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3. THE SMART CITY AND SMART URBANISM: USING THE MASTER PLAN METHOD IN THE PLANNING AND DESIGN PROCESS OF IMPLEMENTING SMART URBANISM SOLUTIONS

3.1. Introduction

What is a Smart City from an urban planning perspective? How are urban spaces created? Is there room for creativity and outside-the-box solutions in the processes of creating these spaces? Or are we focusing too much on purely utilitarian and functional elements within the Smart City and forgetting about other aspects?

Changing demographics and rapid technological advances have significantly affected urban development. The concept of the Smart City has been thought of for several years as the intersection between technology and information technology tools and the needs of society. In the pursuit of improving the quality of life and the working processes of urban systems, one of the most important factors is not considered that a city is created in a specific space and time. Today's ubiquitous technology significantly affects all areas of our lives. However, it cannot fully predict human behaviour or the consequences that a progressive increase in the use of smart technology will have. By relying on the "intelligence" of technological solutions, we significantly restrict the influence of human skills on shaping urban spaces. As Czeslaw Bielecki notes: "Why, at a time when no one was talking about urban planning, has a public space been created in which we can implement our revolutionary smart cities strategies? Meanwhile, in the projected chaos of forms pushing each other in the queue for fame, this turns out to be much more difficult. Today, it is more common for us to write dissertations on cities for people and happy cities than on how to build them. However perfect our city software may be, architects are all about hardware"².

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² Bielecki Cz.: Archikod. Narodowy Instytut Architektury i Urbanistyki, Warszawa 2021.

3.2. Aim, scope and research method

The aim of this chapter of the monograph is to try to fill the research gap concerning the insufficient consideration of planning and design processes in the concept of the Smart City. In view of the need for cities to adapt to changing conditions and expectations, the omission of the role of urban design may result in an intensification of spatial and functional conflicts, while other demands of the Smart City are implemented. In this way, the objectives will be achieved in a city that is gradually losing its individual structure. In order to identify what a Smart City is from an urban planning perspective, the author analyses the impact of demographic growth on urban development, along with the characteristics and factors that constitute the criteria for evaluating a Smart City. At the same time, the author points to the need to introduce an additional area of activity within the concept of the Smart City, which takes into account the process of creating urban space in a creative and non-standard approach, which she defines as Smart Urbanism. In the methodology adopted, this term refers to a range of urban planning and design activities that technology cannot replace. A search of publications and scientific studies related to the theory of urban and spatial planning was used to verify the research hypotheses to determine whether a relationship exists between the variables being studied. Based on these variables, conclusions on the features and characteristics of Smart Urbanism within the framework of the Smart City concept were derived. The issues addressed in Smart Cities are interdisciplinary and are related to current challenges within priority research areas.

The analysis covers the historical period from 1950 to 2021 and the projected period up to 2060. The research, in which the analyses were carried out, focuses on showing the relationship between demographic growth, the Smart City, and urban design, as well as the phenomenon of technological development and its impact on social and spatial change. In the chapter, the author deals with theoretical issues and global phenomena without reference to Polish conditions.

The structure of the chapter identifies four issues. The first part is an analysis of demographic growth as one of the factors influencing changes in the structure of the city. The aim of this section is to highlight the need for concrete measures to stop urban sprawl. In the second part, the concept of the Smart City is discussed, taking into account its features and contributing factors, as well as a framework for assessing its effectiveness. Critical observations are aimed at identifying the subsequent research

gap, which, according to the author of this chapter, is the omission of the creative urban design process in the structure of the Smart City concept. In addition, this section emphasises that planning and design activities have been and should continue to be at the heart of the city's development, which should be enhanced through Smart Urbanism. To this end, the third part of the chapter answers a number of questions related to the concept of Smart Urbanism. By verifying the functioning definition, analysing the impact of the development of global technologies on urban design as well as creative planning and design processes, the author redefines the concept of Smart Urbanism. The author defines its characteristics and features, providing a clear record within the current areas of activity of the Smart City. The last part of the chapter refers to operational measures that can fulfil the demands of Smart Urbanism. The author introduces the concept of the Smart Masterplan, which aims to show, guide and redefine the Masterplan development process. The fourth part represents only a fragment of the research conducted by the author on the Masterplan Method. The selected scope and the adopted form of the chapter are aimed at indicating the basic directions of activities in the context of integrating planning and design processes within the concept of the Smart City. The chapter ends with preliminary conclusions.

3.3. World population growth and the shrinking of Europe

Since the mid-18th century there has been a significant increase in the world's population. Over the last 70 years, the population has grown from 2.5 billion (in 1950) to 7.7 billion (in 2019). With a sustained growth trend of 1-2 per cent per year, the population will have exceeded 10 billion by 2060³. As the world's population grows, the proportions of the population living in rural and urban areas are changing. In 1950, less than 30% of the world's population lived in cities. In 2007, the numbers of urban and rural dwellers were almost equal, and in 2050, according to estimated statistics, the proportion compared with 100 years previously will be reversed in favour of urban dwellers⁴ (see Figure 3.1). This means that spatial, infrastructural, environmental, social, and economic problems in cities will escalate unless a long-term development perspective is adopted.

