



CITIES OF THE RUSSIAN REGIONS AND CROSS-BORDER TERRITORIES
IN THE HISTORICAL SPACE
ГОРОДА РОССИЙСКИХ РЕГИОНОВ И ТРАНСГРАНИЧНЫХ ТЕРРИТОРИЙ
В ИСТОРИЧЕСКОМ ПРОСТРАНСТВЕ

<https://doi.org/10.22363/2312-8674-2023-22-3-342-353>

EDN: XJNNYS

Research article / Научная статья

History of St. Petersburg's Pavements

Vladimir Morozan

St. Petersburg State University, St. Petersburg, Russia

v_moga@mail.ru

Abstract: Within the article, the author examines the history of everyday life of St. Petersburg through analyzing documents that have recorded the history of the city's pavement replacement with various materials over a period of more than three hundred years. The study was mainly carried out on the basis of archival materials from the funds of the Central State Historical Archive of St. Petersburg and the Russian State Historical Archive. It is evident that this work is the first comprehensive study of the history of the pavements of the Russian Empire capital as a theme, a topic which has not yet been adequately reflected in either domestic or foreign historiography. It has been established that it took the city authorities a considerable time to pave the capital's roads during the imperial period. The paving of the city roads developed from the use of raw stone to natural asphalt. In the end, it took almost a century to bring the streets of the main part of the city to the proper condition; they have been previously been covered with mainly stone. Whereas in the XVIII century the main task of the central and city authorities was to pave as many streets as possible, then in the XIX – early XX centuries the city government instead concentrated on a way find an inexpensive but durable material for this purpose.

Keywords: George Henry Money, pavement of capital streets, urban planning, construction of St. Petersburg, historical urbanism, urban space, urban history

For citation: Morozan, Vladimir. "History of St. Petersburg's Pavements." *RUDN Journal of Russian History* 22, no. 3 (August 2023): 342–353 (in Russian). <https://doi.org/10.22363/2312-8674-2023-22-3-342-353>

История петербургских мостовых

Владимир Васильевич Морозан

Санкт-Петербургский государственный университет, Санкт-Петербург, Россия

v_moga@mail.ru

Аннотация: Исследуется история городской повседневности Санкт-Петербурга с помощью анализа документов, фиксирующих замену покрытий мостовых различными материалами за более чем трехсотлетний период. Исследование проведено главным образом на основе архивных материалов из фондов Центрального государственного исторического архива Санкт-Петербурга и Российского государственного исторического архива. Очевидно, что настоящая работа является первым опытом комплексного исследования истории мостовых столицы Рос-



сийской империи как отдельной самостоятельной темы, которая еще не получила должного отражения ни в отечественной, ни в зарубежной историографии. Установлено, что городским властям потребовалось немало времени, чтобы обустроить столичные дороги. Способы покрытия мостовых города прошли длительную эволюцию: от применения необработанного камня до использования природного асфальта. Почти столетие ушло на то, чтобы привести улицы основной части города в надлежащее состояние, покрыв их главным образом камнем. Если в XVIII в. перед центральными и городскими властями главной задачей было обеспечить покрытие предельно больше улиц, то в XIX – начале XX в. городское управление пыталось найти недорогой, но долговечный материал для этих целей.

Ключевые слова: городская инфраструктура, градостроительство, строительство Петербурга, историческая урбанистика, городское пространство, городская история

Для цитирования: Морозан В.В. История петербургских мостовых // Вестник Российского университета дружбы народов. Серия: История России. 2023. Т. 22. № 3. С. 342–353. <https://doi.org/10.22363/2312-8674-2023-22-3-342-353>

Introduction

In recent decades, such a scientific field as historical urban studies has become increasingly popular. In domestic and foreign historiography, there are actively discussed the methodology and the subject of study of this scientific field¹. Within its framework, there is being carried out the study of a city as a social phenomenon – a specially formed space for life and human activity. At the same time, a city is not just the habitat of society; it has a great influence by forming a different model of interpersonal relations, changing the way of life and mentality².

