

## MAIN SPATIAL PROBLEMS OF ST. PETERSBURG.

Olga V. KRYUKOVA

St. Petersburg State University of Economics, Tourism Department, Saint-Petersburg, Russia  
<http://unecon.ru/fakultet-turizma/kafedra-pt>  
[okrukova@gmail.com](mailto:okrukova@gmail.com)

Vasilii L. MARTYNOV

Herzen State Pedagogical University of Russia, Geography Department, Saint-Petersburg, Russia  
[lwowich@land.ru](mailto:lwowich@land.ru)

Irina Ye. SAZONOVA

Herzen State Pedagogical University of Russia, Geography Department, Saint-Petersburg, Russia  
[iesazonova@mail.ru](mailto:iesazonova@mail.ru)

Svetlana D. POLYAKOVA

Herzen State Pedagogical University of Russia, Geography Department, Saint-Petersburg, Russia  
[akoolina@list.ru](mailto:akoolina@list.ru)

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### Abstract

This article contains very detailed economical-geographical characteristics of each Saint-Petersburg sub-region: history development, size, borders, population, density population, housing conditions and existing industries, engineering, and transport framework. In our opinion on how to influence the agglomeration, the formation is to analyze nowadays city problems and try to develop old and new sub-regions by keeping up zoning. The main issue of today's Saint-Petersburg is a decision to build more high-rise buildings in the new sub-regions or reconstruct the old parts of the city. Nowadays the General plan of the city 2015-2025 leaves two options possible. Most of the city-planning changes are focusing on the development of an engineering and transport framework of Saint-Petersburg, the improvement of the quality of public spaces and the creation of tourist infrastructure. The main goal of city-planning in Saint-Petersburg is still to maintain the cultural-historical heritage and to manage its development according to the modern challenges.

*Keywords: Spatial problems of city sub-regions, building up, structures changes.*

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### 1. INTRODUCTION

The first paragraph starts with the history of Saint-Petersburg. Here we draw an analogy with Rome. The second paragraph starts with the economic geography structure of Saint-Petersburg and its comparison with Moscow. There you can find the list of regions of Saint-Petersburg. The third paragraph contains the territorial division of Saint-Petersburg into regions: Center, Islands, North-West, North, North-East, East, South-East, South, South-West, and West. There you will find detailed economical-geographical characteristics of each administrative region: their history development, size, borders, population, density population, housing conditions and existing industries, engineering and transport framework.

Saint-Petersburg is the second largest city in Russia, it was founded in 1703, located in the North-West of Russia, and it is 650 km away from Moscow. Note that Leningrad and Saint-Petersburg aren't the same as the imperial Saint-Petersburg before the revolution. Nowadays, Saint-Petersburg is a totally new city just situated at the same location. We can draw an analogy with Rome: at the same locations, cities took place after each other through the history. The base of ancient Rome turned into ruins and medieval Rome turned into museums. The same happened with younger city Saint-Petersburg, the city without "historical ruins". There are no pre-evolutional public buildings, which in use with their original historical purposes it proves the statement that modern Saint-Petersburg is completely different from imperial Petersburg. Imperial palaces are occupied as museums, ministries, institutes, banks, restaurants, different shops, and offices.

The economic-geographical structure of Saint-Petersburg is very complicated. Through many years the city was growing without a general plan, and some parts of the city were developing separately. As a result, these parts were disconnected, and then reconnected by transport many years later, when they were completely formed. The planning structure of Saint-Petersburg is more complicated than Moscow's. The auto ring around Saint-Petersburg was built only in 2011. (Bezlepin, M., 2015.) But still, there are no intermediate roads in the city. It is breaking into separate parts not only by the rivers and channels but also by railroads. There wasn't any administrative-territorial division reform in Saint-Petersburg like in Moscow, so since the Soviet period, most of the borders and names are still the same. The biggest change since then is the combination of four administrative regions in the central part of the city into two, that held in the 1990s. Saint-Petersburg's local government is different from Moscow's. In Moscow, the municipal units are combined into municipal regions, but this does not exist in Saint-Petersburg. (Berezin, M.C., 2007.) There are only administrative regions in Saint-Petersburg, but the local governing only exists at the lowest level. The territorial contrast isn't that noticeable as in Moscow, due to the smaller size of a city and the less population, plus there are not much rich or very rich people in Saint-Petersburg as in the capital. Only one part of a city can be defined as a district of the rich people, the Krestovskiy Island.