³ Cilluffo A.: World's population is projected to nearly stop growing by the end of the century, Pew Research Center, 17.06.2019, online: <https://www.pewresearch.org/fact-tank/2019/06/17/worlds-population-is-projected-to-nearly-stop-growing-by-the-end-of-the-century> (accessed: 25 April 2022).

⁴ Ritchie H., Roser M.: Urbanisation, Our World in Data, published: 09.2018, revised: 11.2019, online: <https://www.ourworldindata.org/urbanization> [accessed: 25 April 2022].

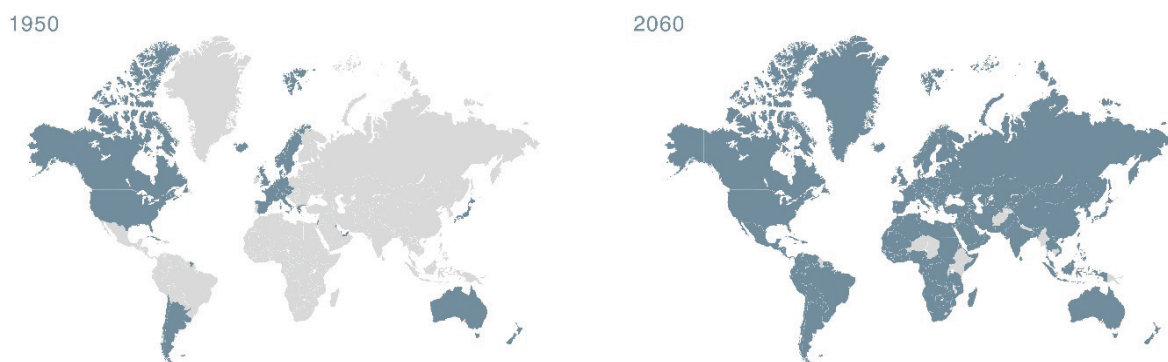


Fig. 3.1. Diagram showing the share of the population living in urban and rural areas in the 1950s and 2060s. “Urban majority” means that more than 50% of the country's population lives in cities. The scheme is based on estimates up to 2016 in conjunction with the UN forecasts until 2050

Rys. 3.1. Schemat przedstawiający udział ludności mieszkającej na obszarach miejskich i wiejskich w 1950 roku i 2060 roku. „Większość miejska” oznacza, że ponad 50% ludności kraju mieszka w miastach. Schemat opiera się to na szacunkach do 2016 roku w połączeniu z ONZ prognozy do 2050 roku

Source: Own elaboration based on <https://ourworldindata.org/urbanization>, 2022 r.

The growth of the world's population has a significant impact on the environment. Progressive climate change is one of the greatest challenges facing the world today. It directly affects people's lives and economies. Global population growth, as a trend, is only one of the drivers of climate change that lead to increased greenhouse gas emissions, flooding, reduced agricultural productivity, increased variability in water availability, seawater intrusion, increased coastal erosion, pressure on resources, an ever expanding economy, and increasing urbanisation⁵. Of these challenges, urbanisation is the one primarily faced by the world's major cities. As a result of development pressures, adjacent peri-urban open landscape areas are being occupied that previously played a significant role in providing biodiverse habitats, guaranteeing ecosystem services and maintaining environmental quality. The process of urban sprawl is not only inconducive to improving the environment, but also creates many new functional-spatial conflicts. Unfortunately, economic issues (such as abundant land supply), effectively divert attention from the long-term consequences of this process⁶. For European cities, stopping urban sprawl is particularly important because, contrary to global trends, Europe is ageing. This process began several decades ago and is results in a declining proportion of people of working age. According to Eurostat, 20.3% of the European Union population was expected to be aged 65 or over

⁵ H. Hussain Mari I., Hussain Z.: Climate Change in Pakistan: Govt Efforts to Reduce the Climate Change Threats, European Journal of Innovation in Nonformal Education. Vol. 1, No. 1, Belgium 2021.

⁶ Mortoja G., Yigitcanlar T.: Are climate change, urbanization and political views correlated? Empirical evidence from South East Queensland, Urban Climate, Elsevier, 2022.

in 2019, and this will be an increasing trend⁷. Cities will have to adapt to a changing society and its needs. Excessive and ill-considered urbanisation of successive areas may in the long term result in a loss of continuity of the functional and spatial structure of the city.

3.4. Smart city: improving quality of life through technological development

Urban communities are changing rapidly. To a large extent, this is due to ongoing technological developments that are breaking new ground. The question is no longer whether something can be done, but in what time frame it can be done and at what cost. Optimising processes and increasing efficiency are objectives that are found in every industry. Due to technology, such objectives have become standard practice. Changing environmental conditions are evident in urban areas. They do not only concern the development of information and communication technologies, but also the next industrial revolution, the constraints caused by the pandemic and the war in Ukraine. In recent years, the concept of the Smart City has become an answer to a number of questions related to the city in its broadest sense, whose areas of activity are being elaborated on more and more each year. At the same time, the emergence of new interpretations over the past decades has meant that we have a number of notions of “Smart”.

