



Reinventing Strategic Approach in Governance in Postcovid-19 Period (The Case of Saint-Petersburg in Russia)

A. A. Kaiserov^{1,2} · V.P. Kaiserova³

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Abstract

The COVID-19 pandemic has caused significant changes in urban life that will be noticeable for many years to come. The prevailing model of the big city in the modern world is based on the Sustainable Development Goals (SDGs). However, it is still unclear how the lessons of the pandemic will be reflected in the SDGs. Which of the goals will become a priority. The case of St. Petersburg presents the evolution of the strategic approach in management from 1997 to 2035. The content analysis of St. Petersburg's strategies confirmed our assumption about the imbalance of plans to achieve the SDGs. The SDGs are present in the strategies explicitly and implicitly, which makes it difficult to achieve them.

Keywords Sustainable urban development · City's strategies · Strategic planning · Content analysis

✉ A. A. Kaiserov
kaissarov@hse.ru

V.P. Kaiserova
v.kaiserova@spbu.ru

¹ Department of Management, National Research University- Higher School of Economics, St. Petersburg, Russian Federation

² St. Petersburg School of Economics & Management, 3A Kantemirovskaya, National Research University-Higher School of Economics, 194100 St. Petersburg, Russian Federation

³ Chair of Management and Planning of Socio-Economic Processes, Saint-Petersburg State University, St. Petersburg, Russian Federation

Introduction

The role of cities in the economic development of modern Russia, their popularity among the population as places for life and professional activity is constantly growing. Lappo (2012) identified the main factors of such a trend as: “versatility, innovation, a large concentration of the elite population, economic and geographical location, a special urban environment, rapid resource mobilization, dynamism. “These factors interact favorably in the big city, which turns it into an arena of constant changes and transforms it into a leading city” (Lappo, 2012). Such a process is known in the world as urbanization, which is accompanied by an increase in the urban population and an increase in the number of cities, the spread of urban lifestyle and culture, both for individual citizens and for the country as a whole. There are well-known highly urbanized countries in the world, where cities are the predominant form of settlement. In fact, the cities are the place of concentration of the country’s resource potential in the form of human, labor, economic, industrial, cultural, and sacred and other resources. This fact turns them into administrative, economic, industrial, cultural, commercial, and innovative centers. Moscow and St. Petersburg, as well as global cities, form an important part of the world economy and are endowed with a political, leading and informational role on a global scale, and are the basis for the country’s influence on the international arena (Beaverstock et al., 2011).

Russia is experiencing profound economic, social, demographic and environmental changes, taking into account the COVID coronavirus pandemic in the regions and cities, as the centers of attraction of the country’s population. Therefore, special attention is paid to the choice of the trajectory of the future development of modern cities in the country in the next decade. This choice is of particular importance due to the emergence of new formats of public administration, characterized by openness and transparency of the actions of authorities at all levels. The new formats offer the implementation of management “in the presence” of the society. Moving away from the tools of coercion and pressure on citizens in new forms can mean a reorientation to the interests of society, pushing away the state’s monopoly on governance. Therefore, the urban environment in the modern view is increasingly being formed and managed in such a way that the city can fully realize its potential to improve the well-being and social unity of citizens, as well as to ensure an increase in the standards of environmental efficiency, the well-being of citizens, and the strengthening of international relations. New approaches to strategic planning at the city level, which could guarantee development and prosperity in Russia and the world, are embodied in such concepts as “thinking city”, “creative city”, “smart city”, “resource-saving city”, “garden city”, etc. (Boikova et al., 2011). This is confirmed by studies and publications of Russian experts who research the topic of city development in Russia (the Institute of Urban Economics Foundation, the Center for Strategic Research, the Leontief Center, etc.). In this paper, based on content analysis, we offer a justification for why the model of sustainable development of the city is becoming increasingly popular and focus on how the sustainable development goals affect the content of strategic regulatory acts of St. Petersburg.

Theoretical Background and Applied Practice

This section explains the underlying concepts of this research from a thematic and a methodological perspective. The transition to the information society in the XX century was caused by the achievements of information and communication technologies. New technologies have offered new opportunities for the development of cities: internal resources that determine the spatial development and quality of the urban environment have become particularly important (Landry & Bianchini, 1998). New platforms in the form of open public spaces are being created in cities for the interaction of stakeholders in different spheres of life (Lord, 2014). The emergence of a new type of interaction between people using information and virtual technologies, especially in the context of the COVID-19 pandemic, it is increasingly spreading to almost all spheres of activity of a modern person in the city. There is a new control field in the city – a virtual one. But the experience of various cities around the world shows that intellectual development should not be associated only with the introduction of ICT, since “smart” initiatives not only entail changes in technologies, but also transform investments (in human capital, in urban life practices, in environmental conditions) (O’Connell, 2008). In other words, ICTs are an addition to human and organizational capital, the use of which is formed by technology suppliers and city authorities because of the political choice of citizens and the characteristics of the urban system, depending on the needs and habits of citizens.

