

Masterplan as a strategy of spatial city development based on the model of conflict-free reconstruction

E A Repina

Samara State University of Architecture and Civil Engineering, 194,
Mologvardeyskaya str., 443001, Samara, Russia

E-mail: jeniarepina@mail.ru

Abstract. The global urbanistic situation of post-Soviet cities with a million-plus population is in the focus of attention of the article. As an example the problems of Samara's modern existence are described, the reasons of the ones are analysed and the methods of their solution are suggested. Thus, the main problems are as follows: loss of historical heritage and settled population, urban sprawl in conditions of insufficient urban density, falling of human capital index. The reasons of this are the absence of modern managerial, project, economic mechanisms, lack of social consolidation, incomprehension of the unique value of historical heritage as a self-worth phenomenon (housing development, live street, parcelling, typology "house-yard", micro neighbourhood, opportunities for self-development), tremendous economic resource (non-subsidized reconstruction) and as a model of an "ideal city". As a solution to the problem the conception of the Strategy of spatial development of historical environment on the basis of search and consolidation of hidden resources, involvement of citizens is suggested and developed by volunteer-professionals in the course of an interdisciplinary interaction. The article demonstrates that only the change of the professional paradigm and the involved attitude of the society to the problems of the city can lead to prosperity of the environment and its dwellers, the work also gives the examples of concrete initiatives launching the Strategy in different localities.

1. Introduction

In Russia, there is a problem of transfer from the industrial city of Soviet type and planned economy with its paternalistic and distributional spirit to the post-industrial city with its respect for historical values, personality and comfort of urban environment based on the values of knowledge and culture production. Samara is a typical Soviet city with a million-plus population that has got powerful industry and beautiful nature. One of its most important assets is the historical centre, which is 700 hectares of the authentic 19th century merchant environment. In general terms Samara may be divided into three types of environment: historical environment (HE), environment of a micro-district type (MD) and private housing (PH). "Koshelev-project" is a new type of low-rise environment taking suburban territories and due to the cheapness being unusually popular despite the reproduction of classical mistakes of mass housing [1].

As far as Russian history had few fatal changes, professional sphere also has lost its succession and is facing a challenge to build up its methodological procedures, ideology and has to rethink the role of architects and architectural education in social metabolism. The most dramatic things in the life of the Russian cities are: the loss of consciousness of a property owner, the land title, the destruction of



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communities, the loss of the heritage, the weakness of administrative tools and corruption. During the last few years in the city of Samara some public organizations, architects and university were spontaneously consolidated for the protection of the historical centre from the infill development. It gave a start for the series of public actions and projects with the involvement of a big number of different stakeholders – citizens, authority, media, professionals and students. Curiously enough, it was the students and university that became triggers of the situation.

The tasks of this activity:

- 1) to draw maximum public attention to the problem destruction of the environment to prevent the plan of demolishing of a valuable construction, to achieve that in mass consciousness there was an idea of the total value of the environment, not only separate monuments
 - 2) to involve as much stakeholders as possible to the discussion concerning these problems and possible decisions, starting from the governor of the region and finishing with ordinary inhabitants of the historical districts;
 - 3) to help inhabitants to understand the value of the environment, to help to wake up and consolidate communities, to tell them about their rights and duties, to demonstrate them accessible tools for self-sustained reconstruction;
 - 4) to propose instruments of the conflict-free environment development with its maximum preservation – from strategic to local – on the basis of discovering of hidden resources, consideration of human and social capitals, participation and self-development;
- to reconsider the role of architects and architectural society in the situation of segregation, economic and political crisis.

2. Current problems

Currently an active fight for the preservation of the historical centre building which faces many problems is being held by the progressive professional city community, citizens and activists. According to the numerously expressed opinion of ex-chief architect of Samara Vitalii Stadnickov, Samara is the only city out of the biggest ones in Russia, where Land use and development rules do not correspond with the federal legislation in the part of the reflection of the preservation of the zones of cultural heritage sites, that is why building licenses not corresponding with the regimes of monument conservation are given regularly. The ignoring of the issues of the master plan, non-coordination of legislative acts lead to the numerous violations of the federal legislature by the civil servants, to the fact that the city has become a champion in the loss of monuments. The problems with the historical site draw other city problems: washing out of skilled labour leaving the city in search of the more qualitative environment, urban sprawl of low-quality, not supported by infrastructure environment suburbia (because of the inability to use powerful city potential for the consolidation and preference of big malls to small street retailers).

