

Manfred SCHRENK, Vasily V. POPOVICH, Peter ZEILE, Pietro ELISEI (Eds.)

# RE-MIXING THE CITY

TOWARDS SUSTAINABILITY AND RESILIENCE?



## PROCEEDINGS TAGUNGSBAND

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*There is nothing permanent except change. (Heraclitus)*

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**Manfred SCHRENK, Vasily V. POPOVICH, Peter ZEILE, Pietro ELISEI**

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# REAL CORP 2012

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## Fill in the Blanks: Challenging the Modernism, Satisfying the Users' Needs?

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### 1 ABSTRACT

The contemporary transformations, caused by frictions between local and global forces, have to provide comprehensive answers to numerous questions – from urban efficiency, environmental challenges, social (in)equality, to urban history, identity and future sustainability. However, the processes which shape our environment sometimes do not respond to actual needs of users, creating a gap between ambitious visions of professionals and politicians and our everyday life patterns.

Considering all recent challenges the paper will analyze the case of New Belgrade and its current urban metamorphosis which has an impact on the character of open public spaces. The focus of the research will be Block 21, which was built during the 1970s and 1980s, after the national architectural competition. Following the guidelines of the Master plan it was conceived as a mono-functional residential block, but its reconstruction, conducted in two phases (during the 1990s and 2000s), instigated some typological changes. New functions were added (for ex. commercial and office spaces), as well as new residential structures, which were quite different from existing ones. Open community spaces were also transposed to another type, different in size, function, pattern of communication and accessibility.

Following the thesis that successful public spaces should be responsive to the needs of their users, the paper will present a research which has been done on needs and conflicts in open space. Based on a survey and interviews of end users, along with observation and behavior mapping of activities, this paper should provide answers on how recent changes of Block 21 meet users' needs and to what extent they collide with the original modernist outline.

### 2 INTRODUCTION

The iconic modernist structures of New Belgrade have always been a symbol and a testimony of all ideological shifts in Yugoslav and Serbian society. More than 60 years of its urban existence has brought numerous adjustment and changes in its economic, social and functional structure, but its rigid and over-scaled urban matrix has mostly remained untouched. However, during the 1990s the process of a specific urban reconstruction started, tackling the sensitive issues of modernist architectural legacy, challenging the purity of original conception and introducing some new patterns of behavior and urban needs.

Since then, open public spaces in New Belgrade have been influenced by socio-economic turbulence on local and global level and included into an inevitable transformation of urban tissue. Their identity and role in everyday life of the local community have been redefined, tracing a new path for emerging models of urban life. The scale, as well as the spatial and functional concepts of these spaces have been questioned and exposed to professional criticism, while the upgrading and adjustment to contemporary demands and standards have become an imperative of further development of New Belgrade.

The old framework has been tested and modified, the questions of environmental quality have been raised, but the reality of open public spaces still has to be synchronized with identified needs of users. Therefore, the research presented in this paper underlines the importance of several important factors which have to be considered in every process of regeneration and renewal in order to provide a flexible and satisfying urban setting. The increased speed of global flows certainly requires immediate solutions, but they should provide a long-term sustainability and not just another instant remedy with numerous contraindications.

### 3 BEING MODERN?

#### 3.1 The origin

After the end of the WWII, New Belgrade was conceived as a new administrative center of the state, reflecting ideological and technological aspirations of the recently established socialist society. Its unique

position in the topology of Belgrade enabled its total modern design based on a grid which followed ideas of Le Corbusier (Fig. 1).

Composed of nine mega-blocks the new urban space provided mainly residential and administrative activities, without necessary adjustments to the real needs of inhabitants. The public space of urban blocks was not articulated enough, which caused its inappropriate and uncontrolled use. Since the first generation of inhabitants came mostly from rural areas, they 'cultivated' this space in their own way – creating a semi-rural ambiance of gardens and small orchards around new buildings. Simultaneously, a traditional places for social interaction – streets and squares – were substituted with over-sized communal spaces which only stimulated alienation of potential users. However, there were some additional problems detected during the 1970s and 1980s such as a high density of mega-blocks, height of the buildings, quality of construction, monotony of urban blocks, lack of user-friendly public spaces and lack of facilities and services (Zivković, 1975).

