

Article

Urban Planning Impact on Mobility and Residential Satisfaction of Older People in Novi Sad

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Abstract: Social, political and economic changes have generated processes of revitalization of the built environment in post-socialist countries since the beginning of the 1990s; these changes are related to the physical structure of the city, its facilities and its functions, as well as the city landscape. Urban planning affects people's quality of and way of life, as well as residential satisfaction with the built environment, especially that of older people, who make up a significant part of sustainable communities. This paper examines the residential satisfaction of older adults in terms of mobility—that is, their ability to move using facilities offered by public transportation and public places—in two neighborhoods of Novi Sad which have undergone the most extensive urban regeneration. This approach is different from the existing urban studies dealing with residential satisfaction, which makes it a contribution to the literature. Unlike previous studies—which have explored residential satisfaction at the level of accessibility to local facilities, safety in the urban environment and support from the environment—this paper also investigates the impact of movement in public space on the residential satisfaction of older people. The results show that the residential satisfaction of older people is low with regard to public transport, the arrangement of public spaces and traffic infrastructure.

Keywords: built environment; sustainable communities; residential satisfaction; mobility; public spaces



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1. Introduction

Urban spaces should be designed to reflect sustainable communities for the independent functioning of older adults. Sustainable communities imply functional urban spaces in which older people can meet their living needs through ease of mobility and adequate design, which should result in residential satisfaction.

Understanding the needs of the older adult population is important for achieving a good quality of life and forming sustainable communities. Appropriate housing and quality design of public spaces reduce risks to the health of older adults. The conditions for reducing social and health costs are provided through independence and prosperity [1]. According to several authors, wellbeing is used to define social sustainability [2]. It also requires sustainable mobility in the context of the needs of the older adult population. This can be achieved through infrastructure improvements and accessibility [3].

Physical changes in the neighborhoods inhabited by older people affect their quality of and way of life, as well as their satisfaction with the built environment, because these changes are mostly associated with the locations in which they live. This association refers to buildings, areas and services in their vicinity. Satisfying the needs, trends and activities of older adults is generally reduced to just their place of residence while their mobility is reduced with age [4,5]. Urban transformation and revitalization change the built environment, and in the process, they affect the activities of older adults; they perceive

changes in the area as a negative or stressful experience, which significantly affects the quality and the way of their lives [6]. There are also positive effects from these changes, related to the quality of housing and the enhancement of accessibility to daily facilities [7]. The residential satisfaction of older people is one of the indicators of eligibility for residential communities, and a number of studies have been written on this subject [4,8].

Related studies emphasize the disadvantages of this process in Western cities: the loss of affordable and cheap shops and affordable housing, impersonality and privatization of public spaces, and community deterioration [9–12]. The processes of transformation and revitalization of the post-socialist cities of Eastern Europe (CEE) also have a negative impact on the quality of life of the local population, by which older people are particularly affected [13]. Despite the lack of empirical research dedicated to the quality of life and satisfaction of older people in relation to their residential environment in CEE, the latest research shows that these changes garner positive reactions in some cities [7].

The aim of this paper is to examine the residential satisfaction of older adults, through the conditions of mobility and the quality of the public spaces in which this mobility takes place, using examples of transformed urban areas of Novi Sad. Serbia is a European country that is not an EU member but is in the process of association; this is the first study carried out in such a country, which extends its importance beyond that of a case study. This approach differs from the existing urban studies dealing with residential satisfaction. In previous studies, research on the residential satisfaction of older adults has been conducted at the level of accessibility of facilities, security in the urban environment, and interaction with the environment. This research benefits, in part, from the experience of these surveys, but largely examines the residential satisfaction of older adults in terms of mobility, namely their ability to move using facilities offered by public transportation and public places. This paper examines residential satisfaction in parallel with the analysis of the functionality of space, the orderliness of public areas, the possibility of movement in space, and accessibility to public transport. Traffic problems are evident in Novi Sad; therefore, these aspects are of great importance for the quality of life and residential satisfaction of people whose mobility is impaired or limited.

Since the mobility of older adults is one of the preconditions for their independence and for the quality of their daily (sustainable) life, it is very important to examine whether public transport is suited to their needs, which could significantly affect the results of the survey as an indicator of residential satisfaction. Furthermore, it is considered that the arrangement and adjustment of public spaces to the mobility needs of older people is extremely important in terms of their mobility and freedom in space.

Social, political and economic changes have generated processes for the transformation of cities in post-socialist countries since the beginning of the 1990s. These changes are related to the physical structure of the city, its facilities and its functions, as well as the city landscape [14–18]. Some places are more intensely affected by these changes, especially the central areas of large cities that are social, administrative and economic centers. Cities in different countries have regenerated differently, depending on the political stability, the development of institutions, economic development and the development of urban policy [19].

The quality of the built environment depends on numerous factors (these may be of a social, housing, economic, financial, health, urban or spatial nature), as well as on personal characteristics and each person's life. The residential mobility behavior of neighborhood residents can also be influenced by their impression of other city residents in their neighborhood, in other words, the perceived reputation of the neighborhood [20]. One of the criteria for evaluating quality of life in sustainable communities could be residential satisfaction. In a referenced study, it is stated that: "It is one of the ways to evaluate the quality of urban environment, usually by neighborhood residents" [7]. Older people's residential satisfaction is discussed within the context of an age-appropriate living environment [4,8] and the everyday effects of urban revitalization [9,10,21]. Good access to green spaces in an urban environment, from an urban-planning perspective, has positive health impacts

on older populations [22]. Green infrastructure provides environmental services in urban areas, which are a prerequisite for ensuring biodiversity, social and territorial cohesion, sustainable development, and overall human wellbeing [23].

