a road bridge across the Russia–North Korea border at the Tumannaya River, there has been no concrete progress on this.176

175. Ibid.

Conclusion

LOGISTICS INFRASTRUCTURE IS often seen as a by-product or result of the Kremlin’s decisions, but its structural inadequacies will dictate Russia’s ability to fulfil its security and economic ambitions in the coming years. Russia’s infrastructure is usually given increased academic and media attention ahead of large international events when faults or corrupt practices become obvious, such as at the 2018 FIFA World Cup or the 2014 Sochi Winter Olympics. But long-standing infrastructure issues in the RFE reveal strategic, practical and political problems that are likely to prevent the region from developing in the coming years.

The first issue is Russia’s strategic planning. Russia’s inability to develop the RFE and link up its territories is due to a combination of geographic, economic and political factors. Russia has always had a presence in the RFE, but it has never been sustainable, and attempts to move human capital and exert political control from Moscow have been a perpetual challenge. Moscow’s (and Putin’s) way of demonstrating commitment to the RFE – establishing planning documents and state programmes, setting up federal agencies and earmarking funding – is part of the problem, as this has consistently failed to live up to both the expectations of the government and of RFE residents and businesses. This centralised strategic planning, like Soviet Five-Year Plans, belies a behind-the-scenes struggle for power and resources, and competition and disagreements between ministries is limiting progress on implementation. Arguments within government departments about whether to dramatically reduce or abandon investment schemes in the RFE has left many locals questioning Moscow’s commitment to boosting the region, and many Russian economists asking whether it is financially expedient.

But the solution to the RFE does not lie in more money or commitment, but a more rigorous economic approach to investments, and a real willingness to tackle corrupt practices that are scuppering investments. Top-down, state-sponsored development models create complicated bureaucratic processes, with multiple agencies and personalities involved, making decision-making challenging. Breaking the monopoly of companies such as RZhD over the infrastructure and construction sectors, as well as safeguarding the rights of foreign investors in arbitration courts, would go some way to attracting a more diverse range of businesses and increasing competition. Many of the RFE’s issues and weaknesses in Russia’s business environment predate Putin. But if he is going to be the one to solve them, a more streamlined commitment from Moscow is required.

The second issue is practical. A lack of structured plans for civilian improvements to rail, road and port networks will likely have a concomitant impact on the dual use of infrastructure, given

177. Ferris and Connolly, ‘Networks and Links’.
178. Fortescue, ‘Russia’s “Turn to the East”’ A Study in Policy Making’.
that the military often makes use of civilian rail systems. Improvements to the ZhV’s equipment and resources have already been delayed. If military and civilian resources cannot be pooled to upgrade rail and road networks, as well as investing in improving engineering education, this is likely to have a long-term impact on the armed forces’ potential to prepare for war in challenging terrain.

The Kremlin’s reliance on ground movements of troops means that priority will be given to funding the ZhV. But while the government will continue to prioritise the ZhV in theory, and allocate funds from the state budget accordingly, arguments between state agencies and their lack of coordination might account for the delays in funding disbursals. As has already occurred, this will continue to have an impact on the ZhV’s ability to recruit new technically trained officers, with fewer funds readily available to support the education and research institutes that this service requires. Fewer specialists may impact on Russia’s ability to mobilise troops quickly in future conflicts. Russia’s inadequate infrastructure is interdependent, exacerbating its vulnerabilities to trade and security disruption. Poor-quality rail bridges, roads and ports will have a domino effect on each other, and increase the likelihood that shocks to any part of Russia’s infrastructure system will be sustained.180 Currently, Russia’s remote towns and villages lack the resources, technological expertise and necessary equipment to launch major repairs of railways, airports and bridges, either during a potential conflict, sabotage or during the natural disasters that occur annually in Russia such as flash floods, snowstorms and wildfires and which are exacerbated by climate change.181 Without investment in understanding the impact that climate change is having on transport infrastructure in the RFE, there is a risk that Russia’s transport networks will not be financially sustainable as funds will have to be spent on continuous and arduous repairs rather than upgrades.

Ultimately, despite reasonably solid planning and significant efforts from the Kremlin, the financial and practical problems in upgrading Russia’s infrastructure will prevent the government from fulfilling its ambitions in the RFE. Infrastructure is just a part of the picture, but its inadequacies and Moscow’s inability to get to the heart of the problem will have long-term implications for Russia’s own economic and security processes in the coming years.


About the Author

Emily Ferris is a Research Fellow in the International Security Studies department at RUSI, specialising in Russia and Eurasia’s foreign policy. Before joining RUSI in 2018, Emily worked at Control Risks – a London consultancy firm – as a Russian security and politics analyst, advising clients conducting business in Russia and other Eastern European countries. She holds a BA in Russian from the University of Cambridge and an MSc in Organised Crime and Terrorism from University College London.