In this regard, of particular scientific interest are studies on various aspects of the urban space of pre-revolutionary St. Petersburg³. Its integral part is the history of the Russian capital pavements and the technologies of their paving. However, this issue has been barely studied. There are a few works that only address tangentially the problem of paving St. Petersburg's streets. An exception is the publication of N.L. Eyler dedi-

¹ G.W. Davies, “The Rise of Urban History in Britain c. 1960–1978,” PhD thesis, University of Leicester. Leicester, 2014; *Istoricheskaiia urbanistika: proshloe i nastoiashchee goroda: sb. nauch. st. Vseros. konf. s mezhdunar. uchastiyem (Surgut, SurGU, 14 noyabrya 2014 g.)* [Historical urbanism: past and present of the city: collection of scientific articles. All-Russian conference with international participation (Surgut, SurSU, November 14, 2014)] (Kurgan: Kurganskii dom pečhati Publ., 2015); M. Frisch, “Comment on Michael B. Katz, From Urban as Site to Urban as Place: Reflections on (Almost) a Half Century of U. S. Urban History,” *Journal of Urban History* 41, no. 4 (2015): 595–599; S.A. Bakanov, “Istoricheskaiia urbanistika v Rossii zaiavliaet o sebe [Historicheskaiia urbanistika v Rossii zaiavliaet o sebe],” *Magistra Vitae: ehlektronnyi zhurnal po istoricheskim naukam i arkheologii*, no. 2 (2016): 198–201; T. Weaver, “Urban Crisis: the Genealogy of a Concept,” *Urban Studies* 54, no. 9 (2017): 2039–2055; I.N. Stas', “Urban History: mezhdru istoriei i sotsial'nymi naukami [Urban History: Between History and the Social Sciences],” *Sotsiologicheskoe obozrenie*, no. 3 (2022): 250–285; E.E. Tinikova, “Approaches to the study of the domestic model of urbanization in modern historical science,” *Vestnik Tomskogo gosudarstvennogo universiteta. Istoriiia*, no. 76 (2022): 120–127, doi:10.17223/19988613/76/14, etc.

² I.A. Ageev, “Methodological resource of historical urban studies in modern studies of urban spaces,” *Vestnik Tomskogo gosudarstvennogo universiteta*, no. 385 (2014): 80.

³ Ye. Yukhneva, *Peterburgskie dokhodnye doma: ocherki iz istorii byta* [St. Petersburg apartment buildings: essays from the history of everyday life] (Moscow; St. Petersburg: Tsentrpoligraf, 2008); O. Malinova-Tziafeta, *Iz goroda na dachu: sotsiokul'turnye faktory osvoeniia dachnogo prostranstva vokrug Peterburga (1860–1914)* [From the City to the Dacha: Socio-Cultural Factors in the Development of the Dacha Space around St. Petersburg (1860–1914)] (St. Petersburg: Izd-vo Evropeyskogo un-ta v Sankt-Peterburge Publ., 2013); Iu. Obertrais, and O. Malinova-Tziafeta, “History of cities and water infrastructures in the Russian Empire and the USSR,” *Modern History of Russia* 9, no. 1 (2019): 173–201, <https://doi.org/10.21638/11701/spbu24.2019.111>, etc.

cated to a specific case of metal paving in Kronstadt⁴. In short, the historiography of the problem is extremely scarce. In this regard, the author focuses on identifying a new set of documents that are being introduced into scientific use for the first time. Above all, these are clerical documents from the funds of the Russian State Historical Archive (F. 18, 206, 1287) and the Central State Historical Archive of St. Petersburg (F. 19, 277, 787). The author's initial goal was to study the first experiments of the city authorities in asphaltting St. Petersburg pavements. However, in the course of writing the article it became obvious that without general coverage of the history of paving in Russia's northern capital the study would be incomplete. Thus, in this section of the work, there is considered the period before the appearance of asphalted roads in St. Petersburg. It is important to note that over the period of more than 200 years different materials were used for paving St. Petersburg streets. At the same time, the city authorities treated new road materials with caution. For this reason, old paving methods coexisted with new technologies.