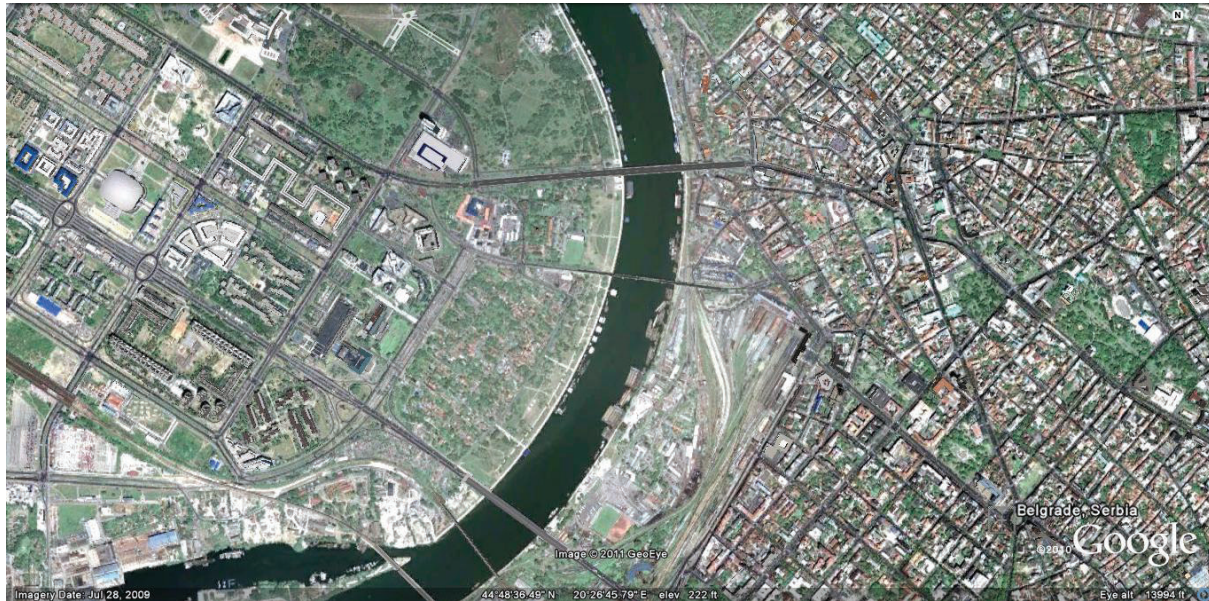


Figure 1: Belgrade vs. New Belgrade – competitive scales and design.

### 3.2 Facing the changes

The 21st century has brought significant changes in the physical and functional structure of New Belgrade. The density has increased, new commercial activities have been introduced and it has become one of the major construction sites in Belgrade. The original typology of mega-blocks has been modified with new buildings positioned along the existing boulevards and the previous character of public spaces has been changed. Nowadays, the open modernist mono-functional assemblies are upgraded into a mixed-use development but some green spaces disappeared under hundreds of thousands of new square meters. Considering the number of inhabitants (about 300.000), their new social structure, a new profile of space users/consumers and their contemporary needs, it was necessary to focus attention to the quality of open/public spaces. Therefore, during the last decade, a process of revitalization and rehabilitation has started, (re)shaping the existing urban environment and inserting some new facilities (Figure 2).



Figure 2. New structures – mixed-use development, built during the last decade.

Various planning documents (from the Master plan of Belgrade 2021, district regulation plans and municipality programs) certainly provide a good foundation for action, but a survey about real users' needs had not been conducted before the beginning of the rehabilitation process. Therefore, this paper will present findings of a research done in 2011 which could guide some future interventions in the public space of New Belgrade mega-blocks, define updated requirements/standards and influence a process of evaluation – due to newly established criteria.

## 4 TOWARDS A NEW SOCIAL INTERACTION

### 4.1 Selecting the research polygon

The conducted part of research was limited to a selected case study - Block 21, representing one of the oldest mega-blocks in the Municipality of New Belgrade (Fig.3).

The main idea was to create recommendations for rehabilitation of public spaces which would be adjusted to the needs of all users and would be able to achieve a new level of general attractiveness and utilization. There were two basic research scopes – related to urban hardware (physical qualities of open urban spaces) and software (needs of users, especially within mega-blocks and their public spaces).

