

Aesthetic problems of revalorization of Yerevan "Small center" districts and landmarks

Mesrop Vardan Sahakyan^{1*}

¹National University of Architecture and Construction of Armenia, 0009 Yerevan, Republic of Armenia

Abstract. The article is aimed at the identification of problems related to the revalorization of the architectural-spatial environment of the districts and landmarks in Yerevan and the development of possible further recommendations. It has been shown that today in the process of development of the center, issues related to environmental approaches and architectural design are not sufficiently taken into account. As a result of the study of the world experience, the physical forms related to the image content were separated and studied, in particular, districts and landmarks, which are part of the main objects of aesthetic revalorization. The types of these objects were coordinated and classified according to their meaning and function. As a result of professional literature and field observation, surveys, the characteristics of the objects were distinguished, the elements of the objects were identified and coordinated, and evaluations were given according to the criteria of the value of the object. The results are the basis for proposing a set of basic principles and patterns for the aesthetic revalorization of the architectural environment.

1 Introduction

One of the priority issues of the "Small Center" of Yerevan is the preservation of old historical structures and, along with new ones, compliance with environmental integrity requirements, and the identification of activities that negatively affect the aesthetic value of the environment. The works of K.M. Rogerson, G. Visser, R. Chepaitene, A. Barabanov, K. Chechulinskaya, L. Alekseevich and other authors are related to the issues of architectural revalorization in global practice [1-5]. The fundamental problems of the architectural environment of the city are presented in the works of K. Lynch, V. Glazichev, A. Gutnov, V. Lavrov and others [6-7]. Yu. Safaryan, A. Aloyan, D. Kertmenjyan, L. Kirakosyan, E. Harutyunyan, Z. Mamyán, S. Tovmasyan, M. Gasparyan, K. Azatyan, N. Petrosyan and others dealt with Yerevan city planning and engineering development issues [8-13]. There are various state and municipal programmatic, legislative, scientific and project documents developed in different years for the development and reconstruction of the center of Yerevan. The dynamics of the development of urban centers, the ideas of environmental integrity, architectural design and environmental approach are revealed in theoretical, project and program works [14]. However, the study of the main factors influencing the revalorization during the architectural development of the "Small Center" of Yerevan, the set of the

* Corresponding author: sahakyan0707@gmail.com

principles and patterns of revalorization are missing. Therefore, in order to identify the aesthetic problems of revalorization, to propose a set of principles and patterns, it is a priority to identify the main objects of the architectural aesthetic environment, their structure in the environment, mutual arrangement and interconnection with each other.

2 Materials and methods

During the research, collection of professional literature, archival materials, natural study, comparative and situational analysis, surveys were conducted. In order to identify the main objects of the revalorization of the "Small Center" of Yerevan, the individual provisions of Kevin Lynch's theory of "Physical forms related to image content" [6] were also used as a toolkit, where the analysis is carried out only with objective features, directly perceived objects. Separated objects were analyzed according to the SWOT analysis method, and evaluations were given to determine the aesthetic value and possible further improvement [15, 16].

3 Results and discussion

For a more detailed study of the "Small Center" of Yerevan, the system of revalorization objects was considered according to the basic elements proposed by the theory of "Physical forms related to image content": paths, edges, nodes, districts and landmarks. These elements do not exist separately and in isolation. Districts are made up of different nodes, defined by edges, intersected by paths and surrounded by landmarks [6]. During the research were studied, identified and analyzed the environmental structure of the "Small Center" of Yerevan by districts. Districts are parts of a city that have a common, recognizable character. By an observer, the city is recognizable through the districts with relative clarity, and whether the districts are considered dominant is determined individually, which depends not only on the perception of the observer, but on the character of each city [6]. According to Tamanyan in 1924 The city of Yerevan master plan was divided into separate zones: administrative, cultural, student, industrial and museum [17].

As a result of study, analysis and surveys, the system of "Small Center" areas of Yerevan was revealed, which are distinguished by their profile and are 40 (Fig. 1).