The introduction of the concept of the Digital City (City Network) was one of the first references to the Smart City, which referred to the presentation and sharing of information about the ICT (Information and Communications Technology) used on the city website. This process was linked to, among other things, the development of city marketing as well as the creation of electronic information and service layers in cities⁸. Anthopoulos, in “Understanding Smart Cities – A tool for Smart Government or an Industrial Trick?”, cites the case of Amsterdam as the city where the idea of the Digital City was first introduced in 1994. The stimulus then came from a desire for dialogue between the public and politicians. As a result, the scale of public participation, as well as the use of the Internet, has been a success. The potential of using technological solutions to address certain societal needs was recognised⁹. To this day, Amsterdam is considered

⁷ Eurostat, Archive: Struktura ludności i starzenie się społeczeństwa, Eurostat Statistic Explained, 20.07.2021, online: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Struktura_ludności

⁸ Aurigi A.: Making the Digital City. The Early Shaping of Urban Internet Space, Routledge Taylor&Francis Group, 2005.

⁹ Anthopoulos L.G.: Understanding Smart Cities: A Tool for Smart Government or an Industrial Trick?. Public Administration and Information Technology, Vol. 22, Springer, 2017.

one of the smartest cities¹⁰. This case has also inspired other urban centres and contributed to the emergence and development of the concept of the Smart City.

So far, there has been no established definition of a Smart City. This concept is treated in a multivalent manner. In the 1990s, the Smart City focused on the role of transport infrastructure¹¹. In 2007, Giffinger et al. compiled the “Smart cities: Ranking of European medium-sized cities”, in which, on the basis of an analysis of 70 European cities, they selected six areas of activity (Smart Economy, Smart People, Smart Governance, Smart Mobility, Smart Environment, Smart Living), within which we can say that a Smart City is functioning well¹². In later years, definitions began to include the role of human capital, and so Caragliu et al. commented that city is smart “when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance”¹³.

In simple terms, a Smart City is a set of ideas, procedures and concepts based on the principles of inclusion, innovation, resilience, equality, and social cooperation that can “provide a specific answer to changing conditions and expectations in the environment”¹⁴.

In a different scope and perspective, the phenomenon of Smart Cities is seen by the United Nations Economic Commission for Europe (UNECE) and the International Telecommunication Union (ITU), who redefine the concept of Smart City to the term Sustainable Smart City, placing it in the context of the idea of sustainable development. In their view, a Sustainable Smart City is “an innovative city that uses ICTs and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental as well as cultural aspects”¹⁵.

The global initiative, United for Smart Sustainable Cities (U4SSC) was established to build an international platform for sharing information to help manage cities. It supports the development of policies and strategies that encourage the use of digital

¹⁰ Smartcity: 2020 Smart City Winners: IESE’s Top 10 By Dimension, Smart City Press, published: 22.07.2020, online: <https://smartcity.press/top-10-smart-cities-of-2020/>, [accessed: 30 April 2022].

¹¹ Caragliu A., Del Bo Ch., Nijkamp P.: Smart cities in Europe, Journal of Urban Technology, Vol. 18, Taylor&Francis, London 2011, pp. 65–82.

¹² Giffinger R.: Smart cities – Ranking of European medium-sized cities, Centre of Regional Science, Vienna UT, 2007.

¹³ Caragliu A., Del Bo Ch., Nijkamp P.: Smart cities in Europe, Journal of Urban Technology, Vol. 18, Taylor&Francis, London 2011, pp. 65–82.

¹⁴ Bitkowska A., Łabędzki K.: Koncepcja inteligentnego miasta – definicje, założenia, obszary, Marketing i Rynek/ Journal of Marketing and Market Studies, Vol. XXVIII, No. 2/2021, Polskie Wydawnictwo Ekonomiczne, Warszawa 2021, pp. 3–11.

¹⁵ UNECE, Sustainable Development Goals, Sustainable Smart Cities, online: <https://unece.org/housing/sustainable-smart-cities>, [accessed: 30 April 2022].

technologies to facilitate the transition to smart, sustainable cities. The U4SSC is coordinated by the International Telecommunication Union (ITU), the United Nations Economic Commission for Europe (UNECE) and United Nations Habitat (UN-Habitat) and is further supported by 14 UN bodies¹⁶. In 2017, *Collection Methodology for Key Performance Indicators for Smart Cities* was published. This document was created to develop key performance indicators for Smart Sustainable Cities. The methodology developed is intended to help cities achieve their sustainability goals and become smarter and more pleasant. The indicators included in the study formed the basis of the Smart Sustainable City Index, which is intended to help assess and sustain the city¹⁷.

Activities in the wider field of the Smart City are very broad. Numerous definitions of a Smart City show that researchers interpret the concept using individual approaches, and rankings and reports define their individual criteria. In addition, the interdisciplinary nature of the issue makes it the subject of research by scientists from different fields and scientific disciplines. In the literature, there are also several models that represent a synthesis of the Smart City strategy. In “Smart cities: Ranking of European medium-sized cities” a classification into six activity areas was adopted (see Figure 3.2), these being Smart Economy, Smart People, Smart Governance, Smart Living, Smart Environment, Smart Mobility¹⁸. Anthopoulos, on the other hand, defines eight areas of activity several years later: Smart Infrastructure, Smart Transportation, Smart Environment, Smart Services, Smart Governance, Smart People, Smart Living, Smart Economy¹⁹. Analysing both lists, an evolution of the concept of the Smart City is evident, as well as its areas of activity. Certain sectors, due to the changing environment, are the subject of numerous studies, leading to a more detailed description of the issues, and resulting in an additional subdivision within the category, or specific new areas of activity. These activities show that the idea of the Smart City is flexible enough to accommodate further development.

