

URBAN ANALYSIS AND VALORIZATION OF SPACE AROUND THE BUS AND TRAIN STATIONS IN NOVI SAD

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Summary: Main city stations of public transport represent focus points in a settlement and they are the travelling starting points of tourists and visitors. There are knots of different traffic aspects on those locations. The first impression of a place, especially when it comes to urban structures, is formed exactly in these places of gathering of a large number of people who use the collective intercity, and then the city public transport. The quality of the immediate surroundings affects the first impression of the city and thus contributes to the character of the settlement's image. Surroundings are shaped by many factors of the built and natural environment, such as urban elements and details, architecture, transport and information infrastructure, natural elements and many others. Thoughtful orchestration of all elements increases the accessibility and functionality of space, at the same time creating a harmonious and ambient environment that, for many people, represents the first contact with the city.

With its position and hierarchy, in the sense of economy and politics, Novi Sad caused people of different ages and demands to gravitate towards it, where a large number of periodical migrations mostly went through bus and railroad traffic. This very fact requires the necessity of planned design and shaping of the area around these important infrastructure facilities, as well as a thoughtful construction of connections with the rest of the city, especially when it comes to traffic crossroads and junctions of different types of transport. In this paper, urban parameters of traffic, purpose of areas, spaces for socialization, content and ambience of the traffic objects surroundings are analyzed and valorised. The conclusion is that they are well planned, but not functionally organized enough and that they represent potential places for development.

Keywords: focus points, traffic aspects, train station, bus station, public space

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1. INTRODUCTION

Overview of the city image usually begins with reading the urban matrix in which the main physical characteristics of a settlement are recognized. Network of streets, important intersections, public spaces, and dominant routes are only some of information that dictates the possibilities for development and ways of functioning of the city. The quality of life in an urban environment is very dependent on the ways in which traffic infrastructure is organized, and services which contribute to higher mobility of the citizens and accessibility of content. The position of the main traffic knots dictates the connection between the parts of the settlement, as well as simplicity of access to the city and finding one's way around in it.

The link between the city and other settlements and broader environment consists mainly of traffic infrastructure, which enables spatial communication and supports the transportation of passengers, goods and information to and from the city. The existence of a developed traffic routes network and necessary objects greatly influences the potential development of the settlement itself, because good organization of those contributes to both economic and social progress. The influences on political-economic and social-historical position of the city are types, branching and quality of the traffic network, as well as the position of the settlement in relation to them. For that reason, the position of the main elements, such as roads, railroads, stations and harbours is an influential factor of the urban environment development. The importance of identifying the impact which conditioned the current state is reflected in the fact that "in order to plan, we need to know what has happened in the past and feel what the future may require" [1]

The train station and the bus stations represent the main focus points of the passenger traffic in many cities. Their position in relation to the important areas of the city and the main routes, resourcefulness of information and the connection with other parts of the settlement is what dictates the simplicity of understanding and getting around and eases the complex process of moving through the urban matrix. Objects belonging to this typology are mostly recognizable by their architectural language, because a complex program and functional demands dictate the specific expression through form, dimensions and volumes of the object. Other than that, these complexes are often the first contact that a person has with an unfamiliar environment, and that is why around the word much attention is given to the materialization and visual effect.

2. PUBLIC INTERCITY TRANSPORTATION STATIONS IN NOVI SAD

The development of public transportation is one of the sign of development level and a step towards gaining the modern city status. The need for an important traffic infrastructure, which connects the settlement with other parts of the world, clearly points at the great number of various social and economic activities that make a life of a city. Dynamics that were achieved by creating a permanent bond and the possibility of constant fluctuation of people through the city influence the remarkably fast changes of the city landscape in today's world.

