The Main Directions and Principles of Renovation of the Far Eastern Seaside Cities’ Public Spaces

V Moor1, E Erysheva2, V Smotrikovskiy3

1Professor, Architecture and Urban Planning Department, Far Eastern Federal University, 8 Sukhanov Str, Vladivostok, 690900, Russia
2Professor, Architecture and Urban Planning Department, Far Eastern Federal University, 8 Sukhanov Str, Vladivostok, 690900, Russia
3Chief Architect, OOO Archfund, 12g, Pogranichnaya Str, Vladivostok, 690900, Russia

E-mail: moorv@rambler.ru, erel@rambler.ru, 25.rks@mail.ru

Abstract. The existing state of the Far Eastern sea cities’ public spaces is characterized by shortcomings and contradictions. Further development of coastal cities requires the development of a scientifically based methodology for the environment’s reconstruction with the aim of developing and improving public spaces’ system. The research methodology is based on a comprehensive analysis and systematic approach to the problem of forming an effective system of public spaces in the city. An integrated approach provides an effective social and functional reorganization and architectural and artistic improvement of the city’s public space system. The conducted studies allow us to formulate the main directions and principles of the existing system of the Far Eastern sea cities’ public spaces’ reconstruction. The principles and methods formulated in the work were tested during the development of experimental projects’ series for the renovation of public spaces in the city of Vladivostok. Design developments and practical implementation have shown the effectiveness of the basic principles and methodology of the Far Eastern sea cities’ public spaces’ renovating.

1. Introduction

Public spaces form the basis of the social and functional structure of the city, determining its socio-cultural model and architectural image. Therefore, further improvement of the Russian cities public spaces’ system is an urgent task of the current stage. This problem’ professional awareness and comprehension are confirmed by a large number of publications, design works and practical implementations in this direction, especially for the last period [1-11].

The analysis of the Far Eastern sea cities public spaces existing system reveals the current state shortcomings and contradictions. There is a significant deficit and irrational organization of public spaces in most Far Eastern cities, which negatively affects on the comfort and quality of the urban environment. Further development of coastal cities requires the development of a scientifically based methodology for the environment reconstruction with the aim of public spaces system’s developing and improving. Effective and purposeful activity to improve the existing system of public spaces is impossible without a critical analysis and theoretical understanding of this problem. In this case, it is necessary to take into account the marine specifics of the Far Eastern cities, since it affects the
structure and image of these cities public spaces. One of the most characteristic of the Far East sea cities is Vladivostok. The strategy and methodology of a system of public spaces renovating is further considered on the example of it [12-16].

2. Methods
The methodology of the Far Eastern cities public spaces system’s renovating as a whole corresponds to the methodology of the urban environment renovating, which we described in previous works [17-18]. It includes a number of sequential interconnected procedures. The first step in this technique is a comprehensive pre-project analysis of the existing system of public spaces in the city and identifying the shortcomings and contradictions of the current state. The main directions of complex analysis: structural-functional, structural-morphological, artistic-figurative and semantic analysis, taken in the evolutionary genetic aspect. Such a comprehensive analysis allows us to identify the main shortcomings and contradictions of the existing system, to determine the main directions of subsequent renovation (Fig. 1).

![Figure 1. Methodology of an integrated approach to urban renovation.](image)

Based on this analysis, the fundamental principles of the comprehensive reconstruction and renovation of the city’s public space system are formulated which ensure the improvement and humanization of the urban environment. A specific renovation program is developed on the basis of pre-project analysis data, formulated principles, social priorities and environmental quality criteria. Further this is the basis for the development of a concept and a detailed design solution for the renovation of the Far Eastern sea cities’ public spaces.

