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SUSTAINABLE STRATEGIES FOR DEVELOPING BANJA LUKA AS A CITY FOR PEDESTRIANS AND CYCLISTS

Key Words

Cycling;
Walking;
Urban mobility;
Sustainability

Abstract

Due to the unstoppable trend of urbanization and expansion of motorized traffic, during the 20th century, cities were confronted with great and often negative changes in the urban tissue. Recent shift of focus in urban planning toward pedestrians and cyclists is a result of contemporary tendency to revive the lost human dimension of cities. Paper consist of two parts. First part analyse basic and contemporary concepts of sustainable urban mobility (SUM) with focus on walking and cycling and overall human city dimension. Research deals with how process of stimulating non-motorized transport can contribute to sustainable urban mobility and whether it can become a strategy for development and sustainability. Second part is application of analysed concepts and theories on urban matrix of city of Banja Luka. By reviewing local policies and actions, research seeks to determine whether sustainable transport problems are identified and to what extent they are being addressed.

1. INTRODUCTION

For more than half a century, most countries have experienced rapid growth, which has brought with it an increase in population density, urban sprawl and overuse of motor vehicles. All mentioned has caused a number of environmental, social and economic consequences. Due to the oncoming traffic spree, the city space is

occupied by streets and large parking areas [1]. Solutions that tried to reduce traffic jam by building new traffic infrastructure and improving car traffic conditions have caused even more traffic congestion. Lack of public urban space, obstacles, noise, pollution, impaired security and disruption of citizen participation in urban life are just some of the consequences of the growth of modern cities. The focus has shifted from social interaction in public urban spaces to meeting the needs of individuals.

The modern concept of sustainability has contributed to the awakening of awareness of the lost human dimension in the city and enabled transport to be no longer an end in itself, but rather a means to enable people to obtain all that they need. Traffic congestion solutions are sought in increasing the attractiveness of alternative modes of transportation, in changing parking policies and behavior of road users, as well as in the more rational use of urban land. The Danish architect Jan Gehl, whose work focuses on improving the quality of urban life, argues that "a sustainable city is, in principle, possible if most of its transport system is based on green mobility, which involves walking, cycling or using public transport" [1]. Based on this statement, the paper examines current strategies for achieving sustainable urban mobility in the city of Banja Luka.

2. METHOD

The first part of the paper presents the concept of sustainable urban mobility and the tendencies that occur in traffic planning. The research involves the application of a content analysis method, analysis of available literature within the subject area in order to present relevant data and to form a theoretical research background.

The second part of the paper focuses on the study of the local context - the analysis of the case study of the city of Banja Luka. The analysis of the current situation of urban mobility is presented in a descriptive and graphical way in order to define the guidelines for the development of urban mobility, based on theoretical research. The review of local policies and actions, as well as the planning documentation, seeks to determine whether the problems of unsustainable traffic are identified and to what extent they are being addressed.

The final part of the paper provides recommendations and guidelines for the development of Banja Luka as a city of pedestrians and cyclists.

3. SUSTAINABLE URBAN MOBILITY CONCEPT

After sustainable development became relevant in all spheres of society, the concept of conventional traffic planning was abandoned. The need for systematic traffic planning, which will eliminate the shortcomings of traditional, linear planning, has emerged, [2]. Sustainable planning uses the principle which says that any form of transportation can be useful in creating a balanced system. A large number of cities are employing strategies that favor non-motorized modes of transportation, public transportation, and disincentives for car use in congested urban areas.

Pedestrians and cyclists are given priority over motor vehicles, and comfort and safety are of primary importance in relation to speed [3].

Usually mobility is viewed through three groups: slow (walking and cycling), shared and private transport [4]. What begs the question is which of these modes of transport can contribute most to the creation of sustainable urban mobility. Naturally, cycling and walking are the only low energy solutions that take up the least space [4]. Slower modes of transport have low requirements for transport infrastructure, are safe and environmentally friendly. What the slower modes of transport do not live up to are the expectations and the habit of traveling fast and long. Due to these limitations in the practice of sustainable urban mobility, walking and cycling are part of multimodal transport and are combined with public, road and similar modes of transport.