In the global field of built-environment studies, results indicate that the community type and the characteristics of the dwelling unit are two very important factors of residential satisfaction [24], as well as home ownership [25]. The older adults were therefore viewed as a negative part of the population through their dependency, impoverishment and decline of their mental and physical health. However, it was observed that older people tend to come to terms with the reality of their environment and adapt to it [4]. Social activities, relationships and trust positively influence the increase in residential satisfaction of older people, as well as the availability of professionals that can assist them in case of need, which has been confirmed through studies [8,26,27]. The sense of safety and security in the community contributes to a more independent life and increases mobility and opportunities for socialization. The term “mobility” is often used with different meanings, depending on the context. Speaking of older adults, the most important definition of mobility is crossing small distances, from the place of residence to the retail or service facilities that are frequently used [5]. Public spaces are greatly shaped in the process of urban planning, and both are very important for senior citizens’ mobility.

In some studies, it was shown that the frequency of using public transport, in relation to other means of transport, is the highest for crossing greater distances or leaving the immediate area (from 2 to 5 km away) [4]. This refers to the movement for the purpose of leisure: “. . . the majority of older population in high-density urban developments, which are characterized as having high quality public transit connections, prefer to use public transit . . .” [4]. The older population, especially above the age of 75, is dependent on public transport. However, most find it difficult to use, as they need to walk to the bus stop to board, and in addition, public transport cannot ideally cover all areas [28]. On the other hand, older adults today use cars more often than their predecessors due to the greater availability of cars and the higher share of drivers in the population. Driving as a driver or co-driver is quite popular [29]. However, low-density development, especially in the USA, is connected to the locational flexibility of automobile and the associated road network, thus unfavorably affecting human health, social welfare, and ecological conditions [28]. Such adverse effects can strongly influence the residential satisfaction, especially of older adults, in cases where their place of residence is a result of urban sprawl.

In Western Europe, the US and Australia, there is a growing trend among the older population to increasingly use cars as primary means of transport. However, recent studies in Asian cities suggest that in order to increase public transport usage (and therefore lower car-ownership) it is crucial to enable high accessibility to local daily opportunities (i.e., local provision of retail and service facilities) [30].

The process of urban revitalization mainly occurs due to economic, social and political changes in a country, and it involves making changes to the entire system of urban planning. Economic aspects of neighborhood revitalization are strongly indicated since the financial and utility value of an area follows its growth. The commercialization of facilities and the privatization of an area, as well as the need to maximize the profit, all affect the neighborhoods and negatively affect the lives of residents. There are also positive effects of this process, such as better housing quality and accessibility to local retail stores that have more competitive prices [7,31]. This often leads to loss of residence or relocation due to the inability to adapt to new conditions and housing prices. This phenomenon is part of the gentrification process which occurs as a result of urban revitalization, and it has been the subject of a number of studies [9,21,32]. In such circumstances, high-quality public transport suitable for the needs of the older adults can significantly facilitate their housing situation by enabling them to easily access the necessary facilities and certain public spaces. New housing developments stimulate the introduction of new public transport lines and new public transport systems, which contributes to space networking, creates dynamic mobility, and stimulates the use of public transport [33].

The literature has shown that the emergence of new commercial facilities, wealthier residents and consumers generates numerous transformations in neighborhoods, which is reflected in the rise of land, real estate and rents prices, reconstructions and upgrades, land-use change, as well as modifications of the social structure of the neighborhood and the landscape layout [9,34,35]. Most authors state that these changes, typical for the revitalization process in post-socialist cities, satisfy one part of the population, while for others, this implies deterioration of the social and housing situation [9,11,21,36]. In these studies, such changes of the neighborhood have a negative impact on its original residents who are exposed to the pressure of a different living environment to which they should adapt. The latest research shows that these changes have positive reactions in some of CEE [7]. In political terms, the displacement becomes one of the urban strategies which governments of developed countries encourage by implementing urban revitalization projects [9,37]. This is the method by which some of the community's problems, such as outdated infrastructure and evident poverty, are being solved. This also represents additional pressure on the local population in neighborhoods exposed to revitalization.

In neighborhoods where the necessary facilities are not easily accessible and the access to walking and cycling areas is limited, efficient and reliable public transport suited to the needs of the older adults will contribute to their independence, which is highlighted in the existing literature [4,5] and will be further analyzed in this study. In the case of restricted opportunities for walking or cycling, the availability of public transport is a prerequisite for ensuring that older adults can have an independent life. If public transport is suited to the needs of older people, they tend to use it more often [38]. Vehicles adapted for people with mobility impairments, adjusted schedule and additional services provided during transport represent good public transport for older adults. This study will examine the possibilities and usage conditions of public transport. It has been observed that the mobility is perhaps the most important factor of residential satisfaction.

In order to move freely within a neighborhood, pedestrian routes, safe sidewalks and entryways, denivelation, and crossing barriers for people with disabilities are very important for the older adults. Free and adequate movement implies the provision of appropriate urban furniture. The quality and functionality of the space depends on the existence of places for rest and socialization, their visibility, and positioning in relation to the directions of movement and accessibility. Walking contributes to older adults' agility and the establishment of social interactions. In the process of urban revitalization, the provision of surfaces for all modes of transport and their appropriate adaptation for use, especially for the older adults, occupies an important place.

