Public spaces of small historical towns

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Abstract. To improve the quality of the urban environment, it is important to analyze the patterns of placement of public spaces. The results obtained will help to create the framework of public spaces more correctly, including new and existing places of attraction for people.

Key words: public spaces, small towns, urban studies, urban planning, framework of public spaces.

1. Introduction

Annually as part of the All-Russian competition for the best projects to create a comfortable urban environment in small towns and historical settlements (the competition has been held by the Ministry of Construction of the Russian Federation since 2018 as part of the federal project "Comfortable Urban Environment"), 80 concepts-winners for the formation, development and improvement of public spaces are selected. All projects must be implemented within the next year after the victory, that is, in a very short time.

A comprehensive survey of the territory carried out at the very beginning for compliance with the regimes and regulations of the territories, possible restrictions and the full implementation of socio-cultural programming make it possible to prepare the necessary justification base for each of the future design decisions. This approach not only contributes to a high assessment of the entry, but also reduces the number of subsequent problems and risks during implementation.

In most cases, the selection of the territory for future design is carried out within the provisional boundaries of the historical centers of small towns. Each time it is necessary to assess the territory in terms of the presence or absence of valuable environmental objects, cultural heritage objects, valuable landscapes (natural and urban) and the possibility of their inclusion in a future project. The activities, which are planned in the near future for implementation within the framework of national projects and other regional and municipal programs, should be subject to a mandatory assessment. Such activities, for example, include the reconstruction, repair or formation of a road network and its fragments, resettlement of emergency housing stock, work on cleaning water facilities, relocation of existing or laying of new engineering communications, construction of new permanent buildings, and others.

It is important to take into account the state of the transport infrastructure, the presence of connections of the selected place with other public urban spaces. It is necessary to analyze pedestrian and bicycle accessibility, permeability of the territory, to determine key user groups and their requests for functional
content in advance, and much more. All this makes it possible to single out the stages, to form the sequence of measures for the improvement of the future project, to increase the degree of its feasibility and to provide an idea of operation.

To ensure sustainable development of areas, it is necessary to develop an urban planning concept based on an analysis of the current situation and giving a vision of how the urban development fabric will be transformed. Further, after discussions, local rules, recommendations, benchmarks are drawn up based on the concept. The main tasks of such local urban planning recommendations will be the development and consolidation of all the main parameters of the urban planning composition and architectural solutions [1].

This approach will take into account all aspects and features of the place, including ensuring the coherence and continuity of planning and architectural solutions, a comprehensive visual perception of the entire territory. The presence of recommendations and a common vision for the development of the territory will allow anticipating and formulating more than one scenario in advance for the use of territories and adjacent buildings.

2. Field Studies

According to the 2010 census of the Russian Federation, there are 789 small towns in Russia with a population of up to 50 thousand people. They are home to about 17% of the country's population. The study area includes three small historical towns of the Tver region: Torzhok, Ostashkov and Toropets.

The research methodology included the following activities:

- Photo fixation;
- Observation of people in public spaces for a certain period of time, by tracing the location of people and the way of using the territory, applying diagrams of environmental behavior of cognitive urban studies;
- Identification of the degree how public spaces are involved in active urban use, identification of popular and marginal areas;
- Observation of the main flows and crowds of people in the town, determination of concentration points at a specific time and day of the week;
- Interviews with local residents to localize points of activity and attractions;
- Professional assessment of the quality of the urban environment.

The field study, together with the urban planning analysis, helped to identify the clustering of public spaces, the prospects for their development and integration into a coherent framework of the public area. The main public spaces can be conditionally divided into two types: nodes (points of attraction or spaces of creation) and public utility spaces (connecting nodes with each other). The nodes include central parks, public gardens, market squares, church or monastery complexes. Public utility spaces include main historical streets, minor streets, embankments, boulevards.

Central parks with convenient accessibility have become the main places of attraction and pastime for people. These territories are almost always filled with people. All the proposed areas of park activities are used: playgrounds and sports grounds, recreation areas equipped with benches and dog walking areas, attractions, etc. This shows the high demand of local residents for an urban and comfortable lifestyle. An interesting fact is that all these town parks are located on the site of historical market squares, which, apparently, have lost their main function, but due to the good accessibility and historical concentration of the roads leading to them, they acquired a different function. The main areas of the city include Kirow Park in Torzhok, located on the site of the old market square and former shopping stalls, next to the main historical street Lunacharsky. The park was landscaped according to the program of the All-Russian competition for the best projects to create a comfortable urban environment in small towns and historical
settlements. The project offered fairly simple solutions, but at the same time it could be called successful, since it is a very popular and highly visited attraction among residents. In Ostashkov, the main public space is the Freedom Park, also located on the site of the former market square and church, of which only the bell tower has come down to this day, which is now the dominant feature. The park is located next to the main street of the town (Lenin Street) and the river station. In Toropets, one of the main public spaces is called the Town Garden, which is located next to the main historical street (Sovetskaya Street) and the main traffic artery, Oktyabrskaya Street, which crosses the entire town and therefore has the best accessibility and integration with the town street network. The spacesyntax method uses automatic calculations to show the degree of integration of the street road network, dividing street sections from the most connected to the most inaccessible. If we apply this method to these small towns, we can see the following pattern: the main public spaces (central parks) adjoin the streets with the greatest connectivity. This finding can help other towns in planning the future location of major public spaces [2].