Saint-Petersburg from an economical-geographical point of view is divided into the following sub-regions: Center (Admiral and Central administrative regions), Islands (Vasilievskiy and Petrograd administrative regions), North-West (Kurortnyy and Primorskiy administrative regions), North (Vyborg and Kalininskiy administrative regions), North-East (Krasnogvardeyskiy administrative region), East (Nevskiy administrative region), South-East (Frunzenskiy and Kolpenskiy administrative regions), South (Moscow and Pushkin administrative regions), South-West (Kirovskiy and Krasnoselskiy administrative regions) and West (Petrodvorets and Kronshhtat administrative regions).

## **2. BACKGROUND**

Every paragraph contains detailed economical-geographical characteristics of the regions. There are nine sub-sections presented.

### **2.1. Center.**

The center administrative region occupies 30 square km, it is the 2,5% of Saint-Petersburg, and there are living 370.000 people or 8% of the total city population. The density of the population is 12.000 people per square km – tt, and it is the highest in density population of Russia. The central region of Moscow has 11.000 people per square km, but in total, the density population of Moscow in the borders before the broadening of 2012 is twice higher

than in Saint-Petersburg. (Bezlepin, M., 2015.) In the Center region of Saint-Petersburg, there are mainly historical buildings: the Palace square, Aleskandroskay Pillar, Admiralteistvo, the Russian Museum, Kazan and Isaac Cathedrals, an ensemble of Smolny Monastery, the Streets of Rossi, Marinsky and Mikhaylovskiy theatres, the Summer Garden and Marsovo field and others. Also, there are important government buildings in the Center: the Constitutional Court of Russian Federation (buildings of Senate and Synod), the Administration of Saint-Petersburg (Smolny), the Legislative Assembly (Mariinsky palace) and also the Government and Legislative Assembly of Leningrad Region. The biggest part of the central region is occupied by house buildings and shopping centers which were built at the turn of XIX–XX centuries, the fastest growing period of an Imperial capital. In the 1890s, the population of the city was 1 mil., in 1910 – 2 mil. in 1915 – 2,5 mil. people. (Saint-Petersburg, 2014.) Most of the population lived in the area of the nowadays Center region. Most of the buildings of the 18-19<sup>th</sup> centuries are kept and even restored, like the building of the former company “Zinger” that it is now used by the famous bookstore “Dom Knigi”. It is not possible to save all the historical buildings due to the age of the structures. Wooden and brick houses are decaying, so it is impossible to install modern facilities. The housing stock of the Center is full of communal flats. Nowadays, the Center is still a place for many big industrial enterprises, some of them were founded in the 18<sup>th</sup> century, like “Admiralteskiy shipyard” on the Neva bank or Obvodney canal. Now most of the industrial zones in the Center of the city are under fundamental reconstruction (Figure 1) that leads to displacement of zones to the periphery parts of the city.



Source: (Saint Petersburg State University, 2014)

**Figure 1.** Industrial zones of Saint-Petersburg under town-planning reconstruction.

There are many public and private universities, and scientific institutes under the regulation of Russian Academy of Science and the historical building of the Russian Geographical Society in the Central district of the city. The Russian Geographical Society is one of the oldest in the world, but since 2010, the main function of the Society was transferred to Moscow branch. Education and Science Research is one of the main specializations of the city Center district. The percentage of scientists, graduate students and students are the highest in the whole Russia. Also, the Center of the city is an important

tourist-recreational zone. It is not just an attraction for tourists because of the oldest hotels like “Astoria”, “Angleter” and hostels, but also for the local citizens where they can find most of the theatres, circuses, nightclubs, and train stations, like Moscow train station, Vitebskey train station, Baltic train station, and Varshavskiy that doesn’t function since 2011. (Transport portal of Saint Petersburg, 2015.) The City center is a transport nodal point for cargo transfer, but also a dead end for the passenger transport. For most of the passengers, St.Petersburg is a final destination via railway, coaches, seaway and air transport, but for a big amount of cargo, the city is a transit point. Moscow, in contrary to the “North capital”, is a transit center for the passengers but not really for the cargo.

