











## MAPPING OF PLANNING INSTRUMENTS

## IN THE CONTEXT OF 15-MINUTE CITY

## Planning Instruments Analysis

The Process of Shaping the Space of the Young City in Gdańsk

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Model of the Hafencity, from the archive of Piotr Lorens

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## Introduction

The issue of analysing planning instruments related to the shaping of the so-called 15-minute city is connected both with the necessity of describing those provided by the law of a given country and presence of the so-called non-statutory instruments. Together, these two sets create a collection of an extraordinarily broad nature. Regardless of the type of instruments existing in a given system, they are used in the process of space transformation. Due to their diverse character and the possibility of their application not only in the planning phase but also in the implementation of intended transformations, they are part of what is known as operational urbanism. This concept fits within the division into three fundamental areas of contemporary urbanism outlined below (Izydor after Zuziak, 1996):

**Structure planning:** defining development directions and establishing the city's spatial structure, as well as designing the settlement network elements and their interrelationships. Structure planning involves determining the desired spatial development structure and type of land use. Before the reform of 23 September 2023 to this group in Polish planning practice belonged the study of conditions and directions of spatial development of the municipality.

**Regulatory planning (spatial planning):** developing the principles and regulations that guide investment processes leading to the transformation of space. The aim of regulatory planning is to create a legal framework for the participants in the processes of spatial transformation. This group of instruments includes the municipality's masterplan, local spatial development plan, its variations (i.e. the Integrated Investment Plan and Local Revitalisation Plan), and administrative decisions.

**Operational planning (also known as action planning):** designing how to implement specific spatial concepts and manage spatial development. This group includes instruments whose nature is not regulated by the provisions of the planning Act. These are referred to as executive plans, which should serve as tools in the implementation of the development concepts. Within the framework of these instruments, the scope of actions (along with the order of their implementation) necessary for the execution of a given project is defined.



# Review of the literature and conference materials on operational urbanism

In the context of the division presented above, it can be noted that the so-called operational urbanism mainly encompasses instruments related to the third category – namely, operational planning (action planning). However, in the process of shaping spatial structures, actions related to structural planning as well as regulatory planning are equally important. All these contribute to definition of a comprehensive set of planning instruments associated with the development of contemporary cities, including the 15-minute city and its public spaces.

In recent years, there has been an increasing amount of information in the literature on the topics related to the aforementioned operational planning - this includes both supporting the private sector and coordinating complex ventures in the public and private sectors. One of the fundamental publications in the Polish literature in this field is the work by Tomasz Ossowicz (2019), in which the author defines operational urbanism as "the ability to effectively realise visions, intentions, plans, and concepts for creating space. It can also be put more simply - it is the art of building cities, not just planning them" (p. 5). Ossowicz, like Zbigniew Zuziak (2008) and Aleksander Noworól (1998), defines the key concepts associated with operational urbanism. All these authors emphasise the significant role of urban planning and spatial policy in the process of shaping cities and implementing spatial policy, pointing out that "undoubtedly, spatial policy is one of the subsystems of territorial development management" (Noworól 2007). In his work, Tomasz Ossowicz invokes the metaphor comparing the work of an urban planner to that of a gardener, as formulated by Patrick Geddes (1854–1932):

The gardener's task is to create a garden, but he cannot command the plants to grow. The gardener has no assurance that they will reach the desired height, that they will bloom on time, and that the harvest will be plentiful" (Ossowicz p. 7).

In the second part of the book (2019), the author points out a typology of urban projects based on the criteria of the results to be achieved by their implementation:

"There are six basic types:

- free development initiation,
- spatial offers,
- · improvement of space,
- · protection of valuable property,

- urban metamorphosis
- development stimulation" (p. 9)

Jan Maciej Chmielewski (2016: 159) highlights the essential features of spatial policy, defining it as an activity aimed at objectives related to spatial economy, better land use, and effective management of space. The author identifies the main instruments of spatial policy implementation as:

- creation of local law (i.e. local zoning),
- municipal investments (i.e. infrastructure),
- · real estate management,
- · local taxes and fees,
- urban marketing (promotion of the municipality),
- periodic assessments of land development (ibid.: 159).

Additionally, Piotr Lorens, in his book titled "Balancing Spatial Development of Polish Cities," compiles various solutions for controlling the spatial development of cities. Although it is impossible to catalogue all the instruments, due to differences resulting from local specificity, the author organises them according to the key categories described in the documents of the International Federation for Housing and Planning (IFHP) (Markowski 2001). These categories are:

- · planning instruments,
- · market-based instruments,
- · development financing,
- · tax instruments,
- other legal instruments,
- support instruments.