"Stone period" in the history of paving St. Petersburg streets

In St. Petersburg founded in 1703 there were no roads for a long time. Due to unfavorable climatic conditions and marshland, the first inhabitants of the city faced a lot of difficulties which they couldn't solve themselves. Besides, active hostilities in the west of the country demanded considerable material and human resources; therefore the authorities couldn't properly deal with the development of the urban environment. The gradual change in the course of the Great Northern War in favor of Russia allowed Peter I to pay more attention to the improvement of the city, and, in particular, to its streets. However, due to depleted resources it was not possible to allocate any significant state funds for these needs, which is why the process of paving the streets was very slow. Obviously, for the first time the paving of St. Petersburg streets with stone began in 1710; it was done on the territory near the Peter and Paul Fortress, where the Tsar's house was located. The German author of "Description of St. Petersburg and Kronschtlot" reported, "Last year (1710), under the order of his royal majesty, they began to pave the streets with stone on the Finnish side under the guidance of German pavers; paving all the streets will take a lot of time, as well as a lot of stone which is not in abundance here."⁵ Under these conditions, as it often happened during the reign of Peter I, the responsibility for extracting necessary materials was shifted to townspeople. Under the order of the tsar, each resident of St. Petersburg was to contribute 100 stones. This experience of collecting the necessary material produced results, although not as it had been expected. According to S.P. Luppov, in 1710 the city authorities managed to collect 174,500 stones from all the inhabitants of the City Island, and 214,800 stones from those living on the Admiralty Island. However, they hoped to collect more than 800,000 cobblestones⁶. Given this experience, the authorities decided to extend it to people who came to St. Petersburg. In particular, in order to replenish the stocks of stones for paving the streets, on October 24, 1714, the tsar signed a decree on the mandatory delivery to St. Petersburg by all river vessels and owners of horse-drawn vehicles from 3 to 30 stones weighing more than 5 pounds (a little over 2 kg):

⁴ N.L. Eyler, "Metallicheskaia mostovaia v Kronshtadte [Metal pavement in Kronstadt]," *Morskoii sbornik*, no. 8 (1861): 146–152.

⁵ "Description of St. Petersburg and Kronschtlot in 1710 and 1711," *Russkaia Starina* 36 (1882): 54.

⁶ S.P. Luppov, *Istoriia stroitel'stva Peterburga v pervoi chetverti XVIII veka* [The history of the construction of St. Petersburg in the first quarter of the 18th century] (Moscow; Leningrad: Izd-vo Akad. nauk SSSR Publ., 1957), 115.

All ships that come to St. Petersburg from different places through Lake Ladoga, and all vessels, no matter who they belong to, are to bring 30 stones to St. Petersburg. Carts which go to St. Petersburg with provisions and with all sorts of things, supplies, goods are to bring 3 stones and give them to Chief Commissar Sinyavin. Vessels are to bring 10-pound stones or bigger in size, carts – 5-pound stones or bigger in size⁷.

Four years later, the emperor ordered all homeowners to independently pave the streets adjacent to their houses and yards. In particular, the Decree of June 18, 1718 “On maintenance of order and cleanliness in the city of St. Petersburg...” prescribed

in the streets and alleys, each resident is to scatter sand opposite his yard and pave with stone, according to the decree, as shown by the masters⁸.

Afterwards, on April 29, 1721, a Decree was issued “On maintenance of lanterns in St. Petersburg; on cleaning and paving streets with stone,” in which the emperor

pointed out the ground which is to be paved with stone, and the drawbridges and canals which should be repaired, and all the streets should be kept clean⁹.

For installing lanterns, paving streets and removing garbage from the city, it was supposed to levy taxes from the owners depending on the area of their land plots. However, on extraordinary occasions, if this tax was a burden to the city residents, then it was the Excise Chamber that bore the costs. The high cost of stone pavements often forced the city authorities and homeowners to pave the streets with wood.

It is noteworthy that cardinal changes in the development of both the general urban environment and pavements occurred during the reign of Elizabeth of Russia. Thus, on August 7, 1742, the empress signed a decree “On the immediate paving of the streets opposite state-owned and confiscated yards...” ordering to fine negligent officials of such departments in the amount of one third of their salary¹⁰. Catherine II also paid great attention to the city's road infrastructure; she issued various legislative and normative acts that regulated the development of streets and their maintenance. In 1765, under the order of Catherine II, the Commission on St. Petersburg Buildings developed general measures for the improvement of the city. Among the planned activities there were works to improve the pavement of the capital's streets:

Streets are to be paved, drains from each house into the canals are to be in good order, streets are to be always swept, and garbage is to be removed¹¹.

On April 26, 1767, a decree was issued regarding the development of streets on Vasilyevsky Island. The government demanded that when cleaning the canal connecting the Bolshaya Neva with the Malaya Neva, the extracted material should be laid evenly over the surface of the streets, starting from the 13th line and up to the Kadetskaya line in order to raise their level. Only after that they were to be paved with stone¹². By this

⁷ *Polnoe sobranie zakonov Rossiyskoi imperii* [Complete collection of the laws of the Russian Empire] (herefoce – PSZ), collection 1, vol. 5, doc. no. 2852 (St. Petersburg: Tipografiya II Otdeleniya Sobstvennoy Yego Imperatorskogo Velichestva Kantselyar, 1830), 127.

