Social, economic and environmental benefits of 15-minute cities: A case study analysis

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Abstract

The 15-minute city concept centers on the accessibility of essential resources and services within a 15-minute walk or bike ride. This model is increasingly gaining recognition as a cornerstone of sustainable urban development. The 15-minutes city concept emphasizes the creation of compact, multifunctional urban spaces designed to meet the daily needs of residents while reducing reliance on long-distance transportation. The goal of the paper is to show how the concept of 15-minute city is perceived by authorities from different cities presented in the case studies of the paper. This paper explores the social, economic, and environmental benefits of adopting the 15-minute city model, analyzing its implications for residents' quality of life and the natural environment. Socially, 15-minute cities promote greater community integration, enhance mental well-being, and encourage increased physical activity by providing accessible and inclusive urban environments. The proximity of local services and infrastructure further bolsters local economies, mitigates social inequalities, and improves public safety. Economically, this urban planning model supports small businesses, lowers transportation costs for residents, generates employment opportunities, and increases property values by offering improved access to essential services and green spaces. From an environmental perspective, the 15minute city contributes to significant reductions in carbon emissions by decreasing dependence on car transportation and encouraging sustainable mobility options such as walking, cycling, and public transit. Drawing upon case studies and existing research, this article highlights successful implementations of the 15minute city concept in various urban contexts. These examples illustrate how the model serves as an effective response to contemporary urban challenges, including environmental degradation, traffic congestion, and the growing demand for equitable and accessible urban services. By integrating this concept into urban planning, cities can better address the multidimensional needs of their residents while promoting a sustainable and resilient urban future.

Keywords: 15-minute city, sustainable urban development, smart city, urban planning.

1. Introduction

The 15-minute city concept is an urban model that posits that all key resident needs—such as access to employment, education, healthcare, services, shops, recreational facilities, and green spaces—should be met within a 15-minute walk or bike ride from home, or public transport, or even by car, depending on where the definition comes from. The aim of such a city is to design a more sustainable, resident-friendly, and crisis-resilient city. For the purposes of this paper, two research questions have been posed:

(1) Are there economic, social, and environmental benefits for urban communities associated with the implementation of the 15-minute city concept?

(2) What are the main elements characterizing the 15-minute city concept in Poland?

The gap identified in this paper lies in the absence of a standardized definition for the 15minute city concept. While various cities have adopted this framework, they often reinterpret it to align with their unique contexts and priorities, introducing diverse perspectives. The case studies employed in this research facilitate an exploration of the prerequisites and factors influencing these differing interpretations, shaped by the cities' capacities to implement the concept. Consequently, the goal of this paper is to analyze and elucidate how the 15-minute city concept is perceived and operationalized by municipal authorities in the cities examined through the case studies.

To address the aforementioned research questions, two research methods were employed. The first involved a literature review, which facilitated the identification and synthesis of key benefits associated with the implementation of the 15-minute city concept in improving residents' quality of life. Subsequently, a case study analysis was conducted, focusing on specific implementations carried out by cities in Poland.

The concept of the 15-minute city encompasses several key aspects that should be considered during its implementation process. Namely, the core principles of the concept include [211]:

- Accessibility Basic services and infrastructure are located close to residential areas, reducing the need for long commutes.
- Sustainable Mobility Promotion of active transport modes, such as walking and cycling, alongside a reduction in car dependency, which contributes to lower carbon emissions.
- Strengthening Local Communities The development of local economies and infrastructure supports social integration and fosters stronger community ties among residents.
- Diverse Land Use Instead of monofunctional neighborhoods or districts, 15minute cities encourage mixed-use spaces where work, housing, commerce, and recreation coexist within close proximity.
- Enhanced Quality of Life Proximity to services and green spaces improves residents' overall well-being, positively influencing both physical and mental health and enhancing the sense of safety.

The 15-minute city concept addresses the challenges of contemporary urban environments, such as environmental pollution, traffic congestion, strain on public transportation, diminishing green spaces, and issues related to social isolation and inequality.

The following section presents the benefits of implementing the discussed concept, compiled based on a literature review. These benefits contribute, among other things, to enhancing urban resilience. Through centralized services and strengthened local community integration, residents can more quickly share information about concerning events and respond to them more effectively. Consequently, implementing this concept not only improves access to essential services for residents but also helps reduce social inequalities and fosters the inclusion of seniors in activities within the local community.

