

The Problems of Renewal of Old Quarters in Baku Historical Center

Shahla Kahramanova

(Ph.D. Shahla Kahramanova, Azerbaijan Architecture & Construction University, Baku, I.Gutgashenli, 97/17, shahlakahramanova@yandex.ru)

1 ABSTRACT

Today a radical changes connected with disintegration of one of the greatest states of 20th century and an establishment of new economic relations happens in the planning structure of Baku, as well as in many megalopolis of the postSoviet space. In this connection the urban-planning policy of Azerbaijan Republic that has affected all spheres of human life has changed.

Since the end of 1990th years great construction work were developed in the city. It has caused an aggravation of transport, ecological and other problems. Life quality of the population has changed. Suffice it to say, that in the result of investment of a prevailing part of capitals into Absheron peninsula, more than half of country population migrated in Baku and Absheron, that promoted growth of unemployment, criminality, environment deterioration, etc.

For purpose of renewal of old Baku quarters in the central historical zone the authors had been lead their estimation on a complex of town-planning, historical-architectural, social and economic parameters. Finding of the complex town-planning analysis were the basis for allocation of typological districts in the researched territory for development of methods and principles of architectural-planning reconstruction of residential districts in Baku historical center. As an example, the project of renovation of one of the parts of Baku central zone developed by the author is resulted in the article.

2 INTRODUCTION

For today of one of the important problems of Baku urban-planning is renovation of the old central quarters. Unreasonably dense site development of the center which has been built up in the end of 19th - beginning of 20th century, is the conservation zone, it includes separate architectural monuments and ethnographic background building (Fatullayev, 1986). However, during last 15 years it is destroyed mercilessly. Multi-storey faceless buildings have superseded them. Today only separate islands of architectural heritage are still kept in this territory.

The majority of the new constructed buildings are residential ones. Unfortunately, they do not decide the housing problem of the population. All flats in these buildings are not at reasonable price for 80% of citizens and more often are empty, expecting their fate. They also do not decide aesthetic and town-planning problems of the city as deteriorate the city image and are constructed contrary to town-planning and sanitary norms.

Undoubtedly, construction industry is quite profitable business. That is why today the city administration decided to build up not separate buildings, but whole quarters. But sometimes this quite reasonable town-planning policy reaches up to the point of absurdity. So, recently under the pretext of the new «winter garden» construction the whole old city district has been demolished. Today a lot of sites in the historical central zone of Baku are under the threat of destruction.

It is indisputable, that moral or physical depreciated buildings or whole quarters should be renovated and reconstructed. However, thus it is necessary to approach to this process non-ordinary, and on the assumption of features of the projected environment (Kahramanova, 2008b). But today in Baku unfortunately, the projects of modern world architecture or their prototypes are copied without allowance for features of the given environment. It is also necessary to note, that the city relief in the form of an amphitheater going down to Caspian sea (and especially its slopes) imposes constraints on the city site development (Babayeva, 2001).

3 METHODOLOGY

Considering the existing complex town-planning situation the author has lead out estimation of Baku quarters in the central zone on a complex of town-planning, historical-architectural, social and economic parameters with purpose of their zoning on typological areas for its subsequent rehabilitation.

The investigated territory is not homogeneous construction and therefore the method of approach to reorganization of its separate parts should be differentiated.

On the basis of the analysis it has been revealed that the basic imperfections of historical quarters of Baku central zone were determinate by: 1) high building density without gardening, public service and recreation system; 2) ill-airing and ill-insolated small-size closed intraquarter spaces 3) undifferentiable street system which does not allow to separate on traffic streams and pedestrian ways; 4) scale disadequacy of new multi-storey buildings to old construction scales. These imperfections can be removed by reorganization of intraquarter territories which were not a subject of purposeful measures in the past (Babayeva, 2001).

For complex town-planning transformation the author has lead out the estimation of residential districts of the city central zone on a complex of factors for the subsequent territory zoning. The basic criteria were following factors:

- **Town-planning:** position and value of the district in the modern city structure; historical-evolutionary development of the city central zone; functional using of stocks and lands; features of environment and planning structure; planning and transport interconnection with the surrounding areas;
- **Historical and architectural:** planning structure and building value; significanse of architectural ensembles and monuments in formation of historical and modern shape of the city central zone dwelling quarters;
- **Social:** level of living and public functions development; sanitary-and-hygienic parameters;
- **Economic:** efficiency of territory using; technical and economic parameters of residential building in the old districts; state and value of housing stock and an accomplishment.

The analysis of planning and town-planning features of residential districts construction in the city central zone has shown, that their basic classification attributes are: building placement in the quarter plan, degree of its physical deterioration, building orientation, size of dwelling units living space and the characteristic of structural-planning scheme of the residential building.

On the basis of natural investigations the author carried out the classification of the housing stock in the historical residential districts of Baku on degree of building physical deterioration. As a result it is possible to mark out 3 basic building groups on the investigated territory according to technical condition: with deterioration up to 25 %, 25-50 %, 50 % and more.