¹⁶ U4SSC, online: <https://u4ssc.itu.int/about/> [accessed: 25 April 2022].

¹⁷ *Collection Methodology for Key Performance Indicators for Smart Sustainable Cities*, United 4 Smart Sustainable Cities, Geneva 2017.

¹⁸ Giffinger R.: *Smart cities – Ranking of European medium-sized cities*, Centre of Regional Science, Vienna UT, 2007.

¹⁹ Anthopoulos L.G.: *Understanding Smart Cities: A Tool for Smart Government or an Industrial Trick?*. *Public Administration and Information Technology*, Vol. 22, Springer, 2017.

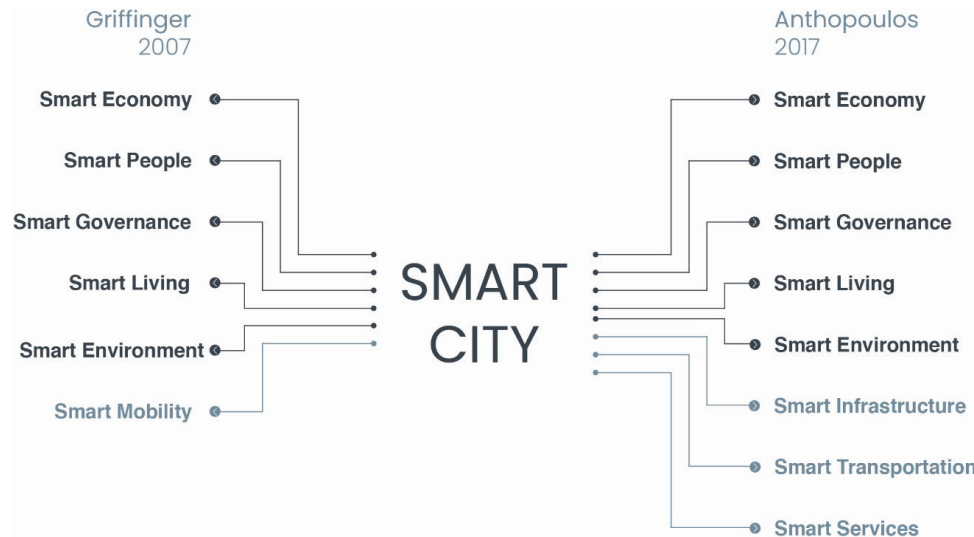


Fig. 3.2. Diagram showing the areas of Smart City activity. Comparison of Griffinger and Anthopoulos research.

Rys. 3.2. Schemat przedstawiający obszary aktywności Inteligentnego Miasta. Porównanie badań Griffingera i Anthopoglots

Source: Own elaboration based on Anthopoulos L.G.: Understanding Smart Cities: A Tool for Smart Government or an Industrial Trick? and Giffinger R. et al.: Smart cities: Ranking of European medium-sized cities.

When talking about the Smart City, it is important to note that individual countries define success factors individually. In the European Union, for example, Intelligent Transport and Communication is identified as the most developmental factor²⁰. Cities strive with their policies and management to achieve as many indicators as possible in order to be identified as a Smart City, which is currently considered one of the most effective tools for creating competitive advantage.

There is no doubt that the idea of the Smart City is a leading trend in contemporary urban management. Objectives within each area of activity can be transparently defined, implemented and reviewed. These activities drive technological, economic, political, and social development. However, they omit an area that the author believes is crucial – the planning and design of multi-scale urban space, in terms of imaginative creative activities. The Smart City benchmarks are based too much on purely utilitarian and functional elements forgetting the unique city-forming processes that technology cannot replace. The author believes that the existing areas of activity should be supplemented by one more area, which is Smart Urbanism. This is possible because of the open form of interpretation of the Smart City and the constant evolution of the areas of activity that it engages in its strategy.

²⁰ Hollands R.: Will the smart city please stand up? Intelligent, progressive or entrepreneurial?. City 2008, Vol. 12, No. 3, pp. 303–320.

3.5. Smart urbanism: shaping the city in the digital age

Smart Urbanism is a relatively new concept. Increasingly, this phrase is presented as an answer to future urban planning challenges²¹, but there is a lack of both theoretical insight and empirical evidence to assess this phenomenon. As noted by Marvin et al. “Smart urbanism is emerging at the intersection of visions for the future of urban places, new technologies and infrastructures. Promoted by international organisations, the corporate sector and national and local governments alike, the dominant vision is of the meshing of intelligent infrastructure, high-tech urban development, the digital economy and e-citizens. Discourses around smart urbanism are deeply rooted in seductive and normative visions of the future where technology stands as the primary driver for change”²².

While our understanding of Smart Cities is growing, awareness of the opportunities and implications of using new technologies in urban planning is limited. Kitchin et al. point out that “There is a powerful political and economic lobby advocating the development of smart cities. The arguments forwarded by this lobby propose that smart city initiatives will lead to more efficient, effective, sustainable, resilient, safe and secure cities”²³.

