

Understanding the Principles of the 15-Minute City Concept and the Repercussions on the City's Health: The Curious Case of the City of Sarajevo



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Abstract Climate change, pollution, profit driven construction, weakened quality of life and poor health of citizens, are cause-and-effect related problems that one can find all over the world. Developed, socially conscious societies entered the twenty-first century determined to dedicate themselves to the path of healing of their cities, so they put the fight against calamities of the modern times. Introduction of green jobs, clean energy, less waste and “novities”, such is the 15-minute city, are often narrative of choice for different and resilient approach. In parallel, quality of life in transitional societies and underdeveloped countries, is severely under pressure, since the profit-driven paradigm is a priority. This is visible in the lower socio-economic status countries of Europe too, such is Bosnia and Herzegovina. Sarajevo entered the twenty-first century as an impoverished city destroyed by war. The necessary renovation, once based on the principles of equality and proximity of urban content, had been replaced by accelerated construction and homogenic zoning, with little or no attention towards healthy and functional city. Through the examination the possibilities and limitations of the principles of 15-minute and healthy city in specific circumstances and their comparison with today’s approach, this paper aims for understanding of the specific needs of the planning approach in Sarajevo case, as in times of prosper, but also in times of crises. Methodological approach comprises out of several compatible methods, starting with historical overview and descriptive analysis, followed by comparative method of the findings, all combined in a case study for the city.

Keywords 15-Minute city · Healthy city · Resilience · Adoptability

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1 Introduction

Despite its recent topicality and relevance in the contemporary city planning, 15-minute city is not radically new nor innovative idea. In fact, the model which is very present in professionals' and general public narrative, and is often mentioned as a possible solution in terms of improving the conditions and health of today's burdened cities, relies on long-established principles of urban planning, the beginnings of which can be found as far back as the beginning of the twentieth century.

Clarence Perry [1], as well as Jane Jacobs [2], in their plans, works and reflections on the society of that time, already seriously considered and referred to the importance of organizing the neighborhood in a human-acceptable and, one might say, standardized way, in which preference to the resident over cars would have been prioritized. In addition, great attention was paid to the living and working environment, in the context of the availability of all the contents to be used on a daily basis.

Urban planning of the former Yugoslavia, which appeared as a formalized and formed discipline a decade after the devastation of World War II, often rely on the described ideas of Perry and Jacobs. Planning decisions and the postulates advocated by Yugoslav urban practice, introduced the organization of society and space in such manner it could be linked to the overseas movements of that time.

Acknowledging that these are completely different, even opposing political and social ideologies, and despite that one specific idea has equal, even the same significance, then the relevance and interest becomes even greater to observe.

According to Clarence Perry, an American urbanist, sociologist and writer, 15-minute city implies certain design principles and an urban standard for a functional and well-structured neighborhood organization. In order for the neighborhood to be successfully organized, one has to be equipped with the necessary elements of the core of urban contents, such as (schools, daily supplies, services), with the accompanying traffic network, as well as system of green areas and public spaces. All of the above must be incorporated into residential zones and all easily accessible within 15 min walking or cycling.

More precisely, in the essence of his ideological determination and methodological principle of reformation of existing urban units, as well as those that have yet to be created, Perry proposed a series of quantitative measures, which will emerge as the basic norm of urban space planning.

He introduced the interdependence of the number of inhabitants and the size of the area, standardized the density of housing in relation to the facilities that serve a certain area, and established an accessibility radius of $\frac{1}{4}$ mile, in which the spatial, functional and content needs of the residents' overlap. In summary, he brought the quantity and quality of life of people within one unit of space into an obvious and indisputable connection.

In our regional planning practice, Perry's principles had a huge impact and the urban planning started to be based on the unit of matrix of urban area, radius of 500 m (or $\frac{1}{4}$ mile).

In our regional planning practice, Perry's principles had a great resonance. Urban planning began to be based on the smallest unit/matrix of the urban area, that is, a radius of 500 m (equivalent to ¼ mile), in which Yugoslav urban planners planned and determined all necessary facilities for an average neighborhood.

Centralized political and social system of communism and socialism, made it easier to implement ideas and principles, which are related to the 15-minute city of today, than it was in its western counterpart societies.

The urban plans of Sarajevo in the past were based on the principles of this concept. In 1965, after a series of problems and delays, General Urban Plan of Sarajevo City [3] was finally adopted, followed already in the early 1970s by its first changes.