Surveys were conducted in two circles of society, in the first case, we have the professionals who view and perceive the city from the point of view of creating an architectural-spatial environment, and then non-specialists, who view and perceive that environment from the perspective of an exploiter. The survey was formulated with the following question: "What are the characteristics of the mentally constructed districts for geographical orientation in the "Small Center" of Yerevan?"

Specialists mainly distinguished with the help of different definitions: the physical properties of the objects, the stores of the buildings, the sharp difference in the relief level, the degree of maintenance of the objects in the environment, the historical development, the thematic unification of the common area, the most concentration by the type of activity or function, and non-specialists distinguished the stores of the buildings, the presence of an landmark.

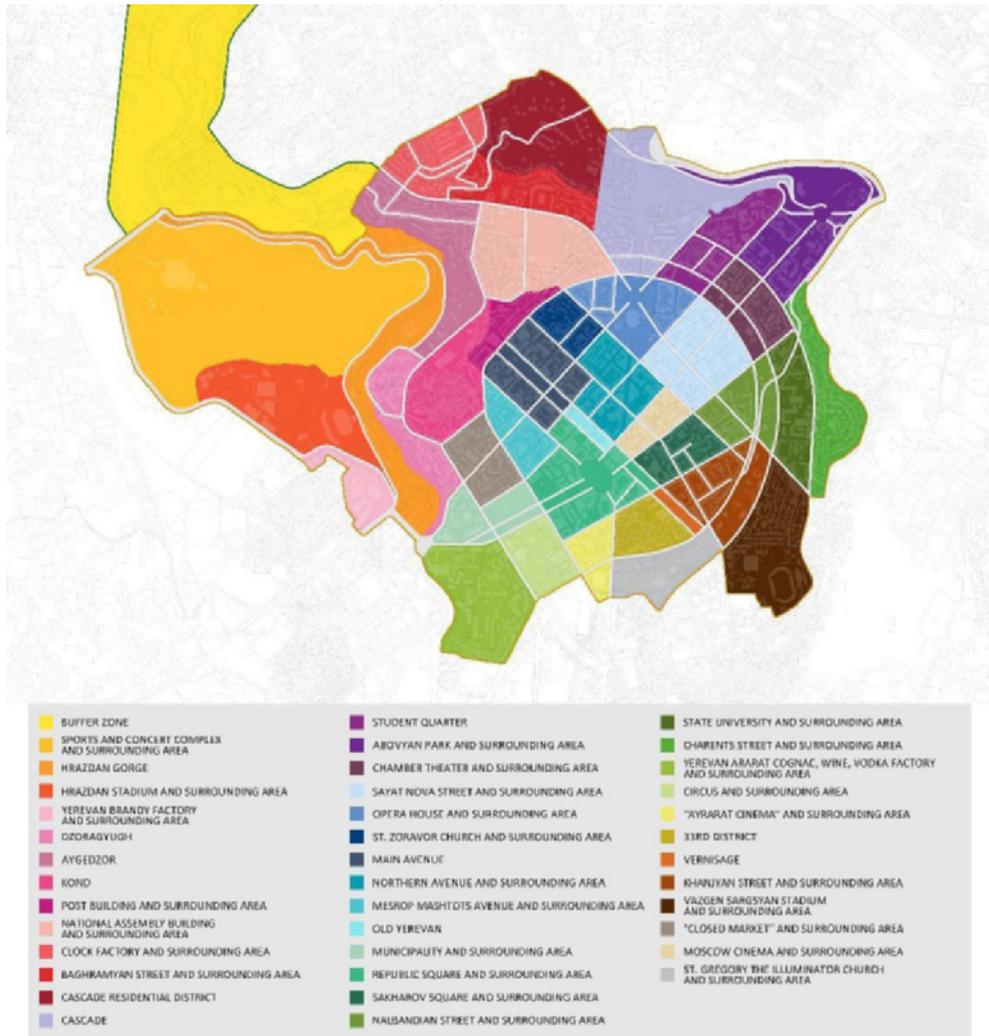


Fig. 1. Analysis of orientations according to the identification of regions of the Small Center of Yerevan.