Novi Sad had a long period of socialist life. Prior to that, it was fairly adequately organized within the two monarchies, given the small demands of the smaller town and adequate planning from the Austro-Hungarian period. The socialist period brought long-term development, emphasized the use of cars, the creation of large boulevards, and mass introduction of bicycle paths in all major streets of the city. However, at the smaller scale, accessibility, sizing and arranging of areas for movement of people with special needs and older adults has not been adequately addressed. This continued in the post-socialist war period and later transition period, where unregulated urbanism prevailed. Consequently, there was no room left for humanistic and welfare principles in shaping the public space, which was reflected in the two analyzed neighborhoods. Conditions for the movement and stay of people in public spaces are especially difficult for the older population. Urban transformations, resulting from urban planning principles of Serbian transitioning capitalism, have neglected the needs of older adults.

The paper consists of five parts. In the Introduction, the research problem, aim and current literature is presented. The second part describes the methodology applied in order to collect data in two revitalized neighborhoods of Novi Sad on samples of adults aged 60 years or over. The third part is the case study of the Old Town and Grbavica neighborhoods. Data processing and research results on residential satisfaction of older adults are presented in the fourth part of the paper through two sections. The first presents

the results of a survey of residential satisfaction of older people through the analysis of the availability of content, security in the neighborhood and the community interaction. The second segment presents the results of the research of residential satisfaction of older people through the analysis of the trends and conditions of movement within the public space of the mentioned revitalized urban neighborhoods. The fifth part of the paper is the conclusion on residential satisfaction of older people in the analyzed neighborhoods, based on the obtained results.

2. Methodology

The research was conducted using a questionnaire-survey method adopted by several authors in their previous works [4,7,8,26,27]. As their work had not considered the satisfaction of older people from aspects of mobility in public spaces, the questionnaire was supplemented with questions relating to the frequency of use and the quality of public transport, as well as the adaptation and arrangement of public spaces to their needs. The survey consists of two segments. The first, shorter section of the survey has 3 questions relating to availability of services and necessary shops, safety in public space and social support, i.e., community interaction. The second section of the survey consists of three groups of questions about availability and frequency of public transport (4 questions), arrangement and adaptation of public areas to movement of older people (5 questions), as well as traffic issues (3 questions). In order to obtain specific responses, a four-point Likert scale was used. The respondents were older citizens who use open areas of the above-mentioned neighborhoods on a daily basis. The research is based on a relatively healthy sample, because those with impaired physical mobility mostly remain indoors and at home and are therefore not likely to be recruited in public spaces, which is a limitation of this paper. The examined respondents are older people who actively use public space on a daily basis and are faced with its advantages and disadvantages because they are more able to assess the real situation and the opportunities in terms of their mobility. As for older people with physical and mental barriers, the main obstacles to their mobility arise in their flats or houses; therefore, the problems within the urban area are of secondary importance to them [39]. This means that immobile older people (non-users) are primarily handicapped by the physical barriers in their micro-space (flat, house) and less by the urban (neighborhood) space [7]. During the interviews, the respondents were asked for their age in order to focus the choice to over-60-year-olds, living in the surveyed neighborhoods. During this survey, the aim was to interview those persons who use the space intensively, assuming that they are able to better assess the provided conditions and perceive how the urban space affects their freedom of movement and their independence in the neighborhood.

3. Case Study

Novi Sad is the second-largest city in the Republic of Serbia and the capital of the Autonomous Province of Vojvodina. The process of urban transformation has drastically changed some parts of Novi Sad within a very short period of time (2000–2010). Urban planning in Novi Sad, as in other post-socialist cities, has been faced with a great challenge to meet the needs of all of its residents and users of urban space in a completely new context, and the question remains whether those goals have been achieved [40]. Post-socialist cities have faced radical socio-economic changes which were reflected in public spaces and urban form [2].

The satisfaction of older people is examined by using a case study of two neighborhoods in Novi Sad which have undergone drastic urban changes in the last decade. The Old Town of Novi Sad has experienced the commercialization of content and reconstruction of public space in order to attract tourists and consumers, while the residential area of Grbavica has been completely reconstructed from a single-family to multi-family housing area and has experienced certain commercialization of content (Figure 1).