It was also important to distinguish two main groups of inhabitants, according to their place of origin, unique urban identity and attitude towards the surrounding. The first one consists of young people born in New Belgrade, with strong preferences toward the existing urban environment. The second one represents newcomers (from other towns or rural areas) who have (had) difficulties to adjust to a different scale and spatial concept, as well as to accept new habits. Consequently, the first group totally identifies with their residential background and the second group denies an imposed spatial framework, consciously or unconsciously fighting against its rules and limitations (Savic, 2000). However, in order to define total scale of users' needs, to determine a set of quality standards and to conduct comprehensive process of evaluation of public spaces, both groups were considered.

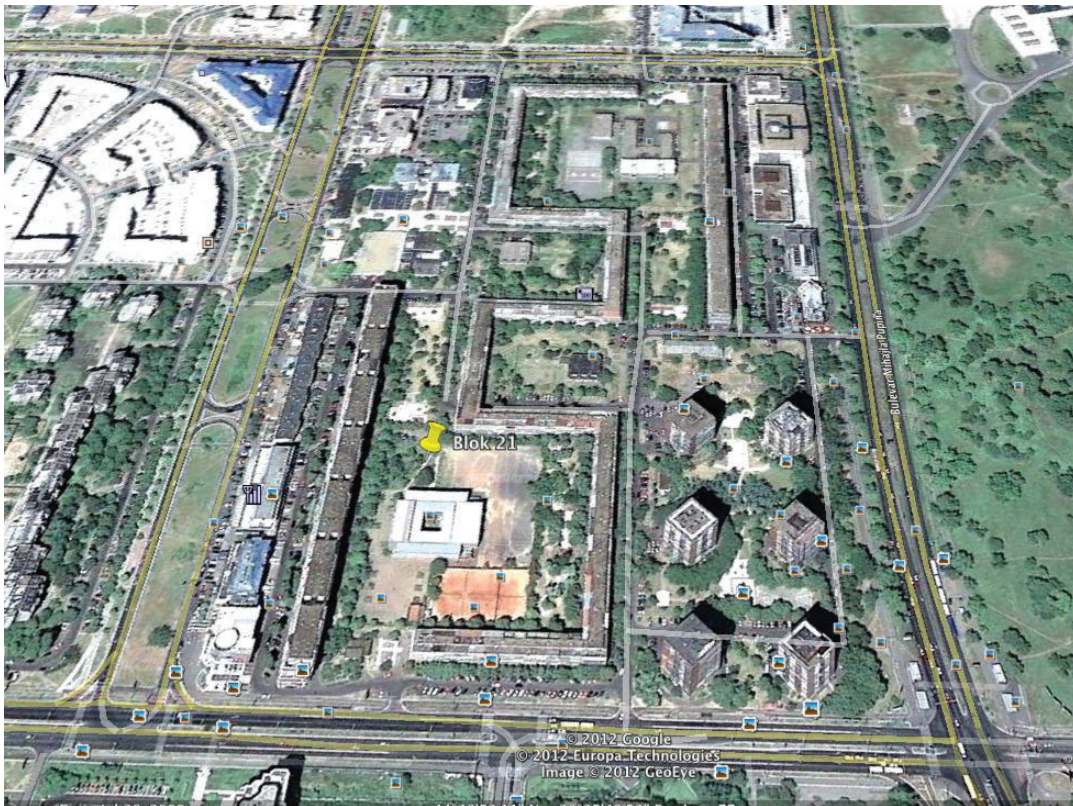


Figure 3: Blok 21

The analysis of physical qualities of open spaces was enabled through a method of direct population survey which included 200 inhabitants of New Belgrade. The socio-demographic structure of the group was similar to the structure of the inhabitants, both in the Municipality of New Belgrade and Blok 21, while the survey covered 2% of residents of Blok 21 (Fig. 4).

The questionnaire was structured around five sections/thematic entities i.e. elements of mental maps defined by Kevin Lynch (1960) – paths, edges, districts, nodes and landmarks. The outcome of the survey revealed that the urbanscape(s) of New Belgrade and Blok 21 have a potential to become local centers/focal points of social interaction, easily recognizable by their inhabitants.