## 2.2. Islands: Vasilivsky and Petrogradskiy.

The Vasilivskiy and Petrogradskiy islands are administrative regions. Both islands have concrete water borders. The total size of both islands is 39.000 km<sup>2</sup>, with the population of 330 thousands and density of 8,5 people/km<sup>2</sup>. They also have the same street names, with the difference of the islands abbreviation as a suffix. In the South border, there is Neva river, which is divided into Big Nevka and Small Nevka. Small Nevka separates Vasilivskiy and Petrogradskiy islands. The age of the buildings in the Center is mostly pre-revolutionary, the Islands have buildings of all ages, like Petropavlovskiy Fortress, from the 27<sup>th</sup> of May 1703 till now these are the areas under building development. Vasilivskiy Island has lines from line 1 to line 27. The line is a half of a street. The south parts of the islands are very much united with the Center as in the past Neva river was the main “street” of the city. At the beginning, the capital city was situated at the Petrogradskiy island side (that was called Petersburg as well). And why was that? On the side of Vaselevskiy Island at the beginning of the city planning on the 18<sup>th</sup> century, it was planned to build a new city, and for that, the building of “Twelve Collegiums” was built. Today it is used by Saint-Petersburg’s State University. There were no bridges at that time and in spring and autumn, when the ice was not stable there was no connection at all between the capital, which was situated on Vaselevskiy Island, and the rest of the whole country. At the same time, there was also founded the first Academy of Science and Art in Russia (since 1934, it is situated in Moscow).

In the XVIII century in the 30es, by the empress Anna Ioanna, the Center started to grow as the main part of a city, and islands became just a residential area of simple people (Vaselevskiy), and for poor people in Petrogradskiy. On the Vaselevskiy island was a sea port at that time, at the split of the island, and the building up was on the lines (half a street) and prospects, but Petrogradskiy Island had a very chaotic structure.

In 1843, it was built the first bridge, named “Blagoveshenskiy” and in Soviet time “Lieutenant Schmidt” on Neva river between the Center and Vaselevskiy Island. Since the XIX century, the islands became the home for new industrial zones of the city, today they still include industries such as shipbuilding, electro-techniques, metallurgy, and chemical. (Saint-Petersburg, 2014.)

In the 80s of XIX century, the seaport moved from Vaselevskiy split to Gutuevskiy Island and it is still located there. The former seaport building and the two Rostral Columns are not in use for the last 130 years, but still, it is the most attractive and recognizable tourist point of the city. In 1930, “Trinity” Bridge was built and it connected straight the Petrogradskiy side with the Center, before, the connection was only through the Vaselevskiy Island. At the same time, in Vaselevskiy island, at Kamenneostrovskiy prospect, was the building up of the area for the very rich people, and it is still the only street of the city that was built in one architecture style, the modernist style. The east part of Petrograd side, from the poor district, became the most respectable district of the city, but other parts of the island became typical

areas of multifamily housing. Other islands, between Vasilivsky and Petrogradsky islands, like Kammeney, Elagin, and Krestovskiy became recreational zones for summer residences (so-called “dachas”), restaurants, entertainment places, and parks. Krestovskiy Island, has today the Primorkey park and it is the most prestigious zone for the luxury housing.

In the beginning of the XX century and before the Revolution, the suburb of Vaselevky Island was used for building up the first multistory housings (Decabrist Island). In the 60s of XX century, the multistory building up of residences started again and continues today on the aggregation territories. In these areas, in 2011, was built a new passenger seaport the “Marine Facade”, which continues the construction of the Western Highway diameter, and also new residential districts. On the Vaselevky Island, it is located the passenger seaport “Saint-Petersburg”, that was used before for the international ferries, mostly from Finland, Sweden, and Estonia. “Marine Façade” is used by international ferries as well as huge cruise ships. (Alekseev, O., Genissarskey, O.C., 2013.)