Districts have different boundaries, in some cases clear and in others to put it mildly expressed or vague [6]. Of districts with clearly defined boundaries in the "Small Centre" the following stand out: the Sports and Concert Complex and the surrounding area, which is distinguished from the environment by a contrasting green space and a sharp transition of the relief level, Kond, the 33rd district, Old Yerevan, which are distinguished by the profile of development, stores of development and the boundaries are the surrounding paths (streets), the Hrazdan Gorge, which stands out by a sharp difference in relief (Fig. 2). Districts with mildly expressed or indeterminate borders are considered in those cases where the functions of the districts are mixed, clearly defined features are missing [6]. For example, in the student district there are objects of various functions, but most of the student institutions are concentrated there, thus forming that region.



Fig. 2. Examples of districts with clearly defined boundaries in the "Small Centre": *a)* Sports and Concert Complex and surrounding area, *b)* Kond, *c)* 33rd district, *d)* Old Yerevan, *e)* Hrazdan Gorge.

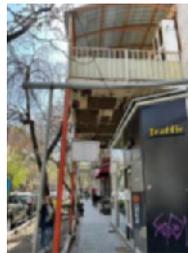
Surveys were conducted in two areas of society, in the first case, specialists who view and perceive the city from the point of view of creating an architectural-spatial environment, and non-specialists who observe and perceive that environment from the point of view of the exploiter. The survey was formulated with the following question: "What are the characteristics of the regions that are mentally constructed for geographical orientation in the "Small Center" of Yerevan?". Specialists have mainly distinguished: physical properties of objects, the stores of the building, the sharp difference in the level of relief, the degree of maintenance of objects in the environment, the historical development, thematic unification of the common area, the most concentrated by type of activity or function, and non-specialists the stores of the building, the presence of landmark.

According to surveys, citizens of Yerevan emphasize that they mostly mentally form regions according to the landmarks and their adjacent area, for example, Republic Square and adjacent area, Post building and adjacent area, Surb Zoravor Church and adjacent area, Hrazdan Stadium and adjacent area, etc.

Districts are also formed and differentiated as unattractive environment, where existing environmental aesthetic violations make the district recognizable. As a result, even if there are structures of some value in the area, the general environment loses its aesthetic value. Among such aesthetic violations the following can be singled out: arbitrary modifications of building facades, 5th facades, first floor openings, yards, lack of street design or lack of completeness, irregular layout of street advertising, the lack of design and integrity of urban furnishings, typical of the environment. Such violations occur in residential and public spaces in the Small Center; streets, parks, squares, etc., disrupting the scene and the integrity of the environment (Fig. 3).



a)



b)



c)



d)



e)



f)



g)

Fig. 3. Examples of aesthetic violations that disrupt the scene and the integrity of the architectural-spatial environment: *a)* Modifications of external openings (opening, closing, enlarging, reducing), *b)* Added cover solutions reduce the perspective of the landscape, *c)* Increases in volumes that have occupied pedestrian zone areas, *d)* Lack of a unified style of design solutions, *e)* Optional attic additions, *f)* Disorganized arrangement of garages in some areas, their dimensional and material differences, *g)* Unsystematic divisions of apartment surfaces, various means of fencing at the expense of yard spaces.

The use of orienting objects implies the separation of one object from the surrounding variety. The main physical characteristics of objects are singularity, uniqueness, and memorability in the general context [6]. As landmarks in the "Small Center", buildings, together with their elements and courtyards, green areas and parks, water structures and areas,

urban furnishings, orientation signs and advertising were distinguished..Buildings, together with their elements and courtyards, have a great influence in the process of forming the architectural-spatial environment. Among the characteristics of districts that are distinguished by their profile and features, the physical properties (texture, volume, architectural details, signs), the storeys of the building, the degree of maintenance, historical development, the existence of landmark refer to buildings. Thus a more detailed study of the aesthetic problems of buildings is followed by formation of districts and identifying their aesthetic problems.