The initiatives undertaken as part of this concept can also focus on intergenerational knowledge sharing and strengthening bonds between diverse social groups.

This paper is structured into six sections. Following the introduction, the second section outlines the multifaceted benefits of implementing the 15-minute city concept, encompassing social, economic, and environmental dimensions. The third section presents case studies focusing on cities in Poland. Section four provides a comprehensive discussion of the findings derived from these case studies. The fifth section synthesizes the conclusions drawn, and the final section delineates directions for future research.

2. Benefits of implementing the 15-minute city concept

The implementation of the 15-minute city concept brings numerous benefits that enhance residents' quality of life and city management efficiency. The proximity of services and infrastructure, such as shops, schools, healthcare facilities, parks, and recreational spaces, reduces the need for long-distance travel, which in turn decreases traffic congestion and improves traffic flow. Shorter commutes also lead to reduced consumption of fossil fuels, lowering carbon emissions and consequently improving air quality. This makes cities more environmentally friendly and better prepared to face challenges associated with climate change.

One of the primary social benefits supported by the 15-minute city model is the enhancement of social integration and the sense of belonging within the local community. Facilitating access to local resources and spaces encourages the development of interpersonal relationships and strengthens support networks, particularly impacting seniors and those with limited mobility. Residents who can access services close to home are better positioned to participate in local initiatives and events, boosting their civic engagement. Stronger social ties and higher levels of resident involvement in local affairs contribute to increased neighborhood security and stability [2].

Economically, the 15-minute city concept fosters the growth of the local economy and entrepreneurship. The proximity of residents to services and shops increases the likelihood of using local products and services, stimulating small businesses and limiting the dominance of large corporations. This helps cities become more economically self-sufficient and resilient to global economic fluctuations. Furthermore, residents who can meet their basic needs locally are less reliant on cars, resulting in savings on transportation costs. Collectively, these benefits render cities that adopt the 15-minute city concept more sustainable, resilient to crises, and welcoming to both residents and the environment [3].

2.1. Social benefits

The 15-minute city concept is based on the premise that all residents' daily needs can be met within a 15-minute walk or bike ride (however not limited to these two methods of transportation as mentioned before). This urban planning model offers a range of social benefits, as summarized in Table 1.

Table 1. Social benefits of implementation 15-minut city concept

No.	Social Benefits	Description
1	Enhanced social	Locating services and public spaces near residential areas promotes neighbor
	integration and	interactions. Frequent social encounters foster a sense of belonging within
	community bonds	the local community, creating interpersonal relationships and support
		networks.
2	Improved quality of	Reduced commuting distances between homes, workplaces, and recreational
	life and mental	areas decrease transport-related stress. Spending less time in traffic and more
	well-being	time in pedestrian-friendly environments boosts mood and overall mental well-being.
3	Increased access to	Residents of 15-minute cities enjoy proximity to essential services, such as
	local services and resources	shops, schools, healthcare facilities, parks, and social spaces, reducing car dependency and simplifying daily activities, especially for seniors, children, and individuals with mobility limitations.
4	Promotion of	Emphasizing walking and cycling as primary transport modes encourages
	physical activity	increased physical activity among residents. Higher levels of physical activity improve fitness, reduce the risk of chronic diseases (such as obesity, diabetes, and heart disease), and support overall health.
5	Support for the	When residents engage with local services and businesses, they foster the
	local economy and	growth of small, local enterprises. This local economic support mitigates the
	entrepreneurship	monopolization of urban spaces by large corporations and generates jobs
		within the community.
6	Enhanced public safety	Higher pedestrian and bicycle traffic means more people in public spaces, which naturally increases oversight and safety. Resident presence in public
		areas serves as a preventive measure against crime, enhancing the general sense of security.
7	Reduction of social inequality	Easier access to public services and local resources in 15-minute cities helps reduce social inequalities by providing equitable access to education, healthcare, transportation, and recreation. This setup allows lower-income individuals or those with limited mobility to access essential resources needed for a healthy, dignified life.
8	Preservation and	The 15-minute city model supports local cultural initiatives, nurturing a
	revitalization of	strong local identity and cultural diversity. Local artists, artisans, and
	local culture and	organizations can thrive within communities with a distinct sense of place
	sense of place	and tradition.
9	Increased civic	Stronger social integration and shorter distances promote resident
	engagement	involvement in the social and political life of their city. Residents are more
		likely to engage in community initiatives, such as green space conservation,
		environmental projects, and educational programs.
10	Increased	15-minute cities, with well-established local resources and support networks,
	community	exhibit greater resilience to various crises, such as pandemics, natural
	resilience to crises	disasters, and transportation disruptions. Local support networks and reduced
		dependency on external transport enable communities to respond more effectively to emergencies.
		Source: Own study based on [4]