The cities of the future have an impact not only on the local community, but also on the global environment and economy. Living conditions, functionality, and comfort of cities directly affect the lives of most people and, gradually, cities become key factors of national and sometimes even regional economies. However, very few examples can be found in Russian cities about the management practices of the future that would demonstrate the implementation of flagship development projects, for example, in the field of alternative energy, effective solutions in the field of ecology, the introduction of digital technologies for regulating automobile traffic, etc. The popular concept of a “smart city”, as an innovative concept in the management of the urban environment in the future, may be an answer to the challenges of high competition for resources and sustainable development. It implies the introduction of not only innovations in the urban environment, but also the active interaction of the parties that influence this environment. However, the disproportions in development and opportunities in cities complicate the management process. Moreover, for this reason, future trends are inevitably projected at the city level into strategic regulatory acts (strategies, forecasts, action plans, programs, projects). In the new realities of the COVID-19 in Russia and the global crisis and coronavirus pandemic, when there is a general decrease in the flow of investments in all cities, regional and local authorities will be forced to restructure assets and verify ideas about the future based on the allocation of the most valuable of them in the adopted Strategies of Russian cities.

Strategic planning procedures are applied to the regulatory acts of Russian cities. St. Petersburg in Russia, since 1997, shows a vivid example of the implementation of the first Strategic plan. There is no doubt that new principles of urban organization and a new urban economy are necessary for the long-term perspective. Thus, the Strategy of socio-economic development of St. Petersburg until 2035 clearly indi-

icates the trajectory of movement towards the concept of a “smart city”. This confirms the movement from the brief expression of the general development goal in the Strategy – 2030. For example, with the slogan as “a global, reasonable, humane city” (The Strategy of socio-economic..., 2014) to the change of the triune ideas about the future of the city in the Strategy – 2035, which reflects the triune slogan “city of innovation, comfortable city, open city” (The Strategy of socio-economic..., 2018). Such an expression of the goal for the future of St. Petersburg is quite understandable by the desire to switch to resource-saving and resource-producing technologies in the future, which will help it become richer and more efficient. These goals for the development of the urban environment are borrowed from the generally recognized world ideas about the innovative transformation of urban economies and the change of the world paradigm in the use of natural resources. Currently, the solution of global problems is often based on the use of conceptual models, often alternative for the future of the city. The purpose of developing models is to ensure the prosperity and viability of the city itself. We can identify the leading models that best meet the capabilities and needs of a modern city. The model should give an idea of how to achieve the goal and the factors of development. At first glance, the conceptual models cover all areas of urban development in which crisis phenomena manifest themselves. However, not all models can be confirmed empirically. The sample of models analyzed by us included the most popular and developed by researchers, which became the object of our more detailed consideration. Therefore, the topic “urban studies” from the articles of the journals of the Scopus list of the international scientific citation database “The SCImago Journal & Country rank” are crucial to this analysis. In this paper we put at the initial stage, all models of cities in articles published in the top positions of the rating, in the first twenty journals over the past 5 years (from 2014 to 2019) (International Rating of Journals Derived from Scopus Database. The SCImago Journal & Country Rank..., 2019). As we discuss below articles corresponding to the topic “models of cities of the future” were selected. If the title of the article mentioned a particular model, then it was analyzed at the next stage. Next, a database of research keywords describing each of the models of the city’s development was formed. The collection of keywords was carried out as follows: from the publications selected at an early stage of the analysis on the selected topic and the lag in time of publication, their keywords were collected. The analysis of previous studies allows us to identify a spectrum of the eight most common models of urban development in the world (Table 1).

The variety of ideas we have identified about the future shows that researchers and experts in different countries justify them with a multidimensional characteristic of a modern city and the presence of different managerial experience. Therefore, in the conditions of the changing external and internal environment of the city, it is necessary to choose development ideas and long-term priorities, optimize often-scarce resources and solve the tasks of creating an attractive urban environment for citizens and external stakeholders (investors, tourists, visitors).