They were conducted through the document named Proposed Program of Construction and Spatial Development of the City for the Period 1971–1985, which reflected clear echoes of the principle of plurality of content, centers and roles that each part of the city and/or neighborhood must have in the overall picture of longitudinal urban morphology.

The aforementioned document pointed out the fact that previous longitudinal development of the city had brought a number of problems to the residents of the newly created settlements and the old part of the city as well, because both halves of the city remained deficient in terms of supporting spaces and functions.

Residents had to undertake long journeys every day in order to satisfy their needs for centrality facilities, which put an additional burden on the traffic network.

Therefore, systems and norms for equipping settlements, urbo-morphological entities and centers with the necessary superstructure, as well as infrastructure, were established. This concept created a clear network of social, commercial and service use in radii of 500–1000 m or 15 min of user movement.

The accepted concept of the formation and equipping of the settlements, proved to be exceptionally good in periods of crisis.

From the distance of nearly 30 years, it can be deducted that such a tight urban scheme contributed significantly to organization of life, or at least the appearance of a functional city, even in the period of unprecedented crisis brought by the war and the siege of 1990s.

The equipping of individual settlements and urban-morphological units with the necessary elements of social infrastructure, which was sufficiently adaptable and modular to adapt to the newly created situation, enabled reach within a radius of 500 m or 15', which literally saved the lives of citizens. At the same time, and in such difficult circumstances, it made a city like Sarajevo miraculously functional and healthy.

Nevertheless, and one can say paradoxically, the idea of a 15-minute city in the period after the aggression against Bosnia and Herzegovina and the siege of Sarajevo, during and after the war reconstruction and construction, was completely abandoned and forgotten.

It gave way to the hyperproduction of capitalist products, which nor their purpose, nor for their physical structure, cannot replace the previous concept of forming functional city parts. Previous proved to be true the hard way—during the last global crisis.

The latest crisis caused by the COVID-19 pandemic has shown us how crises can be actuators of opportunities and that they are often a stimulus for the emergence of new utopias and reflections, in urbanism as well.

Previous experiences of organizing city functions in extraordinary circumstances, unfortunately, could not be applied.

Is the cause of this the loss of a clear network of social, commercial and service infrastructure elements within 500 m? Or did the change in living habits and the expansion of capitalist values make the inhabitants forget to use and appreciate the elements that make cities healthy?

It was the latest crisis that spurred changes on the global scene.

Contemporary crises, are putting the concept of the 15-minute city back into the focus of planning and political-management deliberations. The need to organize the city in the way that Perry advocated at the end of 1920, or as Yugoslav urban planners did half a century ago, arose this time under circumstances of necessity, at the moment when accessibility and movement were very limited, and the post-pandemic economy was looking for new incentives and solutions.

The return to previously recognized opportunities in terms of the organization of living, city space, occurs, *inter alia*, thanks to Professor Carlos Moreno who says:

“Were it not for COVID-19, I think that the conditions for deploying the 15-minute city concept would have been very hard to instigate, but the catastrophe of the pandemic has seen us drastically change how we live—it has forced us to reassess the nature and quality of our urban lifestyles” [4].

Prof. Moreno, as one of the most ardent proponents of the concept today, became the driving force behind the “*ville du quart d’heure*” [5] project, on which the mayor of Paris, Anne Hidalgo, based her re-election campaign in 2020.

It is evident from the above mentioned that the attractiveness of the model in wider aspects, and not exclusively within the closed professional and scientific community, as well as its application at the present moment, is what makes the 15-minute concept so desirable.

Discussing the new model of Paris, Hidalgo says: “My project is about proximity, participation, collaboration and ecology. In Paris we all feel we have no time, we are always rushing to one place or another, always trying to gain time. That is why I am convinced we need to transform the city so Parisians can learn, do sports, have healthcare, shop, within 15 min of their home. This will take Paris into the future” [6].

Although it sounds almost prophetic to announce “the entry of Paris into the future” (and let’s remember Perry in 1920), everything that Hidalgo talks about a hundred years later, actually looks like a return to the past. Of course, in a good way.

Provoked by and unreconciled with non-functioning of the defragmented city, alienated people who waste long hours in everyday commuting, detached from their community, places of residence and work, which is undoubtedly affecting oil and fuel consumption and quality of environment and life in general, urban planners and today’s politicians are returning to the postulates of the 15-minute city.