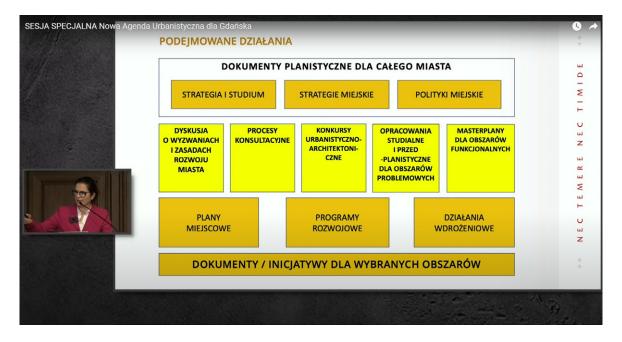
In the context of contemporary challenges, including rapidly changing conditions and transformations, as well as the emerging concept of urban design, such as the 15-minute city, the significance of operational urban planning and non-statutory planning is increasing in both theory and practice, particularly regarding the swift changes in the planning and implementation of individual projects.

As an example of a discussion on the topic, the conference entitled "Flexible Planning. Searching for Innovative Planning Instruments" can be referenced, which took place on 17th November 2022 in Gdańsk (conference recording 2022). This event brought together experts from many countries who presented their experiences and best practices related to operational planning. During the conference, special attention was given to innovative approaches to spatial planning that enable faster and more efficient adaptation to dynamically changing urban conditions. Participants discussed the use of flexible and innovative planning instruments, as well as shared practical examples of their implementation in different cities and regions.

Another meeting that addressed this issue was a second conference organized in Gdańsk entitled "Transforming Cities. Shaping Development Policies", which was held on 6-7 November 2023. Its aim was to discuss and present contemporary urban concepts that shape the future of urban centres (conference recording 2023). The conference aimed to become a discoussion platform for practitioners (planners and urbanists), representatives of local authorities, researchers and



Fig. 3. Banner advertising the conference "Flexible planning. Searching for innovative planning instruments"



**Fig. 4.** New Urban Agenda for Gdańsk presented by Mayor Aleksandra Dulkiewicz at the Special Session of the conference "Flexible planning..." (source: City Architect's Office)

academics, as well as other specialists involved in the planning, design, and implementation of transformation programmes. This was intended to facilitate an understanding of the significance of the problems and issues associated with contemporary urban transformations, the methods for addressing them and their placement in a broader interdisciplinary and practical context. As part of the conference, sessions are planned that will include introductory presentations, discussions on problems and issues, debates on the transformation of urban spaces dominated by car transport functions, presentations on the revitalisation of degraded central areas, and reflections

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Fig. 5. Banner advertising the conference "Transforming Cities. Shaping Development Policies"

on shaping the development axes of the city oriented towards public transport. The organisers aimed to create a platform for the exchange of good practices and to strengthen efforts towards new planning instruments. The conference also served as a venue for presenting developmental challenges, using Gdańsk as a case study.

In the same year, in July, another international conference entitled "SPACE International Conference 2023 on City Planning and Urban Design" (2023) took place, during which discussions and presentations focused on various aspects of urban planning and research and on, examining these topics from different perspectives and research areas. The event attracted participants from around the entire world, serving as a platform for the latest achievements and research results in architecture, planning, urban design, and interdisciplinary fields such as education, technology, business, politics, and social sciences. The scientific quality of the conference and the diversity of topics were key factors in its success. The theme of the conference was "Managing the Cities of the Future: Political Issues, Challenges, and Global Experiences". Particular emphasis was placed on development planning instruments and operational planning, which are crucial for managing contemporary cities. The conference served as a platform for discussion among researchers, practitioners, scholars, and policymakers to discuss the political aspects of urban management, share experiences, and analyse the challenges of operational planning and urban development. Participants were invited to submit research papers, case studies, and theoretical reflections related to the conference theme and other issues in the field of urban planning and design.