⁸ *Ibid.*, doc. no. 3210, p. 575.

⁹ *Ibid.*, vol. 6, doc. no. 3777, p. 381.

¹⁰ *Ibid.*, vol. 12, doc. no. 8597, p. 637.

¹¹ *Ibid.*, doc. no. 8597, p. 637.

¹² *Ibid.*, vol., 18, doc. no. 12883, p. 116.

measure, the authorities expected not only to improve the quality of the road surface, but also to reduce the damage to the island inflicted by frequent floods.

It can be assumed that at that time St. Petersburg streets were paved by different materials, and many of them were not paved at all. Only the streets located in the central part of the city could be called as developed: Nevsky Prospect, Millionnaya, Shpalernaya, Zakharyevskaya, Furshtatskaya, Sergievskaya and other streets. Thus, the main thoroughfares of the capital were paved only by the end of the 1780s. According to M.I. Pylyaeв,

the paving of the main St. Petersburg streets was completed only in 1787. Stone slabs began to be laid only in 1817 <...> until that time, on the main streets there were narrow wooden walkways¹³.

At the same time, most of the city streets remained unpaved. The authorities continued to demand that the owners of houses and yards independently pave the streets with stone. On July 9, 1804, a decree was issued to the military governor, Count Tolstoy, demanding

that the townsfolk, for their own benefit, level the cleared places and pave streets with stone opposite their houses¹⁴.

Significant changes appeared in the 1820–1830s, when not only traditional pavement methods were improved, but new pavement materials were introduced. In the 1830s A.P. Bushytsky wrote about this as follows:

The inconvenience of the cobblestone pavement led to various inventions; people tried to improve the paving with stone, to make strong foundation with cement; they tried to make smooth roads with thick granite slabs, boards, etc.; they made a highway (the length of which last year (1833. – V.M.) was 12,514 sazhen)¹⁵.

Yet, cobblestone continued to be the main material. According to Bushytsky, the streets of St. Petersburg were 6 to 20 sazhen wide. Stone for paving was extracted along the shores of the Gulf of Finland or the Baltic Sea. It was sorted by size, which made it possible to lay out large stones along and across the streets in a line forming two-sazhen squares, cut diagonally by small stones. The space remaining between the lines was also covered with small stones. The space between the stones was filled with broken cobblestones and bricks, and the already finished pavement was covered with sand¹⁶. The area of such city streets in 1832 reached 773 thousand square sazhen. Moreover, in 1831–1832 there were paved 25,452 square sazhen¹⁷.

Wooden pavements

At that time, they began to use wood to cover the street in a different way using the method of laying individual bars with their ends up. One of the innovators was engineer V.P. Guryev, whose method the St. Petersburg authorities used in 1832 paving with wooden blocks the Nevsky Prospect from the Admiralty to the embankment of the Fontanka river. Guryev was so much taken with this idea that in 1836 he published a book about the establishment of a company for the construction of a wide network of

¹³ M.I. Pylyaeв, *Staryi Peterburg* [Old Petersburg] (St. Petersburg: Tip. A.S. Suvorina Publ., 1889), 13.

¹⁴ PSZ, collection 1, vol. 28, doc. no. 21 391, p. 445.

¹⁵ A. Bashitskii, *Panorama Sankt-Peterburga* [Panorama of St. Petersburg], part 2 (St. Petersburg: Tip. vdovy Plushara s synom Publ., 1834), 133.

¹⁶ *Ibid.*, 131–132.

¹⁷ *Ibid.*

intercity roads, along which “land steamers” could run¹⁸. The streets of St. Petersburg were paved using this method until the 1930s. The method of V.P. Guryev who suggested paving roads with hexagonal blocks of 7 inches high and 10 inches in diameter was used especially actively in the 1830–1840s. The blocks were hewn with an ax from 6-inch wood, for which preliminary notches were made on the sawn ends of the logs with a steel hexagon. When laid in the pavement, the blocks were connected to each other with wooden or iron pins¹⁹. For instance, in 1848, the area around the theater-circus on the Bolshoi Theater Square, where the Mariinsky Theater is located, was paved in this way²⁰. However, in St. Petersburg, there were also used other methods of paving on the proposal of other inventors. Colonel Maltsev, Prussian citizen Peter Ramibek and others proposed their own methods of paving. Given the short duration of such pavements, there were also invented various methods of treating wooden pavements with protective substances. In particular, A.F. Stoltzman proposed his rot-proof substance. However, in the climatic conditions of St. Petersburg wooden pavements had many disadvantages. For example, during floods, the blocks floated, thereby destroying the pavement. A witness of the flood on November 12, 1903 describes the condition of a wooden pavement as follows:

The driveway between the Alexander Garden and the Winter Palace is flooded. The blocks, with which the driveway is paved, seem to be the keys of a deformed piano²¹.