We analyzed eight concepts of the future for cities and all their keywords, which were collected by us on relevant topics from publications in peer-reviewed journals. The terms included in the study were considered from different angles, reflecting the positions of various stakeholders, but in all models of cities, we noted that they mainly pursue a common *goal of long-term sustainable development* [authors’ ital-

Table 1 The most popular models of future development for cities in the world

N	Model	Core Idea
1.	Creative city	A city with a creative economy (new ideas, innovation) and a creative class (a person who has the ability to learn) at the center of its development. Thanks to these components, the city develops and competes with other cities. (Landry, 2012; Florida, 2005)
2.	Smart city	Development and improvement of interconnected intelligent urban systems that use data and technologies to achieve integrated management and interaction (Deakin, 2012)
3.	Livable city	The city as a space suitable for human life is the fundamental basis of the global competition for attracting resources. At the center of development is the improvement of the quality of life of the population (Antonescu, 2017)
4.	Sustainable city	A concept that originated from the ecological interpretation of development and developed into a paradigm of balancing all the structural elements of the city (economy, ecology, culture, institutional sphere, social) in order to maintain and increase them for future generations (Tetior, 1999) (Verma & Raghubanshi, 2018)
5.	Resilient city	Cities that are able to recover and prepare for future shocks (economic, environmental, social and institutional). This is a city that will be able to carry out its functions in any situation (Jabareen, 2013)
6.	Eco-city	A city whose development focuses on reducing the negative impact of urban space on the environment, as well as on human health and quality of life. Ecological landscape, eco-friendly industry and eco-friendly culture are cultivated Kenworthy J., (2006), a focus is being formed on the desire to switch to an environmentally friendly economy, industry, transport, resource use, urban planning (Low, 2005; Cocchia, 2014).
7.	Digital city	A city based on the network principle and technological platforms (IT technologies) for the purpose of managing information and communications, providing new services to citizens and obtaining new opportunities (based on big data) for managing the urban environment. Main areas of use: security, resources, climate, transport, urban mobility (Cocchia, 2014).
8.	Tech-city	A city that adapts to modern problems and technological changes, as well as to the future individual needs of people. Main methods: high-tech clusters of global manufacturers and sellers of IT technologies and products (Verebes, 2013)

ics). Depending on the object of influence, the authors of models, both in broad and narrow meanings, use the same terms. Thus, adherents of the concept of a "smart city" (Deakin et al., 2014), as a rule, associate the future with the improvement of urban systems that use open data and technologies to provide integrated management, and opportunities for interaction, reflecting broader social and political forms of "smart" development. Under the idea of the future for city management in a narrow sense we consider a way to improve the functionality of the city with the help of information and communication technologies (ICT). Many researchers believe that the use of certain algorithms for working with information, the development of technological platforms will help solve many problems of urban development. However, in a broader sense, when the smart city model is proposed as a way to improve the work of public authorities, the authors focus on "high-quality city management with the involvement of urban development leaders, "smart population and investors, and, at the same time, with the use of modern technologies" (Allwinkle & Cruickshank, 2011).

We also identified the necessary data set for the study, applied the methods of quantitative, and network analysis, the method of analyzing regulatory acts on the strategic development of cities. The generated database of keywords was interpreted using network analysis and processed using the "Gephi" software, which is able to graphically visualize networks, connections between their nodes in the analyzed central sample. The analysis algorithm included five key procedures: first, each keyword from the database of their analyzed concepts about the future development of cities in scientific articles was assigned an individual code (nodes of connections between the keywords of the analyzed concepts of urban development were formed); secondly, the nodes were formed on the basis of previously created codes. The nodes combined keywords from publications on the analyzed topic with their corresponding models. As a result, we received "local" communities from groups of keywords that are concentrated around the analyzed models of urban development published in leading international scientific journals. Thirdly, the function of the "Gephi" program was used for the nodes we selected, which were repeated in the scientific articles of the researchers. Associations ("glues") have emerged between "local communities" of key scientific concepts in published articles by leading researchers of the world. So there were connections (or edges) between the models of urban development published in journals. The fourth stage of the work consisted in determining the frequency of repetition of keywords in publications - the scale of the node itself was set. At the fifth stage, the final procedure of the work allowed us to distinguish each "local community" from groups of keywords led by a certain model of city development. For greater clarity, we have painted the "local community" of scientific concepts about a particular model of city development in the chosen color: red - "creative city"; yellow - "smart city", purple-city - "livable city", light green - "sustainable city", blue - "resilient city", dark green- "eco-city", gray - "digital city", dark gray - "tech-city". Intermediate colors were clearly obtained at the junction of the models (Fig. 1).