Public gardens play an important role in the town's public space. They function as secondary points of attraction. In Torzhok, this is a public garden with a monument to the architect Lvov, between the market square and the river. In Ostashkov, these are public gardens with children's playgrounds next to the embankment. In Toropets, there is a new public garden near St. Tikhon’s Monastery, where there is a memorial sign of the town. Although the project has high attendance rates among the townspeople and is well-landscaped, still it causes controversy among the local population because of the ancient trees cut down there. Another public garden of the 900th anniversary of Toropets, adjacent to the market square, is not popular with the local community, since its space is a passage enclosed by low fences. The common features of the public gardens, in addition to the smaller scale in relation to the parks, include the close proximity and even adjoining to the main frame of the town's public spaces, along with the proximity to water or green spaces, as well as to public transport stops. A gravity model will help to determine the location of such spaces [3].

Historically and until now, the main places of attraction for people not only from the whole town, but also from the whole region have been market squares. In Torzhok, such a space is now called Lenin Square and for the most part it is a large empty space with a parking lot that occupies the entire area. Only a small group of shopping stalls were concentrated at the edge of the square near the footbridge. Of course, such a place with historical buildings, between the main park and the main street, has a huge potential for development and requires special attention. In Ostashkov, trade is concentrated near river stations. The main place is located just between the main pier and the former market square (now the main park), a chaotic tangle of shopping stalls surrounded by a parking lot of the same structure. On Sundays, Toropets is especially transformed: the market square or Bazaar square and its surroundings are overflowing with sellers and buyers from all over the Toropetsky district. The area opposite the square across the street, empty on weekdays, is filled with cars. It is important to take into account the scenario of use on weekdays. And the market square itself also needs improvement, orderliness and stationary shopping stalls.

A special place in the Russian small town is occupied by the main dominants: churches and monasteries where tourists come and where the local community gathers. Therefore, church or monastery complexes are part of the general public space of the town and also need architectural and planning comprehension. In all three towns, monasteries are in decline, mostly desolate. In Ostashkov, three main monasteries, located on the main axis of the town, are abandoned, although they could be an economic driver of the town's development, as a museum and cultural complex with refectories and viewing points. How it was done in the Novotorzhsky Borisoglebsky monastery in Torzhok. In all cities, a large number of churches are also abandoned or used as printing houses, cinemas and even factory buildings. Although they could become local attractions.

The main historical street has not only provided connections with the nodes but also has been a place of attraction over time. The highest building density in the town is characteristic of the historical residential
areas that create the main street. As the Spacematrix study and the additional study by I. Krasheninnikov and Moiseev on the porosity of urban development [4] show, with a high area of the housing stock, the territory acquires a greater functional mix of housing, places of employment and services. This conclusion is also suitable for small towns in Russia and helps to determine potentially successful territories on the basis of the density of buildings in the city. In Torzhok, the main street (Lunacharskogo Street) has a high density and a continuous front of historical buildings with shops, cafes and offices. The situation is similar for Ostashkov (Lenin Street, which runs through the whole city) and for Toropets (Sovetskaya Street), which is going to be landscaped by 2022 under the program of the All-Russian competition for the best projects to create a comfortable urban environment in small towns and historical settlements. In Ostashkov, one of the main streets (Evstafievskaya Street) has already been landscaped according to the same program, but the implemented project can hardly be called successful, since there are no people there. The block stone road is absolutely straight for 652 meters, without twists and trees. New design benches with USB chargers are facing the destroyed or burned down historical buildings. It is likely that the effect of this street will trigger the development of the adjacent territory, and shops, cafes will appear, and the buildings will be restored. And the development itself can be improved over time. All the main historical streets of the three towns have a high potential for development and need additional work: widening and paving the sidewalk, creating parking spaces, lighting, etc.

**Embarkment and access to the water.** Observing the behavior of people in small towns, we can say that people seek water locations: they feed ducks, fish, wet their feet, bathe and just admire the water. This desire is not surprising, since historically settlements were built near water reservoirs, confluence of rivers, lakes and on hills. All these geographic characteristics created a beautiful natural landscape. However, in none of the studied small towns sufficient attention is paid to the improvement of the banks and embankments or access to the water. The local population randomly breaks the road and builds unreliable stairs to get closer to the water reservoir. The town of Ostashkov, surrounded by the lake Seliger, has a concrete flat embankment one kilometer long, where practically nothing happens. In small towns, it would be important to consider the issue of arranging access to the water and the improvement of embankments, as having great potential for inclusion in the general network of urban public spaces.

