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Peculiarities of Financing Road Activities in the Arctic Region: the Experience of the Murmansk Oblast *

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Abstract. The article presents the results of a study of the peculiarities of financing the road economy of the Murmansk Oblast — the Arctic region, the development of transport, including road, infrastructure of which acquires particular importance in the light of the implementation of national interests and priority directions of Russian state policy in the Arctic. In the course of work, the author considered the dynamics of spending funds from the Road Fund of the Murmansk Oblast for 2012–2020. It has been determined that the existing volume of financing of the regional road infrastructure does not allow the region to fully implement the tasks of developing road infrastructure and improving the quality of highways (primarily local ones). It is concluded that additional funds are needed to finance the road infrastructure of the Arctic regions, including through the use of public-private partnership mechanisms. The results of the study can be used in the formation of a policy in the field of road facilities in the Murmansk Oblast, as well as in further research on the financial support of road activities and the functioning of road funds.

Keywords: *Murmansk Oblast, arctic region, road facility, road fund, highway.*

Introduction

Financing of road activities is one of the most capacious and significant investments of national importance, since a developed road infrastructure, along with other infrastructure sectors, plays a key role in sustainable economic development [1, Deng T.; 2, Ng C.P. et al.], formation of a favorable investment climate [3, Martinkus B., Lukasevicius K.] and improving the quality of life [4, Berman N.].

Road funds are one of the most common mechanisms for financing road activities in the world [5, Kirk R.S., Mallet W.J.; 6, Kosov M.E.; 7, Dung N. et al.]. In Russia, this mechanism began to be used in the early 1990s at the federal and regional levels¹. Sources for the targeted off-budget road funds formation were the following: tax on economic entities as users of highways at a rate of 2.5% of their revenues (enterprises engaged in the production of agricultural products were exempted from payment), tax on vehicles purchase, tax on vehicle owners, and tax on the sale of fuels and lubricants. Subsequently, the land tax, excise tax on petroleum products, excise tax on car sales, etc. were also transferred to road funds.

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¹ Закон РФ от 18 октября 1991 г. № 1759-1 «О дорожных фондах в Российской Федерации» (изначал'но назывался «О дорожных фондах в РСФСР») [Law of the Russian Federation of October 18, 1991 No. 1759-1 "On Road Funds in the Russian Federation" (originally called "On Road Funds in the RSFSR")]. URL: <https://base.garant.ru/3958223/> (accessed 20 January 2021).

In 2001, taxes on fuels and lubricants sale and vehicles purchase were abolished², which resulted in ceasing of the Federal Road Fund financing and its liquidation. Two years later, the tax on road users, which was the main source of territorial road funds, was abolished as well, and, as a result, their operation was also terminated.

The law “On road funds of the Russian Federation” was abolished in 2005.³ After that, financing of the road sector was carried out directly from the budget, without the allocation of separate revenue sources [8, Golovanova N.V.; 9, Protasenia S.I.]. The result of the road funds liquidation was a chronic underfunding of the transport industry and, as a consequence, a slowdown in the development of road facilities [10, Korobitsyn T.G.; 11, Konvisarova E.V., Uksumenko A.A.]. Thus, if in 1992–2000 Russia built about 6.1 thousand km of paved roads annually, then in 2001–2009 the average increase was only about 2.85 thousand km per year [12, Afanasyev R.S.].

The revival of the road fund system was initiated in 2011, when Article 179.4⁴ was introduced into the Budget Code, defining road funds as “part of the budget funds to be used for the financial support of road activities in relation to public highways, as well as capital repairs and repairs of yard territories of apartment buildings in residential districts”⁵. After the Federal Road Fund was established on January 1, 2012, regional road funds were created in each constituent territory of the Russian Federation, and since 2013, municipal road funds were created as well. Thus, the system of financing road activities has been restored.

The purpose of this study was to identify the main trends and features of funding road activities in the Murmansk Oblast — the Arctic region, where the development of transport, including road infrastructure, is of particular importance in the light of the implementation of Russia's strategic priorities to create a unified Arctic transport system and integrate it into the country's transport system. [13, Leksin V.N., Profiryev B.N.; 14, Kikkas K., Romashkina E.; 15,

² Nalogovyy kodeks RF (Chast' 2) ot 5 avgusta 2000 g. № 117-FZ [Tax Code of the Russian Federation (Part 2) dated August 5, 2000 No. 117-FZ]. URL: <https://base.garant.ru/10900200/a9a754f9362cc6d913de8ff6886b8c4c/> (accessed 20 January 2021).