### 2.3. North-West

In the North-West of the city lies Primorskey and Kurortney (resort area) administrative regions. These regions occupy 378 km<sup>2</sup>, with the population of 580 thousands. Both of the regions were built in the 1960s. Kurortney region is mostly free of housing areas, and only 10% of the region has buildings. Primorskey region is the first one, in Leningrad time in the 1960s, that large-panel houses were built, the so-called “Hrujhevka”. From the 1980s till now, these regions are typical residential districts with shopping centers and office centers which first appeared in the 1990s. The transport infrastructure of the regions is developing slower than the building up, therefore, it is still complicated to connect these parts to the rest of the city. (Garaeva, R.C., 2014.) There are two obstacles still in those regions, the railroads to Vyborg and Sestroretsk. There are no straight roads from Primorskey and Kurortney regions. Primorskey region is today the home for the construction of the office center for headquarter of Gazprom, which was renamed later as “Lahta -Center”. At the beginning, this project was called “Ohta-Center” and was planned to be built at the Krasnogvardeiskiy region. Today, “Lahta-Center” is under construction and already the highest building in Saint-Petersburg, it is building with a new law of the local government. (General Plan of Saint-Petersburg, 2000.) Kurortney region till the 90s was called Sestrotetskey region. This region is a recreational zone of Saint-Petersburg for local tourists and not foreigners. Kurortney region consists of many small resort villages on the Finnish Gulf (Sestroretsk, Repino, Komarovo, Zelenogorsk). This region has only one economic industry, the tourist industry. There was one big arm and instrumental factory which doesn’t function anymore. The legal south border of the region is 60 km. away from the Center of Saint-Petersburg. At the border of Kurortney and Primorskey regions, is developing a new efficient industrial zone called “Konny Lahta”. (Saint Petersburg State University, 2014.)

The big western part of the region (West from Sestroretsk) belonged to Finland till 1940, after the WWII all Finnish names were changed into Russian: Terioki became a Zelenogorsk, and Kukkola became Repino. During post-Soviet time Kurortney region became an area of elite building up district of the city. But the process of suburbanization hasn’t been developed much in Saint Petersburg, due to the transport problems of Kurortney and Primorskey regions. Compare to Moscow the process of suburbanization has a very strong development.

## 2.4. North

The north contains Vyborgskey and Kalininskey administrative regions with the size of 25 km<sup>2</sup> and population of 950.000 people. These regions borders are 17 km. away from the Center. Also, these two regions are considered to be very similar. They started to develop in the 1730s as an area for the Medico-surgery academy within a huge cemetery. Part of this cemetery and the main cathedral is Sampsonievskiy, which exists till today. In the 1870s Finnish railway was built, which connected Saint-Petersburg and Gelsingforce (Helsinki), it also led to the industrial development of these regions. Most of the industrial buildings of these years still exist but are now used for business centers mostly. In 1899, north from Vyborg region, was founded the first of the kind in Russia, the Polytechnic University, which provided engineers for the growing industry of the city and the whole Russia. This university is still the leading one in Russia. There is a Military Intercommunication University next to Polytechnic University. The settlement of this area in the 18<sup>th</sup> century was rural and mostly for workers, but it had the biggest of that time Hospital in Russia with its own rails for trams, the name of the hospital was Peter the Great.

Since 1920 to 1930, Vyborgskey and Kalininskey regions were growing fast as residential areas for workers. Blocks of flats in those regions have all the same appearance without any sense from an architectural point of view. In the 1950s, this area was a building up zone for new factories and plants like radio-engineering, electronic “Svetlana”, “Pozitron” and they were all producing the defense power of Russia. From the 1970s till now, these areas are developing and growing as huge residential zones of the city like Shuvalovo-Ozerki, and Grazhdanka. Nowadays, a big number of business centers and entertainment centers are being built there. The transport infrastructure is well developed and has straight connections to the Center and suburbs of the city. A big part of Vyborg region consists of half rural community like Pargolovo, and Levashovo. In the 1980s there was built a new industrial zone called “Parnas”, with the biggest company of today named “Baltika” which is the biggest brewery company in Russia. Since 2008, on the border of Primorkey and Ring highway, there is a construction of a new industrial zone called “Kamenka”, with the big plant of Hyundai company. Kalininskey region ends in the Murino village with the subway station called “Devyatkinno”, there is a different administrative district and it’s called Leningrad’s oblast.