Research publications from "The SCImago Journal & Country Rank" were the main source of information. Formalized analysis of the content of articles ("content analysis") it has become the main method of collecting information. The translation of qualitative information into quantitative indicators was carried out through the

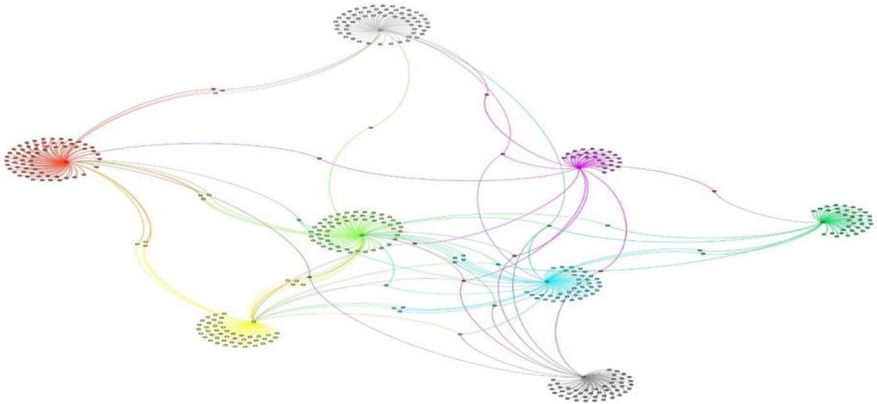
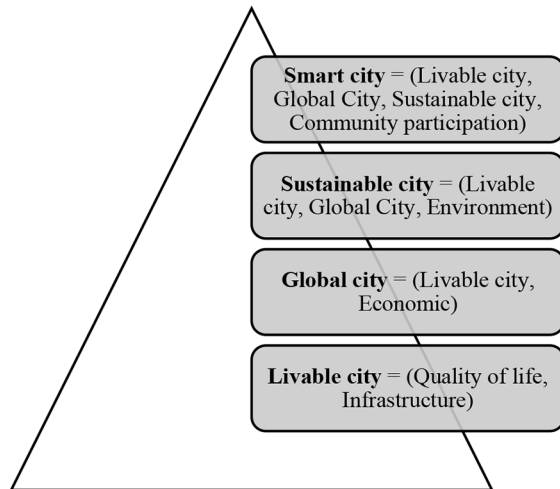


Fig. 1 Analysis of keywords of theoretical models of cities of the future from the TOP-20 journals of the database “The SCImago Journal & Country Rank” on the subject of “urban studies” for 2014–2019 (based on the analysis of portal data <http://www.scimagojr.com/> using the “Gephi” program)

definition of semantic units of analysis: all publications united by the topic “models of cities”, which had this topic in the title of a scientific article, served as the basis for further study. The quantitative characteristic that determines the description of the model of the future development of the city is the keywords from the published articles. They recorded the regularity of the authors’ use of the analyzed models in the scholarly journals. With the help of the “Gephi” software, the structures of connections between the concepts of cities in the works of researchers on the subject were considered. Each actor is embedded in them, in our case, a model of the city’s development. For an objective assessment of urban concepts, it is important to understand how their individual element is embedded in the overall structure, and how this structure arises from the micro-relationships between the individual parts of the theoretical description of the future in scientific ideas for the city. The results of the study of modern concepts of the future of cities determine, in our opinion, the priorities of modern city management. The relationships themselves in the city are as fundamental as the actors they unite. The possibility of comparing these relations can potentially reduce the uncertainty in the issue under study. Our research has shown that in world practice, the greatest density of connections is observed between four conceptual models of future urban development: “sustainable city”, “smart city”, “resilient city”, and “creative city”. The key concepts that researchers use for models of urban development in the world act as complementary. The theoretical model does not exclude additions and borrowings of ideas from other scientific ideas and concepts. As our results have shown, the concept of “smart city” is popular among researchers, but not the most relevant. Today, the concept of sustainable city development (“sustainable city”) and the concept of a creative city (“creative city”) come to the fore for strategic choice in cities. They are used even in those cities that are already known in the world as advanced, “smart cities” (for example, in Barcelona, the first city in the world in the ranking of “smart cities” from the TOP 5 world cities of the world, Amsterdam and others (Peter High, 2015). Thus, researchers from the UK are trying to deter-