3. Local activities

In order to organize different types of city activities (conferences, round tables), the initiative “Samara for people” is created [2,3,4,5,6,7,8]. Besides the participation in the public activity Samara architects advanced a row of tools ready for solving the piled up problems. For example, under the aegis of Strategy_2025 of the public organization “Institute of the City of Samara” a Strategy of spatial development of historical environment (SSD HE) was developed and introduced at the conference of Moscow urbanistic forum, June 4, 2015. The forum itself became a noticeable site where the opinions of the city power and the regional one in the face of the mayor, governor and designers presenting their interests as well as local elite and citizens clashed. The splendid moderation by Aleksei Muratov and Grigorii Revzin (programme directorship of MUF KB “Strelka”) allowed demonstrating sharp contradictions between the subjects of urban life in relation to the preservation of the heritage [8]. An important issue which was raised was the question of tools with the help of which a conflict-free life of historical environment could be managed effectively.

4. Values of the “true city”

The performed analysis of SSD [10, 11] has brought us to the conclusion that in Samara only its historical environment (HE) possesses the characteristics of a "real city", while the other two types (MD + HE) may be described as "pseudo-city". A true city is capable for self-development and allows realising subjectness on the micro-level. A thesis is put forward that the main reason of authenticity of a historic city is an evolutionary way of development in opposition to the revolutionary means of building from scratch. Evolution is a natural historically formed means of development. Samara housing development representing a totality of a big number of interconnected elements forms a basis for the self-development of the territory and consolidation of resources. An evolutionary or “true city” has the following characteristics: multi-functionality, cultural diversity, natural complexity, sustainability, friendliness, creativeness, uniqueness, newsworthiness, security and transport balance. A micro-district is a product of tough zoning dating from the industrial type of the environment. This system is not a city neither in sense, nor in form as it presupposes existence on the basis of mono-functions and absence of private property on land [12, 13, 14, 15].

5. The model of conflict-free reconstruction

HE is regarded as a platform for the study and accumulation of experience of natural conflict-free (stable) reconstruction of the environment in order to later transfer this experience to the "pseudo-city" area, the self-destruction of which should be seen as an inevitable effect of the attempts to replace the evolutionary model of the environment for the revolutionary one. "Lessons taught by HE" is a method of truly future innovative regeneration of currently ravaged areas as well as construction on new sites. The developed concept presents a "general model of HE sustainable development" which is based on the combination of two major components: master plan and environmental approach, the mediator between which is the Institute of the City (or any other multi-disciplinary design center) [19]. "The concept" treats the master plan as a way of implementing "Samara_2025" strategy and a method used to increase the efficiency of HE by means of consolidating the resources of the included subsystems. The environmental approach is seen as a method of updating the natural processes of historical environment reconstruction based on: 1) private ownership of land by the inhabitants of historical courtyards; 2) consolidation and land survey in the of historical and set boundaries of yards (parcels); 3) creation of "horizontal" connections in HE localities' area; 4) self-government development; 5) public-private partnership; 6) dialogue between subjects of the reconstruction as equal parties; 7) development of a small and medium business on the basis of own functional, historical, cultural and morphological resources of historical housing.