Do not forget Jane Jacobs, who in the 1970s warned about the conditions of the burdened cities and offered a solution, by saying: “The more successfully a

city mingles everyday diversity of uses and users in its everyday streets, the more successfully, casually (and economically) its people thereby enliven and support well-located parks that can thus give back grace and delight to their neighborhoods instead of vacuity” [2].

But what is actually being said about this concept today and what are its features in a world that has drastically changed compared to the one in which Perry imagined the 15-minute city?

According to the United Nations Framework Convention on Climate Change (UNFCCC), the 15-minute city is accepted as an idea that will contribute to achieving the goals of the Paris Agreement and reducing global temperature, as one of the most significant indicators of changes in the way we use resources on Earth.

The same organization recognizes the advantages of the concept as propagated today by Professor Carlos Moreno and others, and evaluates the idea as simple, applicable, nature-based solutions oriented. It is also praised for its green and blue infrastructure sensitivity and for being aligned with reducing heat in cities, as well as reducing the effects of droughts and floods initiatives. Also, it is supported for its benefits for the residents of the cities, in terms of psychological and mental health, and not just benefits which would be obvious for the planet Earth.

Practically, the idea is implemented through the above described equipping of smaller spatial units with the necessary facilities, ensuring their availability within 15 min of pedestrian/bicycle movement, and reducing or completely banning car use.

The latter is also the reason why the concept of the 15-minute city has encountered its opponents, perhaps even where urban planners and decisionmakers least expected.

Namely, in certain circles of society, mostly small right-oriented groups, the 15-minute city model is perceived as a challenge, even an open attack on their guaranteed freedoms and democratic rights. And this is specifically aimed towards using a private car, undertaking long-term daily migrations between work and place of residence, and meeting the needs of a commercial and social nature beyond the nearby community resources. It even goes so far, that the model is viewed critically as a means of control and imposition of a new world order, in which draconian laws of movement and confinement of residents in their homes will be imposed [7].

Despite occasional controversies, which are not related to the quality of the model, but to the state of society today, the 15-minute city continues to develop and is accepted in an increasing number of world metropolises and cities. In addition to the aforementioned Paris, Milan also announced its commitment to changes in the direction of the 15-minute city, and at the C40 Cities Climate Leadership Group summit, a large number of mayors from different parts of the world promoted the concept.

What is encouraging in the latest reports (and one such research report was made in 2019 by the British company Arup) is that European cities, such as London, Paris, Milan, Berlin, Madrid, in terms of their historical genesis and morphology, but also organization wise, are already on their way towards 15-minute city [8].

It is evident from this short introduction that this research will try to show that knowledge, opportunities, resources and the realization of them, when it comes to the

concept of 15-minute—and therefore healthy cities, absolutely existed in our society before.

Also, it will try to show that the cities planned in the past, were functionally and structurally sufficiently adaptable, sustainable, comprehensible and editable, and were able to respond even in those moments and crisis, for which they had been always preparing, but never wanted to come true.

Sarajevo, as will be shown below, was one of those cities.

2 Literature Review

Concept of the 15-minute city has emerged in public, but also in literature, in the late 2010s.

Connected to the chrono-urbanism, as one of the most influential time policies among several European cities [10], new concept of proximity of additional services and spaces, has taken roots on global level.

According to the Nieuwenhuijsen [11], the 15-minute city can transform a city into one which is experienced as more pleasant, healthy, and flexible, and help the new urban and suburban sprawl to be less homogenous than previously developed residential districts [10]. The aim is to decrease dependence on private-car use and to make parts of the city more heterogenous, walkable and livable.

It could be achieved by “bringing activities to the neighborhoods rather than people to activities” [12], while providing six essential urban social functions in the space–time frame of 15', such as: living, working, commerce, healthcare, education and entertainment [10].

Already tested and partially applied in some of the European, Australian and American cities, such as Paris, Munich, Liverpool, Melbourne, Auckland, Portlan, Bogota, etc., the concept has been widely advocated after 2020 and COVID-19 pandemic.

Self-sufficiency of the neighborhoods had been a necessity in the times of crisis, and proximity of the essential functions proved to be imperative.

During the pandemic, resilience of the contemporary cities was tested [13] and results were often disappointing.