To expand the influence of the town center and the public space framework, a combination of two types of analysis can be used: topological analysis of the connectivity of the spacesyntax road network and data on the location of people on social networks and GPS tracking [5].

A.S. Shchenkov in his paper on the role of urban improvement in the formation of an image of small Russian towns considers the problem of the nature and design of the improvement, as the problem of preserving the identity and historical appearance of small towns [6]. He rightly criticizes those decisions that turn the historical streets of a small town into "capital" ones. Tightness, clear separation of pedestrian and car zones, marked boxes for parking spaces - all this violates the traditional liveliness, freedom of movement for a pedestrian and the pace of a small town.

**3. Construction of the theory**

In the book "Recombinant Urbanism" [7], the idea of combinatorics based on the basic elements of the urban environment is developed. "Place" and "Path" should be considered as environmental complexes, that is, the spatial structure should be interpreted based on the laws of the spatial behavior of people. According to the theory of Cognitive Urban Studies, the essential factors of the spatial context that determine the nature of social interactions are such spatial parameters as localization, boundaries, distances, open / closed place of activity, its accessibility and permeability.
### Examples of environmental complexes

| Examples of environmental complexes | Dimensions and space area | Basic meso-spaces [2] | The optimal type of social control, providing social comfort | Anchor points of the urban environment | Peculiarities of the location in the city, and the proposed method of localization |
|-------------------------------------|---------------------------|-----------------------|-------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------|
| **Church or monastery complex**    | 50x50m - 100x100m         | Entrance area         | Temporary personal and permanent public control | Historical and cultural attractions | Public spaces are located on the main streets, at the ends of the historical center |
| (Novotorzhsky Borisoglebsky Monastery in Torzhok) |                          |                       |                                                  |                                      | Historical plot plan of the town                                          |
| **Market square - fair**           | 50x50m - 100x100m         | Pedestrian crossing   | Temporary personal and permanent public control | Temporary shops and shopping stalls | High integration of the road network, determined using the program (Space syntax) [2] |
| (Market square in Toropets)        |                          |                       |                                                  |                                      | Location by the water, determined by landscape-visual analysis            |
| **Embarkment and access to the water** | 250m-1000m               | Pedestrian promenade  | Temporary personal and permanent public control | Water objects                       | Adjacent to the main public spaces (gravity model) [3]                     |
| (embankment in Ostashkov)          |                          |                       |                                                  |                                      |                                                                          |
| **Main historical street**         | 500m-1000m                | Main Street Sidewalk, Promenade / Street Boulevard | Permanent and temporary public control | Public buildings | High integration of the road network (Space syntax)                          |
| (Lunacharskogo street in Torzhok, Sovetskaya street in Toropets) |                          |                       |                                                  |                                      | Anchor point clustering (functional diversity, mixed building, MXI model) |
| **Central park**                   | 100x100m - 200x200m       | Pedestrian square / Town public garden | Temporary and permanent public control | Urban design objects among greenery | Best connectivity with the local population (the gravity model)            |
| (Freedom Park in Ostashkov, Kirov Park in Torzhok) |                          |                       |                                                  |                                      |                                                                          |
| **Public garden**                  | 20x20m-50x50m             | Stone public garden   | Temporary personal control | Green spaces and cultural and historical monuments | Anchor point clustering (functional diversity, mixed building, MXI model) |
| (public garden near St. Tikhon’s Monastery in Toropets) |                          |                       |                                                  |                                      | Adjacent to the main public spaces (gravity model)                        |

*Table of the main public spaces of a small historical town.*
4. Conclusion

The success of small settlements depends on their involvement in the local agglomeration, not so much in terms of service as for the sake of social events, festivals and holidays; building a distributed system of “network” settlement, defining targets for social infrastructure. In all three towns, general patterns in the placement of public spaces and ways of using them were found. Everywhere there is a lack of a coherent system of public spaces in terms of walking and cycling accessibility, social and potential connectivity. An important condition for successful urban planning activities is local government and self-organization of the population, the creation of partnerships with local entrepreneurs, the cohesion of residents. The following observational recommendations include both architectural-spatial and organizational considerations that will help in the implementation of a comfortable urban environment program:

1. For small towns, it is extremely important to retain the position of chief architect in the local government, who is in charge of fulfilling the functions of a customer for urban planning projects;
2. Identification and advance development of planning projects for problem areas; Synchronization of activities for working with public spaces with other federal, regional and municipal programs;
3. Updating the territorial planning scheme, the general plan of the district, the region, the transition from the colonization of new territories to programming the activities of the developed zones, the development of the road network, an integrated and contextual approach to design, consistent with the types of land use, reducing the number of forced displacements;
4. Formation of urban planning regulations based on the model of planning, development and settlement, including combinations of low-rise suburban settlements with a network of high-density “urban corridors” near public transport routes and “green corridors” along natural objects.

5. References

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