New materials of St. Petersburg pavements

There were a lot of enthusiasts in St. Petersburg that proposed both fundamentally new methods and traditional materials for paving St. Petersburg streets. Among these materials were cast-iron slabs and cast-iron blocks. Thus, mechanical engineer A.I. Sokolov sent in 1853 to the United States to study shipbuilding paid attention to the pavements of New York and Boston which were covered with cast-iron blocks, reminiscent of cart-wheels, but much smaller. Upon his return to Russia in 1857 and his appointment as manager of the Kronstadt steamship plant, A.I. Sokolov decided to test this method in the yard of his enterprise. Grand Duke Konstantin Nikolayevich liked the new pavement, and in 1860 he entrusted engineer-lieutenant colonel N.E. Eyler with making a similar pavement along the fence of the New Admiralty near the Penkovy Bridge. In 1861, Eyler described in the “Naval Collection” the way he carried out the order of the Grand Duke:

The cast-iron pavement in Kronstadt is as follows: the entire space for the cast-iron pavement is deepened by 4 inches. After tamping the ground, the recess is filled with crushed granite <...> The crushed stone is tightly compacted, while the roadbed is framed by large cobblestones. On this roadbed, cast-iron blocks were laid, one next to another, in such an order that the spikes of one lay in the recesses of adjacent blocks and vice versa. After installing and connecting the blocks with spikes, all the gaps were filled with crushed stone. A square sazhen of pavement with a roadbed made of crushed granite will cost no more than 40 silver rubles²².

¹⁸ V.P. Gurev, *Ob uchrezhdenii tortsovykh dorog i sukhoputnykh parokhodov v Rossii posredstvom kompanii* [On the establishment of end roads and land steamers in Russia through the company] (St. Petersburg: tip. È. Praca i K° Publ., 1836).

¹⁹ G.D. Dubelir, *Gorodskie ulitsy i mostovye* [City streets and pavements] (Kiev: Tip. A.M. Ponomareva Publ., 1912), 304.

²⁰ A.A. Efimov, “Small and Little-Known Building Projects Accomplished by the Ministry of the Imperial Court in Saint Petersburg in 1840s,” *Peterburgskiy Istoricheskiy Jurnal*, no. 4 (2015): 31.

²¹ S.R. Mintslov, *Peterburg v 1903–1910 godakh* [Petersburg in 1903–1910] (Riga: Kniga dlia vsekh Publ., 1931), 42.

²² N.L. Eyler, “Metallicheskaia mostovaia,” 146–152.

The high cost of cast-iron pavements forced the city authorities to treat such paving methods with caution. Stone and wood continued to be the main materials for paving the capital streets. However, there was increasing criticism and calls for the city authorities to use advanced paving techniques. One of the most consistent critics of the city authorities was the “Northern Bee” newspaper which wrote:

How are wooden pavements built now? People cut the best timber, our most precious commodity, and put the ends on a base of planks exposing it all to rotting and wheel friction! A rare wooden pavement can withstand a year without alteration, and in two years the ends get broken that it is impossible to drive on them. It is slippery for horses, not only in icy conditions, but also in the middle of summer, after heavy rains. The wooden pavement is fine while new, but it is expensive to maintain. Many people will not believe us if we say that a pavement made of cast-iron slabs would be cheaper than a wooden one. Calculate repairs and alterations for 25 years, and then you will make sure of it!²³

The first experience of asphaltting St. Petersburg streets

In the same years when the street near the New Admiralty in Kronstadt was being developed, experiments began to be carried out in St. Petersburg on asphaltting large sections of pavements. However, for the first time this method was used in the capital of the empire in the 1830s. The St. Petersburg press, in particular the “Northern Bee” newspaper wrote about this in 1838:

Recently, the first experiment of paving streets with asphalt has been made in our capital. Along the fence that surrounded the St. Isaac's Cathedral being under construction, from the side of the Blue Bridge, pavements for the experiment were laid out with bricks. In three iron pots, under which furnaces were arranged, the mass was melted, from which asphalt is made. As it was warmed up, granite was put into it, which was stirred with specially designed round shovels. The completely melted mass of black color looks like fresh caviar. It is poured onto the prepared place, granite is added and leveled. It is interesting to test whether our frosts will have any effect on the asphalt. The strength of this pavement was tested in Paris, where a large number of the most crowded streets have already been paved in this way²⁴.