While the concept of the 15-minute city is primarily focused on the topology and usage of the living, working and recreational space in a certain spatial context, it is a paramount to acknowledge it's potential health benefits.

As it was pointed out by Moreno and coauthors of the “The 15-minute city offers a new framework for sustainability, liveability, and health” article, these factors will lead to better citizen health, with a reduction in health complications such as premature mortality and diseases of the cardiovascular and respiratory system, obesity, brain diseases (e.g., Alzheimer's disease), and cancer.

According to some authors [14], there is a knowledge-gap in the research on the 15-minute city. But, theory and practice in the former Yugoslavia, specifically in

Bosnia and Herzegovina, proved to be ahead of the concept 40 years before. What is left of the concept, is yet to be seen.

3 Sarajevo Between Planning and Dismantling

The urban plans, specifically, the General Urban Plan of Sarajevo 1965–1986 (GUP) and its subsequent changes, relied on well-known principles, which today are called in recent practice—the 15-minute city concept.

Analysis of the planning documentation was made: The General Urban Plan of Sarajevo 1965–1986, then The Urban Plan of Sarajevo 1986–2015 [3], followed by the comparative analysis of the current situation, based on two examples that most clearly show contradictions of the city planning, in the timeframe of nearly 60 years.

As the first planning document that visualized and envisioned the planning and development of the city, the GUP laid the foundations for the new parts of the city, which, although geomorphologically linear, formed its matrix as a set of urban parts which host up to 5,000 inhabitants. In every of those parts, a radius of 500 m ensured six basic existential functions (see Fig. 1), just as it was suggested by Perry or today, among others, by Moreno.

Housing, work, traffic, health, education and recreation, accessible to pedestrians/cyclists within 15 min, were not utopias in the plans of the mid-twentieth century, but well accepted, applied and adequately used principles of urban planning. It is evident from the network of these function in the urban parts or neighborhoods of the city of Sarajevo.

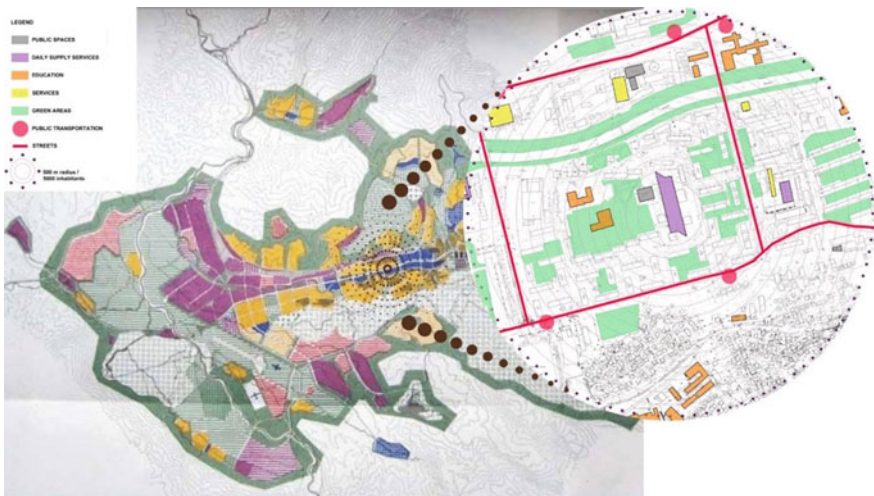


Fig. 1 Extract from GUP 1965–1986 with a representation of a typical settlement and radius of accessibility; *Source* General Urban plan of Sarajevo 1965–1986, author’s drawings over cadastre



Fig. 2 Extract from UP 1986–2015 with a representation of a typical settlement and radius of accessibility; *Source* Urban plan of Sarajevo 1986–2015, author's drawings over cadastre

The urban plan of Sarajevo 1986–2015 continues to cite the previously conceived and established planning tradition, so we can read the same tendency to form residential areas as a functional urban microcosmos in this planning document (see Fig. 2).

It is important to note that this Urban Plan is still in use today.

Overview of the detailed planning documentation up to the 1990s, such as regulation plans, which directly refer to the spatial layout and more detailed specifications of construction and exploitation, proves that they accept and continue to elaborate the elements of the urban plan. It was almost unthinkable that a planning document lacked an elaborate network of support for housing functions or that it treated space in a homogenous and purely zonal way.