³ Federal'nyy zakon RF ot 22 avgusta 2004 g. № 122 «O vnesenii izmeneniy v zakonodatel'nye akty Rossiyskoy Federatsii i priznanii utrativshimi silu nekotorykh zakonodatel'nykh aktov Rossiyskoy Federatsii v svyazi s prinyatiem federal'nykh zakonov «O vnesenii izmeneniy i dopolneniy v Federal'nyy zakon «Ob obshchikh printsipakh organizatsii zakonodatel'nykh (predstavitel'nykh) i ispolnitel'nykh organov gosudarstvennoy vlasti sub"ektov Rossiyskoy Federatsii» i «Ob obshchikh printsipakh organizatsii mestnogo samoupravleniya v Rossiyskoy Federatsii». Stat'ya 156 [Federal Law of the Russian Federation of August 22, 2004 No. 122 “On Amending the Legislative Acts of the Russian Federation and Recognizing Some Legislative Acts of the Russian Federation as Invalid in Connection with the Adoption of Federal Laws “On Amendments and Additions to the Federal Law “On General Principles Organizations of Legislative (Representative) and Executive Bodies of State Power of the Constituent Entities of the Russian Federation” and “On the General Principles of Organizing Local Self-Government in the Russian Federation”. Article 156]. URL: <https://base.garant.ru/12136676/> (accessed 20 January 2021).

⁴ Federal'nyy zakon RF ot 6 aprelya 2011 g. № 68 «O vnesenii izmeneniy v Byudzhethnyy kodeks Rossiyskoy Federatsii i ot del'nye zakonodatel'nye akty Rossiyskoy Federatsii» [Federal Law of the Russian Federation of April 6, 2011 No. 68 “On Amendments to the Budget Code of the Russian Federation and Certain Legislative Acts of the Russian Federation”]. URL: <https://base.garant.ru/12184487/> (accessed 20 January 2021).

⁵ Byudzhethnyy kodeks RF ot 31 iyulya 1998 g. № 145-FZ. Stat'ya 179.4 «Dorozhnye fondy» [Budget Code of the Russian Federation dated July 31, 1998 No. 145-FZ. Article 179.4 “Road Funds”]. URL: <https://base.garant.ru/12112604/28312cbb2f517e13c63ec4b4e37b36d7/> (accessed 20 January 2021).

Korchak E.A., Serova N.A.; 16, Gagiev N.N. et al.]. The main role in solving this complex task is assigned to the Northern Sea Route (NSR) as a key connecting element of the support development zones created in the Arctic zone of the Russian Federation (AZRF), based not only on the administrative-territorial division⁶, but also on the functioning of transport and logistics hubs [17, Smirnova O.O. et al.; 18, Samarina V.P., Samarin A.V., Skufina T.P., Baranov S.V.]. Onshore connectivity of the Arctic territories with the rest of the country will be ensured by port infrastructure and “air and land transport communications gravitating to the NSR” [19, Serova N.A., Serova V.A.]. For this purpose, a number of large-scale projects are being implemented in the AZRF to modernize and increase the capacity of seaports, to create transshipment complexes, to build new and to reconstruct existing railways and highways, airport infrastructure, etc. [20, Socio-economic development...]. For example, in the Murmansk Oblast, the reconstruction of the road access to the administrative center of the region with a length of over 15 km has been completed, the sea passenger terminal has been repaired, and the construction of a new terminal for domestic airlines has begun at Murmansk airport. In addition, as part of the implementation of infrastructure projects included in the Advanced Development Zone (ADZ) “Arctic Capital”, the region is building a specialised coal transshipment complex “Lavna”, a specialised marine terminal for bulk cargo in the port of Murmansk, a sea terminal and a service for fishing vessels and delivering fish products; the technical re-equipment of the Vitino seaport and the Belomorskaya oil depot in the Kandalaksha region began. The implementation of these and dozens of other infrastructure Arctic investment projects requires the consolidation of efforts of all levels of government and the business community to effectively interface the NSR routes with the routes of other types of transport on land, which will ensure the comprehensive development of the Arctic transport system as a whole. In this study, only one aspect of this global task is considered — the development of road transport in one of the Arctic regions, which not only does not reduce its relevance and practical importance, but also determines the groundwork for future research in this area.