Indeed, by that time, in some European capitals asphaltting had become widespread. At the same time, European entrepreneurs also tried to introduce their methods of paving streets in Russia. Thus, in 1837, Englishman John Heinrich Kassel offered the tsarist government his services in asphaltting the streets of Russian cities. In this regard, Minister of War Count A.I. Chernyshev turned to the chief manager of communications, Count K.W. von Toll with a request to establish a commission in order to consider the possibility of using asphalt from the mines of Seyssel in France, according to the method of D.G. Kassel when paving streets²⁵. However, the commission considered that the materials it had studied could not be applied everywhere, especially in Russia, due to the unfavorable climate. Its members expressed doubt that the asphalt would withstand Russian frosts. In addition, according to the estimates of the commission, the price of 30 rubles in banknotes per 1 m² was very high, significantly exceeding the cost of using traditional materials²⁶. In 1840, a certain Count Monterier addressed a proposal to the Department of Manufactories and Domestic Trade to asphalt pavements in Russia. To make his methods of work more convincing, he asked to give him some section of a metropolitan street

²³ *Severnaia Pchela*, September 7, 1839.

²⁴ *Ibid.*, May 20, 1838.

²⁵ “A.I. Chernyshev to K.W. von Toll. February 28, 1837,” in *Rossiyskii gosudarstvennyi istoricheskii arkhiv* (henceforth – RGIA), f. 206, op. 2, d. 1158, l. 1.

²⁶ “Note of the Commission of projects and estimates. March 20, 1837,” in *Ibid.*, l. 19.

for the experiment to pave it with Boston asphalt. But this time the parties could not agree on the cost of the work either. Later the initially proposed amount for asphalt paving seemed to the count insufficient, which became the reason for terminating the negotiations²⁷.

It should be noted that in 1838, when the pavement near St. Isaac's Cathedral was asphalted, similar work was carried out when paving part of the street near the house of P.N. Demidov on Malaya Morskaya street. Technologically this private order of Demidov was significantly different from that used at St. Isaac's Cathedral. The quality of paving at Demidov's house was incomparably worse. At St. Isaac's Cathedral on the corner of Bolshaya Morskaya street near Gonaropulo's house, the asphalt pavement was built thoroughly and professionally. It was not made of asphalt slabs, as it was at Demidov's house, but of asphalt cubes laid on a foundation and planted in asphalt. According to the authors of newspaper articles of that time, such a pavement could last for many decades, and some believed that it could even endure for as long as the city²⁸.

At P.N. Demidov's house the paving was done badly. In pursuit of saving, asphalt was laid in thin slabs on sand from crushed stone and pieces of granite. The gaps were filled with asphalt on the sand. Already in the first autumn-winter period, this pavement did not stand the test, lost its original qualities, cracked and swelled. Evaluating this work, the press wrote:

One of the most useful inventions of the present day is the asphalt paving of streets and pavements, but it lost the trust of the public²⁹.

Obviously, the author of the article was right in asserting that the experience of paving near P.N. Demidov's house for a long time discouraged the city authorities from asphalt paving St. Petersburg streets. In the 1840–1850s attempts were made by various firms and individuals to asphalt the pavements in the capital, but they were unsuccessful. Such methods of paving were used only on small plots and mainly in private estates. Most streets were paved with either stone or wood. Thus, according to the report of Minister of the Interior A.E. Timashev, on June 13, 1869 Alexander II ordered to pave the pavement of Bolshaya Morskaya street. It was initiated by St. Petersburg governor Count N.V. Levashov, who asked the tsar to allocate 2,647 rubles to the construction department. The paving was to be carried out opposite the city administration building. However, the tsar considered that most of the Bolshaya Morskaya street was to be paved from Nevsky Prospect to Mariinskaya Square, as it had long been in need of repair. In this regard, it was necessary to allocate more funds for the restoration of those areas where state-owned buildings were located. In particular, 2,195 rubles 12 kopecks were allocated to repair the pavement of Mariinsky Square, and 1,336 rubles 16 kopecks for the work near St. Isaac's Square³⁰. The costs of road works were divided into two parts. One part was for land work and the laying of drainpipes carried out at the expense of the city, and the development of the pavement in front of state-owned buildings and private houses was carried out by homeowners or those departments that owned the buildings. Given that the owners of

²⁷ "Order to the Treasurer of the Department of Manufactories and Domestic Trade. July 5, 1840," in RGIA, f. 18, op. 2, d. 1018. l. 17.