If the historical concept of planning is placed within the framework of what Moreno propagates today as the seven dimensions of the 15-minute city, namely (1) proximity, (2) density, (3) diversity, (4) digitalization, (5) human scale urban design, (6) flexibility, (7) connectivity, it is easy to see that, apart from the at the time non-existent digitalization, there was a clear vision and sensibility for the organization and function of the settlement in a sustainable and successful way in the planning discourse.

This kind of relationship of long-term deliberate planning played a role in the periods of greatest devastation and urbicide, which took place in the war years of 1992–1995.

However, the post-war period, which was supposed to bring restoration, revitalization and recovery of society, superstructure and infrastructure, along with the implementation of a new political and social system, failed to continue the cherished and acquired values, when it comes to city development planning.

The urban plan of Sarajevo, which was supposed to be in force until 2015, is today still the only official, valid document, which strategically and developmentally plans and directs the formation of the city fabric and its constituent parts. The plan, itself outdated and inapplicable in a vast number of cases, was not even partially implemented, and almost all post-war, larger spatial interventions were made contrary to the provisions of the plan.

And while the preparation and adoption of the new urban plan has been long overdue, Sarajevo remains in the gap between the new political and social-property arrangement, ambitious investors and the disappearance of support within the nucleus of the neighborhood. This is a result of the 25 years of complete neglect of the practice of forming a network of elements within a radius of 500 m (today's 15-minute city), which was very present until the 90s.

15-Minute City Model in Times of Crisis, Example of Dobrinja

As shown in the Introduction, 15-minute city model can be easily imposed as a good solution, especially for the cities in crisis. It is primarily due to its availability within relatively small distances that can be overcome by pedestrians and cyclists. Knowing how crisis could manifest themselves differently, as manmade, natural or combined factors (wars, riots, climate change, floods, earthquakes, pollution, pandemics and diseases), in each of these crises, the availability of vital functions and the safety of their use prove to be extremely important common ground.

One such crisis emerged on the global level with the COVID-19 pandemic, to which the whole world was simultaneously exposed.

Probably one of the most extreme forms of manmade crisis for the city is war. Bosnian cities experienced this crisis at the end of the last century.

But, if a war is the extreme form of crisis, then the siege of the city is crisis's climax.

If war is an extreme form of crisis in cities, then the siege of the city is the peak of that extreme.

Sarajevo was subjected to the siege in the period 1992–1995. Most likely and partly thanks to its spatial organization based on the concept of proximity in 500 m radius, it managed, as far as possible under such circumstances, to survive functionally.

An example of the Sarajevo neighborhood of Dobrinja, shown in Fig. 2, can testify to an exceptional case of the functioning of the 15-minute city in the period of crisis. The neighborhood was cut off and isolated from the rest of the city and nearly under complete siege for four years.

Way of self-organization and at least a semblance of normal functioning, was a priority for the community.

Housing was reformed and remodelled, trying to respond to the new circumstances and almost permanent loss of electricity, water supply and other infrastructure necessities. At the same time, housing remained the basic function of the settlement (Dobrinja was developed for the Winter Olympic Games less than a decade before),

providing the context for approximately 20,000 inhabitants who happened to be in there at the beginning of the War.

At the same time, the educational process had to be continued, and certainly the matrix created within a radius of 500 m played a great role here.

Even though the teaching did not take place in school buildings all the time, but inside business ground floor premises, existence and equipment of the facilities made it much easier to organize educational process.

Healthcare had to be raised from primary to a higher level, but the germ of healthcare, as well as education, was already present and that certainly made the organization easier.

The importance of short distances between the place of residence and the place where other life functions could be satisfied was of unspeakable importance. Security, accessibility and social inclusion are imposed as the most important features of this model. This model contributes to the resilience of the city and speaks of its adaptability, qualities that prove to be crucial in crisis situations.

Degradation of Sarajevo

Overview of the planning tradition in Sarajevo and the obvious benefits of the previous planning rules, which proved themselves in times of crisis, made a solid ground for critical rethinking of the new development practice in Sarajevo after the war.

Tibra settlement, placed on the far west of Sarajevo longitudinal axe and developed in 2000s, is a typical example of contradictory planning practice. It denied all of the norms seen in pre-war planning practice, such as neighborhood organization, proximity, equipment, distances even fire regulations, traffic safety and parking spaces, which are embedded in the legislation. Moreover, Tibra settlement was developed by completely ignoring the Urban plan of Sarajevo 1986–2015, which is still in use (Fig. 3).