Planning for sustainable urban mobility in European countries, as of 2014, is taking place according to a new planning concept, which is realized through the development of a Sustainable urban mobility plan (SUMP). This new concept calls for the involvement of citizens and relevant actors, for coordination between different levels of government and for a cross-sectoral approach to planning. The sectors requiring coordination within the plan are: transport, land use, environment, economic development, social policy, health and energy [5]. SUMP is a strategic document that builds on existing traffic planning practices and takes into account integration, participatory and evaluation principles to meet existing and future residents' mobility needs and to ensure better quality of life in cities and their surrounding areas [2].

Also, the United Nations report Mobilizing Sustainable Transportation for Development is moving away from the principle of mobility on the basis of individual motorized traffic and increasing traffic speeds, and is moving towards ideas of accessibility, where people and their quality of life are prioritized with a focus on safety and social equality. The concept of access is realized through enabling people to access everything they need: sustainable livelihoods, food, health, safe communities and spaces, thus creating the opportunity for economic prosperity, social needs, personal and intellectual development [6]. In most successful implementations, a single policy has not been introduced but rather a package of measures, which allows the mixing of different policies that at first glance seem insignificant to individual users but promote the overall well-being of society as a whole [7]. In all of this, mobility drives development, connects people, connects local communities, builds markets and facilitates trade.

4. BANJA LUKA CASE STUDY

In recent years, Banja Luka has gradually entered the era of new urbanization. The increasing population, as a result of the migration of residents from small towns and villages to the capital of Republika Srpska (one of the two entities of the Bosnia and Herzegovina), has forced cars, as a necessary means of transportation, to be drawn into most families. With the increase in the number of urban cars (49,795 registered vehicles in 2008 and 73,341 in 2018) (Republika

Srpska Institute of Statistics) [8], traffic congestion has become a bottleneck in urban development. Also, poorly developed, expensive and slow public transport is one of the reasons why citizens use private cars more often. In order to critically address these issues and to determine the research space of their socio-ecological implications, a study is presented the analysis of urban mobility in Banja Luka and the possibilities of its reorganization in order to mitigate traffic challenges, increase urban public spaces, and increase the quality of the environment and of the life of the city inhabitants.

The Urbanization Plan for Banja Luka (1975) (a valid urban plan) also indicated the expansion of individual motor traffic. By 1965, bicycle traffic, in addition to pedestrian traffic, was a major form of communication in the city. According to the estimate at the time, every second resident owned a bicycle. The increase in the number of motor vehicles has dramatically reduced the participation of pedestrian traffic and cycling as streets have become dangerous for them [9]. What is worrying is that the Banja Luka Urban Plan Proposal 2008-2020, which has never been adopted, is not adequately treating pedestrians and cyclists. The priority in traffic planning is the construction of city roads, in order to increase the capacity of the street network. Pedestrian and bicycle traffic are not brought into the context of mobility and are not treated as modes of transport [10]. Also, it is clear from the comparative scheme of the Planned Bicycle Network of the 1975 Urban Plan and the 2006 Bicycle Trail Network in Banja Luka that there is no progress in the development of cycling traffic over a thirty year period (Figure 1).