The existing housing stock of Baku central zone has been classified by number of storey. According to these criteria the buildings of the historical centre have been integrated into 4 groups: 1-2 storey buildings; 3-4 storey buildings; 5-7 storey buildings; 8-20 storey buildings.

For the historical part of Baku, it was necessary to make the scheme of historical-and-architectural inventory of buildings. The territory analysis has shown, that it is possible to divide the housing stock of the central zone into following building groups: buildings existing in the beginning of XIXth centuries; buildings of XIXth - beginning of XXth century; buildings of 1920-1950 years; buildings of 1950-1990 years; buildings erected in 1990 year and later. The first building group (existing in the beginning of XIX century) is located in the Fortress. The second building group (XIXth - beginning of XXth century) is widespread practically on the all territory of the center. All other building groups are formed as a result of reconstructive measures in the territory of the center. Alongside with this, today in the territory of the residential districts, including the Fortress, it is possible to observe the new construction actions.

By the results of natural investigation and literary data the author worked out the scheme of territory zoning for Baku central zone according to building density where three kinds of density have been marked out: high, normal and low (fig.1).



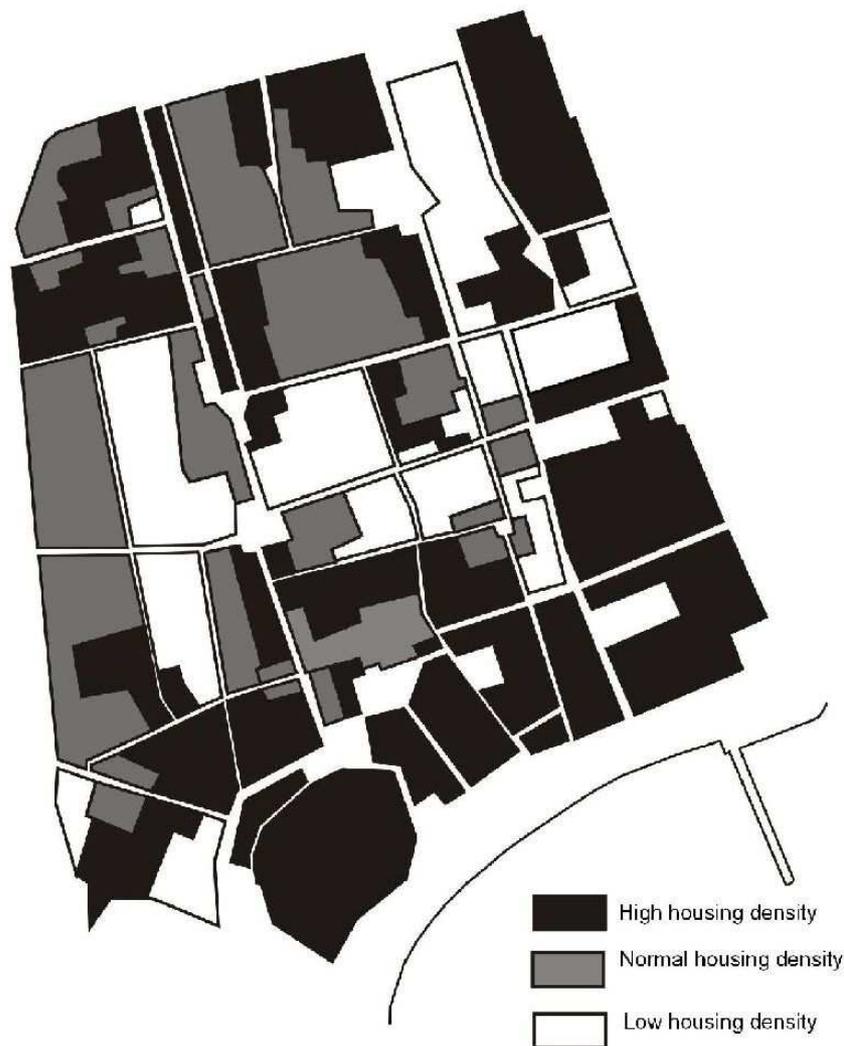


Fig. 1. The analysis of Baku central zone housing stock according to building density

The important estimation factor for improvement of architectural-planning organizations of Baku central zone residential districts is the assessment of reliability and durability degree of buildings and structures. According on Central Research-Scientific Institute of Design (St. Petersburg) data and on natural analysis the author worked out the scheme of reliability and durability degree of buildings in the central zone of Baku.

All listed features permit to classify residential units in the old historical quarters of Baku central zone on four following categories:

- I-maintaining buildings (basic);
- II-III- reconstructible building (depending on constructive-planning structure);
- IV- buildings, intended for demolition.

The author had been lead typology of historical quarters in the city central zone. As a result of the analysis it is possible to differ 8 basic quarter types depending on size (from 1 up to 2 ha) and configuration (square, rectangle, triangle).