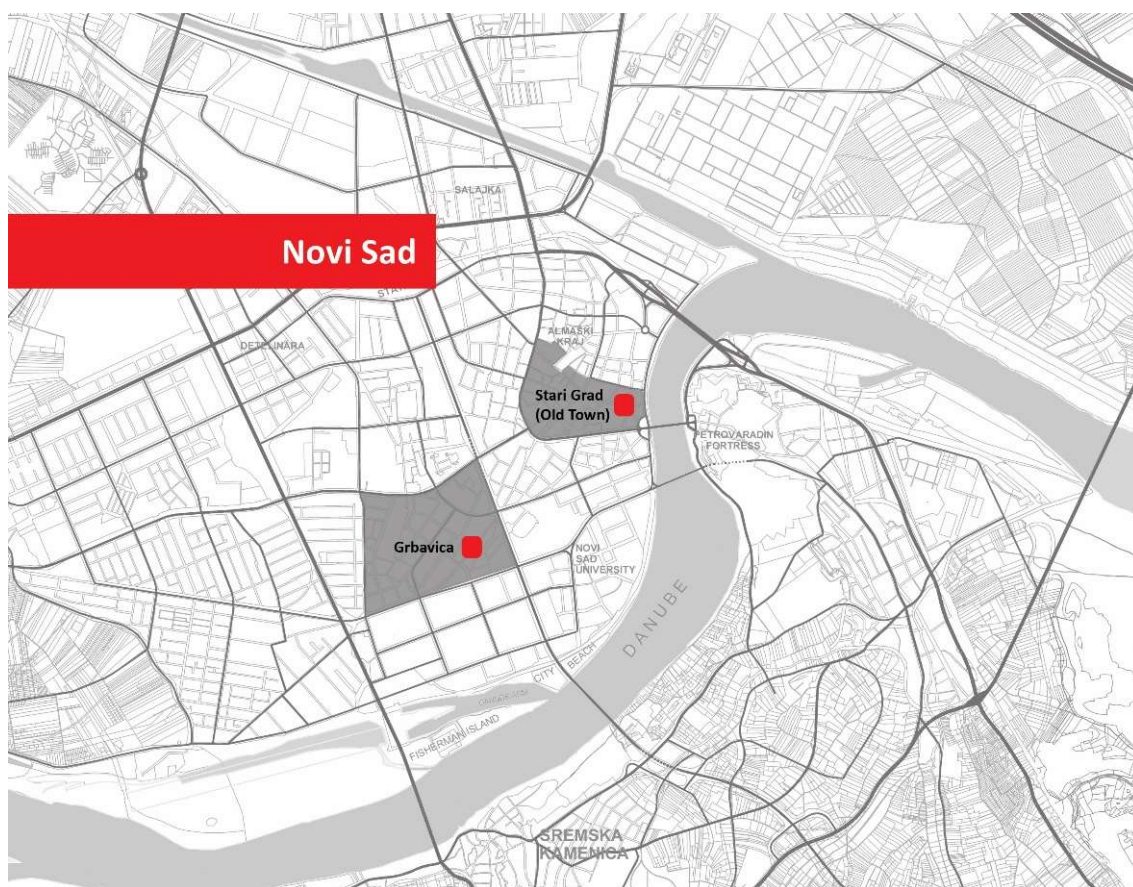


Figure 1. Position of the two neighborhoods on the city map of Novi Sad. Source: authors.

3.1. Old Town (Stari Grad)

With an increase in density in the center, numerous difficult problems have appeared with which the city is dealing with, the biggest of them being vehicular traffic. The rapid increase in the number of cars in the city has led to a glut of space and especially to a deficiency of parking space.

In these circumstances, the Old Town of Novi Sad is less suited to the needs of housing and is assumed not to be among the favorite neighborhoods. The population in this part of the city is older than the average according to the old-age index (Table 1). The Old Town has become the preferred destination for companies engaged in catering and sales, while the interest in residential space for new residents or young couples is low. It is evident, however, that the economic status of a number of indigenous residents (among older people) has significantly improved, owing to the sale of the old properties.

Table 1. Age-structure of the population in the study neighborhoods (2012). Source: City of Novi Sad, Public Utility Company Informatika [41].

	Old Town	Grbavica	Novi Sad
Population total	4191	10,159	345,912
Population 60+	418 (M) 579 (W)	880 (M) 1293 (W)	32,146 (M) 43,281 (W)
Share of population 60+	23.8%	21.4%	21.8%
Old-age index	189	149	148

Note: M—men; W—women; old-age index—ratio of population aged 60 to 100; children aged 0–14.

The only form of public transport present in Novi Sad is the bus. There are 22 lines of public transport at the city level, of which as many as 15 pass through the area of the Old Town or on its margins. The use of public transport in this part of the city is enabled by seven bus stops (Figure 2).

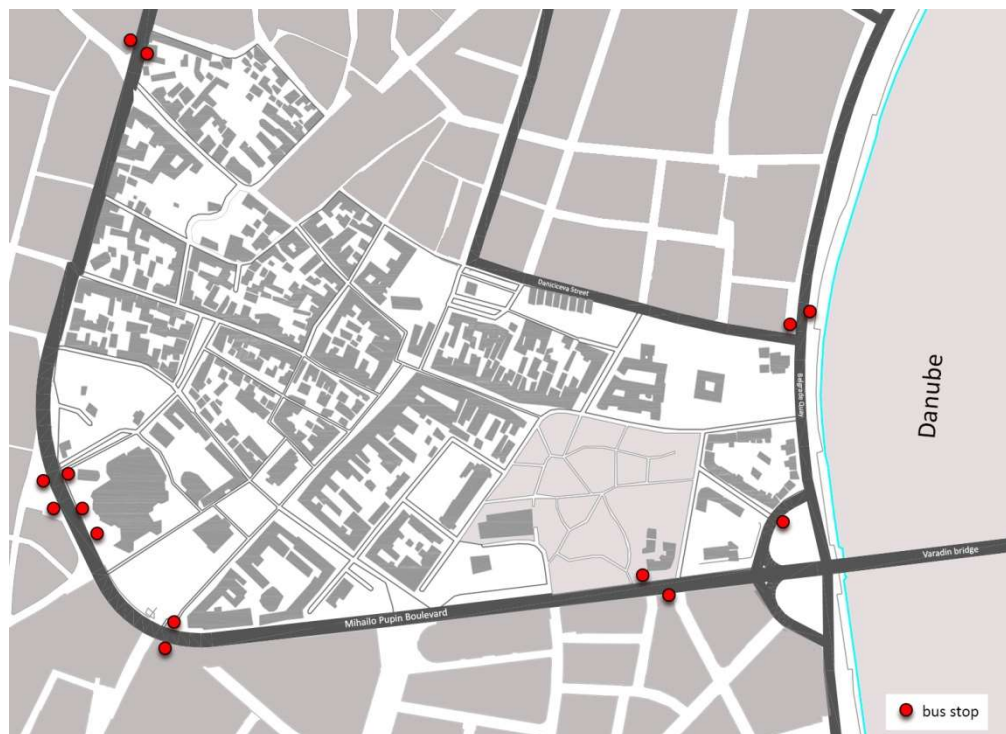


Figure 2. Position of bus stops in the area of Old Town. Source: authors.