Fig. 2 The main models of urban development according to Yadav and Patel (2015)



mine the contribution of the ideas of a “smart city” to achieving the sustainability of the city, as the main planned result. These conceptual frameworks assume important accents: the city should be “smart”, but this is not considered in the system of control actions in it as an end in itself. The prevailing trend towards achieving the goals of sustainable development of the city is the most common in publications. (Ameen & Mourshed, 2019) The point of view that the concept of a “smart city” is just a tool for achieving the main goal: ensuring the sustainability of cities adds understanding (Aina, 2017). Researchers from Austria agree with this position (Pardo-García et al., 2019), who developed an information platform based on big data for analyzing and supporting urban decision-making. The main goal of the project is the long-term goal of achieving the sustainability of the city’s development. The presence of interrelations of common approaches is noted by Yadav & Patel (2015). They are trying to find a comprehensive solution for the future development of the city, which, among all city models, they consider approaches to a sustainable city (“sustainable city”) to be unifying ideas, and they are complemented by the “liveable city” model, a city suitable for life, the “global city” model - the development of a global city and the smart city model - “smart city”. Based on a chronological analysis and the basic needs of citizens, these authors prove that these models complement each other (Fig. 2).

This is confirmed by the practice of a number of countries. The Prime Minister of Sweden, K. S. Löfven stressed that «achieving the goal of sustainability is a complex, multi-stage process, there is no single solution to which, and which consists of thousands of small steps.“ At the initiative of the Nordic Council of Ministers, the project “Nordic Sustainable Cities” was created. It is aimed at promoting and sharing common urban practices. Based on the document “The White Paper on Nordic Sustainable Cities”, an effective scheme for using a variety of ideas to achieve the common goal of forming a sustainable city was proposed (Borges et al., 2021).

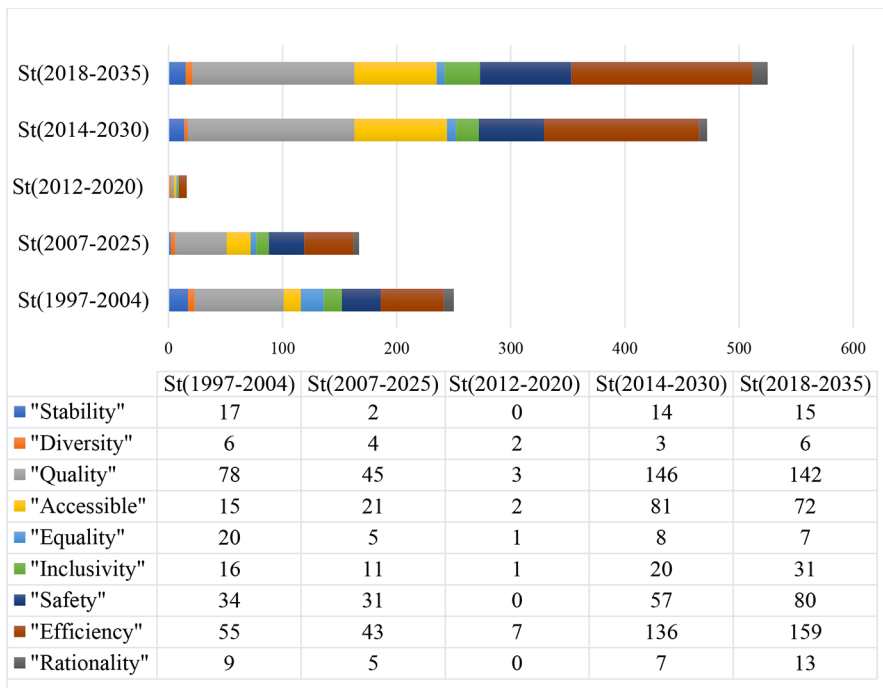


Fig. 3 The frequency of the use of marker words that characterize the essence of the concept of sustainable development in the strategic regulatory acts of St. Petersburg 1997–2018

Research Methodology

The main guideline for the development of a city is its general goal or mission, which complemented by specific sub-goals. Goals, priorities and tasks should have the following characteristics, on which the effectiveness of the strategy depends: measurability, certainty (in time), achievability and consistency (Staford-Smith et. al., 2017; Prakash et al., 2017).

We find these parameters in the strategic regulatory acts of St. Petersburg from 1997 to the nowadays. The SDGs in the strategic acts of St. Petersburg are defined both explicitly, which is confirmed by the use of the marker word “sustainable”, and implicitly when using other marker words “stability”, “diversity”, “quality”, “accessible” etc. (Fig. 3). In other words, the absence of the declared SDGs did not mean their actual absence, because they were hidden under other goals.

The hypotheses of our study are as follows:

- Hypothesis #1. The strategic regulatory acts of St. Petersburg for 1997–2018 within the framework of goal-setting are based on the values of the sustainable city model, both in explicit (declared) and implicit (real) form.
- Hypothesis #2. The concept of sustainable development is at the heart of the current Strategy of St. Petersburg in an explicit form.