Reasons and circumstances of such an ignorant and obviously planned corruption should be studied through the specific research. Focus of this study are functional capacities of settlements like Tibra and proximity of social inclusion facilities within, which are basic elements of the 15-minute city concept.

More than 15,000 inhabitants of Tibra satisfies the basic life functions at significantly greater distances (see Fig. 4), than it is adequate according to the previous models and 15-minute city model as well.

Tibra, sadly, is not an isolated case, as two similar settlements were developed in Alipašin Most V and VI area in 2010s (see Fig. 5).

If it was considered that the Tibra was a reckless incident in the post-war period, the recentness of these two settlements indicates the opposite, and speaks in favor of a new, devastating reality in the urban and architectural public of Sarajevo.

Alipašin Most V and VI are inhabited by new 10,000 people, and besides housing, there are almost no other supporting functions in the expected proximity, making

Fig. 3 Settlement Tibra, Stup, Sarajevo; *Source* author

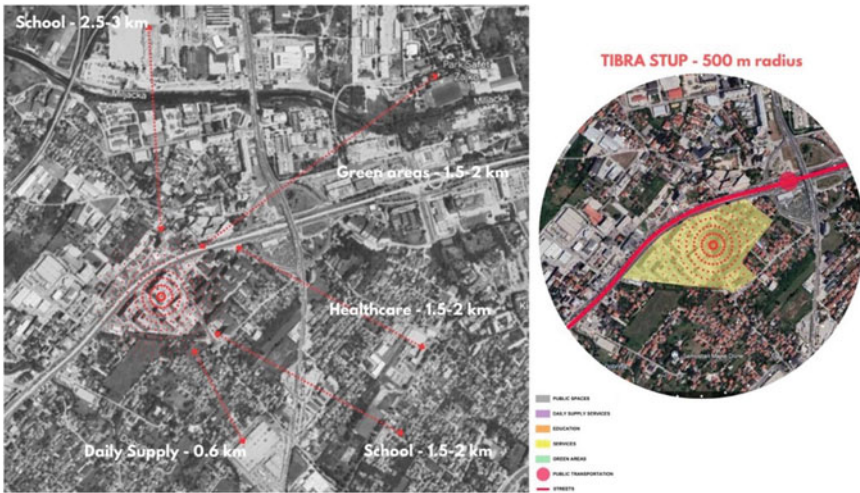


Fig. 4 Tibra neighborhood, Stup, Sarajevo in the context of the radius of availability; *Source* authors over Google maps

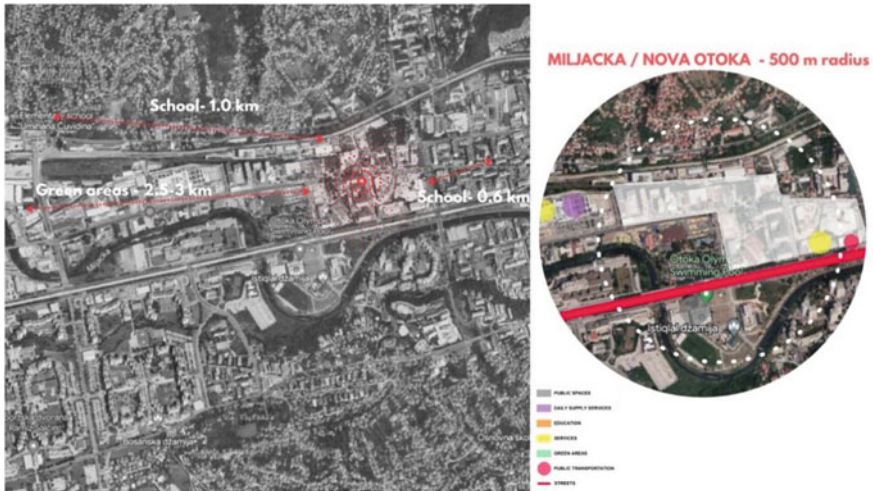


Fig. 5 Miljacka-Nova Otoka neighborhood, Alipašin Most, Sarajevo in the context of the radius of availability; *Source* authors over Google maps

them similar to the sleeping neighborhoods of the 60s and 70s, a model long abandoned and proved to be unsuccessful (see Fig. 5).