The second part of the research, which underlined specific urban needs, provided an evaluation of open public spaces in Blok 21. The survey was based on six main criteria, reflecting current state of the built environment and emphasizing issues of safety, equipment, accessibility, comfort, capacity and diversity of urban activities.

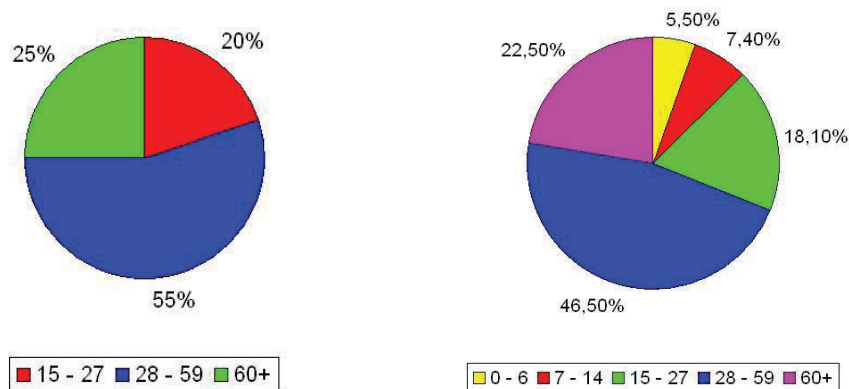


Figure 4: 4a/The age structure of the selected group of respondents vs. 4b/The age structure of population of New Belgrade.

## 4.2 Mapping the perception

The first part of the research was based on everyday observations of urban environment of Block 21 and the already mentioned basic elements - paths, edges, districts, nodes and landmarks. Analyzing the role and significance of paths/directions in the selected mega-block it was evident that the most important directions are Mihajlo Pupin Boulevard, Zoran Djindjic Boulevard and Milentija Popovica street. These corridors, which are essential parts of the rigid modernist grid, either connect or represent the tangent lines to the main landmark of New Belgrade - Business center Usce (Fig. 5).



Figure 5 The urban landmark - Business center Usce.

The next part of the questionnaire was related to identification and role of edges, which, according to Lynch, represent linear elements of urban space and act as boundaries or gaps (Jordan, 2003). The survey showed that some of the main paths/directions are also perceived as spatial boundaries (due to very intensive traffic), but some other streets (for ex. Proleterske solidarnosti str.) are identified as gaps in the continuity of urban space.

The role of the next spatial element – district – was analyzed on two levels: external and internal. The first one is related to the possible presence of landmark(s) which could be noticed from a distance, while the second one describes the uniqueness and specific atmosphere of an urban area. According to the survey, block 21 has three distinctive districts/areas – the assembly of six high-rise residential buildings (called ‘Six Soldiers’) (Figure 6), the area outlined with a long residential building in a meander-like form and the recently built area along Zoran Djindjic Boulevard. Furthermore, the respondents identified several nodes – as important points of arrival or departure within the block. Some of them are related to recreational activities (the inner courtyard of a high school and children playground) and to an interesting mixture of social interaction/entertainment and food and grocery shopping (open green market and McDonald’s restaurant).





Figure 6. The district landmark - “Six soldiers”.

The most important landmark and a focal point which directs movement (and different activities) is the business and shopping center Usce (Figure 5). It is in a close proximity of the selected block 21 but it also represents both local and city landmark. However, there are some other buildings which are identified as landmarks - due to their height, form, urban role or materialization (for ex. hotel Hyatt, Sava Center, ‘6 soldiers’ and Arena) but their perception and visual significance are mostly related to local/New Belgrade scale.

### 4.3 Evaluating the public space

The second part of the research was oriented toward the open public spaces of block 21. They were analyzed and evaluated according to a matrix composed of six basic aspects/criteria which provided information about safety, accessibility, legibility, comfort, attractiveness and livability of the block (Fig. 7). The method of survey was used again and it gave an insight into actual needs of users. The results indicated that one of the main problems is subjective feeling of unsafety (mostly during the night), which is caused by insufficient public lighting and over-scaled public space. Furthermore, the respondents criticized some elements of the environmental comfort, especially during the summer (67%). The lack of green spaces was emphasized (98%), as well as the insufficient capacity of existing parking and garage places (92%). However, the maintenance of green public spaces was perceived ambiguously because 58% of respondents have a positive opinion about its general quality. It is also interesting to underline some other needs – for ex. to separate facilities by different groups of users (58%) or to increase the capacity and variety of sports facilities (42%).