Table 2 Strategic regulatory acts in Saint Petersburg in Russia, 1997–2018

#	Regulatory act	Adopted	Code
1.	Strategic Plan of St. Petersburg	01.12.1997	Strategy 1997-2004
2.	The Concept of Socio-economic Development of St. Petersburg until 2025	20.07.2007	Strategy 2007–2025
3.	The Concept of Socio-economic Development of St. Petersburg until 2020	28.03.2012	Strategy 2012–2020
4.	Strategy of economic and social development of St. Petersburg for the period up to 2030	13.05.2014	Strategy 2014–2030
5.	Strategy of socio-economic development of St. Petersburg for the period up to 2035	26.06.2018	Strategy 2018–2035

- Hypothesis # 3. The greatest attention in the strategic regulatory acts of St. Petersburg is paid to the social sphere for the sustainable development of the city.

The need to develop the program “Sustainable Development of St. Petersburg” was noted in the Strategic Plan of 1997, in accordance with the signed international agreement “Agenda for the XXI Century” (United Nations, N.Y., 2015). And the strategic plan of 2014 notes that «the strategy of St. Petersburg is based on the values of sustainable development, the principles of which are set out in the UN report Our Common Future” (The Strategy of Economic and Social Development of St. Petersburg until 2035..., 2018). The strategy of the city – 2035 states that its implementation should lead to the achievement of indicators of sustainable development of St. Petersburg. The exception is the strategic document, which was approved as part of the goal-setting until 2020. There was not a single explicit reference to the concept of “sustainable city”. The trend we noticed is confirmed by the content analysis of five documents based on the calculation of the frequency of mentioning the keyword “sustainable”, which we interpreted as sustainable development (Table 2).

To test the hypotheses of our study on the degree of feasibility of the dominant model of sustainable development of the city in the current Strategy of socio-economic development of St. Petersburg, an analysis of the content of the concept of “sustainable city” and international classifications according to the system of criteria for assessing sustainable development was carried out (Prakash et al., 2017; Kaur & Garg, 2019; Ameen & Mourshed, 2019). We used five subsystems: 1) economic domain; 2) social domain; 3) cultural domain; 4) environmental domain; 5) institutional domain and the method of content analysis, a quantitative and qualitative tool for studying the textual content of regulatory acts. The content analysis was based on five strategic regulatory acts of socio-economic development, which were approved in St. Petersburg in 1997–2018 (Fig. 4).

Such a method based on the MaxQDA program has the characteristics of accuracy, efficiency, objectivity, reliability and validity, to identify the explicit and hidden meanings of text content.

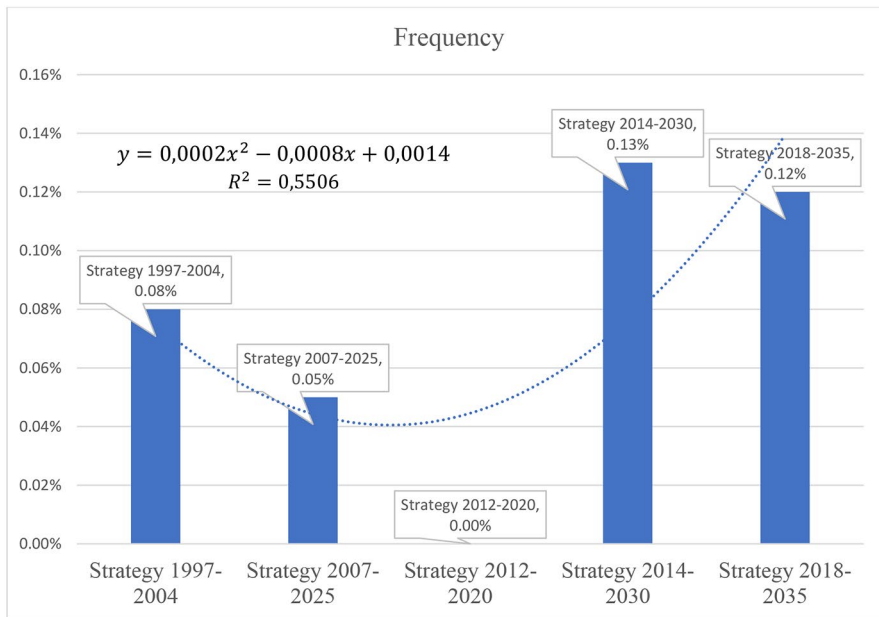


Fig. 4 The frequency of using the marker word “sustainable” in the strategic regulatory acts of St. Petersburg