## 2.5. North-East.

Krasnogvardeyskey administrative region lies in the North-East of the city, its size is 57 km<sup>2</sup>, and its population 340.000 people. The organizing axis was river Ohta, and one part of the region has the same name. The first settlements and factories appeared in the XVIII century but didn’t grow till the 1911s, when was built the bridge “Peter the Great” and connected Ohta region to the rest of the city. In 1965, it was built the second bridge named “Aleksandr Nevskogo”. The industrial enterprises of this region are mostly chemical, like “Plastpolimer”. The active building up of residences in this region started in the 1950s but as a fragment of settlements between industrial zones, cemeteries, and neglected ground. This region is the closest one to the center (10 km. away) and also, there you can find the Hydrometeorological University, which is the only one in Russia. This region has favorable perspectives due to its close location to the Center, the Ring Highway Road (KAD) and its well-developed transport infrastructure and free land. There is the newest train station of the city, named “Ladoshskiy” which functions from 2003 and it has the smallest passenger traffic among other train stations. (Transport portal of Saint Petersburg, 2015.)

## 2.6. East

In the East of the city, you can find the Nevsky administrative region, its size is 62 km<sup>2</sup> and its population 470.000 people. (Saint-Petersburg, 2014.) It is the only region of the city that occupies both banks of the river Neva. There are two bridges named Volodarkey (built in 1930), “Vantovey” (built in 2004), and part of Ring Highway Road (KAD) in this region. “Vantovey” (Bolshoi Obuhovskoy) is the only one in the city which had never draw and connected the left bank of Neva river of Nevsky region, with the right bank of the river (Leningradskay oblast). The area of St.Petersburg stretches further, on the left bank of Neva River.

The Nevsky region was founded at the beginning for the industrial needs of both banks of the river. The North part of the region is industrial and it stretches along Obvodney canal, from seaport on Gutievskiy island to Neva river. The biggest enterprises were founded there in the 1960s, like the “Obuhovskiy factory”, also the most famous “Imperial Porcelain Factory” was founded in the XVIII century and still functions as the main fine art porcelain company in Russia. The industrial zone on the left bank contains the railway system of Otyabrskiy railroad and the biggest asserted station in the city called “Sortirovochnay”. The buildings on the left bank were built for workers between wars and were situated within the industrial zone reminding the “spots” settlement of Vyborg and Kalininsky region. On the right bank, the housing area is bigger and the settlement is separated from the industrial zone, historically, the building up started in the 1960s and continues till now, and it formed a residential village named “Veseley poselok”. The distance from the Center is only 10 km.

## 2.7. South-East

Frunzenski and Kolpinski are administrative regions, their size is 143 km<sup>2</sup> with the population of 580 people. The peculiarity of this region is that it starts as an industrial zone, continues as a residential zone (Kupchino) and stretches to Kolpino again with industrial features. The border of the southeast part of these regions lies 25 km. away from the Center and the border between Saint-Petersburg and Leningrad oblast district lays in the middle of the street. The industrial zones of these regions contain old industries. The industrial zone named “Obvodney canal” was founded at the end of the XIX century at the same time as the seaport was founded on the Gutevskiy island. This canal was the shortest way to the seaport and was settled as a mix of houses, factories, and cemeteries. As a result, these regions have a very chaotic planning structure. The industrial zone was also stretching along the railroad of Saint-Petersburg in Moscow. But today, the zone along the canal is transforming into shopping and office region.

In the 1960s, between Moscow and Vitebskiy railroads was being built a new housing neighborhood called “Kupchino”. The residences in Kupchino is one solid settlement without any industrial enterprises. But still, this is the least prestigious neighborhood. Kolpino region contains heavy industrial enterprises and one of the main machine-building enterprise “Izchorskiy factory” that was founded in 1710 and functions till today. A special feature of the South-East is that there are no trunk-roads inside but only local regional roads. (Shalyapin, D.C., 2013.)

The organizing road axis is Sophiskiy street, which was extended to Kolpino in 2009 and it's now 18 km. long, and also the longest street of the city. This street despite the fact that it is a dead-end street, it still continues the building up of office centers, houses, and enterprises.