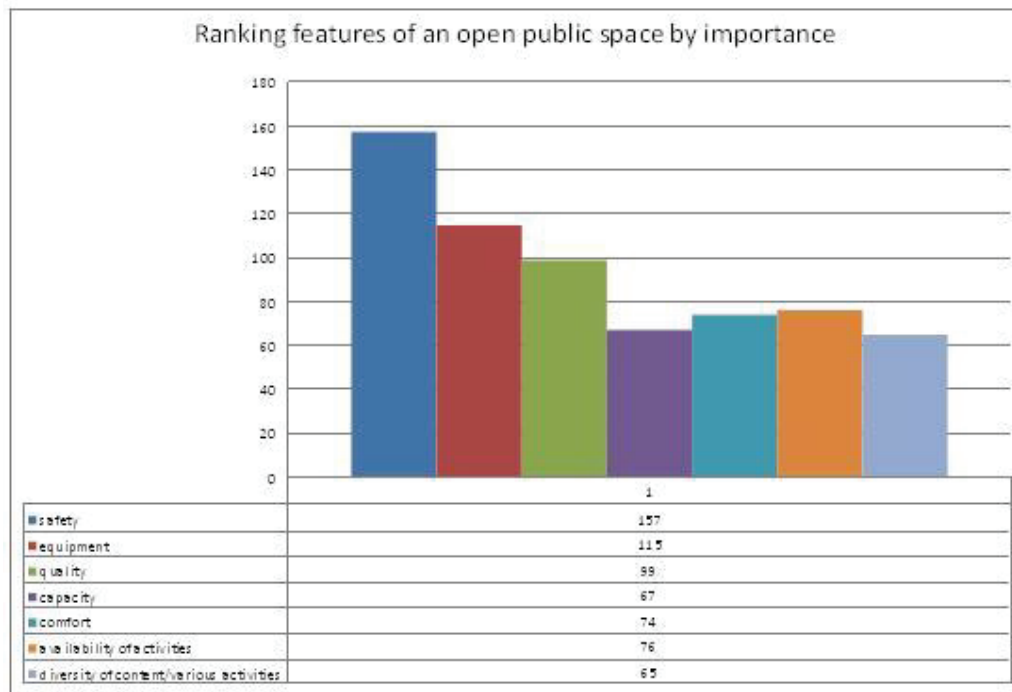


Figure 7: The results of evaluation.

According to the presented results (Fig. 8) the general opinion of inhabitants is not so positive. The majority of them think that the open public spaces of block 21 do not fulfill some of the selected criteria – safety (more than 80%), equipment and general quality of pavement and facilities (50%-60%), accessibility and comfort (37%) and livability (i.e. capacity and diverse of activities) - 30%. These identified problems should be used as initial points for further improvement of open spaces and according to them a list of priorities related to revitalization and redesign should be created (Fig. 9) – for ex. designing more children playgrounds (66%), increasing the number of parking lots (60%), increasing the number and quality of green spaces and improving the quality of the public space equipment/urban mobiliary (54%). However, the issues of accessibility and inclusive design were not so important for the current users (45%), as well as the introduction of new activities in the block (37%).