As a rule, quarters of the same size and type are located by small-size massive in 15-20 ha in conditions of the central zone of Baku. That's why at relative homogeneous of historical building each area has their own "rhythm" of territory organization. On the scheme it is possible to see, that the residential quarters types are not divided into concrete areas, and they are closely interwoven with each other and repeat on the territory of the city central zone (fig.2).



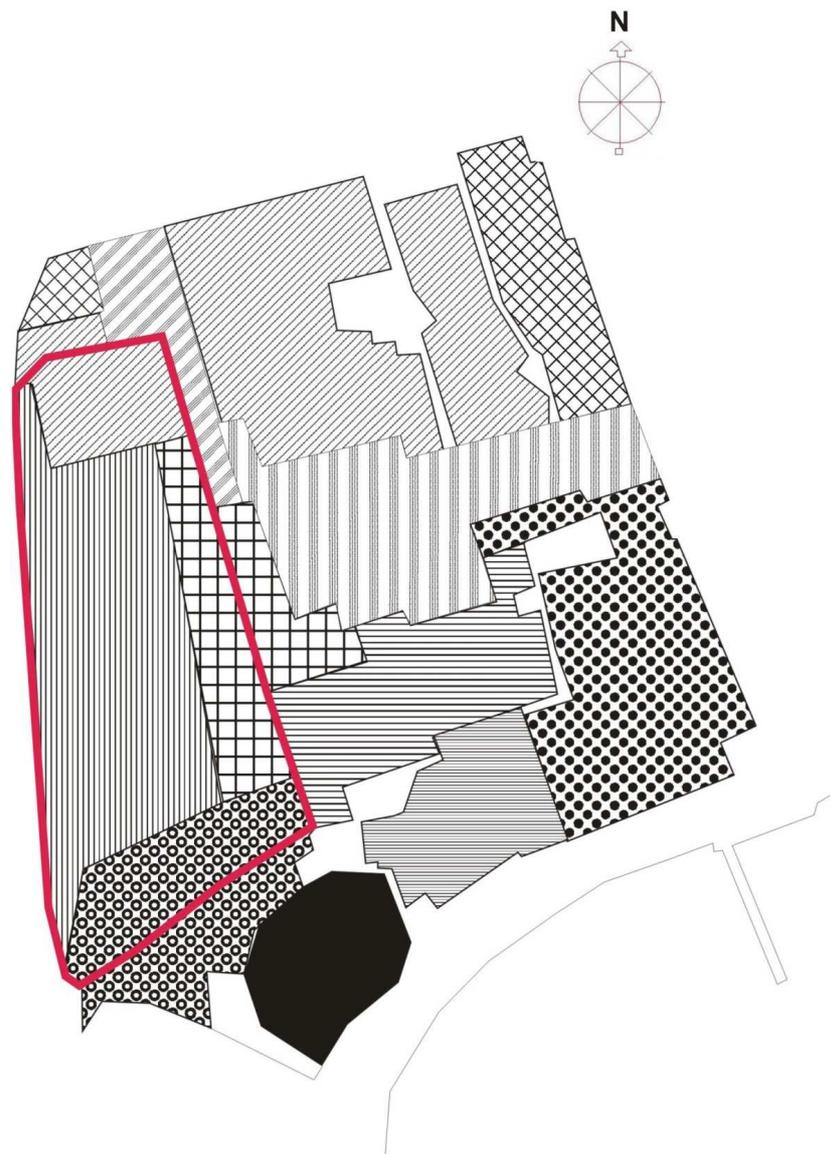
Fig. 2: Placing of basic quarter types in Baku central zone

The findings of this complex town-planning analysis are the basis for typological zoning of investigated territory and determination of methods and working out the improvement principles of architectural-planning arrangement of each typological unit.

In this connection there was the problem of objective use quantitative and quality indices for separate areas diagnostics. Baku central zone has been divided into 36 sites separated by main roads. 11 basic properties have been selected for the sites describing: art value, degree of physical deterioration, organization of intraquarter space, period of construction, numbers of storey, durability, density of building, functional purpose, conservation zones, relief, quarter types. In turn these properties are characterized by 106 features.

For typological zoning of Baku central zone the author applied the multidimensional statistical method - cluster-analysis. In this case Euclidean distance is used as a coupling measure between object pairs (Duran & Odell, 1977). As a result of the calculation these 36 sites is divided into 4 groups. In turn each of these groups is subdivided into the typological units with most similar features.

In the issue the investigated territory of Baku central part is divided into 11 typological districts. The brief characteristic and the general recommendations on transformation are worked out by the author for each of these typological units (Kahramanova, 2009). The author also worked out the scheme of typological units placing in the city central zone (fig. 3).



1-11 typological zones

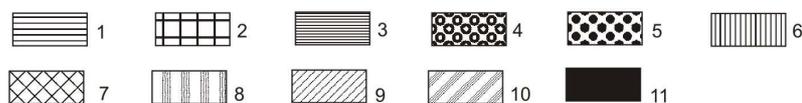


Fig. 3: Typological zones of Baku historical zone

4 RESULTS

The findings of the typological zoning can be used as the basis for development of methods and principles of architectural-planning arrangement of residential districts in historical cities. As an example the project of renovation of the site in Baku central zone developed by the author is resulted below.

