

# Quality of Urban Environment as a Factor of Development of Municipal Formations

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**Abstract**—The given article is devoted to the analysis of the notions of urban environment, urban environment quality and priority projects. It presents the review of Russian federal legal regulations in the sphere of provision of urban amenities and development of comfortable urban environment. The research utilizes comparative-analytical analysis procedures aimed at appraisal of ranking position of the city of Tomsk in comparison with other cities of Siberian Federal District. Major issues of comfortable urban environment development are studied. Conclusions on topicality of priority projects and necessity of utilization of urban environment quality index for the purposes of adoption of efficient managerial decisions are made.

**Keyword**—*quality of life, comfortable urban environment, priority projects, spatial strategies.*

## I. INTRODUCTION

Nowadays, urban territories function as ‘development centres’ that accumulate financial resources, innovative technologies, various infrastructure and highly-skilled workers. Therefore, they act as a driving force of innovative economy.

In the context of world economy globalization, increase in mobility of population and high inertness of socio-demographic processes human resource competition is becoming more and more acute. It determines heightened requirements to life level and urban environment quality which are to satisfy educational, scientific and research, recreational, communicative, information and other needs of citizens.

## II. TOPICALITY OF THE ISSUE, SCIENTIFIC ACTUALITY GIVEN WITH BRIEF LITERATURE REVIEW

Under competitive conditions a need to develop comfortable urban environment, modern conditions illegible for business development, efficient communication in local and global information sphere arises. Scientific actuality of the research derives from importance of scientific analysis of issues connected with theoretical and practical significance of urban environment quality growth.

Considerable contribution into analysis of ‘urban environment’ notion has been made by A.V. Bikmaeva, E.A. Vagner,

B.M. Vyatkina, Y.L. Demurina, I.N. Ilyina, Y.A. Kotova, A.V. Pochtovaya [1-7].

According to various approaches, urban environment is characterized by a unity of natural, architecture and planning, ecological and other factors composing habitat on a certain territory and determining comfort of living on this territory.

Analysis of factors affecting quality of urban environment has been conducted by A.A. Starikov, A.I. Kotov, V.V. Kryukov, G.U. Morozova, I.D. Debela, E.S. Fedotov [8-12].

Quality of urban environment is comprised of a number of parameters characterizing condition of a particular local organization. The main parameters are: condition of the environment (ecology), urban density, transport accessibility, public amenities, accessibility of social infrastructure, utilization of eco-friendly technologies, resourcing, geographical position and climatic conditions [8]. Enumerated factors do not only define quality of urban environment but also affect quality of life and human potential level.

Starikov A.A. specifies that urban environment becomes an outcome both of natural conditions and human activity and is characterized by comparability applied to assess its quality [9]. The given attitude towards defining urban environment leads to necessity to offer criteria of urban environment quality measurement. This aim is fulfilled by creation of certain rankings, such as General Index of City Attractiveness developed by the Ministry of Regional Development of the Russian Federation [13] or international indices such as City Blueprint, European Green Capital Award, European Green City Index, and Global City Indicators Programme.

The integral ranking of 100 biggest cities developed by experts of Spatial Planning Institute “Urbanica” was developed on the basis of the most essential criteria among which there is provision of housing, load of transport services, existence of modern formats of consumption, crime rate, capability of housing trade, housing and utility complex expenditure level, purchasing power and many others. The integral method of Russian cities’ ranking is based on objective evaluation of cost and quality of living in a city for its citizens.

In recent years considerable contribution into evaluation of quality of urban environment has been made by experts of ‘Strelka’ consulting agency who developed an Index of Urban Environment Quality [14]. The ranking covers almost all large and small cities of Russia (1112 in total) and allows comparing cities of Siberia which have similar climatic and socio-demographic conditions.

Scientific and practical novelty of the research lies in the fact that evaluation of urban environment in Tomsk is conducted in accordance with the Urban Environment Index which in its turn is treated as a means of development and goal-setting for local administration.

**III. AIM SETTING**

The aim of the research is to conduct analysis and evaluation of the level of development of urban environment in Tomsk and study factors which allow evaluating the level of development of urban environment on the basis of their analysis and comparison with the most developed city formations.

**IV. THEORETICAL PART**

At present Russian Federation is implementing several priority projects aiming at sustainable development of Russian cities. The main are ‘Housing and Utility Complex and Urban Environment’ [15] and ‘Comfortable Urban Environment Development’ [16], whereas ‘Friendly Environment for Human Life and Activities Development Programme’ has been only recently developed.

Fundamental documents in the sphere of provision of urban amenities and comfortable urban environment development are Federal Law as of October, 6<sup>th</sup> 2003 No. 131-Φ3 ‘On general principles of municipal government organization’ and Federal Law as of June, 21<sup>st</sup> 2014 No. 212-Φ3 ‘On basics of public control in the Russian Federation’.

Federal Law No. 131 stipulates the right and types of direct involvement of citizens in local self-government execution. The documented types are citizens’ meetings, territorial public self-government, public hearings, public debates and others.