6. Master plan as a progressive instrument

Master plan (MP) is “a strategy of spatial development containing a distinguished architectural component, being developed by public authority with the participation of different groups of interests” [16]. It is obvious that the given project only shows the contours of similar activity since it is developed by a group of enthusiasts as a model of future activity. The following parts are included in the structure of MP: analysis and description of resources (subsystems) of HE, description of the problems arising in front of every subsystem, tasks and purpose, description of the launch of projects via different types of projects and description of effects from implementation of SSD. Let us stay briefly on the description of every block and in more detail on the subsystem “housing development” and several projects. The purpose of SSD, as it is written in “Strategy_2025”, city-wide document, is to form a creative public environment of a post-industrial city as well as on the basis of the perspective kinds of activity (cultural, business and congress-forum ones) and formation of creative city communities [21]. The tasks of SSD are: 1) to achieve consolidation of the resources of different subsystems of HE; 2) to provide transparency of projects and strategic development; 3) to achieve creation of working mechanisms of self-development; 4) to transform the city environment in accordance with the criteria of a post-industrial city; 5) to preserve the existing human resources potential of Samara and provide the attraction of highly-qualified creative and science elite; 6) to

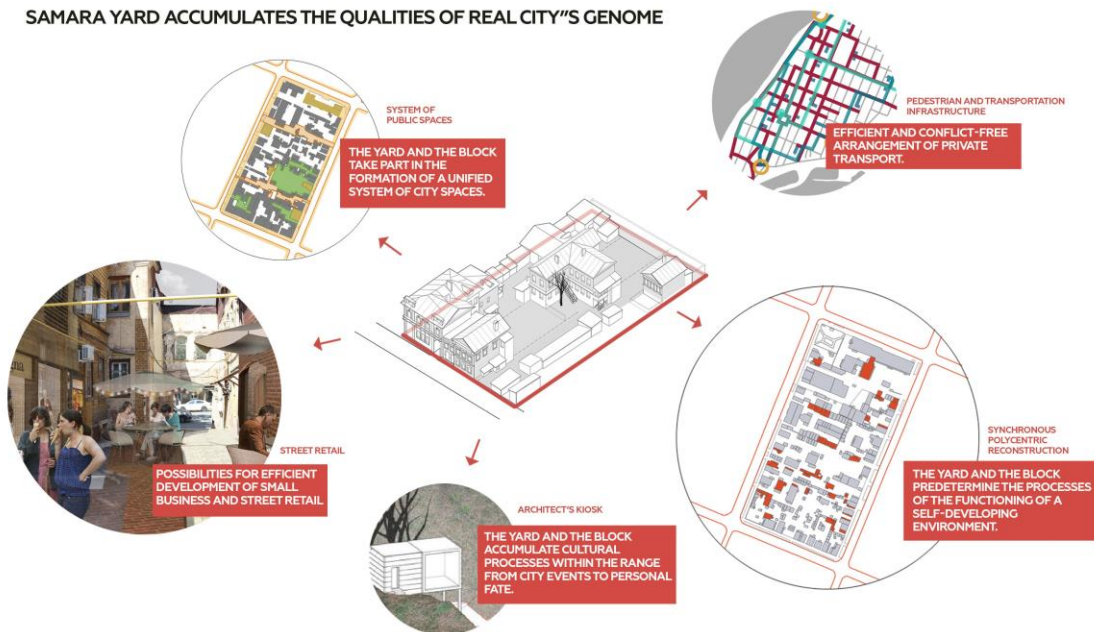
contribute to the creation of self-governed territorial neighbourhoods; 7) to implement modern urbanistic mechanisms. Subsystems of HE connected with the values of “true city” and first of all with the uniqueness – culture (resource – cultural diversity), transport and network of streets (resource – security and effectiveness), flexible systems of management (resource – consolidation), business and trade (resource – creative environment and uniqueness of business), public spaces and objects (resource – newsworthiness), housing development (resource – multifunctionality, friendly environment, natural complexity) - can be consolidated with the help of projects: through, launching and alternative. The key through ones (i.e. actual for every subsystem) are projects “Consolidation of HE subsystem resources” and “Kiosk of an architect” [18, 19].