The main principles of disruption of the aesthetic appearance of buildings are due to the human factor, by the implementation of individual changes, unjustified architectural interventions, and the lack of measures to prevent the risk of deterioration over time. Therefore, the lack of complex improvement and constant monitoring of the architectural-spatial environment during development leads to the following result. (see table 1)

Table 1. The architectural and aesthetic violations that occurred during the development of the Small Center of Yerevan, which devalue the aesthetic appearance of the environment

Location	Initial situation	Current situation
Mesrop Mashtots and Paronyan crossroad		
Agathang hegos street		
Yeznik Koghbatsi street		
Panorama		

Table 2. The assessment of the aesthetic value of selected landmarks

C a t e g o r i e s	S u b c a t e g o r i e s	C o m p o n e n t s	S t r e n g t h s (s u b j e c t t o m a i n t e n a n c e)	W e a k n e s s e s (s u b j e c t t o r e v a l o r i z a t i o n)	R e v a l o r i z a t i o n o p p o r t u n i t i e s	T h r e a t s
1	1.1	2	3	4	5	6
L a n d m a r k s	B u i l d i n g s , t o g e t h e r w i t h e i r e l e m e n t s a n d c	F a c a d e s	<ul style="list-style-type: none"> ● Presence of a special profile ● Existence of architectural monuments ● Originally designed openings, proportions, architectural details 	<ul style="list-style-type: none"> ● Inappropriate additions of billboards to buildings ● Modifications of external openings (opening, closing, enlarging, reducing) ● Modifications of balconies (addition, closure) <ul style="list-style-type: none"> ● Additions of covers on balconies ● Use of different materials during transformations <ul style="list-style-type: none"> ● Irregular arrangement of technical equipment 	<ul style="list-style-type: none"> ● Increasing architectural-spatial and aesthetic value ● Clarifying and strengthening the aesthetic image ● Recreation of objects to be revalorized with modern creativity, taking into account the requirements of the integrity of the environment and the original appearance of the object. ● Strengthening expressiveness of architectural features with the help of artificial lighting <ul style="list-style-type: none"> ● Unified solution and regulation of the design of advertising panels and other information systems 	<ul style="list-style-type: none"> ● Human factor (implementation of changes) ● Unjustified architectural interventions <ul style="list-style-type: none"> ● Risk of abrasion

o u r t y a r d s	5 t h f a c a d e	<ul style="list-style-type: none"> Originally designed openings, proportions, architectural details 	<ul style="list-style-type: none"> Irregular layout of technical equipment Optional attic additions Use of different forms and materials in the process of increasing the main volumes Inconsistency of storeys defined by unified urban planning requirements <ul style="list-style-type: none"> Different roofing methods used 	<ul style="list-style-type: none"> Recreation of objects to be revalorized with modern creativity, taking into account the requirements of the integrity of the environment and the original appearance of the object. <ul style="list-style-type: none"> Creation of green areas Regulation of form and material use in the context of environmental integrity 	<ul style="list-style-type: none"> Human factor (implementation of changes) <ul style="list-style-type: none"> Unjustified architectural interventions <ul style="list-style-type: none"> Risk of abrasion
	F i r s t f l o o r o p e n i n g s	<ul style="list-style-type: none"> Presence of a special profile Originally designed openings, proportions, architectural details 	<ul style="list-style-type: none"> Increases in volumes that have occupied pedestrian zone areas Added cover solutions reduce the perspective of the landscape Use of different forms and materials in the process of increasing the main volumes Lack of a unified style of design solutions 	<ul style="list-style-type: none"> Adaptation to modern requirements Recreation of objects to be revalorized with modern creativity, taking into account the requirements of the integrity of the environment and the original appearance of the object. <ul style="list-style-type: none"> Regulation of form and material use in the context of environmental integrity Unified solution and regulation of the design of advertising panels and other information systems 	<ul style="list-style-type: none"> Human factor (implementation of changes) <ul style="list-style-type: none"> Unjustified architectural interventions <ul style="list-style-type: none"> Risk of abrasion