Another example of a discussion on planning approaches and instruments was the international conference on "Future Challenges in Sustainable Urban Planning and Territorial Management" which took place online on January 29-31, 2024 on the Sciforum platform (2nd Conference on Future Challenges in Sustainable Urban Planning & Territorial Management, 2024). This interdisciplinary forum, which aimed to accelerate the implementation of the 2030 Sustainable Development Agenda, covered various areas of knowledge related to urban planning and

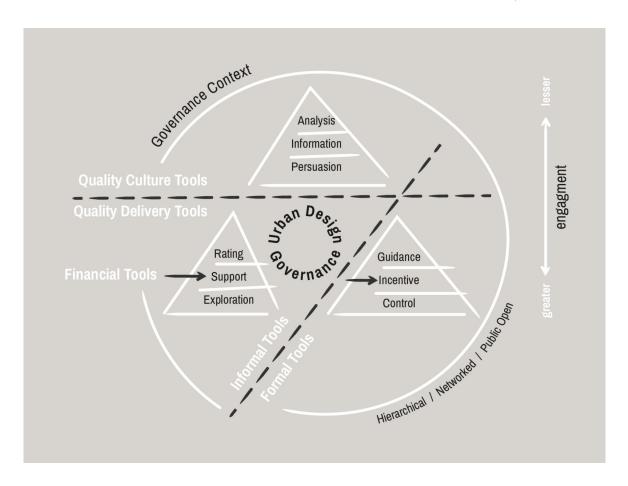
territorial management, while providing a meeting point and discussion space for researchers, professionals, and practitioners. During this event innovative proposals and relevant case studies were presented in fields such as city planning, urban mobility, land use policies, disaster risk, GIS and spatial analysis, Integrated Coastal Zone Management (ICZM), real estate development, socio-economic issues, environmental planning, and more.

An interesting addition to the research on this topic was the **URBAN MAESTRO** research project, which was carried out from 2019 to 2021 and was initiated by three partners: the United Nations Human Settlements Programme (UN-Habitat), Brussels Bouwmeester Maitre Architecte (BMA), and University College London (UCL). It was funded under the EU research and innovation programme "Horizon 2020". The Urban Maestro project focused on new strategies for urban design management, with an emphasis on the use of so-called "soft" (non-regulatory) tools by the state to improve the quality of the urban environment. The main objective of the project was to understand how these non-regulatory approaches can contribute to the creation of better designed spaces in cities. Among these different strategies, the project particularly focused on financial mechanisms and their connection to informal urban design management tools. It is assumed that the synergy between such tools can enable more effective achievement of the intended goals (Urban Maestro, 2021, pp. 9-11).

The project's methodology encompassed a set of research and educational approaches aimed at collecting and capturing information on the diverse methods of urban project management across Europe. Within its scope, a specific analytical framework was created to structure the analyses conducted and build a platform for consensus on the application of a "tool-based" approach. This was intended to allow the classification of a range of informal tools for managing urban development projects. Using this frameworks, a Europe-wide survey on informal urban design management practices was carried out, mainly at the national level, with a questionnaire sent to 124 governmental, independent, and non-governmental agencies across Europe responsible for urban design. The survey covered 32 European countries (EU and EFTA), achieving a response rate of 51%, including responses from 31 national departments, and provided invaluable information on the tools used and the structure of work. Using the survey as a starting point and complementing it with factual knowledge, more than 100 informal urban design management practices were reviewed. This led to the publication of an information brochure for each practice, covering 30 countries.

Based on this publication, a number of practices were selected that included innovative and representative informal practices in urban design management, followed by a series of more in-depth case studies. Some of these were undertaken by the project research team based on secondary documentation analysis supported by interviews, while others were commissioned from experts related to specific practices or research topics. The intention was to gain greater insight into different practices and to use the final element of the methodology, which consisted of workshops comprising a series of carefully prepared interviews with diverse groups of stakeholders (practitioners, academics, specialists, and others) during seven separate events, some held online and others conducted in person. This sequence of events, taking place throughout the duration of the project, facilitated the comparison and analysis of various approaches, leading to both the exchange of knowledge and practices among the invited individuals and a better understanding of these practices by the research team. In conclusion, the scope of the Urban Maestro research was presented, which was showcased on the project's website (Urban Maestro, 2021, pp. 12-15). An example of

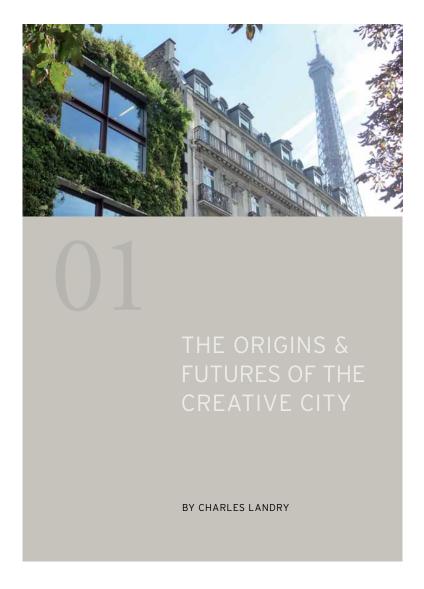
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**Fig. 6.** Layout of tools for urban design management according to Urban Maestro's publication "New Governance Strategies for Urban Design" 2012) created as part of the research project (Source: https://urbanmaestro.org/)