The considered territory is located in the western part of the central zone and marked in figure 3. It is bounded by Narimanov, Sh.Gurbanov, Bakikhanov and Tagy-zadeh streets. According to figure the investigated area includes 4 typological zones, which have different characteristics, and therefore, demanding 4 various approaches to reconstruction. The scheme of the territory basic plan is resulted below (fig.4).

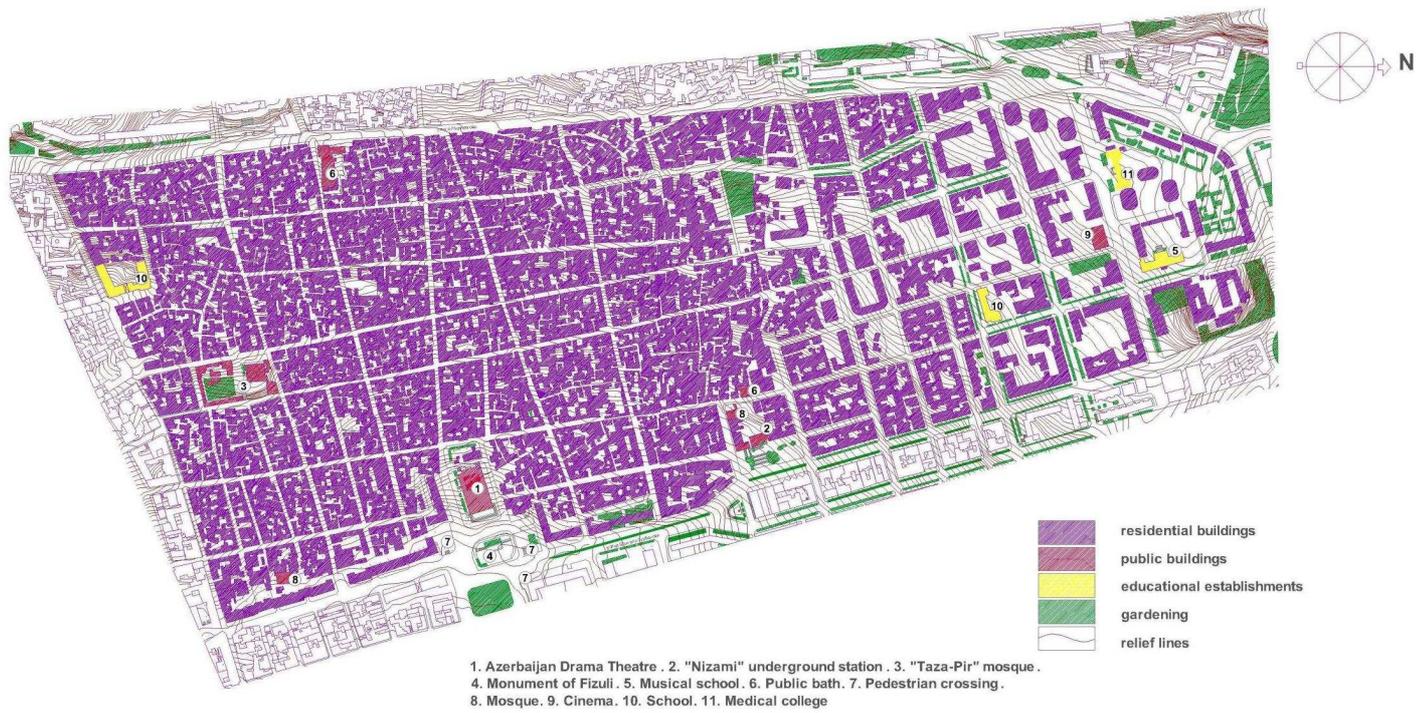


Fig.4: Scheme of territory basic plan

The scheme of relief of the projected area, the scheme of analysis of the construction according to building storey and the scheme of analysis of construction according to art value are also resulted below (fig. 5-7)