7. “Housing development” – the motto of which is “evolution vs. revolution”

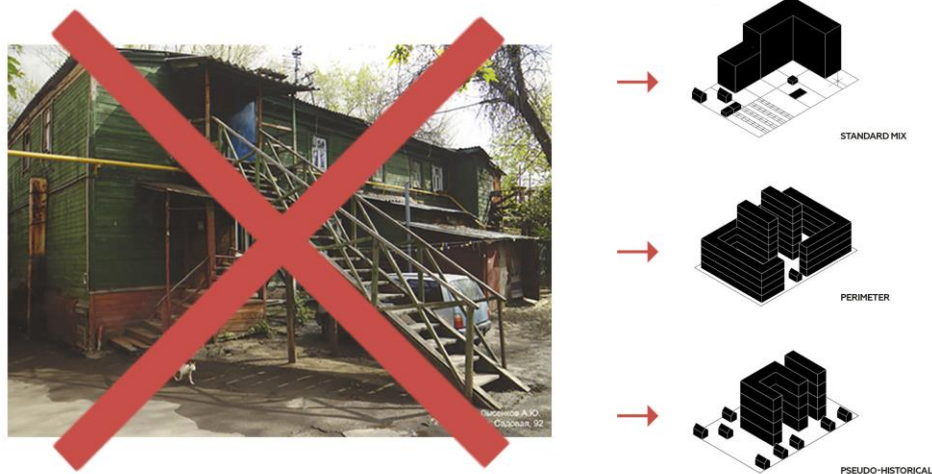
Let us describe how this structure works on the example of one subsystem - “Housing development” – the motto of which is “evolution vs. revolution” [16]. It is determined in the conception of SSD as the leading one, which is stipulated by the principle character of a post-industrial model of the city. The resources of historical environment are characterized by the superiority over the official typology with its limited lists of “cultural objects”, types of cultural activity, “objects of cultural heritage”, etc. The sense of culture in the post-industrial model is the strengthening of the specific character of place and role of citizens.

The intensified discussions about the rivalry of two types of urban development – housing and micro-district ones – are stipulated at least by two groups of problems: formal and real ones. The first one is connected with the idea about the reasonable form of development. Out of this range of problems comes a new attitude to the district as a type of the development inheriting perimeter compact type of environment forming, first of all, the street space. Out of awareness of the first group of problems connected with the form of development rose the representatives of a compromise conception who think that the creation of a perimeter development instead of the free district arrangement of multi-storeyed buildings will be enough to pass to a more comfortable environment. The necessity of clearing of the second group of problems, the solution of which allows going from formal similarity with the district to its core, appears due to this position of the developers. The best example of a true housing development must be considered the preserved districts of old Samara. The sense of the true housing development is, first of all, in the existence of a historically formed division of a district into yards or parcels, each of which is limited in size and accordingly in number of families in each parcel. It is small neighbourhoods (from 5 to 15 families) that are able to form tolerant and creative social groups (yard neighbourhoods), members of which are capable of negotiating and coming to a compromise with their intentions[22, 23, 24, 25]. The important condition is a land property, i.e. the existence of real subjects of a territory, not the fictitious ones, the maximal right of which spreads in the limits of a flat. That is why exactly this locality and development can become a true district, the main problem is in incomprehension and rejection of the fact that it is HE in its identical entity that is the only guarantee of Samara’s prosperity as a post-industrial European centre with a high percentage of settled population, presence of scientific elite and highly-qualified personnel, friendly atmosphere and as a consequence a high level of life (Figure 1). Interpretation of the code of Samara yard and district produces a new typological variant of mass development – compact “houses-yards” of middle and small number of storeys making continuous city environment under the control of neighbourhoods.

SAMARA YARD ACCUMULATES THE QUALITIES OF REAL CITY'S GENOME



COMMERCIAL PROJECTS MAY CREATE THE APPEARANCE OF PRESERVING BLOCKS OF HOUSES, BUT AT THE SAME TIME THE ESSENTIAL BASIS OF REAL CITY IS DESTROYED, WHICH IS THE HISTORICAL PARCELLATION OF SAMARA'S BLOCKS



OBSTACLES AND PROBLEMS

PROBLEMS

- 1) RESTITUTION OF TITLE TO LAND NOT COMPLETE.
- 2) ABSENCE OF RULES FOR THE DEVELOPMENT OF HOUSING.
- 3) ABSENCE OF UNDERSTANDING THE VALUE OF INTEGRAL HISTORICAL ENVIRONMENT AS THE MAIN RESOURCE OF POST-INDUSTRIAL CITY, UNREASONABLE IMBALANCE IN THE DIRECTION OF PRESERVING SEPARATE MONUMENTS.