this synergy of tools is, for example, the process of developing the HafenCity district in Hamburg, described in following part of this paper as a waterfront regeneration project, which is one of the best-known examples of sustainable urban development in Europe. The project involves the use of both formal and informal urban management tools to create spaces that promotes quality of life and innovative architectural solutions.

Furthermore, a number of other recognised researchers are exploring the creation of flexible planning forms (see, among others, Landry 2012; Christofi et al. 2021; Friedman 1997; Živković et al. 2015; and Xu and Zhang 2013). In his publication "The Origins & Futures of the Creative City," Charles Landry focuses on the concept of the "creative city" - an idea that links urban development with creativity, innovation, and culture. This publication analyses how cities can use creativity as a resource in planning, development, and management processes to meet challenges related to diversity, sustainability, and the complexities of contemporary urban life. The author points out that the key resource of cities is their inhabitants, whose creativity and intelligence replace traditional resources (Landry Ch., 2012, pp. 7-16). Furthermore, he notes that there is more potential in every place than it might appear at first glance. To tap into this potential, conditions must be created that enable people to think, plan, and act imaginatively, in order to seize opportunities and tackle urban issues such as homelessness and rising well-being. The concept of the "Creative City" assumes that everyone can contribute to creativity by approaching problems in an innovative way. Thertefore, It is important to promote a culture of creativity among all urban stakeholders (Landry Ch., 2012, pp. 19-24).



**Fig. 7.** Cover of Charles Landry's project publication "The Origins & Futures of the Creative City" (2012).

In the text by Christofi et al. (2021), the findings of research on the concept of quality of life in cities are presented, utilising a multifaceted spatial application, while emphasising the need to shape flexible urban environments. The study draws attention to how adaptability in urban design can enhance the quality of life for residents, simultaneously addressing contemporary urban challenges. The authors propose a comprehensive framework that integrates various stakeholders in assessing quality of life in cities, ensuring the inclusion of diverse perspectives. The research underscores the significance of the flexibly shaped nature of public spaces, which can adapt to changing urban dynamics, a key factor in strengthening the resilience of cities against socio-economic and environmental challenges. The article identifies key indicators contributing to quality of life, such as accessibility, sustainability, and social interactions, which are essential for creating vibrant urban communities. While the focus on flexibility is important, some critics suggest that an excessive emphasis on adaptability may overlook the need for stable, long-term strategies that ensure sustained improvements in quality of life.

Friedman (1997), in his article "Design for change: Flexible planning strategies for the 1990s and beyond," emphasises the importance of flexibility in urban planning, especially in the context of dynamic socio-economic changes. The author argues that traditional planning approaches, which require strict adherence to approved plans, are ineffective in the face of unpredictable market trends. Friedman proposes an approach that allows designs to be modified in response to changing market conditions, which is crucial for developers of large residential complexes. The introduction of phased design strategies enables quicker approval processes, which is important considering increasing market demands. The article underscores that future trends cannot be predicted, so flexibility in design is essential for long-term urban success.

In another article "Flexible planning strategies of sustainable city development" M. Živković, G. Jovanović, and S. Kondić discuss key aspects of urban sustainability. They emphasise that uncertainty is a fundamental element of future urban development, which requires flexible urban planning capable of adapting to demographic, technological, and environmental changes. According to the authors, flexibility in urban design is crucial for creating age-friendly cities, allowing for better accommodation of the changing needs of residents. The authors highlight the necessity of selecting planning strategies that allow urban systems to adapt to evolving conditions, which is essential for the longevity and resilience of buildings. Flexibility in design is also an important resource for all stakeholders involved in urban development. The article calls for support of flexibility in conceptual and legislative strategies for sustainable urban development, which will contribute to more sustainable urban development practices.