Greater resident engagement in building the local community enhances the specific applicability of smart city tools implemented within the urban environment. For example, intelligent monitoring systems and safety technologies (such as motion sensors and responsive lighting) contribute significantly to a sense of security. Additionally, rapid alerts regarding crisis situations accelerate response times to potential threats [5].

Smart city technologies also provide residents with easier access to information and services, resulting in reduced social inequalities through equitable access to technology and resources. Digital platforms can equalize access to education, healthcare, and employment information, thereby decreasing social disparities and enabling residents to participate more fully in urban life.

2.2. Economic benefits

The implementation of the 15-minute city concept brings a range of economic benefits that support both local businesses and residents. The proximity of services encourages residents to patronize local shops, restaurants, and service points more frequently, which drives the growth of small businesses and reduces dependency on large corporations. This approach stabilizes the local economy and offers entrepreneurs greater opportunities for expansion and revenue growth [2]. Additionally, increased economic activity within local communities contributes to job creation, positively impacting employment rates and the overall quality of life for residents. The main economic benefits include aspects such as [6]:

- supporting the local economy residents more frequently utilize local shops and services, which promotes the growth of small businesses and reduces the dominance of large corporations.
- job creation an increased presence of local services and businesses near residential areas generates new employment opportunities for residents.
- savings on transportation costs reduced reliance on cars allows residents to save money, which can be allocated to other needs.
- increase in property values areas that offer convenient access to a variety of services and green spaces become more desirable, leading to higher property values.

The economic benefits of a 15-minute city also include savings associated with a reduced need for car transportation. With convenient access to daily services, residents spend less on fuel and vehicle maintenance, allowing them to reallocate these savings to other household needs. Moreover, areas with easy access to services and green spaces become more desirable, leading to an increase in property values. For cities, this translates into higher tax revenues and long-term economic stability, which supports sustainable development.

2.3. Environmental benefits

The implementation of the 15-minute city concept brings numerous environmental benefits, positively impacting both residents' health and quality of life as well as the overall condition of the urban environment. Reducing the need for car transportation decreases carbon dioxide and other greenhouse gas emissions, which is a crucial step toward combating climate change. In cities where residents have access to essential services nearby, emissions from daily transportation are significantly lower, contributing to a reduced urban carbon footprint [7].

The promotion of sustainable mobility, such as walking and cycling, also yields benefits in the form of cleaner air and lower noise levels in cities. Decreasing vehicular traffic reduces

air pollution, a major factor affecting public health, especially in densely populated urban areas [2]. Furthermore, reduced noise levels create a more pleasant and comfortable urban environment, which supports both the mental and physical health of residents.

The 15-minute city concept also supports the preservation and development of green spaces, which play a critical role in maintaining biodiversity and ecological balance. Green areas, such as parks and gardens, have a positive impact on the urban microclimate by regulating temperature and humidity while supporting local ecosystems [8]. Concentrating services and infrastructure in close proximity reduces the need for urban expansion at the expense of natural areas, which helps protect natural resources and prevent the degradation of urban ecosystems [9].

3. Perspective of the 15-Minute city concept in Poland

The main principles guiding the implementation of the 15-minute city concept in Poland center around enhancing service accessibility, revitalizing urban spaces, and strengthening local communities. For Polish cities adopting this concept, the core focus is on ensuring easy access to essential services, fostering sustainable mobility and economic growth, and preserving the natural environment while improving residents' quality of life.

Accordingly, the primary objective of the 15-minute city is to provide residents with access to essential services—such as shops, schools, healthcare facilities, recreational areas, and public institutions—within a 15-minute walking or biking distance. This allows residents to meet their daily needs without long commutes, resulting in both time savings and reduced emissions. In terms of sustainable mobility, cities in Poland are working to limit car traffic in favor of promoting pedestrian and cycling transportation, as well as enhancing the quality and accessibility of public transit. The development of pedestrian and cycling infrastructure, alongside easy access to public transportation, aims to reduce air pollution and noise, benefiting both the environment and public health [10].