Results of Analysis

The frequency of mentioning the marker word in the acts analyzed by us is not explicitly expressed: from 1997 to 2012, the obvious interest in the idea of sustainable development gradually decreased. In 2014, the peak of the use of this concept occurred. In 2018, there was a slight decrease in interest in the word-marker. The general trend in documents is changeable: The growth of attention to the model of sustainable development of the city is clearly reflected in four of the five strategic documents in St. Petersburg, but in different volumes. The study of the implicit or real reflection of such attention was carried out based on keywords that characterize the essence of the model of sustainable urban development. They were identified by using software SeoTXT.com to optimize the text of research papers devoted to this topic (Fig. 3).

The constructed trend line illustrates the general growth of implicit attention to the concept of “sustainable city” in the strategies of socio-economic development of St. Petersburg (Fig. 5).

The second stage of the analysis is to determine the dominant sphere of urban life, according to the system of criteria for sustainable development of the cities of Russia. Its elements have become marker words. We have identified the following domains and marker words: 1) Society (*income, housing, healthcare, education, social services, transportation, labor*); 2) Economy (*employment, investments, innovations, clusters, entrepreneurship, production, construction*); 3) Culture (*civil society, infrastructure, events, heritage, tolerance, traditions, tourism*); 4) Environment (*water,*

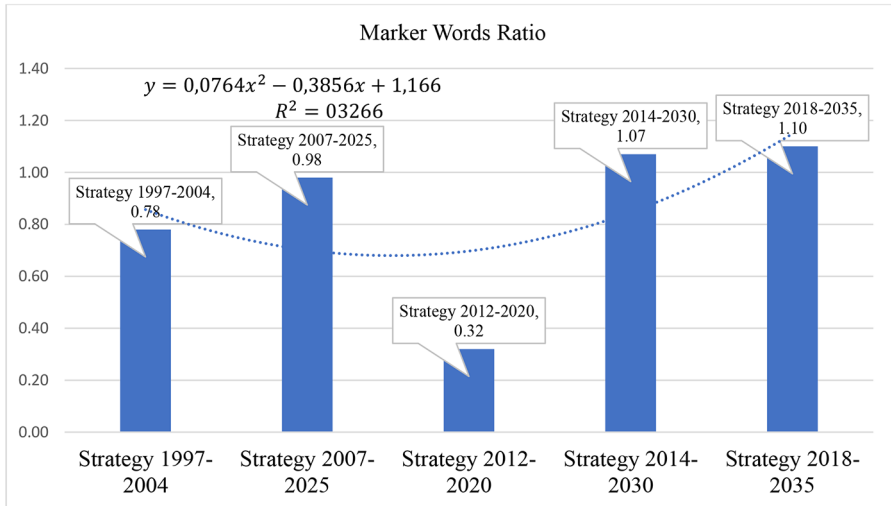


Fig. 5 The marker words ratio in the implicit use of the concept of sustainable development, in the strategic regulatory acts of St. Petersburg 1997–2018

atmosphere, green spaces, wastes, recycling, ecology and climate, energy); 5) Institutions (*external interaction, internal interaction, public services, local government, transparency, planning, e-governance*).

As part of the study, we decided to study a specific section of each of the analyzed regulatory acts: the direction of goal-setting, which was disclosed in strategic priorities, goals and objectives, since it is here that the main directions of development of the city are laid. The main areas of analysis for St. Petersburg were chosen: the economic sphere (orange), the social sphere (indigo), the environment (blue), the cultural sphere (grey), the institutional sphere (yellow), which were also used as marker words. Visually, the results were obtained, allowing us to formulate the main patterns of the strategic development of the city for 1997–2018 (Fig. 6).

We see the greatest attention to the development of the social sphere of the city in the strategic regulatory act of 1997, and the least attention is paid to environmental problems. This trend continues in the strategic regulatory acts of St. Petersburg until 2030 and until 2035.

An analysis of the strategic regulatory acts of St. Petersburg in the context of sustainable development showed that hypotheses #1 and #2 were partially confirmed, since the conditions for mentioning the “sustainable city” model in the text were seen in an implicit (real) form. Hypothesis #3 was fully confirmed, since in the goal-setting sections of all strategic regulatory acts, we found the greatest attention to the development of the social sphere in St. Petersburg.