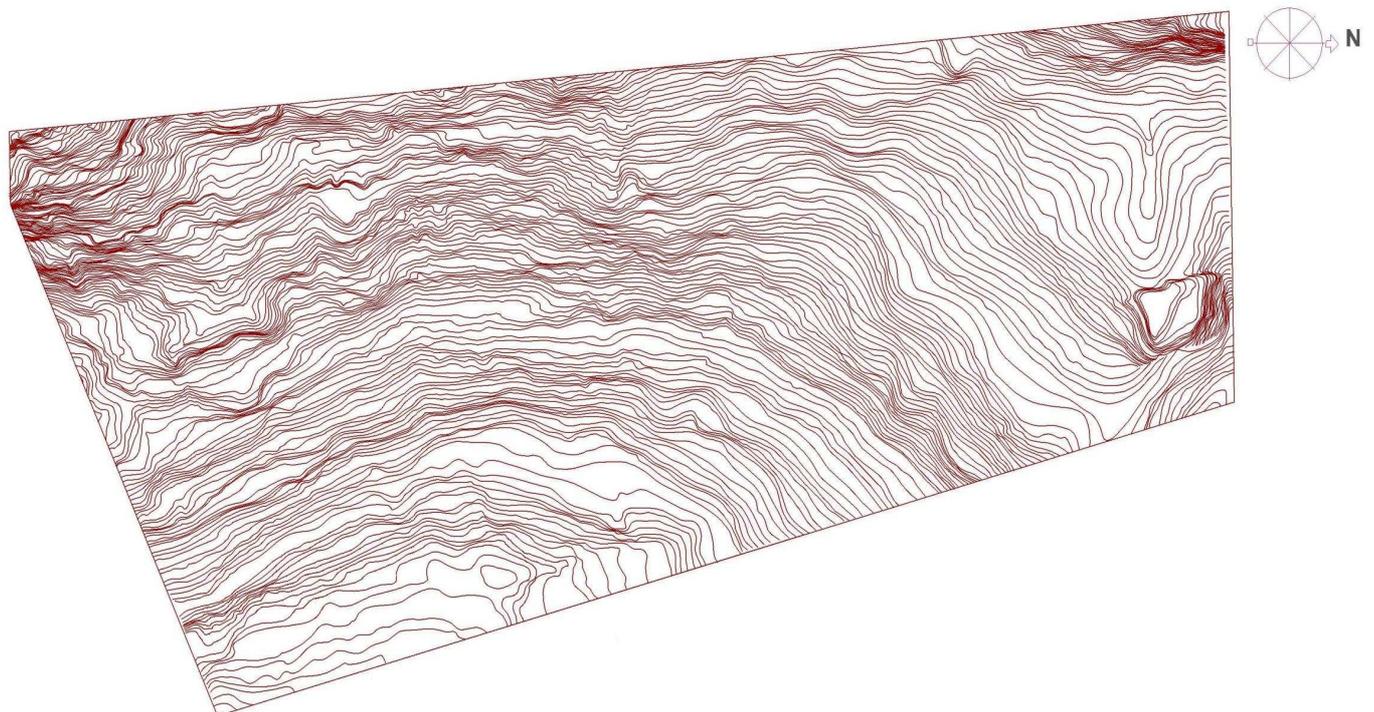


Fig. 5: Scheme of territory relief



Fig 6: Scheme of building analysis according to building storey

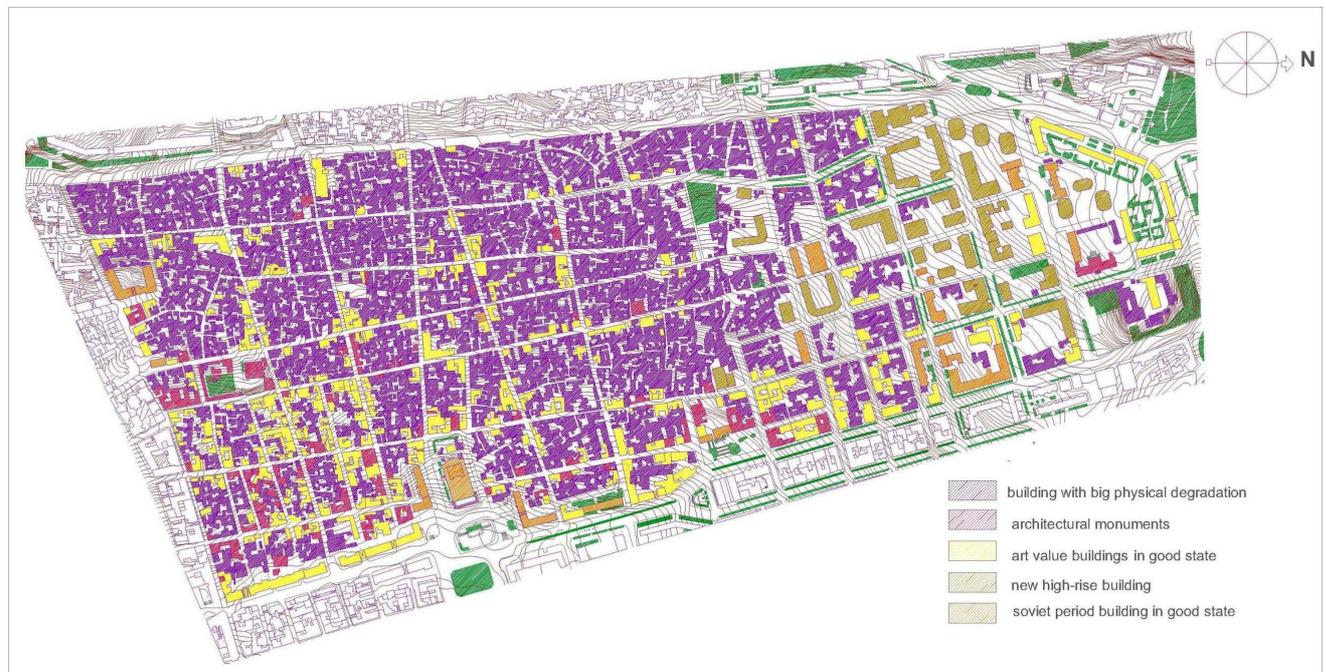


Fig. 7: Scheme of building analysis according to art value

Having considered the resulted schemes it is even visually possible to allocate 4 zones differing by planning features on the projected territory (fig. 8). It is interesting, that the borders of these zones generally coincide with borders of the typological zones allocated by means of cluster analysis in Baku central zone that proves correctness of our opinion.

So, it is necessary to note the features of projecting site, and also its separate zones and to contemplate ways of residential quarters transformation here. The investigated site (176.7 ha) is in the central zone of the city. Its planning structure was formed in the end of 19th – beginning of 20th years. The site has complex relief. The highest point of relief is the last point on the southwest (52.04), the lowest one is the last point on the southeast (-9.40). The site has also inclination to the north. The maximal altitude difference is 61.44 m. The network of streets is not differentiated here, the width of streets in red lines is about 8-12 m, sometimes 4-5 m, that creates certain difficulties for traffic. For these reasons there are practically not public transport in this part of the city. Traffic congestions most of all happen in 5-meretebe district (near Azerbaijan Drama Theatre) and crossing of Bakikhanov avenue and Narimanov street.



Fig. 8: Typological zoning of investigated territory

I zone, which includes the southeast part of the site up to Azerbaijan Drama Theatre, is one of the oldest parts of the city excepting Ichery Sheher and there are a lot of architectural monuments and art value buildings here. It is necessary to provide reconstruction works by consolidation of quarters, sanitation of residential quarter spaces, insertion of accomplishment elements in intraquarter spaces.

II zone includes the last eastern part of the investigated territory and combined both architectural monument and buildings of the Soviet period with the rhythm so characteristic of its. The quarters have relatively big sizes that will define the reconstruction methods, which will be carried out by demolished of separate buildings with physical and moral depreciation, accomplishment of quarters.

III zone occupies central part of the investigated territory. It represents the worker district in aul housing form, which with the lapse of time was compacted due to construction of intraquarter spaces. At the moment housing stock was practically depreciated, it has not any value and requires constructive works. However separate valuable buildings occur in this site, which must be preserved during rehabilitation of the site. It is necessary to note, that one part of the site (behind Azerbaijan Drama Theatre) was allocated for the city park