			<ul style="list-style-type: none"> • Availability of organized yard spaces • Existence of green zones in some areas • Existence of children's playgrounds and recreation areas in some areas 	<ul style="list-style-type: none"> • Absence in some necessary areas • Disorganized arrangement of garages in some areas, their dimensional and material differences • Unsystematic divisions of apartment surfaces, various means of fencing at the expense of yard spaces <ul style="list-style-type: none"> • Lack of improved zones in some areas • Ignoring children's playgrounds in some areas • Some areas are in poor condition <ul style="list-style-type: none"> • Lack of artificial lighting in some areas • Lack of natural green spaces in some areas • Lack of areas for development 	<ul style="list-style-type: none"> • Creation of yard structure with modern requirements <ul style="list-style-type: none"> • Creating or increasing natural green spaces • Regulation of parking spaces • Regulation of form and material use in the context of environmental integrity • Adaptation to modern requirements 	<ul style="list-style-type: none"> • Human factor (implementation of changes) <ul style="list-style-type: none"> • Unjustified architectural interventions
--	--	--	---	---	--	---

As a result of the SWOT analysis, the assessment of the aesthetic value of selected landmarks (see table 2), districts and other components of the environment (see table 3) and possible further improvement was given (according to the four main categories of factors: strengths, weaknesses, opportunities for revalorization and threats), which allows to determine the influence of external and internal environmental factors on the revalorization of the aesthetic image of the "Small Center" environment.

Table 3. The assessment of the aesthetic value of selected districts

C a t e g o r i e s	Components	Strengths (subject to maintenance)	Weaknesses (subject to revalorization)	Revalorization opportunities	Threats
	1	2	3	4	5
D i s t r i c t s	Areas standing out by profile and features	<ul style="list-style-type: none"> • Means of identification, distinction, orientation • Availability of areas standing out by profile and features in the observed area • Existence of architectural monuments in regions • Existence of development of different chronological stages and different architectural styles in different regions 	<ul style="list-style-type: none"> • Unjustified architectural interventions • Presence of violations affecting the aesthetic value of the district's environment 	<ul style="list-style-type: none"> • Clarifying and strengthening the aesthetic image specific to each district • Strengthening and development of expressiveness of districts that are distinguished by their profile and features • Increasing the aesthetic value of unattractive environments or objects affecting the environment through revalorization 	<ul style="list-style-type: none"> • Human factor (implementation of changes) • Unjustified architectural interventions

4 Conclusion

During the study, districts and landmarks that are physical forms related to the visual content of the "Small Center" of Yerevan were observed. For this purpose, the main characteristics of the areas standing out by profiles and features for the formation of regions were identified and revealed:

- physical properties of objects (texture, volume, architectural details, signs),
- the stores of the building
- the sharp difference in the level of relief
- the degree of maintenance of objects in the environment
- the historical development
- thematic unification of the common area
- the most concentrated by type of activity or function
- the presence of landmark.

As a result of the analysis, it was revealed that the buildings, together with their elements and yards, have a great influence in the process of forming the architectural-spatial

environment and in the differentiation of regions arising from it. Therefore, their elements were separated and subjected to a more detailed analysis.

As a result of the analysis and surveys, the system of areas of "Small Center" in Yerevan was revealed, which are 40 in number.

The study of landmarks, the buildings together with their elements and yards, and the analysis of districts largely organized by them of "Small Center" of Yerevan according to the structure of image content revealed the value and interaction of object forms in the environment. Based on situational, comparative analysis and survey results, according to SWOT method, assessments were made according to strengths (which should be preserved), weaknesses (which are subject to revalorization), revalorization opportunities and threats. The estimates serve as a basis for the development of revalorization recommendations and models.