CONSEQUENCES OF PROBLEMS

- 1) ONSET OF COMMERCIAL HIGH-RISE HOUSING.
- 2) DESTRUCTION OF THE INTEGRAL ENVIRONMENT.
- 3) DISAPPEARANCE OF THE ELITE.

CONSEQUENCES OF CONSEQUENCES

- 1) LOSS OF BRAND (SAMARA'S OWN LOOK).
- 2) LOSS OF SCHOOLS OF THOUGHT AND INITIATIVES IN THE SPHERE OF INNOVATIONS AND CULTURE.
- 3) DROP IN THE CITIZENS' LIVING STANDARDS.
- 4) SOCIAL DISHARMONY.

Figure 1. Resources and problems of Samara historical development.

To launch this subsystem the following tools and projects of different levels are suggested for implementation: 1) the emergence of the subject of care via the return of private property; 2) the fixation of the set limits of yards; 3) the development of the functional, environmental and tax regulations; 4) implementation on the territories of the local centres of environment projecting and local communities “Kiosk of an architect”, 5) creation of conditions for the development of middle and small business on the basis of the environment qualities; 6) realization of the projects of conflict-free reconstruction on the example of district 79 [1]; 7) launch of investment card (Figures 2,3,4).

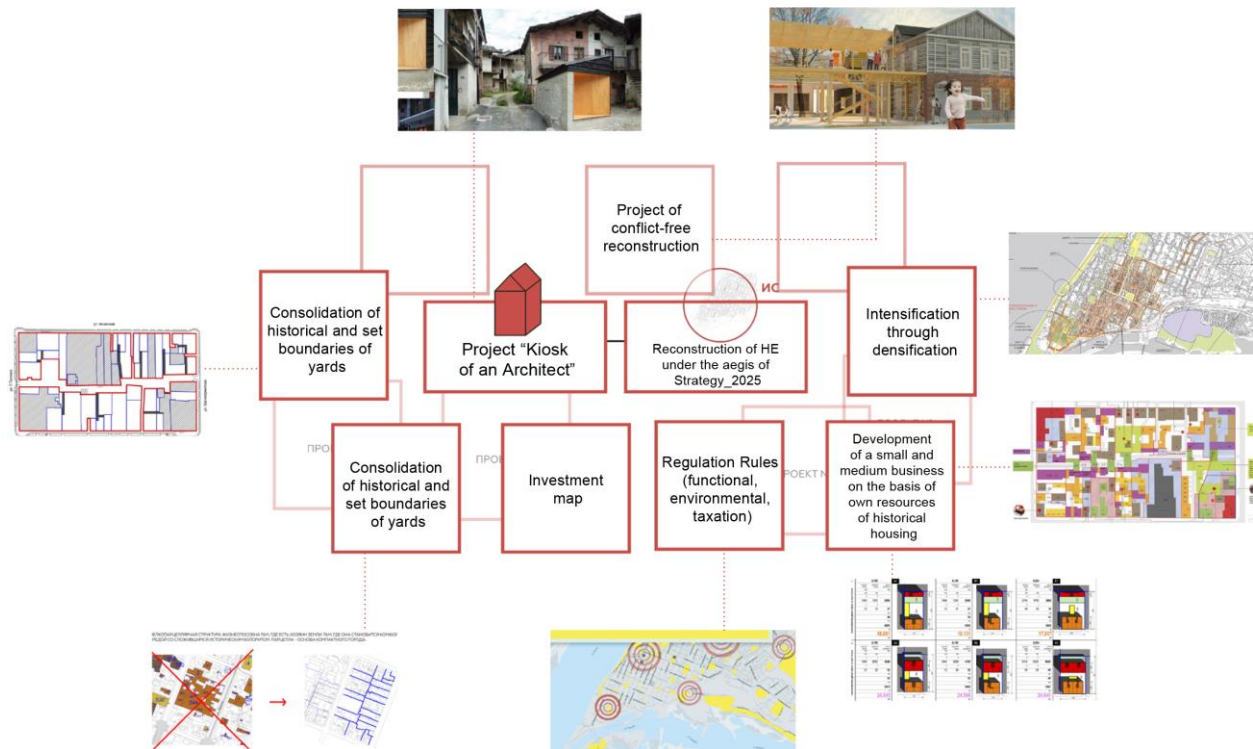


Figure 2. Scheme of the hierarchy of tools (through, launching, alternative projects) launching the system “Housing development”



Figure 3. The concept of "architect's Kiosk" is the creation of a local branch of the Institute of the City and the center of expert support for project initiatives of residents of the quarter. The object is simultaneously used as a small architectural Bureau and a place of informal communication of residents of the quarter

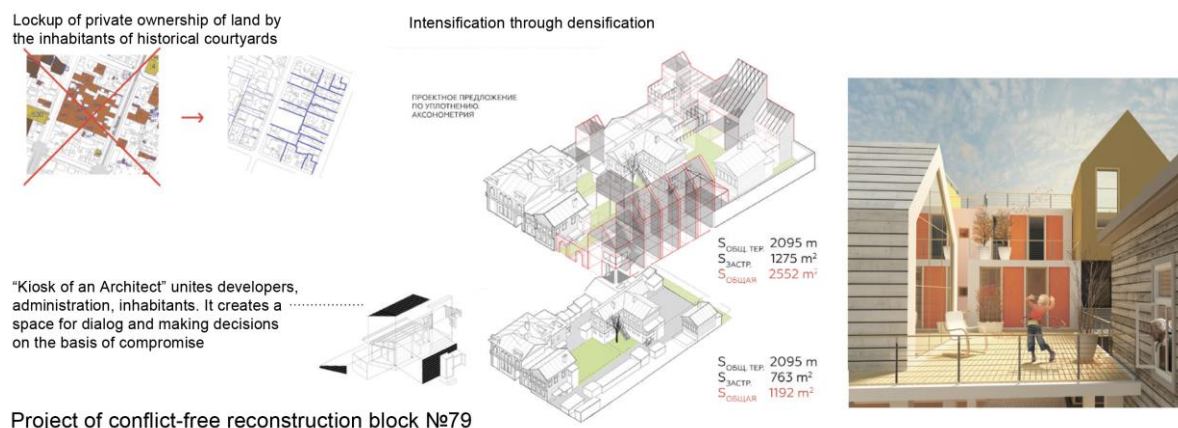


Figure 4. Illustration of several types of projects launching the subsystem “Housing development”.

The effects from launch of subsystem “Housing development”: 1) Preservation of housing development of Samara, renovation, compact reconstruction of parcels – key to the qualitative change of environment and example for reconstruction of the middle zone. 2) New economic models of sustainable development count the algorithms of investment, cost price and revenue coming out of the idea of “crossing” resources (consolidated budgets) based on the concept of self-development of territories and improvement of technologies of state-private partnership. 3) The essential positive effect of preservation and interpretation of HE is a tolerant creative society, receiving the status of a European cultural metropolis. 4) New regulations of development provide the projecting of the city based on a “true district structure”.

8. Conclusion. Effects and plans

After conducted studies of the lead-tin-base bronze structure of the BrO10S10 grade, it is possible to conclude that the modification with superdispersed powders influences considerably its structure. It is particularly typical for low concentrations of the modifier (up to 0.25 %).

When introducing a small amount of the aluminium oxide powder, the distance between the axes of the second-order dendrites and the average grain size reduces. This implies that a considerable part of the powder particles is effective crystallization centres. When increasing the nanopowder content, the structure starts coarsening relatively that, which was obtained using low powder concentrations. Introduction of the large quantity of the modifier leads to its coagulation and reduction of its influence on the structure.

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