Urban space revitalization is also a critical focus for Polish cities. Efforts include creating attractive, resident-friendly public areas, such as squares, parks, and gardens, which encourage social integration and outdoor activity. Many Polish cities are implementing revitalization programs to transform underutilized or neglected areas into spaces that serve the local community [11]. The 15-minute city concept further supports the growth of local businesses, such as shops, cafes, and service points. Implementing this model also aims to strengthen local communities and economies by enabling residents to easily support local entrepreneurs, thereby bolstering the economy. Additionally, the proximity of services and public spaces fosters community integration, creating stronger social ties and encouraging civic engagement [12].

This concept includes expanding green spaces, such as parks, squares, and gardens, which support biodiversity, regulate the microclimate, and improve air quality. This is a key focus for Polish cities, as convenient access to natural environments provides residents with more opportunities to spend time outdoors. Close contact with nature positively influences physical and mental health, enhancing residents' satisfaction with life in their area. The implementation of the 15-minute city in Poland is thus a response to challenges associated

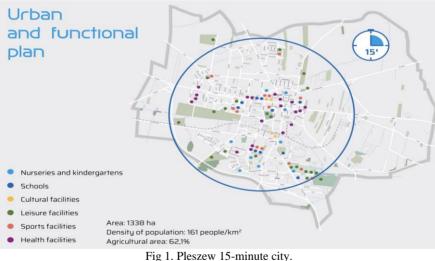
with urbanization, increasing environmental pollution, transportation issues, and the need for social integration.

3.1. Examples of cities in Poland implementing the 15-minute city concept

In Poland, the 15-minute city concept is gaining popularity. As mentioned above the actions taken by these cities include developing bicycle infrastructure, improving public transportation access, creating public spaces that foster social integration, and revitalizing urban areas. The aim is to provide residents with easy access to key services and recreational areas within close proximity to their homes, in line with the principles of the 15-minute city concept. The following section of this paper presents a case study analysis of five cities in Poland that have implemented 15-minute city concept with are Pleszew and Cracow and cities that have a plan to implement this concept in the future like Warsaw, Lódź, and Rzeszów.

3.1.1. City of Pleszew

The City of Pleszew, with a population of approximately 17,000 residents, is often referred to as Poland's first 15-minute city. As part of implementing this concept, Pleszew's authorities have undertaken initiatives aimed at ensuring that residents have access to essential services and infrastructure within a 15-minute radius by foot, bicycle, car, or public transportation. These actions include the development of public infrastructure that enables residents quick and convenient access to services such as education, healthcare, shopping, recreation, and workplaces (Fig 1.).



Source: Compact Pleszew [13]

The city of Pleszew has oriented its efforts toward implementing the discussed concept around five main themes [14] [15]:

 Investment in educational infrastructure and healthcare - in Pleszew, access to education and healthcare is a key aspect of implementing the 15-minute city concept. The city includes nurseries, kindergartens, and primary schools, providing families with convenient access to education for children. The availability of educational facilities close to residential areas reduces the need for commuting and supports the development of local communities. In terms of healthcare, Pleszew offers clinics and specialized medical facilities, ensuring that residents have quick access to health services without the need to travel to larger cities.

- 2) Development of recreational and cultural spaces the 15-minute city concept in Pleszew also encompasses the development of recreational spaces that foster social integration and encourage active living. The city features parks, playgrounds, and sports facilities that are accessible to residents. Sports and recreational facilities, such as fields, swimming pools, and green areas, are strategically located to be easily reachable. Pleszew also has community centers and libraries that serve as gathering places for the local community, helping to build social ties and encourage cultural engagement.
- 3) Sustainable mobility and expansion of transport infrastructure Pleszew has also invested in developing infrastructure for pedestrians and cyclists to make daily commuting easier without relying on cars. The construction of bike paths and the modernization of sidewalks provide residents with safe and convenient ways to move around the city. Local public transportation is also being enhanced to allow quick travel across different parts of the city, aligning with goals to reduce car traffic and promote eco-friendly transportation options.
- 4) Support for local economy and entrepreneurship as part of the 15-minute city concept, Pleszew places strong emphasis on supporting local businesses. Residents have access to local shops, cafes, and service points that are easily reachable, helping to foster the growth of small, local enterprises. City authorities collaborate with local entrepreneurs to support their growth and promote local shopping, thereby strengthening the local economy. This approach allows residents to meet their daily needs while also supporting the city's economy.
- 5) Environmental protection and expansion of green spaces Pleszew has also undertaken initiatives to increase green spaces, which directly impact residents' quality of life and contribute to environmental protection. City authorities invest in parks, squares, and other green areas that serve as recreational spaces and support both mental and physical health. The increase in greenery also aids in regulating the microclimate and supports the biodiversity of the local ecosystem.