It is clear that the new urban policy's [15] narrative, with its critical approach focused on one common goal as “to revive the city as a collective reality” and rehabilitate the public space, by putting up the fight against segregation and monofunctionality and prioritizing the efficient public transport and revival of local democracy, has failed in these neighborhoods.

Measuring the distance of seven basic indicators of the 15-minute city, indicates their absence in Tibra and Alipašin Most V and VI settlements. Impossibility of organizing everyday life, even those basic elements, such as trade, education or healthcare, which for almost half a century were the standard of every Sarajevo settlement, are trademarks of the neighborhoods.

Is there a cure for the neighborhoods built in this way and can the 15-minute model be the path to healing in them?

4 Influence of the 15-Minute Concept on Health of the City

The next chapters make case for the connection of the 15-minute concept and health of the cities. It is explained through the global overview of the meaning of it and case example of Sarajevo, where disappearance of the 500 m radius standards influenced the overall health of the communities, especially in newly built neighborhoods.

(Un)Healthy Cities, (Un)Healthy Communities—Global Overview

The 15-minute city can be a model to apply to cities in crisis. Crises can have different causes, forms and manifestations. What is the common crisis of today's cities, including the settlements built in Sarajevo in the last two decades and which is described in the previous chapters, is the continuous decomposition of the planned development of the neighborhood, which affects the level of health of society in general.

Accepting that today's cities, in their intrinsic and spatial organization, are largely opposed to a healthy way of life is the first step towards understanding the problem and its repercussions for humankind.

The World Health Organization (WHO) started promoting the Healthy Cities pro-gram back in 1986, with the aim of building an integrated approach of health promotion at the local level. If we know that cities are places where local authorities are formed to implement health policies, where citizens identify with their environment and participate in policies that concern their neighborhoods [16], then we can relate the policy of a healthy city to everything mentioned above.

Available research shows a link between the physical characteristics of the neighborhood and the risks of endangering health. Various health factors such as obesity, diabetes, depression are associated with neighborhood characteristics such as population density, presence of local amenities, access to nature, access to work, etc. [17].

Today, some 40 years after the start of the healthy cities movement, we recognize that a healthy city is not defined by outcomes but by processes. The basic model implies a place that encourages the participation of all communities in order to achieve common prosperity and peace [18]. A healthy city was just an idea, started as a promotion, and today the movement, the vision, is more significant than ever.

The 15-minute city as a concept differs from the initial ideas of the 'neighborhood unit' advocated by Perry, and advocates the distribution of functions that are accessible by active transport [19], and through modern understanding and analysis it can be accepted that the idea is not unambiguous and does not suit everyone. That occasionally appears as a criticism of the concept, especially when it comes to the different needs of different people (persons with mobility difficulties or different marginalized groups), and talks about the impossibility of adapting to the "one size fits all" system.

Therefore, it is especially important to observe the concept of the 15-minute city in the context of healthy cities, whose role lies in the cohesion of social, demographic, economic and topographical elements.

If we accept that a city or settlement like those described in the previous chapters, which were used as an example of the lack of a clear development strategy, is in crisis, and that the postulates that we asserted affect resilience, adaptability and functional survival in times of crisis, then it should be easy to accept new ways of planning, which will help them heal.

For healthy cities, there are clearly defined sets of indicators that must be followed for a successful path to a healthy city, a city for citizens. The indicators are organized into four groups: health, health services, environmental indicators and socioeconomic indicators [20]. In addition, the World Health Organization indicates that the health of cities, apart from the mentioned indicators, is measurable and observable through the aspects of social, demographic, economic and geographical factors [21], whose mutual interaction and influence is everyday and is discussed through various aspects of society and speaks the most. The indicators are clear, well explained, and by developing a strategy for their improvement, it seems easy to reach a healthy city.

But the fact is that today we still live in unhealthy cities, and it is obvious that we forget that the connections between our environment and health are very complex, and that we tend to ignore them, which consciously affects the quality of life and the level of health of the residents in the planned settlements.

Healing of the Sarajevo Neighborhood

Neighborhood that is aligned with health planning promotes walkability, builds a complete and compact neighborhood, safe and efficient infrastructure [22]. A neighborhood planned in this way can contribute to the health and well-being of its residents.

The neighborhood concept is extremely important for the city of Sarajevo, and it is also connected with the city's identity. The spirit of the neighborhood is still present, many citizens are proud of the part of the city where they grew up, and it is expected that the development of awareness of such concept could have the active participation and support of citizens.