What is more, Russian Federation Construction, Housing and Utility Service Ministry Order as of October, 31<sup>st</sup> 2017 No. 1494/np affirms Russian municipal formation’s urban environment quality assessment index procedure. The index depicts the condition of urban environment of cities belonging to municipal formation in a digital form. The digital value is comprised of criteria obtained through comprehensive assessment of quantitative indicators characterizing comfort level of living on a certain territory.

The procedure is utilized for assessment of municipal formation’s urban environment quality level and also for assessment of urban environment quality within the subject of the Russian Federation by means of calculating an integral index based on indices of territories comprising the subject of the Russian Federation. According to the Ministry’s website data the assessment of municipal formations based on the described procedure will be annually conducted in the framework of implementation of ‘Development of Comfortable Urban Environment’ priority project.

**V. PRACTICAL IMPORTANCE**

We are going to consider urban environment quality using example of the city of Tomsk. Tomsk is one of the oldest cities in Siberia, a large educational, scientific and innovative centre. Tomsk is the only city which charter manifests the leading position of scientific and educational complex. Therefore, universities start gaining new importance in development of urban territories, the public face of ‘creative city’. The collaboration of universities and the local government will be particularly noticeable in the future image of the city and city’s environment.

Among the five major administrative centres of Siberian Federal District Tomsk held the second place in the average pay and made the top three in a number of key economic indicators per capita such as investment volume and introduction of housing into service in 2015 (Table 1).

**TABLE I. COMPARATIVE DEVELOPMENT INDICATORS OF SIBERIAN FEDERAL DISTRICT CITIES IN 2015**

<b>Indicators</b>	<b>Tomsk</b>	<b>Novosibirsk</b>	<b>Omsk</b>	<b>Krasnoyarsk</b>	<b>Barnaul</b>
Population, thous. people	590,7	1584,1	1178,1	1067,9	700,3
Average monthly notional gross payroll, RUR	39053,2	37093	31077,4	39671,9	27433,4
Industrial output, mln. RUR	108650,7	245007	674094,6	346219,7	78517,1
Per capita, thous. RUR	183,9	154,7	572,2	324,2	112,1
Introduction of housing into service, thous. m <sup>2</sup>	445,1	1735,6	576,5	707,8	608,6
Per capita, m <sup>2</sup>	0,8	1,1	0,5	0,7	0,9
Investment in equity, mln. RUR	36449,1	77557,5	57710,6	66542,4	18521
Per capita, thous. RUR	61,7	49,0	49,0	62,3	26,4

Compiled by the authors in accordance with statistics [17].

According to the research of ‘Strelka’ consulting agency, Tomsk is characterized by a satisfying condition of the urban environment. In the agency’s ranking Tomsk obtained 155 points out of 300 and left a more populated Novosibirsk behind with 141 points. The least number of points Tomsk gained for greenery and water areas. (Table 2).

**TABLE II. TOMSK URBAN ENVIRONMENT QUALITY INDEX**

<b>Type of area</b>	<b>Point</b>
Housing and adjacent areas	25
Street infrastructure	25
Greenery and water areas	16
Social and recreational infrastructure and adjacent areas	28
Social and business infrastructure	24
Citywide territory	37
<b>Total:</b>	<b>155</b>

Urban Environment Quality Index can be compared to an express-diagnostics which is conducted for the purpose of detecting city's development issues. As soon as an issue is detected it can be studied more thoroughly. The next thing for us to analyze is the indicators included into Tomsk's development strategy (Table 3).

TABLE III. EXPECTED INDICATORS IN THE SPHERE OF 'COMFORTABLE URBAN ENVIRONMENT'

Area of development	Indicator	2014	2030
1. Balanced spatial development and recognizable architectural city image	Number of created public spaces, items per year	36	at least 20
2. Efficient life sustaining infrastructure	Number of citizens' complaints on: – quality of public utility services; – condition of urban roads ; – performance of public vehicles, number of items	867 - 242	negative dynamics
3. Available and comfortable housing	Housing supply of population, m2 of gross floor area per capita	22,3	30
4. Ecological environment	The proportion of population considering living conditions in Tomsk environmentally friendly and safe, % by number of respondents	n/a	not less than 40%

Consequently, 'Development of Comfortable Urban Environment' priority project is connected with strategic municipal formation's development planning.

**VI. CONCLUSIONS**

'Development of Comfortable Urban Environment' priority project has laid the foundations for public participation in provision of urban amenities. However, some problems are far from being solved. Major issues of comfortable urban environment development project execution are:

- insufficient involvement of citizens into comfortable urban environment development project execution;
- municipal provision of urban amenities projects have fragmentary character; there is a considerable lack of projects of overall provision incorporating several neighbouring territories;
- comfortable urban environment development project neglects provision of urban amenities on territories adjacent to private detached housing.

Overall, it is obvious that a city is a sphere of conflict of various factors and interests [18-20]. The task of urban services and city authorities is to provide urban environment with opportunities for development and achievement of favourable conditions for citizens' life and activities.

Development of urban environment basically means analysis of its current structure, assessment of its eligibility and planning of further development strategies. Urban Environment Quality Index is a tool able to assist city officials, scientific and engineering companies in detecting major issues of the environment and commencing activities aimed at eliminating them.

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