3. Results
The conducted studies allow us to formulate the main directions and principles of the Far Eastern sea cities public spaces’ existing system renovation:

1) quantitative and qualitative saturation of the urban environment with public spaces through the creation of new and modernization of existing public spaces. High-quality improvement of the entire infrastructure, the intensification of space’s use for public life;
2) the transition from disparate public spaces to a city public spaces’ holistic system, based on the structural and functional relationships of the constituent elements. The integrity of the system is ensured by information sufficiency and transport accessibility, allowing quick selection and realization of communication needs;

3) the orientation of urban spaces’ typology on the whole range of social and functional needs of citizens. This will ensure the full implementation of the city’s public functions. The implementation of this paragraph suggests the conduct of ongoing architectural and sociological research in order to monitor the real needs of citizens;

4) providing an integrated consideration of natural landscape factors’ totality in the organization of the city’s public spaces, in particular, taking into consideration the relief and water area in the formation of the Far Eastern coastal cities. The specific qualities of the natural landscape create a natural prerequisite for the uniqueness of the spatial decisions of the public spaces of the Far Eastern cities; All things considered take into consideration

5) an integrated consideration of climatic factors’ totality in the organization of the city’s public spaces, with the aim of ensuring bioclimatic comfort in the environment, taking into consideration the specific climate of the Far Eastern coastal cities. The use of special types of buildings and building techniques to improve the comfort of stay and regulate the microclimate of the territories in the specific climatic conditions of the region;

6) the purposeful formation of open public spaces’ system in the context of the basic meanings and values inherent to the city (identification of the urban environment’s archetypes, their creative rethinking and development). Implementation of the principle of artistic and compositional integrity of the urban environment in the process of historical development;

7) the artistic improvement of open public spaces’ system through conscious and targeted saturation of the environment with vivid metaphors and associations revealing the originality and maritime characteristics of the city;

8) high-quality improvement of the engineering infrastructure that ensures the functioning of public spaces in accordance with modern technical and technological requirements.

9) ecologic sustainability, compliance with ecological safety requirements, energy efficiency and the principles of “green architecture” in the formation of public spaces’ system.

The consistent implementation of these principles in practice will allow us to realize the idea of a comprehensive reconstruction of the Far Eastern cities public spaces’ system, i.e. to become an effective means of public spaces renovating and humanizing the urban environment of Far Eastern cities.

4. Discussion
The principles and methods formulated in the work were tested during the development of experimental projects’ series for the reconstruction of Vladivostok’s existing environment, including with the aim of renovating public spaces of the city (Fig. 1). These project proposals were developed in the research and design company “Archfond” OOO, as well as at the Department of Architecture and Urban Planning of the Far Eastern Federal University within the framework of the graduate design [19-21].
Figure 2. Project proposal “Multifunctional public space in the area of Fedorov’ Bay in the city of Vladivostok” (Archfond OOO).

Figure 3. Project proposal "Concept for the reconstruction of an open public space in the area of Embankment str. in Vladivostok" (Archfond OOO).

Figure 4. Project proposal “The concept of public space in the area of the Sports Harbor in the city of Vladivostok” (Archfond OOO).
Figure 5. Competitive project «Renovation of Coast Golden Horn Bay’s industrial areas for public space in Vladivostok». (Design organizations «Architectural Foundation» and «V.K. Moor Architectural studio»).

All these examples characterize the public spaces of Vladivostok’s central part, which are directly related to the marine area. Despite their importance, they needed complex renovation and improvement. Pre-project analysis revealed the main lacks and contradictions of the urban environment’s these fragments. Further, taking into account the principles formulated above, a program was developed to renovate specific fragments of public spaces’ existing system in Vladivostok.

In each of these examples renovation was complex and provided for both social and functional improvement as well as architectural and artistic harmonization. Social and functional improvement was aimed at finding new forms of social life, creating more comfortable conditions for staying in urban space. Artistic improvement of open public spaces was directed to a targeted search and saturation of the environment with vivid metaphors and associations revealing the originality and maritime specifics of the city of Vladivostok.

5. Conclusions
The above theoretical positions, the results of experimental design and implemented project proposals allow us to formulate specific recommendations for improving and humanizing the existing system of public spaces in Vladivostok. These recommendations are based on the fundamental principles of the Far Eastern sea cities public spaces’ existing system renovating. Given the similarity of the Far Eastern sea cities’ cultural landscapes, these principles are largely universal in nature, i.e. they can be extended to other cities in the region with their refinement in accordance with the specific conditions for the formation and development of these cities.