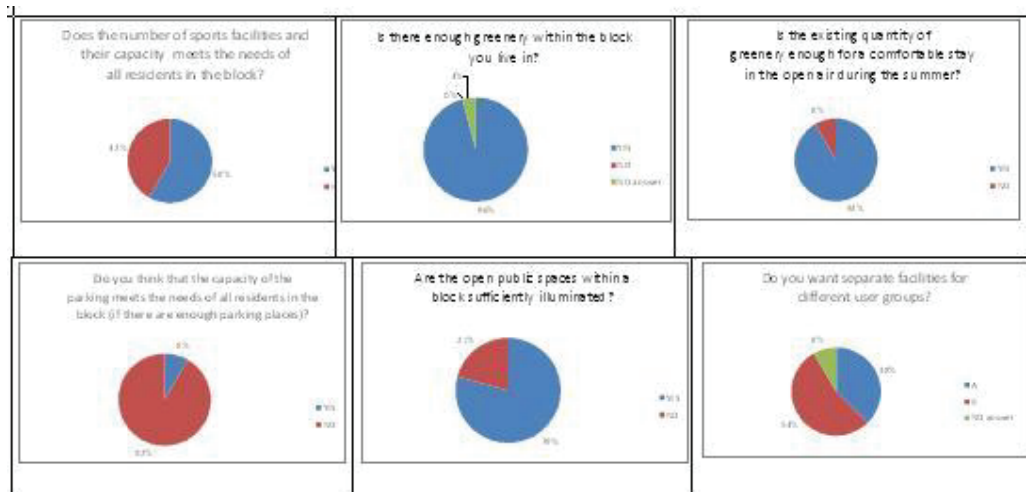


Figure 8. The survey results

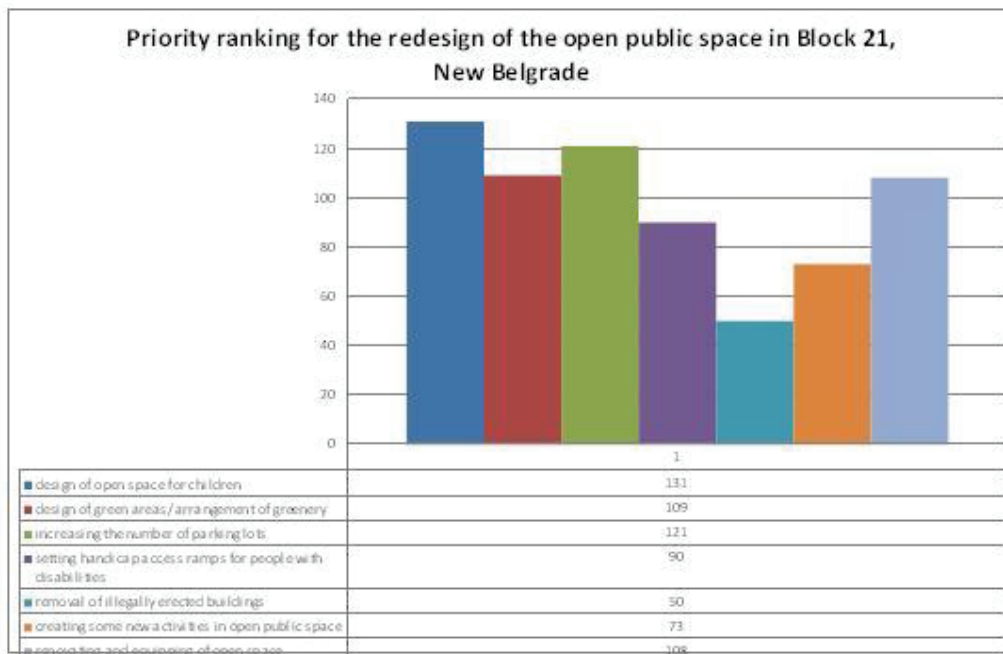


Figure 9. The survey results - evaluation of priorities for redesign of open public spaces.

#### 4.4 Environmental challenges

The block 21 was built in the early 1970's and the buildings were designed without consideration of energy demands and consumption (Krstic-Furudzic, Djukic, 2007). Almost 90% of building stock was residential, with a few public buildings built in the late 1970's (kindergarten, elementary school, high school and district center). Before the regeneration, at the beginning of the 21st century, the block was mono-functional, with low density and large open spaces between buildings, but with good access to public transportation (the distance from buildings to bus and train stops is less than 500m).

After the reconstruction, block 21 became multifunctional, with commercial and business activities, which cut the number of journeys by car per day (everyday shopping, going to bank or etc.). New bicycle lines provide "green way of transport" (Djukic, Vukmirovic, 2011). With new development, spacing between buildings is reduced, density is increased and a better climate comfort is provided – especially during hot summers or cold and windy winter days.

Finally, in order to insure future sustainability of public spaces, it is necessary to apply some new elements of urban design - for ex. intensive greenery and flat green roofs wherever possible, water scenes, covering of open spaces with pergola, tent and vegetation which allow shade in the summer and solar radiation in the winter, the use of non-slip materials which decrease heat radiation during the summer and the improvement of visual identity of open spaces.