The second half of the 20th century and expected prosperity caused new ways of approach to urbanisation, which began by intensifying if traffic, forming the traffic network and improving the connections with other parts of the country. During that period, today's bus station (Figure 1) and train station (Figure 2) were built in Novi Sad. After the construction, those object complexes are very modern buildings, adjusted to the importance of their function and they have become main orientation points of the city. Very consciously, their architecture and direct surroundings presented the image of a modern city. Over time, as the city landscape changed, the expression of shape and materialization of new objects in the direct surroundings removed the visual focus from these objects.



Figure 1. The area of long-distance bus station in Novi Sad

Because of their position on the two neighbouring lots, intercity train and bus stations in Novi Sad make a unique complex which encompasses complex functional processes and significant program at a city level. Mutual location supports the travelling options and a unique knot of all directions. Also, neighbouring objects of similar typology enable the unity of public space around them, increasing of surfaces and the possibility for various and quality solutions.



Figure 2. View from the boulevards of Jasa Tomic on the area in front of the railway station in Novi Sad

Objects of passenger traffic and public space around them must be organized in such a way so they can be easily used by all potential users, regardless of their understanding abilities, age, interests, reason for arrivals/departures, etc. By analysing the structure and people's needs in specific, every day travelling situations, it is necessary to shape the space in such a way that the staying within stations complex is as pleasant as possible, and services to be as available as possible. The simplicity of getting around, as well as the ambience of space are important characteristics which contribute to the general quality of space.

3. URBAN QUALITY CRITERIA OF THE SPACE AROUND INTERCITY TRAFFIC STATIONS

The complexity of this traffic program commands that the construction structure of an object is followed by equally designed, equipped and interpretable open space. The complex nature, however, of most urban development requires the skills of, amongst others, the planner, architect, urban designer, landscape architect and traffic planner. [2] The direct surroundings of these complexes have to respond to a number of demands that the user might have upon the first contact with the city. In relation to that, the space around the object itself has to be carefully planned and designed so that it directs, explains, presents and creates an interest of other parts of the city with its contents and urban elements. The quality of direct surroundings organization, which represents the extension of the object and typology in public space, is an important functionality factor in the case of passenger traffic stations, and it helps the object to completely respond to its purpose. The existence of urban parameters commands that the open space is shaped according to the demands which satisfy the desired effects, and therefore the criteria is crucial for the analysis and valorisation of the urban environment.

From the urban perspective, there are several characteristics of space that have to be satisfied in order for the surroundings to be functional and adequately organized. Physical structure and all of its elements demand the planning implementation for the sake of shaping the ambient units suitable for people, passengers, visitors, and tourists to stay there. Open surfaces around traffic objects should respond to the needs of a great number of different users, who used them periodically, daily, or it is their first time there. For that reason, these places should be shaped so that their universal expression is easily interpreted for the majority of users, without losing the ambience and attraction.

Surfaces in these areas can be divided into three basic groups, traffic, free, and green surfaces. Each one of them contributes to the general effect that the public space has on its users and has to be organized based on a planned shaping of all of the factors. They contain different urban elements that influence the quality of space, its functionality and interpretability. Functionality of the entire space is of primary importance for finding one's way in that space. Traffic surfaces, including access points for motorized vehicles and pedestrians, parking spaces and public transportation stops have to be coordinated so that the objects themselves are easy to reach and the demands of the concept are fully complied. The travelling network at the places of frequent traffic and knots of this kind has to be clear and simple. Getting around certain space must not be interrupted by obstacles of any kind. Paths and routes should be equipped with signs that direct and

provide all necessary information which an arriving or departing passenger might need. Safety is an important factor, not only while many users move, but also when they stay in a certain space. That is why it is necessary to additionally mark and light all places of intersection of different traffic aspects, as well as those where people make a stop.

Materialization of every spatial element is carefully designed in accordance with functionality, and also in order to contribute to the ambience of space and pleasant staying inside it. Traffic directions demand planning of effects of different climate conditions and options for moving of every potential user, as well as any additional directing and informing. Green surfaces with a vegetative variety enable the achievement of positive microclimate conditions, aesthetical and ecological qualities of spaces and visions. Free surfaces should encourage variety, recognisability and attraction of spaces and traffic contents.