Finally the authors of the article titled "Exploring Flexibility in Urban Planning Formulation of China" (Z. Xu and Y. Zhang 2013) discuss the evolution of the perception of flexibility in planning literature. Once considered a negative trait, flexibility is now seen by urban planners as an asset that helps to deal with increasing complexity, opportunism, and diversity in cities. We are becoming increasingly aware that urban planning cannot, with a high degree of certainty, define and control the entirety of the future in the context of the development of a modern urban economy. The authors stress that the traditional, rigid urban planning paradigm does not meet the needs of contemporary urbanism. They assume that flexibility, understood as the capacity of a system to adapt or respond to changes in the environment, will become the direction of urban planning in a new phase. The theory of flexible urban planning implies that planning should be a dynamic and harmonious thought. The article introduces some planning practices in China and explores how urban planning can effectively deal with uncertainties and unexpected changes.

All the above-mentioned publications, as well as meetings and conferences concerning the issue of utilising a wide-ranging planning toolkit, highlight its significance in contemporary urban development processes, including the shaping of the 15-minute city. In the context of the above discussion, the most accurate classification of urban development management instruments seems to be that presented by the IFHP (International Federation of Housing and Planning), which was first introduced in Poland in the work of Tadeusz Markowski (2001). In order to systematise the various planning instruments, this paper will utilise and further develop the classification proposed by Piotr Lorens and Daniel Załuski (Lorens 2013), who took Markowski's division as a starting point for a broader discussion. Table 1 includes solutions for steering urban spatial development according to the categories of applied instruments.

**Tab 1.** Solutions for controlling the spatial development of the city according to the categories of instruments used, authors: Lorens and Załuski. Source: Lorens 2013: 98–100 with additions made by the authorial team.

Groups of instruments	Name of instrument	Examples of solutions and applications
	Strategic planning	Planning concerning all aspects of the city's development: social, economic, environmental, spatial, and management.
	Land use planning	Planning for the use and development of areas of different types and scales, including (in Polish legal system) the Local Development Plan, Local Spatial Development Plans (MPZP), the Study of Conditions and Directions of Spatial Development (SUiKZPG), and the Integrated Investment Plan.
	Restrictions on development rights	Restrictions outlined in documents such as (present in Polish legal system) decisions on building conditions and land development, as well as lease and land sale agreements.
	Spatial planning of a non-statutory nature Spatial development strategies, coordinat integrated projects, and MASTERPLANS.	
	Development concepts for specific areas, both at the district scale and for individual sites (including architectural and urban planning studies that allow to determine the best possible ways to utilise and develop a given space)	Analyses and urban studies related to the potential development of specific districts, prepared e.g. through urban design competitions, investment market analyses (i.e. investment pressure within various types of urban programmes), conducted in relation to the entire city as well as its individual parts, MASTERPLANS.
	Site-specific development priorities for the city	Priorities included both in planning documents and defined through other means, such as strategic planning, public consultations, or dialogue with the business community.
MARKETING	Land acquisition on the open market	Acquisition of plots of land by the city in locations where there is a policy to implement specific objectives. Also, the expansion of the municipal land resource as a reserve to secure the possibilities for the future implementation of the city's spatial policy.
	Land exchange with consolidation	Exchanging land of equal market value or with potential compensation, land consolidation and subsequent subdivision of properties, etc.
	Land sales related to forms of use and future revenues	Including provisions in the land sale or lease agreement regarding the need for a specific investment programme, as well as the potential participation of the city in profits from the use of the property.

Groups of instruments	Name of instrument	Examples of solutions and applications
	Entering into public- private partnerships for land development	Agreements with private partners aimed at undertaking joint investment activities and realising a specific project – either through the city entering into a partnership or through an agreement concerning the realisation of supplementary activities by individual partners (e.g., the city commits to developing specific layouts of public space or implementing infrastructure to support the development of new districts or plans).
	Agreements with developers protecting the public interest in land use and development	Guaranteeing – through an agreements – the implementation of a specific programme by the private sector on municipal land adjacent to the investment area. As an example could serve linking the implementation of new sections of shopping centres with the reconstruction of the road infrastructure leading to or associated with them.
	Creation of land reserves to meet the city's development priorities	Acquisition of land from private owners in order to expand the municipal land resource.
	Land development, preparation of sites for construction, equipped with established usage programmes and clear legal status	Preparation of municipal plots for construction from both a formal (i.e. planning, preparation of urban and architectural concepts, clarification of possible ownership and management issues) and technical perspective (infrastructure, advance preparation of archaeological studies, if required).
	Conducting land sales in various modes, where the primary principle is not a one-off profit from the sale of land, but the long-term effects on the economy, space, and environment of the city (i.e. the criterion of the amount of funds raised from the sale is not the most important)	Sale of land through tenders and negotiations with investors, where criteria for sale or lease will be defined, such as the price of the plot, the investor's proposed use programme, proposed architecture, and the realisation of potential public interests (e.g. communal or affordable housing, development of part of the land as publicly accessible space).
	Feasibility studies of losses and gains from proposed development or transformation of buildings	Preparation of feasibility studies for individual projects planned to be realised both by the city and those being prepared for implementation by the private sector; such studies allow for verification of the feasibility of the city's development priorities and policies.
DEVELOPMENT FINANCING	Creation of venture capital for the purposes of development and transformation of land	Creation of special municipal funds intended for the municipality's collaboration with the private sector in the implementation of specific projects. These funds can be concentrated in specially created urban development corporations, which are partners capable of entering into partnerships with private capital.
	Collaboration with the private sector in implementing more complex or significant projects for the city	This collaboration can take various forms, partially described above (such as public-private partnerships, agreements with developers, or the creation of risk capital). Additionally, this may include joint planning and promotional activities, engaging in dialogue with the local community, etc.