The initiatives undertaken by Pleszew under the 15-minute city concept exemplify a comprehensive approach to creating a city that is both resident- and environment-friendly. As a result, Pleszew is emerging as a model for other Polish cities, demonstrating that even smaller urban centers can successfully implement sustainable development goals and build integrated communities.

3.1.2. Cracow City

Cracow, one of the largest and oldest cities in Poland, is implementing the 15-minute city concept through a series of projects focused on improving public spaces, revitalizing neighborhoods, and promoting sustainable mobility. The central initiative within this framework is the "Climate Quarter" project, which encompasses the Kazimierz district and part of Grzegórzki. These efforts aim not only to reduce emissions and enhance residents' quality of life but also to restore the residential and social character of local urban spaces.

As part of the "Climate Quarter" project, Cracow seeks to enhance urban spaces through initiatives such as the revitalization of streets, squares, and green areas. One notable example is the plan to restore the residential character of Dietla Street, currently one of the city's main traffic arteries. The project involves calming vehicle traffic, expanding sidewalks, adding bike lanes, and introducing green zones, making the street more pedestrian- and resident-friendly. Additionally, the revitalization of Wolnica Square aims to create a space that fosters local community integration and hosts cultural and recreational events.

A key element of the project involves transforming selected streets into "green streets." This initiative focuses on increasing urban greenery, including trees, flower beds, and shrubs, which not only improves the aesthetics of urban areas but also positively impacts the microclimate and air quality. Green streets are designed to enhance residents' comfort by reducing noise and creating inviting conditions for walking and daily life.

Cracow is heavily investing in the development of sustainable transportation by reducing car traffic and prioritizing public, bicycle, and pedestrian transport. Within the "Climate Quarter," plans include upgrading cycling infrastructure and introducing new pedestrian-friendly solutions, such as safer crossings and car-free zones. The city is also exploring the expansion of car-sharing services and electric scooter networks to decrease the reliance on private vehicles.

One of Cracow's primary challenges is combating air pollution. To address this, the city is implementing measures to reduce vehicle emissions by limiting car traffic in the city center and encouraging residents to use public transportation and bicycles. Expanding green zones and increasing vegetation within urban spaces also play a significant role in improving air quality.

Cracow actively involves residents in the implementation of the 15-minute city concept through public consultations, workshops, and educational events on sustainable development. The goal is to raise ecological awareness and foster social engagement, ensuring that residents feel like co-creators of the changes in their neighborhoods.

Cracow's initiatives within the framework of the 15-minute city concept are comprehensive, focusing on enhancing residents' quality of life, protecting the environment, and building a sustainable, inclusive city. Through projects like the "Climate Quarter," Cracow demonstrates how large cities can effectively implement innovative urban solutions that balance ecological goals with the needs of local communities [16].

3.1.3. City of Łódź

Łódź actively engages in implementing the 15-minute city concept, focusing on enhancing public transportation, revitalizing urban spaces, and promoting sustainable mobility. A key initiative is the development of a metro system aimed at connecting various city districts, enabling residents to reach the city center within 15 minutes. This project is part of a broader strategy to create a polycentric city where essential services are accessible within a short distance from residents' homes.

In addition to transportation improvements, Łódź is investing in the revitalization of urban areas to make them more resident-friendly. This includes transforming neglected spaces into green areas, parks, and recreational zones, thereby enhancing the quality of life and fostering social integration. The city also focuses on developing infrastructure that supports walking and cycling, aiming to reduce car dependency and promote healthier lifestyles.

Furthermore, Łódź is committed to environmental sustainability by implementing ecofriendly solutions in urban planning. This involves increasing green spaces, promoting energy-efficient buildings, and encouraging the use of renewable energy sources. These efforts align with the city's goal to become more resilient to health, climate, and geopolitical challenges, as outlined in the "DalEKOwzroczność, zielone miasto z historią" strategy adopted by the City Council [17].