Urban details should be implemented in every segment, according to functional demands in a certain number that satisfies human needs. The existence of appropriate fitting influences the possibilities of temporary staying, rest, refreshment, informing and socialization in this specific environment. Type, number, materialization, position, as well as shape, design and texture, give the possibility of variation and effective organization, which gives a special identity to the space.

Contents available to passengers influence the pleasure of travelling and improve the quality of services that the traffic program offers. Modern society formed a general demand for multi-functionality of all typologies, because the lifestyle forced the need for the speed of providing services, the accessibility of contents and general commodity in everyday activities. For that reason, contents that should respond to primary and default demands of the usage of these spaces, such as buying tickets, taking care of luggage, buying food and drink, are directed towards a spectrum of additional options, such as Internet access and other informative systems, different types of catering contents, entertainment, etc. "Inclusive urban design recognises that successful neighbourhoods are those where the design of buildings, streets and spaces based on the needs of all users at the human rather than vehicular scale." [3]

4. VALORISATION OF SPACE AROUND THE BUS AND THE TRAIN STATION IN NOVI SAD

The analysed space towards Boulevard Jaše Tomića represents the extension of traffic objects program and as such they should satisfy the demands described in the previous chapter. Unfortunately, objects themselves, as well as their public space are in the phase that demands certain interventions and restoration in order to contribute to the quality of city's appearance. The fact that there is an adequate infrastructure, as well as the solved problems of the connection with other parts of the city, transformation of public surfaces and spaces means that more attention should be directed towards micro-spaces and urban details that would improve this place.

Traffic surfaces demand reorganization for the sake of safer and more efficient moving and access to traffic objects, the train and bus stations. This is evident from the fact that there is no adequate parking lot in the direct vicinity of the bus station, with the exception of the parking lot for the employed. Passenger vehicles have to park on the

space on the opposite side of the complex, next to the train station, or within residential space of the building on the opposite side of Boulevard Jaša Tomić. This situation makes it difficult for luggage transportation and lessens the comfort of travelling. Also, there is no adequate taxi stop, which significantly endangers traffic safety. Pedestrian access to the bus station from the boulevard, where all types of public and passenger traffic make a stop, is possible exclusively over the surface intended for motorized vehicle traffic. This is conditioned by the original orientation of the main station entrance and former way of functioning. However, the current situation demands interventions when it comes to access points to the complex, because the most frequent directions of approaches to the station have changed. Having in mind aforementioned location of public parking lot and the possibility of taxis making a stop, the train station has a more favourable content, as well as safer and more accessible main entrance for passengers.

Green surfaces in the analysed zone should be refreshed in order to improve the microclimate conditions and lessen the pollution from exhaust fumes of highly frequent traffic. By adding tall plants would lead to creation of shadowy spaces, which are pleasant for people to be there and which provide protection from too much sun or wind. On the other hand, ground plants would lessen the effects of pollution. Although they contribute to the aesthetics and attractiveness of space, flower rows in front of the train station are also an obstacle for accessing the main entrance. Lack of rows of trees makes the existing pedestrian route very unpleasant during periods of high weather temperatures. Train Station Park, which leans onto to the bus station, has great potential for spatial organization. With adequate planning, the part of the park which is the closest to the station could become a pleasant waiting room out in the open.

It is necessary to restore and additionally enrich the urban fitting that exist in this space. That way, the need for benches, eaves, tap, light, information and other spatial details that a great number of passengers have can be satisfied. As it was mentioned before, the content of space is one of the most important factors of its quality and attractiveness. Organization of open surfaces around intercity train and bus stations in Novi Sad means modernizing them and adding new service contents that originate from needs, demands and desires of a modern person.