by city authorities, so it will be considered at new space designing. Taking into account complex relief of the site the author offers arrangement of escalators and lifting gears in the park, that simplify the people movement especially aged and children. Reconstruction methods will be determined by street widening, creating of valuable housing space in ribbon building, which maximal meets the climatic features of the area. It also will preserve intraquarter spaces from transport contamination. It is necessary to place schools, kindergartens, which lacks are very perceptible here.

IV zone occupies quarters in the northern part of the territory. Last years the territory was built up by high-rise buildings, disproportionate to small quarters. It brings about the flats in these buildings are ill-insolated, creating health hazard of the population, there are not playgrounds for children and recreation places for adults. In addition high-rise buildings are magnets, attracting both people and transport vehicles into this zone. If to consider that offices, shops and public service enterprises are usually placed on the ground floors of the buildings it is possible to imagine the contribution of the cars coming here to traffic jams on the roads of Baku central zone. Taking into account that these buildings were built up some years ago and their physical state and construction expenses, the reconstruction methods at the present point in time can only limited to temporary conservation of the buildings till termination of its life cycle. Some buildings which impede insolation of adjoining buildings are made up the exception and will be demolished. Beside the reconstruction works suppose accomplishment of intraquarter spaces, creating of recreation places for population, street widening, etc.

For accentuating the relief features and creating a comfort microclimate conditions and aesthetic expressiveness of building on the whole reconstructed territory the author provide terraced construction, which rises from 3-4 storey on the bottom up to 8-9 storey on the top of the territory. Higher buildings will obstruct the view of the bay and the sea for surrounding building. In addition the natural-climatic and geological conditions of the site and Baku as a whole don't stimulate construction of high-rise building here (Kahramanova, 2006; Kahramanova, 2006a).

The scheme of general plan of the investigated territory in the central zone of Baku is resulted below (fig.9). It is obvious that in narrow conditions of Baku central zone it is necessary to develop actively underground spaces of the area. In this purpose the author offers the underground tunnel in transport conflicts places. So, in 5-mertebe district the pedestrian underpasses are located, and the "Nizami" underground station is also not far from it. The author offers to place one of the tunnels under the new city park. It is also necessary to provide the underground parking in this zone.