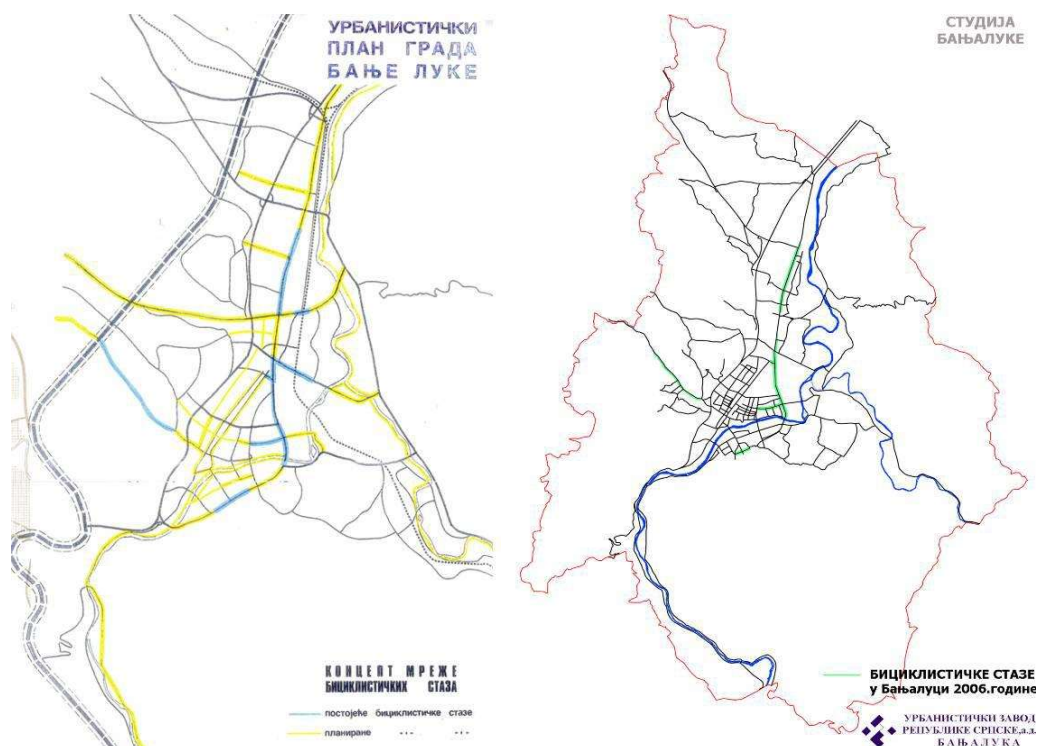


Figure 1. Comparative schemes of the planned bicycle and pedestrian network from the 1975 Urban Plan and the network of cycling trails in Banja Luka from 2006 (Source: Draft of Urbanization Plan for Banja Luka 2008-2020, 2009)

The current situation map of the cycling trail network (Figure 2) indicates some progress compared to the situation recorded in 2006. In the past year, 2,200 m of new pedestrian and 2,200 m of new cycle trails have been built, while 800 m of new cycle paths are currently under construction. The newly constructed bike lanes are not integrated into the street infrastructure. They are slowed down and diverted at intersections, clearly prioritizing cars in traffic. The map of the current situation of the cycle path network has been supplemented by other sustainable mobility measures implemented in the city of Banja Luka, relating to the bike sharing system, the introduction of a mini-bus for the Banja Luka Recreation Area (Banj brdo) with access for the disabled, construction of trim trails along the Vrbas river coast, changing the purpose of Kralj Petar I Karadjordjevic Street into the pedestrian street on weekends in summer [11].