3.2. Grbavica

The neighborhood, which used to be situated on the outskirts of Novi Sad, today lies in its wider center as a result of the urban growth of the city. In the process of urban revitalization, which has been taking place in Novi Sad over the last twenty years, the area of Grbavica has suffered a complete reconstruction. Intensive construction and transformation of the once-peaceful neighborhood has turned into a dynamic urban environment. Local residents, especially older adults and the poor, have found themselves under pressure and traded their houses for collective housing or were forced to relocate.

However, the number of older people who have improved their economic status is lower than in the Old Town, and the average monthly income is small. In the case of Grbavica, the existing reconstructed streets and the new infrastructure cannot meet the needs for construction within. Private investors, wishing to achieve higher profits, were striving to larger amounts and areas of living space at the expense of the quality of urban environment—free spaces, places for relaxation and socialization, which are particularly important to the older adults. Due to the intensification of vehicular traffic and the lack of parking spaces, public spaces are being “attacked” by cars, which is affecting their security and freedom of movement. The area of Grbavica is covered with eight lines of public bus transport and ten bus stops, and the entire public transport network runs along the outskirts of the observed area (Figure 3).



Figure 3. Position of bus stops in the area of Grbavica and near vicinity. Source: authors.

4. Results

The survey results are based on the personal experience of 136 respondents, of which 51 live in the Old Town (5% of the population older than 60) and 85 live in Grbavica (4% of the total number of people aged 60 years and more). All the answers can be classified into three categories: those who fully support the revitalization of their neighborhood, whatever it may be, those who support the transformation but are not satisfied with the way it was performed, and those who would prefer to retain the old neighborhood. The average age of respondents in Grbavica is 69.5 years, which is significantly higher than those from the Old Town (65.8). The share of females in the survey is much larger, 89 comparing to 47 men, as a result of their greater availability in the context of open urban spaces. Both sexes have shown a high level of response to the survey and willingness to answer the questions. Only three people have refused to participate in the survey (97.8% completed the survey).

4.1. Results of the Survey I—Satisfaction of Older People with Service Availability, Neighborhood Safety and Social Environment

The first part of the survey is based on recent research [4,7,8] and is related to the aspects of accessibility of local facilities (shops, pharmacies and various services), security within the neighborhood and local community support. The respondents were asked general questions about these aspects of life in revitalized neighborhoods, without going into detail, in order to compare their answers with previous research.

Research indicates that the older population has shown a high level of satisfaction with the availability of services and necessary shops: in the Old Town, close to 80%; and in Grbavica, as much as 90%. It is understandable that the satisfaction level in the Old Town is somewhat lower, considering the commercialization of facilities in the center of Novi Sad and its transformation toward tourist services. Almost all respondents in Grbavica have expressed their satisfaction with the availability of large supermarkets where they can satisfy their needs for supplies (food, clothes and shoes) and there are somewhat lower prices compared to the Old Town. The factors that residents of the center see as a disadvantage in supply and use of various services are crowds and a higher concentration of population coming to the city. Almost all respondents were satisfied with the availability of services, post offices, banks, pharmacies and health centers in both areas (Figure 4).

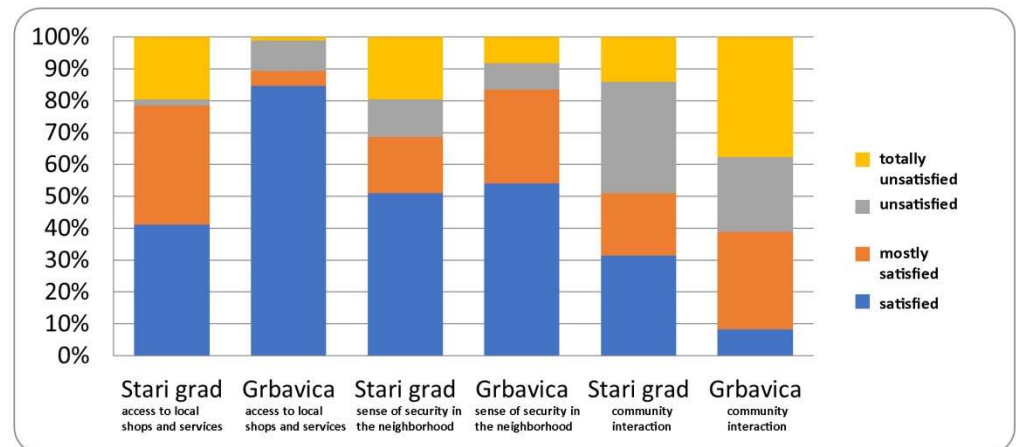


Figure 4. Percentage view of general satisfaction of older adults with access to local shops and services; a sense of security in the neighborhood; satisfaction with support in the local social environment (community interaction).