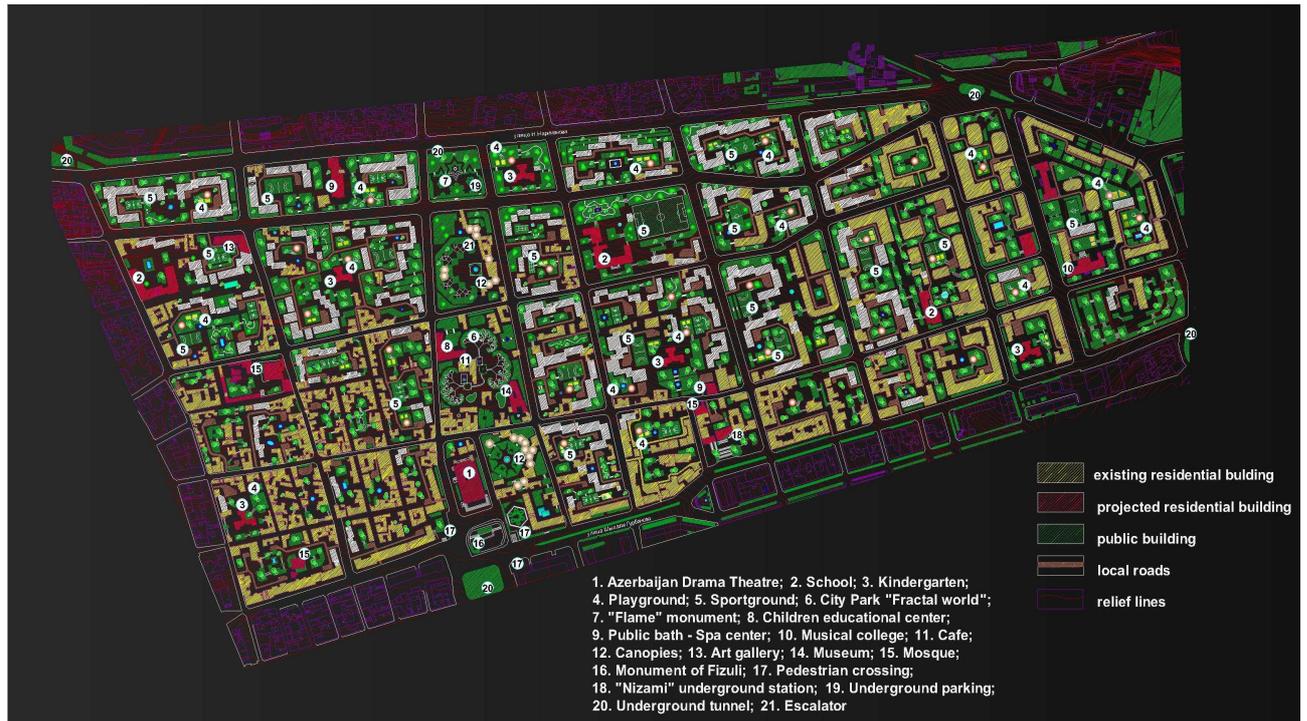


Fig.9. Scheme of reconstruction of old city area of Baku

During designing the park which will play a role of wind barrier from northern winds, especially strong in Baku and Absheron peninsula, the author appeal to the theme of fractal architecture. So, fractal forms "Koch Curve", "Lévy C curve", "Pythagoras tree", "MonkeysTree" (fig.10) were applied here.

Thereby, the author makes the attempt of rehabilitation of valuable city environment in the central zone, preserving mainly residential function of construction and adapting it to modern urban conditions. At the same time it was created the full value residential space. The proximity to the downtown and basic public establishments and also to workplaces on the one hand, the good housing and recreation conditions on the other hand make this district more attractive for investors and residents.

In the issue of reconstruction works the economic parameters of the territory were changed a little. The building density will be reduced, because a part of territory will be occupied by park. However, taking into account the role of the park in environmental sanitation this measure seems very reasonable. In addition housing conditions, transport communications will be renovated and modernized, the quarter spaces will be improved and planted.