Given the pace of development and the popularity of the mechanisms that form the elements of Smart Cities, it is necessary to develop a methodology for Smart Urban Planning aimed at analysing, as well as creating, a multifaceted physical urban context and subjecting it to critical evaluation. It must be taken into account that cities are not directly comparable to each other and that we are dealing with archetypes of space that have emerged over centuries, shaping inner and outer, private and shared, as well as ennobled and everyday spaces in our cities. However, it should be remembered that the physical image of the city is not a democratic space; it only gives this impression because it is a stage for democratic action. Referring to Tadeusz Wróbel’s *Brief History of Town Building*²⁴, which refers to ancient Greece, he writes: “The town developed gradually around or at the foot of the acropolis, and its characteristic element was the agora, the square, the marketplace, where buildings intended for public use were concentrated; their number, purpose and size increased as the organisation of the polis progressed and the population grew”. An urban space was created for the inhabitants and included a clear

²¹ Marvin S., Luque-Alaya A., McFarlane C.: *Smart Urbanism. Utopian vision or false dawn?*. Routledge, New York 2016.

²² Marvin S., Luque-Alaya A., McFarlane C.: *Smart Urbanism. Utopian vision or false dawn?*. Routledge, New York 2016.

²³ Kitchin R., Lauriault T.P., McArdle G.: *Smart Cities and the politics of urban data* [In:] *Smart Urbanism. Utopian vision or false dawn?*. Routledge, New York 2016, pp. 17–33.

²⁴ Wróbel T.: *Zarys Historii Budowy Miast*, Zakład Narodowy Imienia Ossolińskich, Wrocław 1971, p. 20.

layout of the structure in the space. The design logic that can be observed in most historic city centres was upheld: a logic that has been broken, resulting in today's spatial conflicts, which are the result of disconnected actions that required immediate decisions and hurried implementation.

The question arises as to whether the same mistake is not being repeated today. Do the spatial conflicts we face not result from attempts to solve current problems, to achieve isolated objectives and to meet utilitarian expectations? Is the package of measures and procedures being developed, dubbed the Smart City, not another attempt to hastily respond to newly identified problems? For example, is the idea of the 15-minute city (creating places of activity in the immediate vicinity) not consistent with descriptions from 50 years ago, and a practice known for centuries? When creating Smart Cities, why are there no smart spatial actions using practical knowledge drawn from experience? Overlooking the City, which “constitutes a centre on its own scale i.e., the essence of the city remains the same, but its strength changes depending not only on the size of the city but also on certain characteristics inherent in it”²⁵, and talking about realising the Smart City concept, is only a temporary response to current problems and the collection of user information.

A Smart City should not be perceived only through the lens of technological solutions. Technology should be a means to shape amenable urban spaces. The success of the Smart City is as much dependent on the skills of human resources as it is on the modern technologies that include planning and design, digital citizenship, data literacy, implementation and management²⁶. The role of developing human resources in connection with the Smart City is at times overlooked. Often, there is too much focus on the mere gathering and processing of information, without it being translated into project objectives. An increasing number of cities have detailed analyses obtained by means of, for example, scanning buildings, drone measurements, compilation of databases with spatial information, as well as 3D printouts. Unfortunately, these materials are very often developed without any commonly established method for their further development and use. What is forgotten is that these are neither methods nor products but tools for further work. Additional problems resulting from the maintenance of programmes and extensive licences sometimes limit further development of this sector. As a result, cities have information for the sake of having it, or the requirement to have it.

In the opinion of the author, Smart Urbanism is the process of creating space by analysing and creating the multifaceted physical urban context and subjecting it to

²⁵ Szymańska D.: *Urbanizacja na świecie*. Wydawnictwo naukowe PWN, Warszawa 2007.

²⁶ Smartcity: 2020 Smart City Winners: IESE's Top 10 By Dimension, Smart City Press, published: 22.07.2020, online: <https://smartcity.press/top-10-smart-cities-of-2020/>, [accessed: 30 April 2022].

critical evaluation. At the urban planning level, the space of the Smart City should improve and enhance the user's perception of the city. Every city is different, each with its own unique structure resulting from individual cultural, social and environmental patterns. In a Smart City, Smart Urbanism is that which maintains a multi-scale planning and design continuum composed of hierarchical systems and structured spatial elements. Technology should support planning activities and inform the expertise of urban planners. However, it should not be the dominant factor.