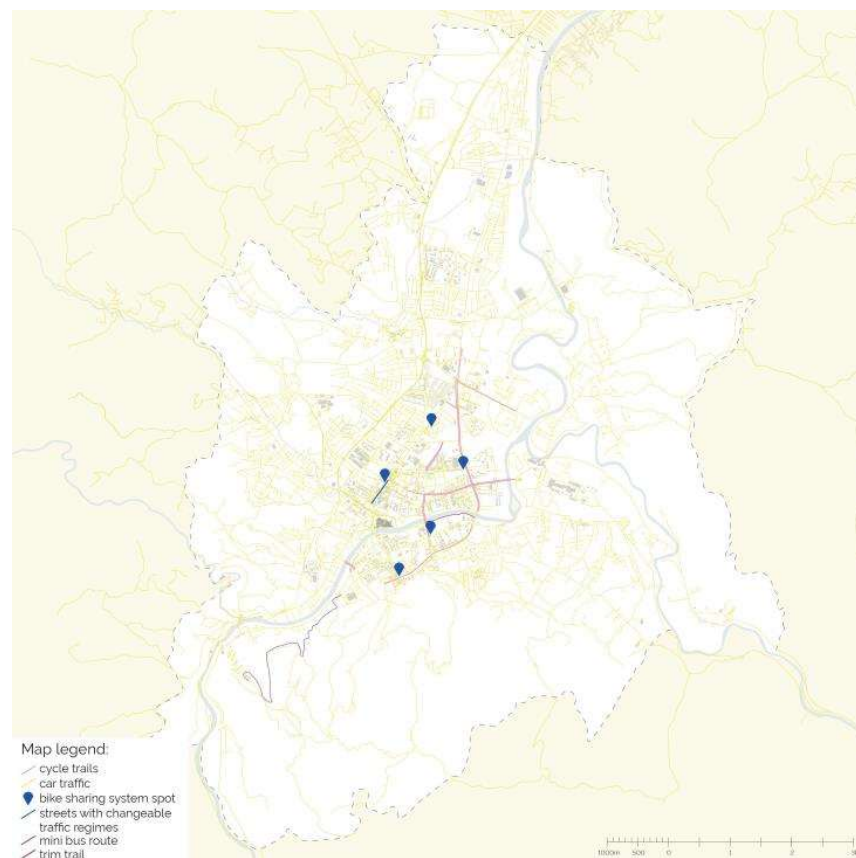


Figure 2. A map of the current situation of the cycle trails network (Source: Authors)

In the context of sustainable urban mobility planning, there is still no adequate legal basis or governance policies in the Republic of Srpska that recognize sustainability. Integral planning has been declaratively present in legal acts as one of the planning principles, but through legal solutions, planning methodology and institutional support has not been realized [12]. The problem of sustainable transport in Banja Luka is in itself an extraordinary and complex challenge. What can be pointed out is that there is still no sustainable urban mobility plan (currently

under development) in the city through which strategic and systematic approaches of planning, that take into account social, economic and environmental aspects, can be established. However, there have been initiatives in the city for many years aimed at sustainable urban mobility.

Since 2002, Banja Luka has been participating in a campaign called European Mobility Week, within which the city's first cycling cycle was organized [13]. European Mobility Week is organized each year in more than 2,500 cities around the world and ends with the celebration of World Car Free Day, 22 September. Banja Luka, with the support of city authorities, Deutsche Gesellschaft für internationale zusammenarbeit (GIZ) and the Open Regional Fund for South-East Europe - Energy Efficiency (ORF-EE), has become a gold participant in the European Mobility Week 2018 and the only city in BiH with this status [14]. The actions organized in the city have a good turnout of citizens, as evidenced by about 600 participants of the 16th Banja Luka's bicycle fair "Two wheels are enough" held in 2017. The organization named Banja Luka's Critical Mass, made up of citizens of Banja Luka, guests, tourists and bicycle lovers, is responsible for organized bicycle rides on a monthly basis.

The National Coordinator of the European Mobility Week is the organization Center for the Environment and since 2002 has been implementing a transport program aimed at "promoting sustainable modes of transport and changing habits of people in populated areas" [13]. The City of Banja Luka is part of the CIVINET Slovenia-Croatia-SEE network of cities, with the aim "to transfer knowledge and good practices and to design joint projects that will finance future sustainable transport activities and better mobility" [15]. Organized by this network, a roundtable on sustainable urban mobility planning was held in May 2018 in order to discuss sustainable urban mobility plans [16]. At this roundtable, the city authorities and the Department of Transport and Roads presented the Mobility Plan of the City of Banja Luka for the period 2018-2020. [17]. It is emphasized that the following has now been realized so far: sistem of public bike renting stations, public transport mobile phone application, electric vehicle chargers, a zero parking zone, the redesign of the central pedestrian zone and the change of use of the main street into the pedestrian zone on weekends.

5. CONCLUSION

In the case of Banja Luka, there is a clear lack of implementation of sustainable transport planning measures, as well as a lack of strategic planning approach guided by integrative, participatory and evaluation principles. The paper highlights the problems of sustainable urban mobility in Banja Luka that deserve special attention and additional research. Cycling and walking can become strategic commitments in order to achieve sustainable urban mobility, but research shows that they have not yet become one. Various initiatives, roundtables and actions are a good indicator of raising the awareness of citizens and authorities about urban mobility. In the coming period, it is necessary to focus even more on the development of sustainable modes of transport, through education, new actions

and projects. Introducing a sustainable urban mobility plan and working on legal and institutional support are necessary instruments to integrate sustainable urban mobility systems into the environmental context, while paying attention to the economic and social aspects of sustainability.

Walking and biking opportunities should be understood and viewed as a comprehensive investment in improving living conditions and developing sustainable transportation systems, in order to reduce environmental pollution and traffic risks.

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