Therefore, we believe that the current strategy 2035 needs to be reformatted based on the organization of a new round of interaction between all stakeholders. The smart

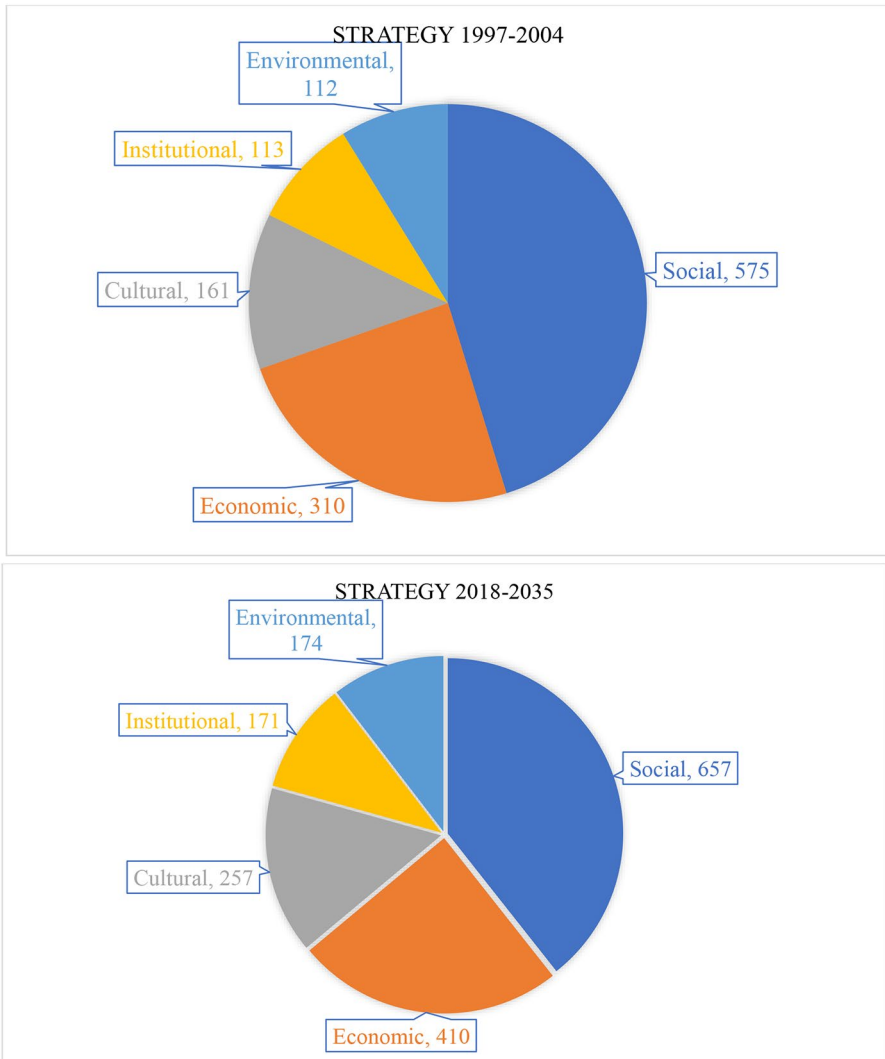


Fig. 6 Content analysis of the domains of strategic regulatory acts of St. Petersburg, 1997–2018

city model declared in St. Petersburg must explicitly meet the Sustainable Development Goals.

Recommendations and Conclusions

St. Petersburg focuses on the famous megacities of the world when developing its strategies. The content analysis of the strategic regulatory acts of the city showed that in most of them (4 out of 5), the implementation of the sustainable development model is explicitly planned, and in all approved strategic guidelines it is present in an

implicit or real form. We have noticed that the desire to follow global trends in the design of the future in St. Petersburg is increasing (Bouton et al., 2012). The study of the strategy of current St. Petersburg illustrated the presence of the problem of imbalance in the implementation of the model of sustainable development. The leading sphere of the city in terms of sustainability is the social sphere.

The lack of clarity in strategic goals significantly complicates the design of urban development programs for territories and spaces, urban plans and projects. Therefore, we can recommend avoiding ambiguity in defining the city's development goals and clearly stating the SDGs in strategic acts. The presence of implicit goals disorients the management team in determining planning priorities, leads to inefficient use of resources.

Hence our next recommendation: strive for a balanced development of various domains of urban life. The social sphere is certainly an important part in the city's strategies, but sustainable development is impossible without outstripping the growth of lagging domains.

Finally, the management team should be selected based on its ability to achieve the SDGs.

As a further field of research, we consider the verification of the main socio-economic indicators for assessing the sustainability of the economic, social, cultural, institutional, and environmental domains of urban life.

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Informed Consent - None.

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