The percentage of respondents feeling safe in Grbavica is over 80%, whereas this percentage is slightly below 70% in the Old Town due to higher population density and large number of visitors, tourists or foreigners. As a reason for dissatisfaction with security in their neighborhood, the respondents in Grbavica mentioned the frequent presence of stray dogs, which are influencing their freedom of movement and causing concern related to leaving their house at night. Moreover, older people feel insecure because of negligent drivers who often drive fast and do not pay enough attention to the safety of pedestrians. A very small number of respondents complained about the crime in the neighborhood and cited fear of theft or violence as a cause of discomfort. Discomfort was expressed in the Old Town due to the presence of homelessness, as well as alcohol and drug addicts, particularly in the vicinity of major shops, cafés and nightclubs. The respondents expressed a lower level of satisfaction with the social environment and support within the neighborhood compared to the availability of the services and shops as well as security in the neighborhood. The percentage of satisfied respondents in Grbavica is approximately 60%, and in the Old Town it is only 50%. The cause of this is usually a fast-paced lifestyle, limited willingness of young people and neighbors to assist the older adults in their visits to the doctors or to carry a heavy bag and, in particular, to establishing an interaction and dialogue. The respondents also stated that the neighborhood is often changing and that a lot of residents live there periodically, in rented apartments, which limits the opportunity to meet new people or make friends.

4.2. Results of the Survey II—Satisfaction of Older People with Public Transport, Public Spaces Organization and Traffic

The second part of the survey is the essence of the research, and it refers to the aspects of public transport, public spaces, area and traffic. As it has been pointed out many times in this paper, the mobility of older adults is one of the most important preconditions for residential satisfaction. Through the second part of the survey, it will be seen to what extent Grbavica and the Old Town were revitalized from the viewpoint of older people. Since both Grbavica and the Old Town have gone through significant urban transformation, almost all their public spaces have been reconstructed and a lot of new ones were created in these areas. It is important to examine if during the urban revitalization, new conditions for mobility of the older adults were created, whether for walking, cycling or driving cars. It has been shown in previous research that older people in revitalized neighborhoods perform over 30% of daily movement by car, while the slow-movement model is the most common. The research results are supposed to show which type of movement is most suitable for older people and in which segment the urban reconstruction succeeded to meet their needs.

4.2.1. Public Transport

As for public transport, the survey has shown that out of 136 respondents, only 37 use the public bus service on a daily basis, only 18 use it often, 34 sometimes, and a total of 47 respondents never use public transport. Furthermore, almost half of the respondents in Grbavica (39 out of 85) say they have never used public transport. In order to be used regularly by older people, public transport should be in accordance with their needs and adapted to their physical abilities. As the main reason for not using public transport, they usually stated that they did not need it, they owned a car, they liked to walk or that the ticket price was high. A number of respondents have pointed out the inability to access public transport due to the height difference of the pavement and bus access, which they cannot overcome. This seems to confirm previous findings of cars being the basic form of transport in smaller-density neighborhoods [29] for the purpose of purchases and other activities. In the Old Town, the number of respondents using public transport is much higher (29 out of 51). Those who use public transport frequently cited regular visits to family or relatives and favorable ticket price as the main reason for using it.

The reason for the small percentage of those who use public transport could be a low level of satisfaction with public lines, which is about 40% in the Old Town and 50% in Grbavica. In both Grbavica and the Old Town, just over 50% of the interviewed older users reported being satisfied with the service of public transport (Figure 5).

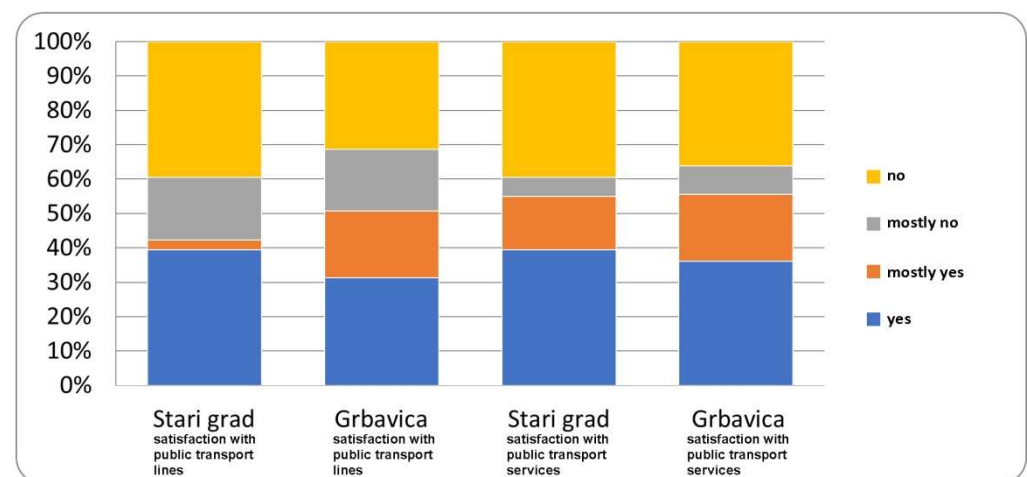


Figure 5. Percentage view of satisfaction of older adults with public transport lines and services (only survey participants who reported using public transport).