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Groups of instruments	Name of instrument	Examples of solutions and applications
TAX	Ad valorem property taxes - covering both land and buildings	Taxes on the value of real estate - cadastral taxes.
	Annual land value tax	Land taxes.
	Land value increase tax	Planning annuity is determined based on changes in land value arising from the establishment or amendments to the spatial planning provisions, as well as adjacent fees related to the infrastructure development of areas by the municipality.
	Tax on development rights	This is a tax levied on development rights in cases where the landowner does not have the right to freely dispose of his property.
	Penalty tax on land left vacant or inefficiently used	Charging a special land tax on undeveloped areas, calculated based on an estimated tax on the value of the property developed in accordance with the city's expectations (as expressed, among other things, in the Local Spatial Development Plan).
	Municipalisation of land	Municipalisation of land belonging to the State Treasury. The term often also understood as the purchase of land from private owners and expropriation for public purposes.
	Restrictions on land acquisition and ownership rights	Restrictions arising from planning regulations and agreements made during the disposal of land by the city.
	Expropriation for public purposes or – in some cases – for private investment	Expropriation means taking over land for public purposes with compensation. It can also be used as a tool to enlarge the municipal land resource in order to enable the implementation of the city's spatial policy – including building/creating reserves for future development projects.
	Public sector right of first refusal in land transactions	Right of pre-emption guaranteed by law or imposed by locally adopted solutions.
SUPPORTING	Creation of specialised organisational structures, including those improving the city's collaboration with the private sector	Establishing special units within municipal offices related to servicing investors and focused on close collaboration with them.
	Land information databases	These databases may include, among other things, the city's current investment offer and information on the scale of urbanisation in a given area. They may contain both data on the current legal and ownership status of plots of land, as well as investment intentions expressed by private or public entities.
	Detailed programmes for implementing land use policy	These programmes may take the form of action plans for individual areas or, for example, in relation to the development of transport infrastructure. These can range from multi-annual investment plans and revitalisation programmes for individual districts, as well as MASTERPLANS.

Groups of instruments	Name of instrument	Examples of solutions and applications
	Creating special institutions to support spatial development, both project-oriented and for wide-ranging cooperation with the private sector	These can be either municipal companies or separate budgetary units with a specific task. They can more easily engage in collaboration with the private sector and concentrate on fulfilling specific objectives.
	Collaboration with other partners that can support the city in creating the framework for spatial development policy, including entrepreneurs and research institutions	This collaboration is possible, for example, by undertaking joint debates, discussions and research initiatives to gather knowledge and develop the best possible solutions in a given field.
	Developed urban marketing, both in relation to the city as a whole and individual districts or single plots of land	Territorial marketing involves various informational and promotional activities aimed at investors (either concerning the entire city or specific areas), as well as marketing of adopted solutions to the local community.

## Project and venture implementation models

Urban development management instruments, especially planning tools, play a crucial role in the overall spatial management system. However, they are only a part of the whole range of activities. These instruments can help formulate a transformation concept and initiate subsequent actions (Izydor 2010: 188). Regardless of how urban development management tools and instruments are classified, it is essential to determine how they are used to implement specific land use tasks. This can be achieved through one of four task implementation models that involve the public sector (Lorens 2013: 98). The models of implementing projects and undertakings were developed based on an analysis of the degree of public sector involvement, both organisationally and financially. A key element of these models is the use of various public policy tools, outlined by deMonchaux, Schuster and Riley (1997). These tools serve as the foundation for instruments that support urban development, as detailed by Markowski (1999). This enables effective planning and implementation of urban initiatives that integrate different sectors and ensure efficient management of public resources. Additionally, these models allow for the active involvement of local communities in decision-making processes, which contributes to more inclusive and sustainable urban development. Furthermore, the analysis of public sector involvement helps to identify best practices and strategies that can be applied in different urban contexts, increasing the efficiency and innovation of the projects implemented.