Moscow region is one of the biggest industrial regions of St.Petersburg. The region is organized by the Obvodney canal and Moscow prospect, it has always connected the city

with the central and south parts of the country. From Victory square (before Sredney Rogatka), Moscow prospect is extended by two highways, Moscow and Kievkey. Most parts of Moscow region is an industrial zone founded in XIX–XX century, with the biggest enterprises like “Electrosila” that occupies both sides of Moscow highway and it is still the biggest producer of heavy energy equipment. The south part of Moscow and Frunzenski regions are residential housing zones. The center of the region is considered to be Moscow’s square, which was planned in 1935 as the center of Saint-Petersburg, and where was also built the “Dom Soviets”, but the plan after the war hasn’t been fulfilled. It is clear that the plan of the new city center was not very good because nowadays the center is having problems with traffic jams.

The south part of the region is an industrial zone founded in the 1930s, and nowadays it has a big number of enterprises: a meat-packing factory, Coca-Cola, and Russian Standard. The residential building up started in the 1960s and it continues till today. There is one of the oldest universities there, the Technological University (since 1828). The traffic situation in this region is one of the best in the city. Moscow’s prospect has duplicated the roads and there lies the part of the East High-Speed Diameter that connects the south and the north part of the city by the highway. There is the Pulkovo airport that used to consist of two terminals Pulkovo-1, Pulkovo-2 (international), in the south part of the Moscow region, but after big reconstruction, it was broadened in 2015 and it functions as one big airport now. (Transport portal of Saint Petersburg, 2015.)

Pushkenskey region with its population of 140.000 people, contains the industrial zone “Shushari” with its specialization in the car industry with the companies: Toyota, Scania, and Opel. (Saint Petersburg State University, 2014.) But the biggest part of this region is a touristic zone that contains palace-parks complexes that were founded in XVIII–XIX century (“Tsarskoe Selo”, “Pavlovsk”). Note that big portion of parks and palaces were destroyed during the WWII and later restored like “Amber room” in 2003. Pushkin region, the also called “city-museum”, has also science specialization in its universities, with its biggest being the Agricultural University, the Military University, and others. The main problem of the regions is its narrow specialization with the limited jobs possibilities. (Berezin, M.C., 2007.) Most people have to travel to St.Petersburg to work during the day and return back to sleep.

## **2.8. South-West.**

Kirovskiy and Krasnoselskiy administrative regions have the size of 163 km<sup>2</sup>, and the population of 670.000 people. The north part of Kirovskiy region is the biggest transport-industrial junction, with Saint-Petersburg’s seaport that was founded in 1885, as the biggest Baltic seaport. Next to the port is the Kirovskiy (Putilovskiy) factory which was the biggest mechanical engineering enterprise in the Soviet time, and it is still producing equipment for nuclear power stations. The second large enterprise is “North Shipyard”, that belonged to the Putilovskiy factory and it is still functioning. (Saint Petersburg State University, 2014.)

In the 1960s started the building up of houses in this region, and continues till today. Due to its transport privileges, there are the Shipbuilding University, the Water Communications University and also fast development. The main road is Stachek prospect that connects St.Petersburg to the Baltic States. Through this region, there is the railroad which started in the Baltic train station and connected the city with Pskov city and Oranninbaum.

Krasnoselskiy region consist of 2 parts that combines Krasnoe Selo in the south part, and the north part in the south-west of St. Petersburg. But today both parts of Krasnoselskiy region are just residential areas of the city. The organizing axis of Krasnoselskiy region is Tallin road, it starts as Marshala Zhukova prospect and further stretches as Kingisepp road. In

general, there are no science institutes only one Police University and the transport-geographical location of the region is a minus.