²⁸ *Severnaia Pchela*, May 16, 1840.

²⁹ *Severnaia Pchela*, September 7, 1839.

³⁰ "The Letter of St. Petersburg governor N.V. Levashov to the St. Petersburg Administrative Duma on June 28, 1869," in Tsentral'nyi gosudarstvennyi istoricheskii arkhiv Sankt-Peterburga (henceforth – TsGIA SPb.), f. 787, op. 4, d. 120, l. 1.

the buildings might not have sufficient funds, it was decided to spread the payments over 5 years. According to the initial estimates, the expenses of homeowners were not to exceed the payment that they made annually for the repair of the pavement. Thus, they were to pay double annual fee³¹. In total, it was planned to spend 35 thousand rubles. However, by the end of the repair work, the amount of expenses increased significantly compared to the initial estimates. It is noteworthy that out of 43 homeowners in this part of Bolshaya Morskaya street only 33 agreed to have their plots repaved. The others considered that the expenses for these works were to be borne by the city. However, they were reminded that under the law paving at the expense of the city was only done when the street was paved for the first time, and subsequent work was to be paid for by homeowners. It is important to note that the legislative practice of the Russian Empire assumed that all road works in settlements were distributed among the owners of those houses where such types of work were carried out. According to the approved regulation of the Committee of Ministers of April 7, 1823, the paving of streets opposite state-owned buildings in all cities was to be carried out at the expense of the departments that owned the buildings³². These rules also applied to church buildings. Under the order of the emperor in 1811, the paving of streets and squares in front of churches and monasteries was done by these institutions³³.

It should be noted that the city authorities had no shortage of various proposals for the development of streets. Firms and individuals often came up with innovative projects that in their opinion promised the city authorities significant cost savings. Thus, on June 10, 1870, the St. Petersburg City Duma received a letter from St. Petersburg Governor N.V. Levashov, in which he reported that Chief Police Officer F.F. Trepov had turned to him with a complaint about the unsatisfactory condition of the pavement along Officerskaya street³⁴. Lieutenant Colonel V.M. Karlovich, a specialist in the field of hydraulic engineering was ready to do it. The young specialist who graduated from the Nikolaev Academy of Engineering in 1856 had been serving as the city engineer of St. Petersburg for several years. For almost a decade of service, starting from 1866, Karlovich participated in the construction of the Admiralty Embankment, the building of the archive of the State Council and other facilities. He proposed to build a pavement along Officerskaya street with a double row of cobblestones on a layer of coarse sand, “up to 1 arshin thick with drainage, where it would be necessary.” At the same time, Karlovich intended to actively use the stone of the already existing pavement in new works. He also undertook obligations to keep Officerskaya street in good condition for seven years³⁵. However, negotiations on this project yielded no results.

It should be noted that in the middle of the XIX century stone and cobblestone remained the main material for paving the capital's streets. In this regard a contemporary wrote as follows:

³¹ “The Report of the Economic Department of the Ministry of the Interior,” in TsGIA SPb., f. 787, op. 4, d. 120, l. 3.

³² “On the instruction of the Commission of religious schools on paving streets opposite state buildings,” in TsGIA SPb., f. 277, op. 1, d. 1443, l. 2.

³³ “On paving opposite church and monastic sites,” in TsGIA SPb., f. 19, op. 13, d. 778, l. 2.

³⁴ “The Letter of St. Petersburg governor to the St. Petersburg city administrative Duma. June 10, 1870,” in TsGIA SPb., f. 787, op. 5, d. 123, l. 2.

³⁵ “Conditions for entrusting Lieutenant Colonel Vladimir Mikhailovich Karlovich with the development of the pavement along Officerskaya Street,” in TsGIA SPb., f. 787, op. 5, d. 123, l. 4.