As a result of the analysis, the following problems can be identified for the aesthetic revalorization of the architectural-spatial environment of the Small Center.

Regarding issues of architectural-spatial organization:

- preservation of old historical structures along with the creation of modern complexes in a new architectural environment,
- adaptation of new structures to environmental integrity requirements,
- complex improvement of the city environment during constant monitoring and development.

Concerning the issues of aesthetic organization:

- reconstruction and reconstruction of building facades,
- the reconstruction of the fifth front, i.e., the roofs of buildings, if possible, the regulation of the problems of the construction of attics,
- yard regulation and improvement,
- development of a new policy for street design,
- development of recommendations for street advertising and super graphics,
- creation of public gardens, landscape design of green spaces and natural scenes
- an offer of special furnishing according to the forms characteristic of Yerevan (benches, lanterns, trash cans, fountains.),
- regulation of the appearance and form of public areas of buildings.

References

1. Ch.M. Rogerson, G. Visser, *Urban Tourism in the Developing World* (New York, The South African Experience Transaction Publishers, 2007)
2. R. Chepaitene, *Cultural Heritage in the Global World* (Vilnius, EHU, Lithuanian History Institute, 2010)
3. A.A. Barabanov, *Socio-cultural and semantic principles of industrial heritage revitalization* (Yekaterinburg, Ural State Academy of Architecture and Art, 2011)
4. K.I. Chechulinskaya, N.I. Grekov, *Valorization in architecture on the example of foreign experience* (Krasnoyarsk, Siberian Federal University, 2014)
5. L.V. Alekseevich, *Reconstruction of large cities* (Moscow, Center for Scientific and Technical. information on civil construction and architecture, 1969)
6. K. Lynch, *The image of the city* (London, the MIT Press, 1960)
7. V.L. Glazychev, M.M. Egorov, T.V. Ilyina etc., *Urban environment. Development technology. Desktop book* (Moscow, Ladya, 1995)
8. Yu.A. Safaryan, M.A. Gasparian, A.A. Aloyan, *The master plan of Yerevan*, in: Proc. of 3rd Internat. Conf. on Contemp. Probl. in Archit. and Constr. «Architecture and Urban Construction on the Low-carbon Strategies» - Beijing, China Nov. 20-24, 2011, pp. 1-35

9. A.A. Aloyan, *Bulletin of the Armenian National Academy of Sciences* **1(1)** (2015)
10. A.A. Aloyan, *Preconditions for large city planning structure development process management today*, 7TH INTERNATIONAL CONFERENCE 2015_ FLORENCE International Conference on Contemporary problems of Architecture and Construction (2015)
11. A.A. Aloyan, and A.Yu. Safaryan, *Advanced Materials Research* **1020** (2014)
12. Z. Mamyan, A. Aloyan, T. Kartashyan, *MATEC Web of Conferences* **73** (2016)
13. S.A. Tovmasyan, Problems related to the implementation of spatial planning terms in the Republic of Armenia, *Scientific works of the Armenian National Academy of Sciences III (54)* (2014)
14. M. Sahakyan, A. Aloyan, *Current Tendencies of the Yerevan Small Center Revaluation and Modernization*, Proceedings of the 4th International Conference on Architecture: Heritage, Traditions and Innovations (AHTI 2022), Athena Publishing (2023)
15. H. Mintzberg, *The rise and fall of strategic planning* (New York, Prentice-Hall, 1994)
16. N. Doratli, S. Onal Hoskara, M. Fasli, *An analytical methodology for revitalization strategies in historic urban quarters: a case study of the Walled City of Nicosia*, North Cyprus. *Cities*, **21(4)** (2004)
17. A. Tamanyan, *Armenian SSR Academy of Science* (Armenian SSR GA Publishing House, Yerevan, 1960)