Pedestrian Zone of Voskresenskaya ul. in Kaluga

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Abstract. Pedestrian zones are an important part of urban landscape. Better urban environment is crucial to better living standards. In 2019, the Russian Government allocated considerable budget for urban development in towns and historic settlements. Among other things, urban development efforts comprise the creation of pedestrian zones. Any such effort should be discussed comprehensively with respect to general city planning, neighborhoods, or even applicably to a precinct. This paper describes Voskresenskaya ulitsa in Kaluga as an example of a multifunctional themed pedestrian zone. What makes the street stand out is the abundance of federally protected architectural and cultural monuments. It is located in the downtown, and the surrounding architectures make it a tourist attraction. The paper analyzes a variety of functional layouts for the street. It further makes proposals on how to theme the street.

1. Introduction
Russia’s first pedestrian zone was made in the Old Arbat, Moscow, in 1985. Designing it took nearly ten years. This was a full-scale architectural and social experiment. The team was spearheaded by Moscow’s Architect-in-Chief M. Posokhin, while famous architects A. Gutnov and Z. Kharitonova joined the team, among others. This was an unprecedented project, and many aspects of it had to be discussed with rigor. The quality of urban environment, the architectural entourage had been decisive when choosing the location. The design covered facade restoration and decoration, as well as creating a system of landscaping elements. This experience became fundamental to the new urban policies.

2. Relevance
Today, humanity finds itself exposed to total negative influence that comes from anthropogenic disasters, anthropomorphic cataclysms, global warming, stresses, and lack of communication, all of which affects human behavior and emotional state. Public space provides means to neutralize and mitigate such negative impacts.

In 2019, the Government of the Russian Federation stated that urban improvement be integral to the comprehensive effort of raising living standards.

2019, “Russian Government to allocate 4.98 billion rubles to regional projects for urban redevelopment of towns and historic settlements”, as stated in the Decree No. 843-re of April 26, 2019.

3. Statement of problem and objectives
A pedestrian zone is an improved urban location where car traffic is prohibited; such areas are more suitable for human communication, open-air shows and entertainment.

What is necessary is to create a single spatial composition of urban improvements and greenspace. The design effort goes from general to particular, i.e. from city to neighborhood to precinct.
The Master Plan shall thoroughly connect and link to each other all the urban improvements and greenspaces, whether line (pedestrian streets and boulevards), spots (squares, public gardens, and parks), or points (precincts). Planning solutions should be tailored to the pedestrian locations and their traits: history, architecture, and the structure of adjacent areas.

Common pedestrian zones are:
- squares (usually a small area that allows omnidirectional movement);
- streets, boulevard, and embankments (linear compositions mainly designed for transit, unidirectional movement);
- parks and public gardens (any layout that allows omnidirectional movement);
- precincts (sports venues and playgrounds);
- microgardens (benches, flower beds, and decorations).

4. Research and design proposals

In 2019, Moscow State Construction University, MSCU, the Department of Architecture designed a new pedestrian zone for Voskresenskaya Ulitsa, Kaluga. The project involved senior students majoring in Architecture and Restoration.

The project sought to create a comprehensive multifunctional pedestrian zone model based on Voskresenskaya Ulitsa.

The objectives were to research historical and archival materials, to analyze the style of Empire architecture, to make multiple designs that would make use of the existing architecture, and to draft design proposals on how to zone the functional structure in the architectural concept.
The following was done:

– research in kind, data collection, architectural photography, and draw the street in developed view;
– analysis of the archival and historical materials as inputs;
– functional adaptation;
– a color scheme;
– conceptualization of greenspace, lighting, and architectural improvements/decorations;

Voskresenskaya Ulitsa is one of Kaluga’s landmarks. It runs in parallel to Lenina Ulitsa through the downtown, from Karpova Ploshchad to the vicinity of the Oka River.

It has 34 buildings, and most of them were constructed in the 18th or 19th centuries; 17 buildings are federally protected monuments of architecture, history, and culture.

By decree of Catherine the Great, five albums were published in 1809–1812 in St. Petersburg, titled *A Collection of Facades Consolidated by His Imperial Majesty for Private Housing in the Russian Empire.*

In fact, it was a collection of standard designs. Voskresenskaya Ulitsa is a unique place that exemplifies a well-preserved urban enclave that was based or partly influenced by the standard facade designs created at different times by the urban planning commissions spearheaded by I.I. Betsky and J. Bové. Such stylistic homogeneity is a rarity in Russian cities, and it deserves being a touristic landmark.

Given the history of the place and the fact that it is a fairly large collection of Russian Empire buildings, it also deserves becoming a history and architecture-themed pedestrian zone. We herein propose erecting a monument P.R. Nikitin and I.D. Yasnygin, the architects behind the bulk of Kaluga’s surviving architecture from the late 18th and early 19th century.

An impressively sized, 600 meters long street can well be turned into a multifunctional integrated structure. The functional layout refers to the options for adapting the existing buildings to a new functionality.

Let us further highlight the key aspects of the designed pedestrian zone.

**Culture.** The historical buildings can contain exhibition grounds, museums, art and craft workshops, and an art school. Besides, there can be concert and theater venues with appropriately designed platforms, amphitheaters, and seats placed on the existing terrain;

**Hotels.** Private guesthouses or apartments in existing buildings.

**Trade.** A uniform design of trade and exhibition halls.

**Catering.** Restaurants and cafes, including open-air establishments.
Architectural improvements and decorations. Pavilions, kiosks, and open-air cafes. Benches, lanterns, decorated trash bins, revetments, amphitheaters, fountains, and paving. A navigation system and a coherent set of signs, sculptures, paintings, and graphics.

![Figure 3. Some of the Voskresenskaya Ulitsa’s buildings: (a) 9 Voksr. Ul.; (b) 6 Voskr. Ul.](image)

In the 19th century, the street was stone-paved. This is why the best option today is to combine stone paving and tiles. Pedestrian and scooter lanes will need special coating. A pedestrian street needs no sidewalks.

Empty space between buildings can be filled with pavilions and kiosks of a standardized design; playgrounds for children are another optional filler. Lanterns, lights, benches, and trash bins must follow the same design code.

Greenspace. The greenspace design partially retains the existing trees. Large perennial trees adorn the street today. Every other tree will be cut for better visual impression of the architecture. The remainder will be complemented with newly planted trees and integrated in the general composition to create quiet and comfortable space for rest and leisure.

**Functional Adaptation of the Existing Housing** One proposed solution is to recreate bi-functional housing that will replicate the layout and functionality of Medieval artisans’ and craftsmen’s houses. Each such house had a workshop and a store on the ground floor, while the two other floors served as living quarters.

Such housing could fit well the lifestyle of today’s artists and craftsmen in arts: blacksmiths, potters, or sculptors. Such buildings are also suitable for smaller schools, exhibition grounds, museums, cafes, restaurants, and cultural entertainment providers.

![Figure 4. Facades of Voskresenskaya Ulitsa 21, 34 in developed view](image)
5. Conclusions

1. It seems appropriate to devise a methodology for pedestrian zone design.
2. A systematic approach is one that integrates all the levels of urban improvement: the city, its boroughs, neighborhoods, and precincts.
3. The design should emphasize the individualism of architecture.
4. It is desirable to highlight the historical features and traits.
5. The design could make use of a visualized layout and grid.

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