Characteristics of the road network in the Murmansk Oblast

Numerous studies [21, Kondratov N.A.; 22, Biev A.A.; 23, Ulchenko M.V., Bashmakova E.P.; 24, Matveev A.S. and etc.; 25, Kozmenko S.Yu., Ulchenko M.V.], including the author’s ones [19; 26–27], repeatedly emphasized that the territory of the Russian Arctic, occupying about half of the country's area, lags several times behind the average Russian indicator by the level of availability of motor roads.

⁶ The creation of support zones (SZ) is expected in nine subjects that are fully or partially included in the Russian Arctic: in the Murmansk Oblast - the Kola SZ, in the Arkhangelsk Oblast - the Arkhangelsk SZ, in the Nenets Autonomous Okrug — the Nenets SZ, in the Republic of Karelia - the Karelian SZ, in the Republic of Komi - the Vorkuta SZ, in the Yamal-Nenets Autonomous Okrug - the Yamalo-Nenets SZ, in the Krasnoyarsk Krai - the Taimyr-Turukhanskaya SZ, in the Republic of Yakutia (Sakha) - the North Yakutskaya SZ, in the Chukotka Autonomous Okrug - the Chukotskaya SZ.

However, in comparison with other Arctic territories ⁷, the road network of the Murmansk Oblast can be characterized as sufficiently developed (Table 1). The region is crossed by about 1.17 thousand public roads with a length of 3585.1 km (9.9% of the total length of the AZRF roads), more than 95.2% of which are paved. Of these, 561.2 km are of the federal highway R-21 “Kola” (St. Petersburg — Petrozavodsk — Murmansk), about 2 thousand km — of regional roads, and 971.8 km of local roads. In 2021, two regional roads to multidirectional automobile border crossing points (MABCPs) on the border with Finland — Lotta highway with a length of 228 km (Kola — Verkhnetulomskiy — Lotta checkpoint) and Salla highway with a length of 166 km (Kandalaksha — Alakurtti — Salla checkpoint) will be transferred to federal ownership.

Table 1

Level of the road network development in Russia's Arctic territories, 2020.

	Public roads		incl. paved surfaces	
	Share in AZRF, %	Provision ratio ⁸	Share in AZRF, %	Provision ratio ⁹
AZRF, including:	-	0.318	-	0.125
Republic of Karelia (Arctic part)	7.4	0.976	16.9	0.869
Komi Republic (Arctic part)	8.2	0.671	5.5	0.175
Arkhangelsk Oblast (Arctic part)	14.4	0.408	19.3	0.214
Nenets Autonomous Okrug	1.1	0.137	2.0	0.101
Murmansk Oblast	9.9	0.347	24.0	0.331
Yamalo-Nenets Autonomous Okrug	7.7	0.135	16.6	0.115
Krasnoyarsk Krai (Arctic part)	8.0	0.180	3.7	0.032
Republic of Sakha (Yakutia) (Arctic part)	37.3	1.291	6.0	0.081
Chukotka Autonomous Okrug	6.0	0.358	6.0	0.142

Despite the fact that the density of highways in the Murmansk Oblast is almost three times higher than the same indicator for the whole AZRF (24.7 km per 1000 km² of the region territory versus 7.3 km per 1000 km² of the AZRF territory), only about 20 % of the area can be considered transported (Fig. 1):

- along the federal highway R-21 “Kola”, which crosses the oblast from south to north to the Borisoglebsk checkpoint on the border with Norway (Pechenga highway);

⁷ Hereinafter, the Arctic territories of Russia are understood as the land territories of the Arctic zone of the Russian Federation (AZRF), which are enshrined in the Federal Law of July 13, 2020 No. 193 "On State Support for Entrepreneurial Activity in the Arctic Zone of the Russian Federation": Murmansk Oblast, Nenets, Chukotka and Yamalo-Nenets Autonomous Okrugs, as well as municipalities of the Republic of Karelia (Kostomuksha, Belomorsk, Kalevala, Kemskiy, Loukhskiy and Segezha municipal districts), the Komi Republic (Vorkuta, Inta, Usinsk and Ust-Tsilemskiy municipal district), Krasnoyarsk Krai (Norilsk, Taimyr Dolgano-Nenets municipal district, Turukhansk district, Evenki municipal district), Arkhangelsk Oblast (Arkhangelsk, Novodvinsk, Severodvinsk, Novaya Zemlya, Mezen, Onega, Primorskiy, Leshukonsk and Pinega municipal districts) and 13 municipalities of the Republic of Sakha (Yakutia).