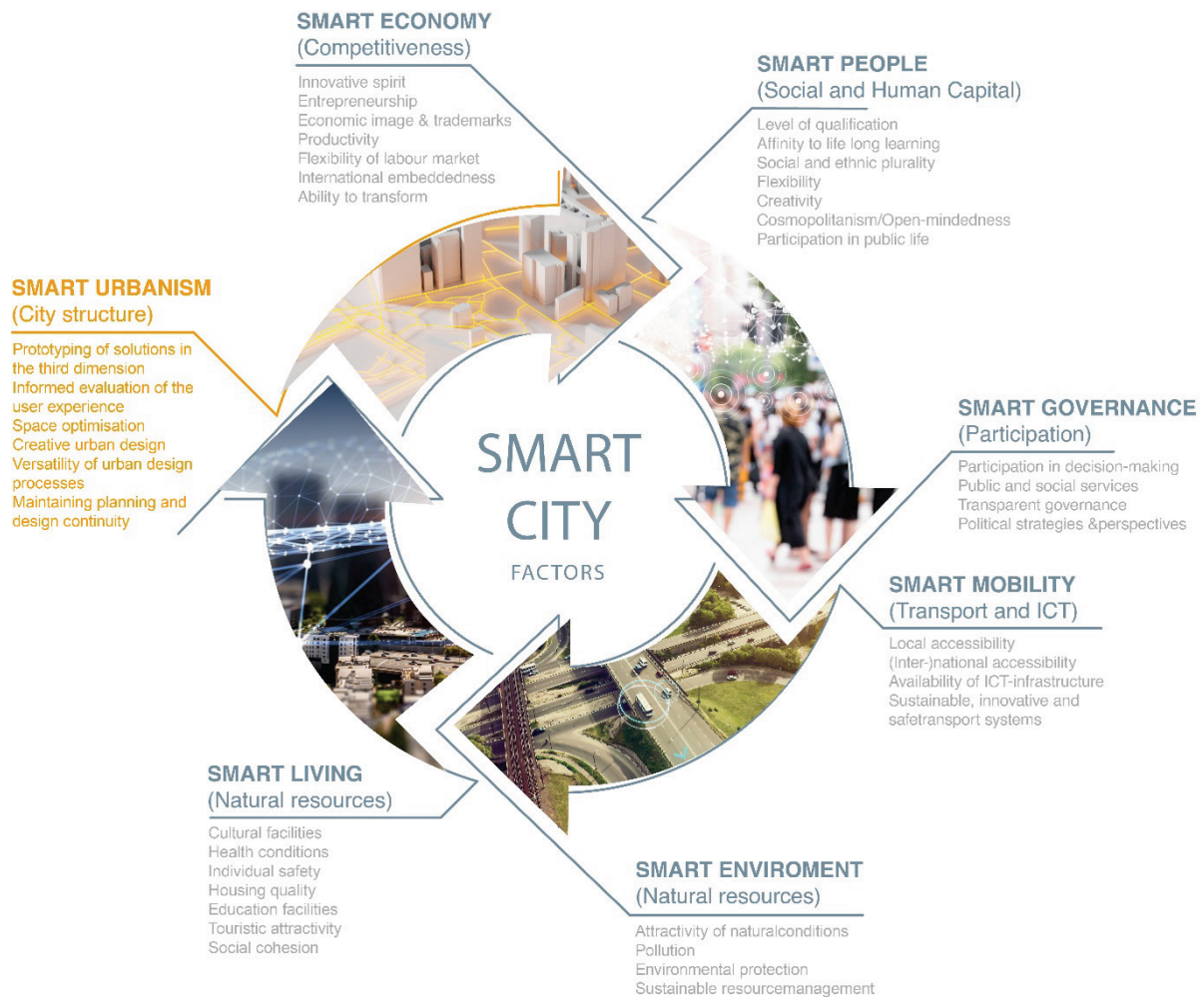


Fig. 3.3. Diagram showing the features and factors that form the framework for the assessment of a Smart City, taking into account an additional factor in the form of Smart Urbanism

Rys. 3.3. Schemat przedstawiający cechy i czynniki, tworzące ramy do oceny Miasta Inteligentnego z uwzględnieniem dodatkowego czynnika w postaci Inteligentnej Urbanistyki.

Source: Own elaboration based on the diagram from the report Smart cities. Ranking of European medium-sized cities, 2022 r.

The Smart City concept is a set of interdependent systems formed by the areas of its activity. Successful integration of a large number of mechanisms requires openness and

standardisation²⁷. It is possible to try to embed Smart Urbanism as an integral part of the concept by defining standardised characteristics that fit into the established characteristics and descriptions of the areas of activity of the Smart City (see Figure 3.3). In the opinion of the author, the methodology of Smart Urbanism should be based on principles and features that coincide with the workflow of planning and design processes. In the author's opinion, these are:

- Prototyping of solutions in the third dimension – problem solving from the perspective of the third dimension should become standard practice at the urban design stage. New technologies provide us with a lot of information about the city, enabling us to design and verify design solutions in real time.
- Informed evaluation of the user experience – the use of behavioural analyses of the users of a space makes it possible to design factors that influence specific behaviours and stimulate pro-social processes.
- Space optimisation – balancing creative and technological elements. Searching for optimal spatial solutions for the implementation of the guidelines within the Smart City concept and forecasting the effects of their implementation.
- Creative urban design – the design of city spaces taking into account a range of components, for example: view sequences, compositional axes, landscape interiors or public spaces, which significantly affect the user's perception of the city.
- Versatility of urban design processes – the introduction of an operational tool implementing the principles of Smart Urbanism will make it possible to react dynamically to changes resulting from other areas of Smart activity.
- Maintaining planning and design continuity – composed of systems of hierarchical and structured spatial elements.

Smart Urbanism requires the development of a range of supporting measures. Given today's expectations and standards, Smart Urbanism must be made "versatile". This is a difficult task, given the complex, interdisciplinary nature of the problems. The development of new and systematisation of existing, design methods, taking into account the opportunities offered by technological development, cannot only improve the design process, but also provide real opportunities to respond to dynamic changes arising from other areas of Smart activity. The Masterplan Method is one of the tools implementing the principles of Smart Urbanism, which can combine strategic and operational activities as part of project implementation.

²⁷ Naydenov K.: Smart Cities – The future of urban planning, 5th International Multidisciplinary Scientific Conference on Social Sciences & Art SGEM 2018.