4.2.2. Arrangement of Public Spaces

Older persons were asked whether they were satisfied with the arrangement of sidewalks and other pedestrian areas, whether there were enough free areas intended for the older adults and whether the public areas were adapted to their movements. The results show that a large number of respondents, 117 of them, walk regularly or frequently, while only 19 said that they rarely or never walk. The survey shows that older people are dissatisfied with the organization and arrangement of pedestrian routes. Only 40% of respondents are satisfied with this in Grbavica, and in the Old Town, this percentage is only 30%. The biggest reasons for the dissatisfaction of the older people lie in badly maintained, unfinished sidewalks, poor hygiene and frequent damage and obstacles found on pedestrian routes. The process of urban transformation has not been fully or sufficiently implemented in these two neighborhoods, and city authorities do not invest enough in maintenance of public areas. There are still frequent interventions, repairs and constructions in the central part of the city, which is why the quality of these areas is at a lower level compared to Grbavica. In addition, older people in the Old Town are much less satisfied with the number of places for leisure and relaxation (below 30%) compared to Grbavica,

where the percentage is above 50%. In the Old Town, only 20% of the respondents think that public places are suited to their needs and are convinced that they are better suited to younger population and tourists, which is a result of commercialization. In Grbavica, 40% of the respondents reported being satisfied with how public places are tailored to their requirements (Figure 6).

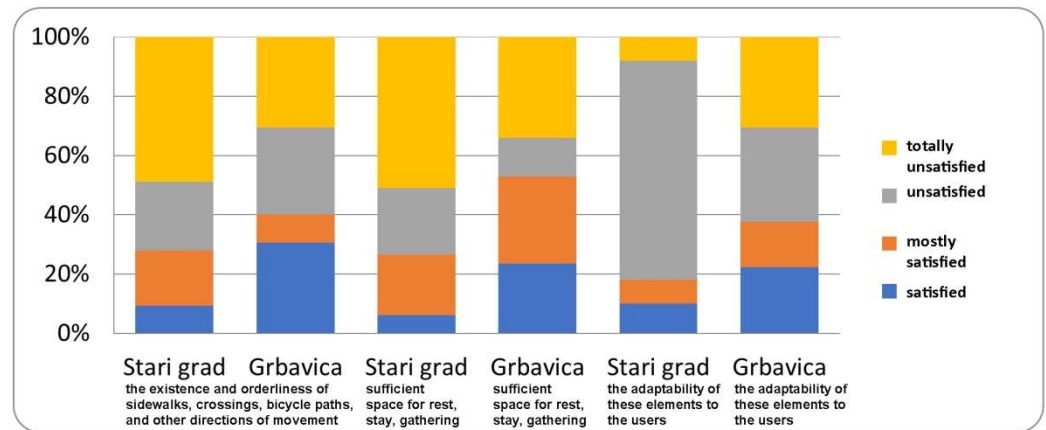


Figure 6. Percentage view of satisfaction of older adults with the existence and orderliness of sidewalks, crossings, bicycle paths, and other directions of movement; sufficient space for rest, stay, gathering; the adaptability of the above elements to the users.

4.2.3. Traffic and Infrastructure

As walking is the most dominant form of moving among older people, it is quite clear why very few of them use cars or bicycles. In the Old Town, only 10% of respondents use a car as a regular form of transport, while in Grbavica 30% do, likely because of better conditions for storing and parking due to a lower density of urban tissue and larger numbers of free parking spaces. Moreover, in the Old Town, there is a higher percentage of those who regularly use public transport, and these two parameters are in correlation. The older residents in these two areas of Novi Sad stated that they did not use cars more often because of high maintenance and petrol costs or because they did not drive or did not need to (Figure 7).

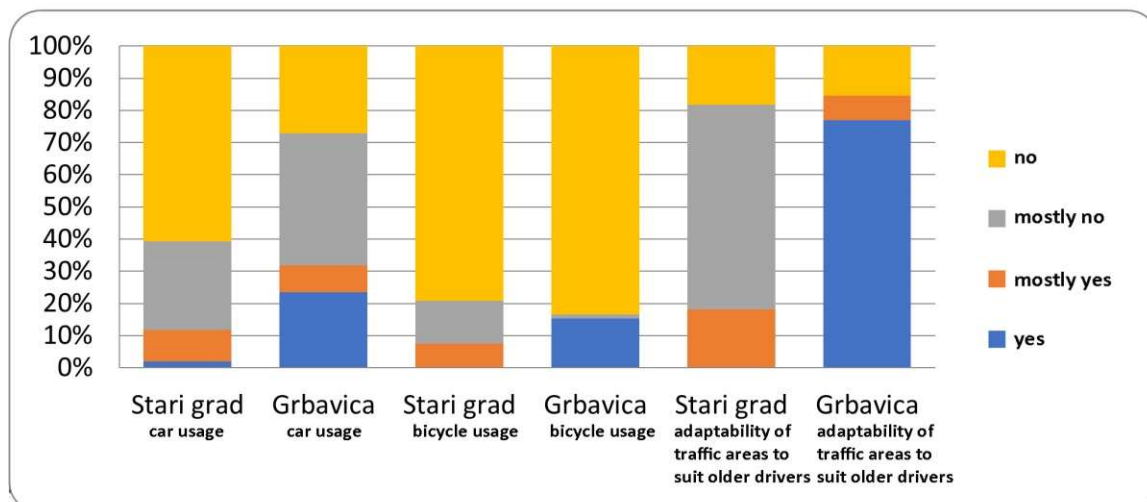


Figure 7. Percentage view of older adults: car usage; bicycle usage; adaptability of traffic areas to suit older drivers.

The percentage of those who regularly use their bicycles as a means of transport is about 20% in both neighborhoods. The reason for this is primarily their psycho-physical condition and the lack of adequate infrastructure, i.e., bicycle routes. In these circumstances, it is clear that for the older population in Novi Sad, cars and bicycles cannot even serve as an alternative to public transport when travelling long distances or walking short ones.