Thus, among the possible models for the implementation of development projects, one can distinguish:

**Direct financing:** characterised by the highest degree of public sector involvement in the implementation of the project.

**Public-private ventures:** involving co-financing of investments by both the public and private sectors.

**Special regulatory zones:** based on the creation of special incentives for investors.

**Technical and professional assistance programmes:** providing necessary advice for potential investors at a low costs funded by the municipal or state budget.

The choice of the implementation model for a given project depends on the financial, legal and organisational situation of the public sector, and also has to take into account whether the existing governig body has adequate legal competence and resources to actively participate in the project's execution (Lorens 2013: 112). Regardless of the selected implementation model, the realisation of spatial policy intentions requires the use of various instruments of development control and the conduct of spatial management in a comprehensive, interdisciplinary and integrated manner (Izydor 2010: 187). In this process, two levels of **operational planning** should be distinguished:

- "Area-based" strategies for spatial development of the municipality or district: encompassing the entire area of the municipality or selected districts/areas.
- "Point-based" strategies for the implementation of individual spatial transformation initiatives: concerning small fragments of the city and specific urban planning projects (Izydor 2010: 192).

An example of the practice of their application in operational planning in the Polish context is the Municipal Revitalisation Programme (area-based strategy). There are also operational programmes created for documents such as development strategies. Examples include the "Gdańsk Development Program 2030", which was designed to facilitate the implementation of the municipality's development strategy ("Gdańsk 2030 Plus. City Development Strategy)". The programmes were developed "considering the substantive and procedural requirements defined in the Act of 6 December 2006 on the principles of conducting development policy (Journal of Laws of 2023, item 1259, as amended, item 1273). They outline the directions of action that will serve to achieve four strategic goals in the coming years: Green City, Shared City, Accessible City, and Innovative City. They describe in more detail than the Strategy the expected results and how they will be achieved. They also indicate the planned financial expenditures and the method for measuring the effects achieved. The city's development, directed towards the implementation of the vision outlined in the Strategy, will proceed in accordance with the directions of action that are elaborated upon in the Development Program 2030. The bases, directions and principles of development focus on the most important values for Gdańsk: cooperation, openness, mobility, education and the environment. However, the development subject, namely the city's inhabitants is the most important. Therefore, the actions of the Development Programs 2030 concentrate on the needs identified by the residents." (ibid, p. 4).



Fig. 8. Cover of the publication "Gdańsk Development Programmes 2030".



Fig 9. Cover of the publication "Gdańsk 2030 Plus. City Development Strategy."

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## Urban masterplans as a particular type of planning instrument

Urban planning plays a key role in shaping contemporary cities, identifying opportunities to meet the challenges of growing populations, climate change, and the pursuit of sustainable development. As previously mentioned, modern urbanism uses a wide range of planning instruments and tools that support effective management of urban space and enhance the quality of life for residents.

According to the systematics presented in the previous section of the study, a fundamental division into six groups of instruments for managing urban spatial development is adopted: **planning instruments**, market instruments, development financing, tax instruments, other legal instruments, and supportive instruments.

One of the basic group of instruments for managing urban development includes planning instruments, which can be classified (according to the previously outlined system) into those concerning: strategic planning, land use planning (e.g., land development plans), restrictions on building rights (e.g., decisions on building conditions), non-statutory planning, or the city's development priorities in relation to a specific location. They define, among other things, the principles of development, the location of green areas, or the distribution of technical infrastructure. These documents play a key role in creating a coherent and functional urban structure. From the perspective of the coordination of complex urban processes, comprehensive documents concerning multifaceted spatial development strategies and coordination plans for integrated initiatives deserve special attention.