### 5 CONCLUSION: IMPROVING THE QUALITY

The research conducted in block 21 in New Belgrade indicates that recent processes of regeneration in mega-block have influenced some changes in public spaces within urban blocks, although with different effects. According to the data provided by the survey, the perception of paths/directions and edges/boundaries is clear, the existing landmarks are sufficient and easily readable and recognizable, but the position of nodes and their connections are not highly graded by the users. Furthermore, the evaluation of the open public spaces in the block, which was based on six selected criteria, opens some questions and traces new directions for the future planning/design process. The important design parameters are identified, the hierarchy of users' needs and detected problems is established and the issues of safety and overall environmental quality are emphasized. The redesign of children playgrounds, as well as the increased number of parking lots are underlined as the highest priority.

The identified problems and challenges could present an important input for every plan and action in public space. They reflect real needs of different groups of users, provide data for basic guidelines, define types and

scales of physical and functional transformations and influence the selection of planning instruments and tools. The research described in this paper highlights the importance of continuous adjustments and upgrading of public spaces, especially in a specific urban environment which is exposed to contemporary currents and trends, but also to some degree restricted by its rigid matrix and previous ideological labels. Therefore, the comprehensive process of urban regeneration of New Belgrade should also be one of strategic aims which trace further urban revival of this area. The Master Plan of Belgrade 2021 also emphasizes some priorities related to this issue – from the recovery of damaged urbanity, redesign and modernization of public spaces and their equipment, construction of a new and recognizable urban identity to the permanent education of inhabitants oriented towards the understanding of numerous benefits driven by urban renewal and regeneration.

Obviously, the period of transition demands integral approach which combines physical, functional, social and environmental solutions, raising the responsibilities for both citizens and city governments. Open public spaces in mega-blocks have always had a problem of scale and critical mass, but intensification of certain activities (especially recreation and leisure) could provide a necessary magnet on a local level, which should reinforce their role as gathering points. Additionally, the upgrading of spatial elements and their modernization in accordance with the demands of contemporary culture should enable a new, attractive setting for urban life and induce a re-symbolization of old patterns and structures. Establishing balance between needs of users and expected (and planned) sustainability of public spaces is not an easy task, but a high level of adaptability should be required and included in all plans and projects.

## 6 REFERENCES

- DJUKIC, Aleksandra, VUKMIROVIC, Milena: Walking as a Climate Friendly Transportation Mode in Urban Environment: Case Study Belgrade. In: IJTTE- International Journal for Traffic and Transport Engineering, Vol. 7, Issue 4, 11/12, pp. 214-230. 2012
- ERIC, Zoran: Differentiated Neighbourhoods of new Belgrade, Belgrade, 2009.
- JORDAN, Jennifer: Collective Memory and Locality in Global Cities. In Patrice, P., Krause, L.: Global Cities Cinema, Architecture, and Urbanism in a Digital Age. New Brunswick, New Jersey, 2003.
- KRSTIC-FURUNDZIC, Aleksandra, DJUKIC, Aleksandra: Chapter XV Serbia. In Jones Phil, Pinho Paulo, Patterson Jo, Tweed Chris (eds.): European Carbon Atlas - low carbon urban built environment. Cardiff, Wales, UK, 2007.
- PEROVIC, Milos: Iskustva proslosti, Belgrade, 2000.
- SAVIC, Marko: Novi Beograd – stvaranje identiteta mesta. In: Izgradnja, Vol. 54, Issue 11-12, pp. 353 -357. Belgrade, 2000.
- STUPAR, Aleksandra: (Re)symbolizing the Modern Heritage: A New Identity for a Prosperous Future? In 42nd Isocarp Congress: Cities Between Integration and Disintegration. Istanbul, 2006.
- PETROVIĆ, Mina: Istraživanje socijalnih aspekata urbanog susedstva: percepcija stručnjaka na Novom Beogradu. In: Sociologija, Vol. L, Issue 1, pp. 55-78. Beograd, 2008.
- ZIVKOVIC, Miroslav: Uvod u sociologiju stanovanja. Beograd, 1975.