Among traffic participants, the percentage of those feeling safe in Grbavica is over 80%, due to smaller traffic congestions, an easier roadways system and greater availability of parking space. In the Old Town of Novi Sad, only 20% of the respondents declared feeling safe and being able to drive cars without difficulties in their neighborhood. The pressure of traffic on the city of Novi Sad in the last decade has greatly increased, and the problem of deficiency of parking space heavily burdens the area, making it disorganized and difficult to use.

5. Conclusions

Social changes in Eastern European countries which have gone through the process of post-socialist transition have led to significant urban change in larger cities, meaning their rehabilitation and reconstruction. This has greatly affected the quality of and way of life of their inhabitants, among which some groups, such as people aged over 60, have been more affected by these changes. The particularities of the post-socialist changes, their context, timing and results on the urban planning level are influencing the creation of new, different urban environments, which can offer good quality-of-life conditions to older people, allowing them freedom of movement, access to numerous facilities and a social environment that meets their requirements. However, factors such as income levels, psycho-physical conditions or subjective expectations can also affect the quality of life of older people in this region of post-socialist communities. As such, this research aimed to examine the residential satisfaction of older adults in Serbia.

The older population positively experiences changes in neighborhoods relating to the availability of facilities and security. It has been confirmed that touristification and commercialization of facilities in the Old Town of Novi Sad cause higher prices in retail stores and increase in the number of foreigners, which affects the slightly lower degree of satisfaction compared to Grbavica. The construction of several large supermarkets and a number of smaller ones in Grbavica has caused lower product prices, which benefits older adults. However, older people do not positively experience the change of social structures in the process of gentrification, in the sense of neighborhood support and willingness to communicate. The satisfaction of older people with the arrangement of pedestrian routes, availability of places for relaxation and their adaptation to population of the persons of 60 and lower is rather low. They perceive public spaces as unkempt and unmaintained and maladjusted to their needs during walking, which is the most common form of movement. Grbavica is being seen more positively in comparison to the Old Town, especially with its availability of relaxation spaces, which is the only aspect that more than 50% of respondents found positive. This can be attributed to the existence of several smaller park areas within the neighborhood, which older adults prefer over larger parks. Public spaces in the Old Town are being occupied by various visitors, tourists and other groups, making older people feel insecure and peace-deprived. Public spaces are thus arranged in a way in which they do not provide older people with adequate mobility, which is one of the most important aspects of residential satisfaction. At the same time, public transport represents an alternative which the older people choose only when traveling longer distances, while cars and bicycles are rarely used. It is also evident that using public transport is more common among older adults living in the Old Town, where the conditions for the use and parking of cars are very poor, while Grbavica offers better conditions for their participation in traffic.

The research results show consistency with other recent studies, because older people positively experience the availability of affordable shopping and service infrastructure. The results confirm that the effects of urban revitalization also have a positive spectrum. How-

ever, generally, urban revitalization in the context of a post-socialist and post-transitional city such as Novi Sad does not consider the needs of older people, on a level of efficiency of public transport and quality of public spaces, which is a wider problem. The process and system of the city revitalization as well as its construction do not acknowledge the needs of older people on the level of urban planning and arrangement of public spaces. In these circumstances, it can be concluded that public spaces do not contribute to the mobility of older people and, therefore, their residential satisfaction.

Limitations of this study arise from the material status of a certain part of older population, which, in addition to those analyzed, also affect mobility, the choice of transportation and availability of facilities and shops. Moreover, only the “healthy sample” was recruited because those with limited physical mobility remain indoors and at home, and problems within the neighborhood area are of secondary importance to them. In future works, the attention will be turned to the availability of non-commercial facilities, culture, arts and entertainment for older adults, which can also greatly affect their residential satisfaction. The city administration’s policymaking could make these facilities more available and adjusted to older people, allowing them easier access, for example, by introducing specific lines of public transport. The process of revitalization in these two neighborhoods in Novi Sad did not respond in the best way to the needs of the older adults regarding its urban planning and design of public spaces, relaxation spaces, cycling paths, and by not maintaining these areas properly. This research has shown the need to establish an appropriate relationship, during the urban revitalization and transformation, between the needs of commercialization of urban space and the needs of older adults. Therefore, the content that causes high traffic, crowds and intense activities should not disturb the peace, privacy and leisure needs of older adults in public spaces. Furthermore, it was shown that the pedestrian infrastructure in all parts of the neighborhood should be fully adapted to the movement of older people, removing all obstacles to movement and adequately dimensioning and allocating it. Urban revitalization influences the everyday lives of the older residents in the city center and push for adaptations of their daily routines and habits in the “new town”. The responsibility of local authorities and urban planners dictates to pay more attention to older people’s needs when planning and designing public areas, to provide better conditions for their active life and to create inclusive cities and more sustainable communities across post-socialist Europe. Environments should be created to suit the needs of all age groups on the level of spatial planning of a post-socialist city.

Older people responded very clearly to the survey and expressed residential dissatisfaction with the issue of mobility in a transformed urban environment. Future surveys of residential satisfaction should contain questions on the topic of mobility, as they provide clearer insight into reasons of (dis)satisfaction. The questions could be adapted to some local peculiarities of the analyzed cities, extended beyond the limits of this study, concerning the material status of the respondents and the physical and health limitations of the older adults. The results obtained can serve as an input for key policy guidelines that will lead to a high level of residential satisfaction of older adults in future transformations of urban areas.

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