⁸ Engel coefficient. Calculated by the author.

⁹ Engel coefficient. Calculated by the author.

- along roadways to settlements in the central and western regions of the oblast (the cities of Apatity, Kirovsk, Monchegorsk, Kovdor, etc.), as well as to the Lotta checkpoint and Salla checkpoint.

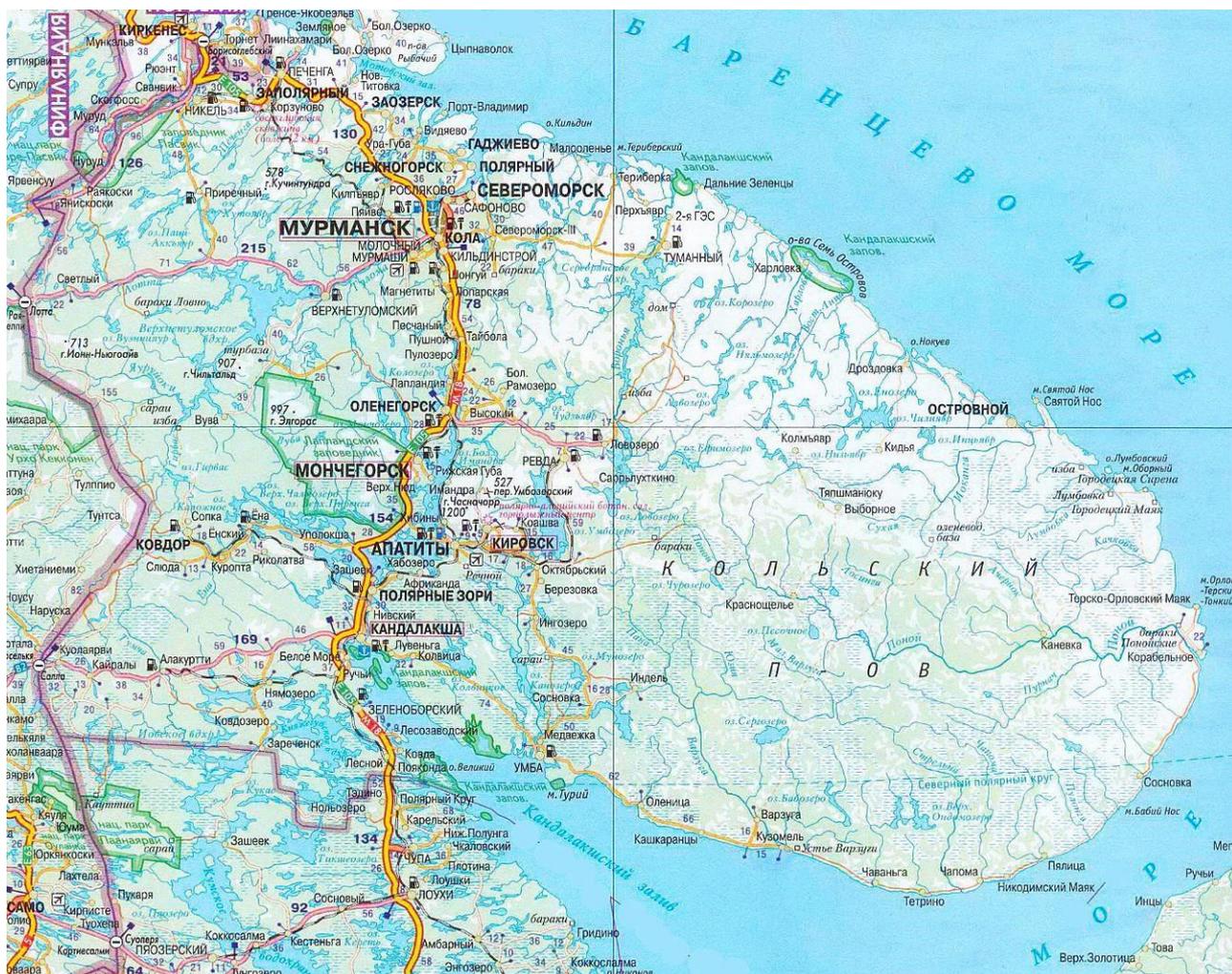


Fig. 1. Scheme of public roads in the Murmansk Oblast.