5. CONCLUSIONS

"Since we cannot escape the fact that cities are the imprint of society in space" [4] successfully shaping the urban environment will be accompanied by a prominent image of the community. The quality of direct surroundings of a traffic object has an influence on the first impression about the city, and thus, it contributes to the character of the settlement image. The surroundings are shaped by many factors of construction and natural environment, such as urban elements, architecture, traffic and informational infrastructure, vegetation, etc. It is the fact that commands that the planned shaping and space organization are necessary around these important infrastructural objects, as well as planned forming of connections with other parts of the settlement.

Novi Sad takes a significant place among the network of cities in Serbia and goes for the increasing of its significance in relation to the cities of Europe. That kind of attitude demands a presentation of the city at a high level. For this to happen, the first impression that the visitors have about the city is extremely important. This impression is made at

the space in front of the bus and train stations. As a city that is the regional, university, and cultural centre which creates its image with the desire to attract as much as tourists and business people as possible, Novi Sad should shape its public spaces in a way that looks up to the practical examples of other quality urban environments.

The analysis of traffic station complex in Novi Sad showed that it has a great potential for forming a representative transformation of high quality, as well as for many possibilities for transformation by which such quality could be achieved. This area also needs well planned interventions on a micro level, on smaller surfaces and urban details, contents and programs that would improve its functioning. The analysis encompassed the primary lacks of space, which should be further researched. It is also necessary to establish the specific parameters and define the schedule of transformations, which would contribute the continuing improvement of this public space by interventions in phases.

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REFERENCES

- [1] Giedion, S.: *Prostor, vreme i arhitektura*, Građevinska knjiga, Beograd, 2012., p.17.
- [2] Moughtin, C.: *Urban Design. Street and Square*. Elsevier Science. Oxford, 2003., p. 3.
- [3] Burton, E., Mitchell, L.: *Inclusive Urban Design. Streets for living*. Elsevier Science, Oxford, 2006., p. 95.
- [4] Pušić, LJ.: *Grad bez lica*. Mediterran Publishing, Novi Sad, 2009., p. 165.

УРБАНИСТИЧКА АНАЛИЗА ПРОСТОРА АУТОБУСКЕ И ЖЕЛЕЗНИЧКЕ СТАНИЦЕ У НОВОМ САДУ

Резиме: Главне градске станице јавног превоза представљају веома значајне жиљне тачке у насељу и свакако су почетна тачка кретања свих туриста и посетилаца. На тим локацијама налазе се главна чворишта различитих видова саобраћаја који се у граду одвијају. Први утисак о насељу, посебно када је реч о урбаним структурама, стиче се управо на овим местима концентрације великог броја људи који користе колективни, међумесни, а затим и градски саобраћај. Квалитет непосредног окружења, утиче на први утисак о граду и тиме доприноси карактеру слике насеља. Окружење обликују многи фактори грађене и

природне средине, као што урбани елементи и детаљи, архитектура, саобраћајна и информациона инфраструктура, природни елементи и многи други. Промисљена оркестрација свих елемената повећава доступност и функционалност простора, уједно стварајући складно и амбијентално окружење које многим представља први контакт са градом.

Нови Сад, својим положајем и хијерархијом у економско-политичком смислу, условио је веома фреквентно гравитирање људи различитих узраста, интересовања и захтева, где се велики број периодичних миграција до града углавном одвија путем аутобуског и железничког саобраћаја, док се из тог фокуса саобраћајна мрежа даље шири. Управо та чињеница налаже да је потребно планско обликовање и уређење простора око ових значајних инфраструктурних објеката као и осмишљено формирање веза са остатком насеља, нарочито када је реч о саобраћајним раскрсцима и чвориштима различитих врста превоза. У раду ће се успоставити критеријуми за оцењивање урбанистичких услова на основу којих ће се анализирати и валоризовати урбанистички параметри саобраћаја, намене површина и објеката, простори социјализације, садржајност и амбијенталност окружења аутобуске и железничке станице у Новом Саду, како би се оценио њихов квалитет и утврдиле потребне интервенције ради побољшања квалитета овог простора.

Кључне речи: *живне тачке, видови саобраћаја, железничка станица, аутобуска станица, јавни простор*