## 2.9. West

Petrodvorets and Kronshdat administrative regions have the size of 135 km<sup>2</sup> and the population of 180.000 people. Both regions are suburbs. The west Border of the region (island Kotland) is 40 km. away from the city Center. (Platova, E.C., 2003.) Petrodvorets region lies along the south shore of the Finnish Gulf with three merging settlements, Strelna, Peterhof, and Lomonosov. All three were growing around imperial summer residences that were destroyed a lot during WWII and restored soon after the war. Konstantinov's palace restoration was finished only at the beginning of the XXI century. Peterhof is a home for a couple faculties of Saint-Petersburg State University and also for the dorms. It has the status of being a scientific town, but not officially, this status still belongs to the Petrodvorets region. There are some enterprises in this region like "Petrodvorets watch" that was founded in 1721 and still functions but with smaller production, "Bosh and Siemens" was founded in 2007, and the special economic zone: "Noidoff" in Strelna and the industrial park "Marieno" in Peterhof. It is assumed that there will be a new production of electronic cars in the industrial park "Marieno". Kronshdat region is on Kotland island but its settlement is on the east part. Kronshdat was built as the main Russian military navy base and it functioned in this role between 1704 to 1946. It is also the town where all the nautical expeditions have started, including the road to the worldwide voyage. The town of Kronshdat was built as a sea fortress which includes artificial islands in the Finnish Gulf with fortifications on them. At that time, it was the biggest and the strongest sea fortress in the world. It was impossible for enemies to go through that strong fortification system, even during the WWII Germans never tried to attack Saint-Petersburg from the sea. At the turn of the XIX – XX century, Kronshdat fortress was an important military base that inhabited 60.000 people, now there are 40.000. In the 1940s, most of Baltic fleet was relocated to Balteisk (Kaliningrad region). (Nauchnay kniga, 2011.)

In the 1950s, Kronshdat fortress was annulled, and all its armaments were removed. Nowadays, the town Kronshdat is under degradation. Also, it has a connection with the land due to the new built dam that protects Saint-Petersburg from floods. But the Ring Highway lies on the dam as well, so there is a possibility that the new road can lead Kronshdat to development. The last years Kronshdat attracts lots of tourists with its main attraction the "tide-gauge" with zero altitude system that was a starter measure for all altitudes in all Soviet Republics.

## 2.10 Literature review

The article contains 13 pieces of literature and most of them are books focusing on urban planning, the history of Saint-Petersburg, development of the city regions and sub-regions, transport problems of the city, and new mechanism of Managing Spatial Development.

### 2.10.1 Theoretical implications

The background of the article contains a very detailed characteristic of all the administrative regions of Saint-Petersburg, these information can be used for the Strategic Planning of the city and for the urban planning of new sub-regions.

### 3. ANALYSIS

The introduction contains an administrative comparison with the capital city of Moscow and all the paragraphs consist of a detailed economical-geography analysis of all the city administrative regions, including their history.

Any other paragraph reveals the spatial problems of the city's development. The city population is growing and its traffic as well, therefore Saint-Petersburg is facing more and more engineering and transport framework challenges (Gerberg, L.Y., 2015.) By analyzing the present city problems like transport framework and high-density population, the only way for Saint-Petersburg is to try to develop old and new sub-regions by keeping up zoning. Therefore, this is possible to influence the agglomeration formation. By looking at the information and the description of Figure 1 it reveals that the territorial development of the city becomes more and more like European spatial organization. Saint-Petersburg as tourist city year after year receives a growing number of tourists, this number in 2015 was 6,5 mil. people and among them 2,8 million were foreigners, it provided 10% of GDP. (Transport portal of Saint Petersburg, 2015.)

### 4. CONCLUSIONS

By looking at the experienced cities with the UNESCO status like Istanbul and Porto we learn that if the old historical parts are not reconstructed they will become sooner or later neglected slum parts of the city. (Saint Petersburg State University, 2010.) The center of Moscow was rebuilt in 1930-1950s, that never happened to St.Petersburg, but it is a vital need for the "North Capital", referring to the exports, that most of the oldest constructions should be destroyed. The density of the Center is very high, interchange of peristyle yards, courtyard were built to keep wood for heating and domestic hot water for the toilet. There was no electricity or water-pipes or sewerage in those buildings. The main problem for territorial city-planning is still to decide and build more and more new high-rise buildings in the new regions or reconstruct the old parts of the city. It is more profitable to build in the new parts of the city than restore the old ones in the old industrial regions. It is expensive for the city to maintain the old regions and also develop the new ones, this leads to traffic problems and to the formation of degradation zones. Nowadays, the general plan leaves two options possible. On our opinion, a way to influence the agglomeration formation is by analyzing the city's present problems and try to develop old and new sub-regions by keeping up zoning. (Alekseev, O., Genissarskey, O.C., 2013.)

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