3.6. Masterplan as a planning and design process for implementing the principles of smart urbanism

Early references to the Masterplan began to appear in the first half of the 20th century. In his book “The Master Plan”, Edward M. Basset explores the potential of the Masterplan as a tool to assist town planning committees. Using the term “plastic”, he repeatedly stresses that the Masterplan should be flexible and be a reference tool, allowing for verification of solutions and implementation of changes. He points out that the Masterplan should not be adopted by any legislative body and, as a flexible, coordinated study, should become a recommendation for further planning activities. In order to have for it an advisory function it should show elements such as streets, parks, sites for public buildings, public utilities, and pierhead and bulkhead lines.²⁸ The analysis of the literature shows that no further attempts have been made to redefine the Masterplan in the context of its written form, scope or role in the spatial planning system. Basset's statement that “although all perceive the need of a plastic master plan there is a constant tendency to pass legislation that will ossify it. As soon as this takes place the plan loses its usefulness as a reference map”²⁹ appears to be exceedingly relevant to contemporary spatial planning. Probably, because of the fact that the document was not embedded in the planning and design structure, the Masterplan was interpreted freely and its role was marginalised by depriving it of a formal record. However, this does not mean that studies under the name of Masterplans have not been produced over the years. They have been, but the lack of initial guidelines has resulted today in an extensive spectrum in the format of the document itself, as well as its name.

In retrospect, the open and fluid form of the Masterplan record, as well as its free interpretation, is an asset, since it did not limit the creators' creativity. As a result, we now have a number of case studies that can serve as a starting point for further research. Furthermore, technological developments make it possible to introduce a new qualitative and substantive standard for planning and urban design reports. The author presents the concept of the Smart Masterplan, understood as a document written according to the Masterplan Method, implementing the principles of Smart Urbanism (see Figure 3.4)

²⁸ Basset E.M.: The Master Plan. WM. F. Fell CO., Printers Philadelphia, 1938.

²⁹ Basset E.M.: The Master Plan. WM. F. Fell CO., Printers Philadelphia, 1938.

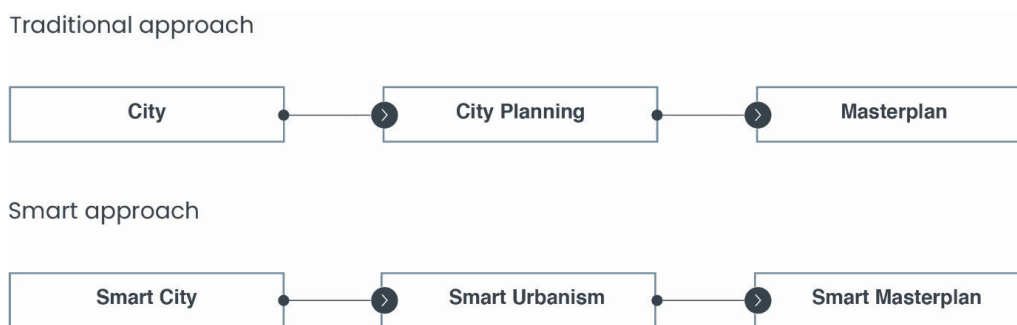


Fig. 3.4. A diagram showing the traditional approach in creating urban space and the intelligent approach

Rys. 3.4. Schemat przedstawiający podejście tradycyjne w tworzeniu przestrzeni miejskiej i podejście inteligentne

Source: Own elaboration, 2022.

The Masterplan method, being a clear record of the Smart Masterplan, is the subject of current research and analysis by the author of this chapter. In the Masterplan Method, the author explores ways to realise the objectives of Smart Urbanism within the concept of the Smart City by defining a model for interdisciplinary cooperation and identifying planning and design application possibilities. Urban planning work can implement design activities as part of operational activities. The use of third--dimension technologies to solve spatial and functional problems plays an important role. However, prototyping spatial solutions in the form of a 3D printout makes it possible not only to verify the decisions made, but also to acquire a real, more attractive and accessible shape, one that is tangible at the design stage.

A Masterplan drawn up in accordance with the Masterplan Method can effectively integrate spatial planning with urban and architectural design. At the same time, it is intended to increase the efficiency of planning processes by systematising the basic form of the provision and indicating the key activities that determine the success of an investment. The Masterplan Method also aims to develop an analytical framework (see Figure 3.5), drawing on the project lifecycle management methodology, based on goal definition, analysis, planning, design, financing, and the application, modification and verification of solutions.