According to the WHO, awareness of health and the desire to improve it is a process that leads to a healthy city. Sarajevo, as a city that founded its linear development on epochs of development (growth) and stagnation, in accordance with socioeconomic circumstances, does not fall into the trap of suburban planning. Through exciting historical stages, it passes through different social arrangements, and its neighborhoods remain somewhat compact. The actual moment in time can be seen as a crisis in the development of the city. The newly created settlements neither accept the previous approaches in the development of the city, nor position new ones. In order to improve the health and well-being of all residents, including those who live in such settlements, it is necessary to repeat the urban lessons demonstrated during the development of the city and integrate the missing functions.

Planned development has developed areas with appropriate city functions that can bring all functions to 15 min from the place of living with active city transport.

Spatial planning for health can transform Sarajevo's neighborhood units, created during the development of the city in the socialist period, into the modern concept of a 15-minute city [23].

5 Conclusion

The 15-minute city model represents a return to the principles established by urban planners and researchers of the city and city life at the beginning of the twentieth century, its survival and adaptability to change. This model proves to be a good and acceptable solution for cities in crisis situations, regardless the origin of their malice.

At the same time, there are conflicting opinions that connect the 15-minute city with the doctrine of socialism, conspiracy theorists on social networks consider it an attack on personal freedom [7] in the context of COVID-19 and the lockdown, and translate accessibility into restriction of movement.

Criticisms can also be heard in scientific and academic circles, such as the one presented by Jay Pitter at The City Lab Conference 2021 [9], asserting as follows: “It doesn’t take into account the histories of urban inequity, intentionally imposed by technocratic and colonial planning approaches, such as segregated neighborhoods, deep amenity inequity and discriminatory policing of our public spaces.”

Besides Pitter, who works on public space design in number of U.S cities [14], some economists, such as Edward Glaeser, Professor of Economics at the University of Harvard, suggests that the concept will increase inequalities, especially, the 15-minute city’s emphasis on digitalisation. Working in a North American context, Glaeser points to figures that states that only 5% of the American population without a high school degree has been working from home through the pandemic, suggesting that these people will be completely left out of the proximity aspect of the concept [14].

If the model of a 15-minute, and at the same time healthy city, is examined in the elements of urban planning of Sarajevo in the period up to the 1990s, to that extent one can notice both benefits and limitations. Those elements, which are still applicable and measurable, can serve as the basis on which cities of today, who are starting with the application of the model, can learn.

Certainly, a critical review of the model has its basis, but if one takes into account the example of today’s Sarajevo settlements, and the historical approach to city planning, which had its 40-year test run, evidence goes in favor of the formation of the city in a concept of the 15-minute model. Proper modifications and adjustments are, of course, inevitable and desirable.

At last, let remind us of what Jane Jacobs thought us [2], when she spoke of the city as a laboratory of constant tries and errors, and not just that, but as a space “in which city planning should have been learning and forming and testing theories. Instead, the practitioners and teachers of this discipline (if such it can be called) have ignored the study of success and failure in real life, have been incurious about the reasons for unexpected success, and are guided instead by principles derived from the behavior and appearance of towns, suburbs, tuberculosis sanatoria, fairs, and imaginary dream cities—from anything but cities themselves.”

Bearing in mind the very different and sometimes conflicting thoughts of the thesis discussed in this paper, which examines the indisputable connection of a homogeneous way of planning with the level of the quality of life of the inhabitants, it can be

concluded that the 15-minute city, supported by elements that make cities healthy, can contribute to a more functional, safer more healthier and more pleasant, city, the one which is adaptable to crises and more resistant to them, than cities and settlements that are based on monofunctionality and centralization.

Such models can be a good starting point for improving the quality of life in the community and can certainly serve as a lesson for building.

A lot can be learned from the example of Sarajevo, as a city that in the last 40 years went through a planning process in which accessibility, density, diversity, the human scale of urban design, flexibility and connectivity within the nucleus of one neighborhood were the natural environment of urban planners and users.

Especially if you follow the development up to the present day, when the health of the city has been seriously damaged due to non-respect of the basic postulates of the 15-minute city.

Therefore, it can be concluded that the concept may be imperfect, it is not “one size fit all” principle, but it belongs to everyone.

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