Pavements are considered one of the main features of well-organized cities. We do not have data on the basis of which we could make a detailed review of this important part of urban improvement; therefore in the present case we will confine ourselves to only the following data. In general, stone pavement prevails in St. Petersburg: the total amount of space occupied by this type of pavement is 1,315,085 square sazhen. It is followed by a highway covering 45,805 square sazhen, then – block pavement – 7059 square sazhen, and finally, wooden pavement – only 350 square sazhen... It should be added that of the 603 lanes and streets in St. Petersburg, 139 have not yet been paved³⁶.

Meanwhile, the success of using asphalt in Western Europe became increasingly obvious, which convinced Russian entrepreneurs of the possibility of widespread use of this material in the construction and road spheres. At the same time, it was believed in Europe that asphalt could only be used in those areas where the temperature did not fall below 12 degrees below zero. However, contrary to these ideas, some foreign entrepreneurs did not give up the idea of starting asphalt work in Russia. Such an attempt was made in 1871 by representative of the English pavement asphalt company, George Henry Money, who turned to the head of the Ministry of the Interior, Prince A.B. Lobanov-Rostovsky with a request to allow him to asphalt the area from the Chain Bridge, along the Summer Garden to the Troitsky Bridge³⁷. He enclosed with his letter the Articles of Association of the company and a booklet detailing the working method of his firm³⁸. According to the agreement proposed by Money, his company established its subsidiary in Russia, which undertook to maintain the streets indicated by the city in constant good condition for thirty years after paving it with asphalt. If during the first two years after paving of the highway with asphalt, the city economic and construction commission found its condition unsatisfactory, the company would be obliged to dismantle the pavement and restore it to its previous state. The company was obliged not only to monitor the condition of the paving for thirty years, to restore it if necessary, but also to remove snow in winter, to sprinkle sand on the pavements during icy conditions, to remove dirt and take garbage out of the city in summer. In hot weather, the company was to pour water on the asphalt to prevent it from getting ruined³⁹.

After a lengthy correspondence, the city government proposed Money to asphalt the pavement on Lebyazhye or Engineering Highway for 4,540 rubles. However, for this sum the Englishman agreed to pave a small area of 250 sazhen. Acting Civil Governor I.V. Lutkovsky wrote in a letter to the Minister of the Interior as follows:

Money refuses the terms he originally declared, finding now the price he has declared unfavorable for the company and asks for my assistance in achieving more favorable terms⁴⁰.

At the same time, Lutkovsky asked the minister to leave Money's request "without consequences due to the unprofitability of his proposal,"⁴¹ especially since the trading house "Zhdanovich, Tsverchakevich and Co." proposed more favorable terms to the city authorities.

³⁶ E. Karnovich, *Sankt-Peterburg v statisticheskom otnoshenii* [St. Petersburg in statistical terms] (St. Petersburg: Voennaia tipografiia Publ., 1860), 78.

³⁷ "A.B. Lobanov-Rostovsky to N.V. Levashov. September 19, 1871," in RGIA, f. 1287, op. 30, 1871, d. 653, l. 1.

³⁸ "Petition of British subject, Colonel George Henry Money. September 3, 1871," in TsGIA SPb., f. 787, op. 5, d. 205, l. 28.

³⁹ "Draft agreement," in *Ibid.*, l. 29.

⁴⁰ "I.V. Lutkovsky to A.E. Timashev. August 17, 1872," in RGIA, f. 1287, op. 30, 1871, d. 653, l. 7.

⁴¹ *Ibid.*

Conclusions

The presented review of the methods of paving St. Petersburg streets shows that it took the city authorities a lot of time to pave the capital's roads. It took almost a century to bring the streets of the main part of the city into proper condition paving them mainly with stone. It wasn't until the XIX century that the city authorities began to actively look for new materials for paving, trying to reduce their costs while maintaining their durability.

Submitted / Поступила в редакцию: 29.09.2022

Approved after reviewing / Одобрена после рецензирования: 02.12.2022

Accepted for publication / Принята к публикации: 19.05.2023

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Информация об авторе / Information about the author

Владимир Васильевич Морозан, д-р истор. наук, профессор кафедры истории народов стран СНГ, Институт истории Санкт-Петербургского государственного университета; 199034, Россия, Санкт-Петербург, Менделеевская линия, 5; v_moga@mail.ru; <https://orcid.org/0000-0003-4312-0566>

Vladimir V. Morozan, Dr. Habil. Hist., Professor of the History Department of the Peoples of the CIS Countries, Institute of History of St. Petersburg State University; 5, Mendeleevskaya Line St, St. Petersburg, 199034, Russia; v_moga@mail.ru; <https://orcid.org/0000-0003-4312-0566>