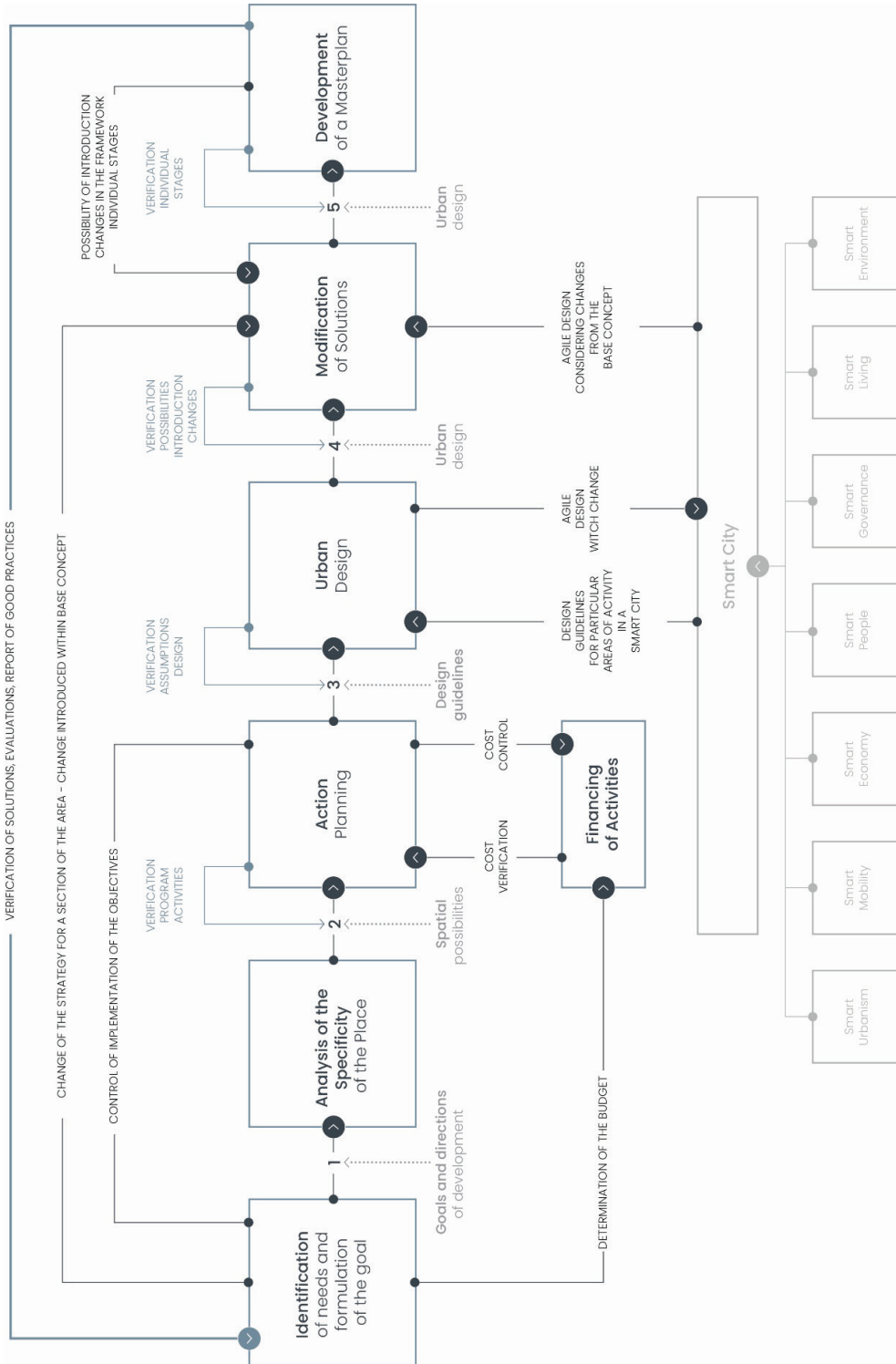


Fig. 3.5. Initial scheme of activities within the Masterplan Method.
 Rys. 3.5. Wstępny schemat działań w ramach Metody Masterplanu
 Source: Own elaboration, 2022

3.7. Preliminary Conclusions

The concept of the Smart City has become disconnected from individual spatial features and the qualities of the place (a place understood geographically, but also as a place for specific urban activities). Without changes, concerning not so much a broad spatial policy, but more detailed urban planning and architectural strategies, cities will deteriorate. Most of them will lose their unique character, which is currently disappearing in areas outside the city centre. With population growth, migration, emigration, an ageing population, and the unification of urban activities, it will be increasingly difficult to “return” to creating places.

Developments in technology have significantly influenced the ability to use behavioural analysis in conjunction with spatial design. The use of extensive databases and digital mapping resources should become an integral part of the creative process which, enriched by 3D spatial models and local vision, can have a real impact on the quality of city space and thus on the quality of life of its inhabitants. Technology should be supportive. Numbers and parameters generated from analysis and human behaviour cannot replace the creative design process.

Smart Urbanism would appear to be a combination of a vision for the city, employing new technologies as well as a continuation of spatial design practices. It is an opportunity to embed planning and design activities within the Smart City concept.

If the process of creating Smart Urbanism is kept within purely strategic activities without further translation into operational activities, it will not be effective. It is important that political, economic, environmental and social issues are only a backdrop for the activities of Smart Urbanism. These factors cannot be ignored but should act as guidelines in the subsequent design process. It is at the stage of creative space-shaping that city matters should be decided. In the opinion of the author, Smart Urban Planning should refer to both technological solutions and human resource competence. Integration into the existing city structure or elimination of “bland” places is not possible through digitisation. It is the design process that makes it possible to stimulate pro-social processes, thanks to which the residents identify with the space, feel safe, and thus care about their immediate surroundings.

This chapter provides an introduction to further research and analysis of Smart Urbanism, as well as an introduction to the Masterplan Method. Changes in approach to space-shaping are necessary, and this is evidenced by the current marginalisation of urban design issues within the Smart City concept, which will certainly continue and be expanded upon in the coming years.