References
[1] Lynch K 1981 A Theory of Good City Form (Cambridge: MIT Press) p 528
[2] Gehl J and Svarre B 2013 How to Study Public Life (Washington: Island Press Kindle Edition) p 200
[3] Gehl J 2010 Cities for People (Washington: Island Press) p 285
[4] Gehl Jan and Gemzøe Lars 2001 New City Spaces (Danish Architectural Press)
[5] Krier Rob 1979 Urban Space (London: Academy Editions) p 174
[6] Krier Leon 2009 The Architecture of Community (London: Island Press) p 462
[7] Norberg-Schulz C. Genius Loci: Towards a Phenomenology of Architecture (New York: Rizzoli)
[8] UNESCO Recommendation on the Historic Urban Landscape 2011 (Paris: UNESCO World Heritage Centre) p 6
[9] Kiyanoenko K V 2015 Society, Environment, Architecture: Social Foundations of the Architectural Formation of the Residential Environment (Vologda: Vologda State University Press) p 284
[10] The European Prize for Urban Public Space URL: http://www.publicspace.org/en/
[11] Pallson Karsten 2019 Designing of public spaces and cities for people: A practical guide (Berlin, DOM publisher) 272 p
[12] Moor V K and Erysheva E A 2006 Humanization of the environment as the central task of the Vladivostok urban public space’s reconstruction Öffentliche Raumeinder postsowjetischen Stadt. Stadtentwicklung und Denkmalpflege 4 (Dresden: TUD press) pp 144-49
[13] Moor V K and Erysheva E A 2015 Current trends and experience in creating an effective system of public spaces of the city Bulletin of the Engineering School of the Far Eastern Federal University 3 pp 42–53 URL: http://vestnikis.dvfu.ru/vestnik/2015/3/5/
[14] Moor V and Erysheva E 2012 Scenario and Semantic Modeling as Means of the City Space Humanization – History and Present: environment and behavior studies in the perspective of multidimensional transformation Proceedings of the 10th International Symposium for Environment-Behavior Studies (Changsha: Hunan University Press) pp 106-112
[15] Moor V K and Smotrikovsky V I 2014 The formation of a system of public spaces as an important factor in the sustainable development of the city Innovations in architectural education: international materials scientific method. conf. (October 15-16) (Baku AzASU Publishing House) pp 186-189
[16] Moor V K and Smotrikovsky V I 2016 Scientific and practical recommendations for improving and humanizing the existing system of public spaces in the Far Eastern coastal cities Basic, exploratory and applied research of RAASN on scientific support for the development of architecture, urban planning and the construction industry of the Russian Federation in 2015: Sat. scientific tr RAASN (M: Publishing house ASV) pp 311-315
[17] Moor V K 2016 Theory and Methodology of Complex Analysis of Urban Spaces and its Application in Training Architectural Design Modern Technologies and Methods of Architectural and Art Education Proc. Int. Scientific and Methodological Conf. (Novosibirsk: NSUADI Publishing House) pp 327-29
[18] Moor V K and Erysheva E A 2016 The Strategy of Integrated Design in the Process of Urban Environment’s Reconstruction Modern Technologies and Development of Polytechnic Education Int. Scientific Conf. Proc. (Vladivostok: FEFU Publishing House) pp 558-63 Available online: https://www.dvfu.ru/science/publishing-activities/catalogue-of-books-fefu
[19] Moor V K and Smotrikovsky V I 2010 A new vector for the development of the city center of Vladivostok Urban Planning 5 pp 78-82
[20] Moor V K and Gavrilov A G 2010 Catalog of the Best Diploma Projects Specialty "Architecture" FEPI-FESTU 1980-2009 (Vladivostok FESTU Publishing House) p 88
[21] Moor V K, Gavrilov A G and Erysheva E A 2013 Architectural Studio of V Moor School, Laboratory, Studio (Vladivostok: FEFU) p 176