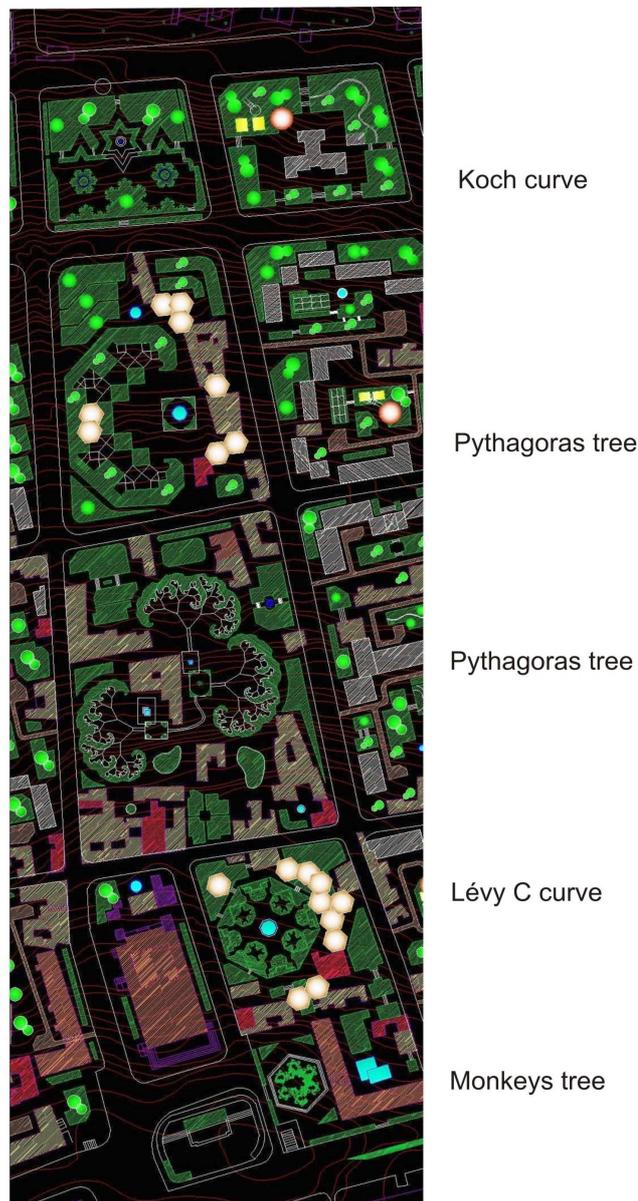


Fig. 10: The theme of fractal architecture in the city park “Fractal world”

At the given stage the city authorities have lifted a question on reconstruction of the investigated territory, just as of some other dilapidated housing in the center of Baku. The project has been put forward by the author for participation in competition of rehabilitation of this environment.

To decide the problem on accommodation of the territory population the city hall together with municipality offer some ways which select will depend on inhabitants, their preferences and finances conditions:

- Compensation of inhabitants by building company for housebreaking with purpose of new building construction. In this case the inhabitant can acquire a dwelling unit in any city district;
- Compensation of inhabitants by city authorities for housebreaking with purpose of city park construction. In this case the inhabitant can acquire a dwelling unit in any city district;
- Move of inhabitants to new empty dwelling units of the same area in nearby buildings;
- Move of inhabitants to new settlements in suburban areas (in Hovsan, Zikh, etc. settlements on Absheron peninsula) with an opportunity of living space expansion.

At such approach a gentrification of greater part of the existing population will occur inevitably.

For the last years as a result of scale construction of multi-storey buildings the lacks of new residential districts were quite often discussed in local media. Among lacks absence of domestic spaces, gardening, sports and children's playgrounds, parking are especially frequent. Besides if new multi-storey buildings



increased a housing and population density the amount of kindergartens and schools remains former. It is impossible to tell the same about public service as all ground floors of new buildings are occupied by objects of public catering, markets, repair shops, etc.

During designing all lacks of the given space have been investigated by the author. First of all, on the investigated territory only 2 schools have been revealed, there were no children's educational establishments, the gardening is rather poor. As a result of offered transformations 5 kindergartens and 1 school, the children's educational center, musical college, art gallery, a museum were placed on the projected territory, children's playgrounds, athletic fields were located in each quarter as far as possible. Besides buildings ground floors are offered to be used for objects of public catering, markets and consumer services.

5 CONCLUSION

It is necessary to use non-standard approach considering great number of factors, defining an originality of the city environment for preservation of historical heritage in the central zone of Baku in conditions of intensive transformation of the planning structure. The author has applied multidimensional statistical method the cluster-analysis for all factors comparison. As a result the historical zone of Baku has been divided into typological units with similar characteristics. As example, the project of renovation of one of the parts of Baku central zone developed by the author is resulted in the article.

6 REFERENCES

- Babayeva, Sh. Architectural –planning organization of dwelling blocks of Baku central zone. Abstract of Candidate dissertation. AzACU, 124 p. Baku, 2009
- Duran, B. & Odell, P. Cluster analysis. Statistics, 128 p. 1977
- Fatullayev, Sh. Town-planning and architecture of Azerbaijan in the XIXth – XXth centuries. Stroyizdat, 455p. Leningrad, 1986
- Kahramanova, Sh. Geo-ecological situation of Baku in conditions of intensive construction of residential areas. MBM, 133 p. Baku, 2006
- Kahramanova, Sh. Climate-adapted dwelling structures in Baku conditions. El-Aliance, 258 p. Baku, 2008a
- Kahramanova, Sh. Problem of historical heritage in connection with intensive construction of Baku historical areas. Proceeding of Heritage 2008 International conference “ World Heritage and Sustainable Development ”, (R. Amoeda et al. Eds) Vila Nova de Foz Coa, 7-9 May, Volume 2 Portugal, 2008b
- Kahramanova Sh. Typological zoning of the central zone of Baku for preservation of historical heritage in modern condition. EURA/UAA International Conference “City Futures in a Globalising World”, 4-6 June, Madrid, 2009