4. Discussions

In Poland, the concept of the 15-minute city is gaining popularity, with numerous cities taking steps toward its realization. However, what has been indicated in the previous section, the concept of 15-minute can be understood as commuting on foot, bike or in some cases public transport and even cars. Cities such as Pleszew, Cracow and Łódź are introducing changes aimed at increasing access to key services within close proximity to residential areas. These initiatives include the development of cycling and pedestrian infrastructure, urban space revitalization, the creation of green areas, and the promotion of local economies. For instance, Pleszew has prioritized sustainable development by expanding local educational and healthcare services [15], while Cracow is implementing the "Climate Quarter" project, focusing on air quality improvement, street revitalization, and green space enhancement [16].

Globally, the 15-minute city concept has gained recognition in cities such as Paris, Melbourne, and Portland. Paris has undertaken ambitious plans to reduce car traffic, transform streets into pedestrian- and cyclist-friendly spaces, and increase the number of green areas. Melbourne supports local living by developing small neighborhoods with services within walking distance, while Portland focuses on building cycling infrastructure and public spaces. These cities demonstrate that implementing this concept requires strong municipal leadership and collaboration with local communities [6].

Cities aiming to adopt the 15-minute city concept may encounter several challenges, such as social resistance to changes, limited financial resources, or difficulties in adapting existing infrastructure. Authorities should prioritize public consultations to address residents' needs and minimize opposition. Securing external funding, such as from EU programs, and implementing changes gradually can help avoid disruptions to urban life. Building cross-sector partnerships is also recommended to support projects related to transportation, urban greenery, and environmental education.

Implementing the 15-minute city model also facilitates the development of the smart city concept by enabling the tracking of population flows within specific urban areas. This includes, for example, identifying the most frequently chosen routes to destinations and the modes of transportation used, such as cycling, public transport, or walking. As a result, large datasets are collected in a centralized urban area, allowing for the analysis of residents' behaviors across different parts of the city [18].

5. Conclusions

The 15-minute city concept, both in Poland and worldwide, demonstrates that it is possible to create more sustainable and resident-friendly urban spaces. This approach encompasses urban planning, infrastructure development, economic growth, environmental stewardship, and social integration, showcasing a holistic method for modern urban development. Cities like Pleszew and Cracow illustrate that even smaller local communities can achieve success by implementing changes tailored to their unique needs. At the same time, global examples such as Paris and Melbourne offer valuable inspiration and proven strategies for cities worldwide, emphasizing the universality and adaptability of the concept [6].

From an economic standpoint, 15-minute cities bolster local economies by encouraging residents to patronize neighborhood businesses. Investments in small businesses, local markets, and entrepreneurship reduce economic leakage and create job opportunities [2]. Kraków's revitalized districts and Paris' support for local commerce exemplify how localized economies can thrive under this model, fostering economic resilience and reducing dependency on external markets.

Environmentally, the 15-minute city promotes sustainability by reducing carbon emissions and mitigating urban heat islands through green infrastructure. Increased tree planting, the creation of parks, and the development of energy-efficient buildings not only enhance urban biodiversity but also improve air quality and contribute to climate resilience. Melbourne's emphasis on urban greening and Cracow's focus on clean air initiatives are prime examples of integrating environmental sustainability into urban development [16].

On a social level, the concept strengthens community ties by fostering inclusive and engaging public spaces. Parks, plazas, and recreational areas encourage social interaction, while community-driven planning processes ensure that residents have a voice in shaping their urban environments. Rzeszów's participatory planning workshops highlight the importance of social inclusion in the success of 15-minute cities, ensuring that urban spaces meet the needs of diverse populations [18].

Ultimately, the success of the 15-minute city concept lies in addressing the holistic needs of urban populations. By integrating urban planning, infrastructure, economic growth, environmental considerations, and social cohesion, cities can create sustainable, thriving,

and equitable environments. Long-term commitment, strategic vision, and collaboration between policymakers, urban planners, and local communities remain essential to achieving these goals.

6. Future work

Future research on the 15-minute city concept will focus on evaluating the long-term effects of its implementation, particularly in terms of improving residents' quality of life, reducing carbon emissions, and strengthening local economies. These studies will also analyze the implementation of the concept, considering differences between cities in Poland and globally, to identify best practices and adapt them to local conditions and the specific scale of each city. Another important area of focus will be assessing the effectiveness of social participation initiatives and analyzing the costs and benefits associated with projects carried out under this concept.

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