The situation in the eastern part of the Murmansk Oblast is completely different — due to the lack of highways, most settlements are connected with the regional center and the centers of municipal districts only by air transport.

Peculiarities of financing road activities in the Murmansk Oblast

In the Murmansk Oblast, the Road Fund (RF) was established in 2012¹⁰. Over the eight years of its existence, more than 17.9 billion rubles were allocated to the road infrastructure of the region, the overwhelming part (74.4%) of which was directed to the maintenance and repair of roads (both regional and local) and only 3.9 % for construction and reconstruction. However, while in 2012 the share of funds allocated for the construction of new and reconstruction of existing

¹⁰ Закон Мурманской области от 17 сентября 2011 г. № 1390-01 «О дорожном фонде Мурманской области» [Law of the Murmansk region dated September 17, 2011 No. 1390-01 "On the Road Fund of the Murmansk Oblast"]. URL: <https://base.garant.ru/16974587/> (accessed 20 January 2021).

roads in the region was 15.2%, by 2019 it decreased to 0.4%. Only in 2020, after the start of construction of a 5-kilometre section of a new four-lane road near Murmansk, the share of funds for this expenditure item increased to 6.1% (Table 2).

Table 2

*Dynamics of expenditure of Murmansk Oblast Road Fund for construction (reconstruction) and maintenance and repair of roads*¹¹

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Funds from the Road Fund used, mln rub	1477.1	1752.7	1864.1	1523.2	2215.3	2374.9	1970.2	3157.1	1646.6
of which aimed at:									
Construction (reconstruction) of roads, mln rub	224.3	9.7	61.9	2.1	188.1	77.4	27.4	12.9	100.0
<i>share in the total amount of funds, %</i>	15.2	0.6	3.3	0.1	8.5	3.3	1.4	0.4	6.1
Repair and maintenance of roads, mln rub	1249.9	1438.8	1644.7	1385.7	1938.3	2116.7	1661.6	2512.3	1244.5
<i>share in the total amount of funds, %</i>	84.6	82.1	88.2	91.0	87.5	89.1	84.3	79.6	75.6

Another noteworthy trend is the reduction in the funds for the maintenance and repair of highways in the region. This mainly affected local roads, as due to the redistribution of funding (in particular, in 2014, a new item appeared in the structure of spending — expenditures on road maintenance facilities) less funds were allocated for subsidies to municipal budgets (Table 3).

Table 3

*Structure of Murmansk Oblast Road Fund expenditure, %*¹²

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Construction, maintenance and repair of regional roads	81.1	72.2	79.4	85.8	83.2	78.1	79.8	71.5	69.7
Subsidies to municipal budgets	18.7	23.0	15.8	9.6	12.8	16.3	5.9	18.2	16.4
Activities of road facilities	-	-	4.6	4.5	3.6	3.9	13.8	9.7	13.8
Other areas of spending	0.2	4.9	0.2	0.2	0.4	1.8	0.4	0.6	0.2

How the reduction in financing of road activities of the Murmansk Oblast municipalities has affected the quality of local roads is clearly illustrated by the dynamics of the share of roads that do not meet the regulatory requirements in the total length of roads in the region (Fig. 2). Thus, if in 2010 96.2% of local roads in the region met the standards (it is one of the highest indicators not only among the regions of the Russian Arctic, but also in the country as a whole), by 2018 their share decreased by 25.3, accounting for 70.9%.

¹¹ Compiled and calculated by the author according to the Ministry of Transport and Roads of the Murmansk Oblast.

¹² Compiled and calculated by the author according to the Ministry of Transport and Roads of the Murmansk Oblast.

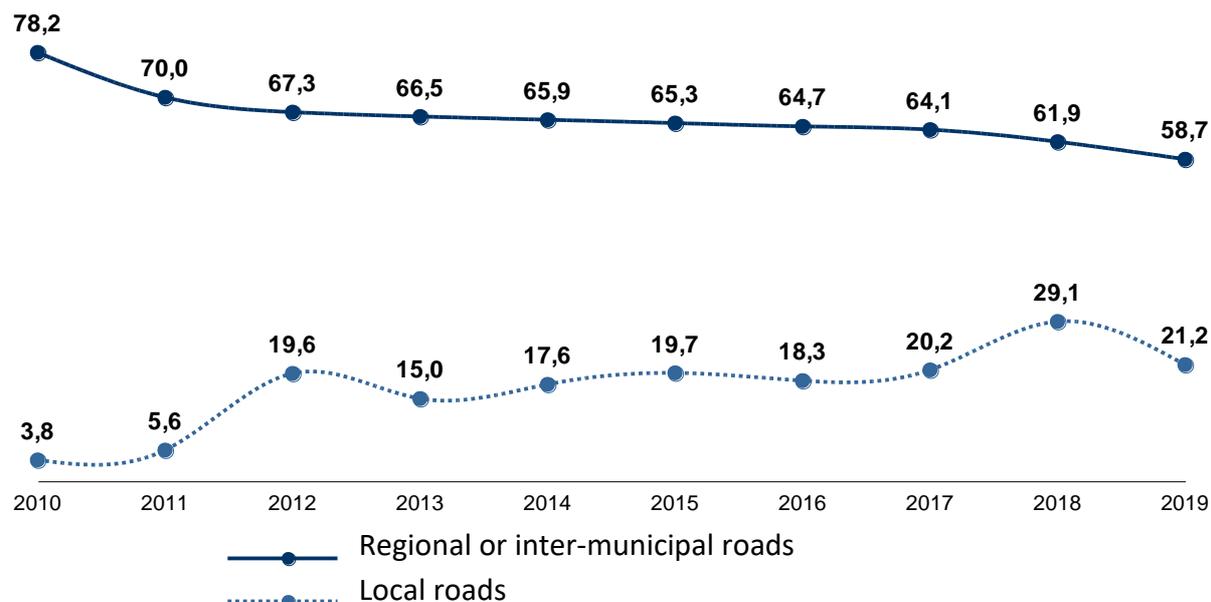


Fig. 2 The share of roads in the Murmansk Oblast that do not meet regulatory requirements, in the total length of highways.

The situation began to change only in 2019, when the national project “Safe and Quality Roads”¹³ was launched in the region, one of the main tasks of which is to bring at least 50% of regional highways and 85% of the road network of urban agglomerations to a standard 2024. For these purposes, more than 6.6 billion rubles will be allocated to the budget of the Murmansk Oblast over the entire period of the project implementation. In particular, in 2019–2020, these funds have already been used to repair more than 20 sections of regional roads and 27 objects of the street and road network of Murmansk (part of the Murmansk agglomeration). In 2021, 5 sections of regional roads, more than 30 objects of the urban road network and 3 bridges will be repaired.

Conclusion

The analysis has shown that the current amount of funding for road activities in the Murmansk Oblast does not allow the region to fully implement the tasks of developing road infrastructure and improving the quality of roads (primarily, local ones) in the region. For the regions of the Russian Arctic, which includes the Murmansk Oblast, the problem of underfunding of road activities is exacerbated by the influence of the “Arctic specifics” (huge hard-to-reach areas, extreme climate, etc.), which limits the possibilities of building new roads and causes difficulties in maintaining the roads in a high quality condition. This implies that additional funding

¹³Razrabotan Ministerstvom transporta Rossii vo ispolnenie Ukaza Prezidenta RF ot 7 maya 2018 g. № 204 «O natsional'nykh tselyakh i strategicheskikh zadachakh razvitiya Rossiyskoy Federatsii na period do 2024 goda» [Developed by the Ministry of Transport of Russia in pursuance of the Decree of the President of the Russian Federation of May 7, 2018 No. 204 "On the National Goals and Strategic Objectives of the Development of the Russian Federation for the Period up to 2024"]. URL: <https://rosavtodor.gov.ru/about/upravlenie-fda/nacionalnyj-proekt-bezopasnye-i-kachestvennye-avtomobilnye-dorogi> (accessed 20 January 2021).

is needed to finance road activities in the Arctic regions, including public-private partnership mechanisms.

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