**Development strategies**, on the other hand, can include documents such as mobility strategies or housing strategies. **Mobility strategies** are planning instruments that focus on the development of transport systems, promoting sustainable public transport, enhancing infrastructure for pedestrians and cyclists, and reducing dependence on cars. These strategies outline ways to reduce air pollution and traffic congestion, as well as improve accessibility to different parts of the city. Housing policies also play a significant role, determining how to ensure the availability of housing for different social groups. They also support the development of a diverse housing offer and encourage the construction of new, sustainable settlements, which is important for creating inclusive urban communities. Coordination plans for integrated projects can include documents such as: **urban masterplans** (e.g. masterplans in Warsaw: Miasteczko Wilanów, Port Praski, FSO

Żerań, Stare Świdry; masterplans in Wrocław: Nowe Żerniki, Oława waterfront, the Nadodrze district and Przedmieście Oławskie; used in the revitalisation process such as the masterplans in Łódź – e.g. the masterplan for the World Horticultural EXPO area; the masterplan for the new district of Miasteczko Siewierz Jeziorna); **long-term district development strategies** (e.g. the development strategy for the municipality of Warsaw-Bielany until 2014); **social planning instruments**, such as **microstrategies** (e.g. the spatial-social planning microstrategy for the districts of Gdańsk-Wrzeszcz, Gdańsk-Osowa, Gdańsk-Orunia, and Gdańsk-Ujeścisko as part of the Quo Vadis Gdańsk project, implemented by, among others, the Gdańsk Foundation for Social Innovation) or **district development programmes** (e.g. the development programme for the Rembertów district of the city of Warsaw until 2020). All selected instruments concern the coordination of activities by multiple institutions (both public and private). They are based on sets of various complementary elements.

In the classification presented above, **urban masterplans** hold a special place. A masterplan is the most common term for a document containing a comprehensive vision for a given area and a basic outline plan for the area. Due to these characteristics and the increasing frequency of these instruments in this study, it was decided to analyse nine representative masterplans in more depth.

The masterplan (in urban planning according to the definition used by Weronika Mazurkiewicz, 2023) is "an instrument used to organise a large number of individual pieces of information about an area and to illustrate decisions made by designers. This document serves as a basis for creating a coherent overall strategic goal and operational objectives for the transformation. It also provides the foundation for establishing an action plan necessary to achieve the designated goal and serves as a basis for dialogue, public consultations, and collaboration, encompassing strategic planning, spatial planning, social activities, and financial aspects" (ibid, 20). On the other hand, according to Łukasz Pancewicz, who presented his definition of this instrument during the seminar "Architecture of the Young City" held on 13-14 March 2024 at the European Solidarity Centre in Gdańsk, the masterplan is a conceptual document regarding land development on an urban scale. This document covers all or part of a specified area, presenting the desired vision for its transformation. In particular, it contains the layout of buildings and land use that reflects the final state of the planned changes. Furthermore, the masterplan serves as a management tool for the transformation of space, which is its second important distinctive feature (conference recording, 2024, source: gdansk.pl/bam).

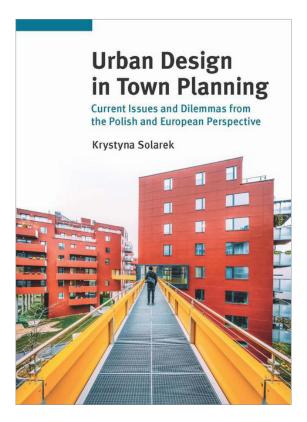
The effectiveness of the masterplan as a tool for spatial development largely depends on the scale and scope of agreements achieved through the collaboration of various individuals and institutions involved in its preparation. The process of preparing the masterplan, with the participation of multiple stakeholders, can be metaphorically compared to negotiations around a table. Each stakeholder, who seeks to bring about a common change in a segment of urban space, contributes to the development of a vision for transformation. This contribution may include properties, financial resources, ideas, and most commonly, capital and property. The optimal solution is a situation in which properties and capital are provided collectively by all dialogue partners, ensuring the best outcomes in the preparation of a spatial and programmatic concept. In situations where the masterplan is intended to act as an instrument for initiating changes, and a specific investor has not yet been identified, the involvement of a wide range of individuals and entities interested in the matter becomes a particularly important document.



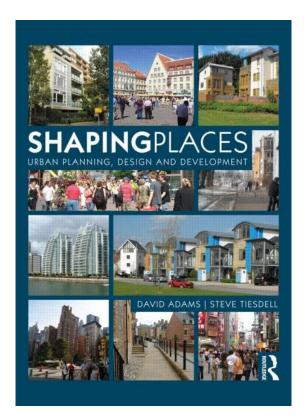
Fig. 10. Banner advertising the "Architecture of the Young City" conference

Masterplans are a significant part of the set of urban development management instruments, playing a crucial role in the process of shaping the city's space. As indicated, there are many types of masterplans and different interpretations of the term – from large-scale urban planning concepts to studies integrating sets of urban planning guidelines. In the Polish context, they are often compared to local spatial development plans, which are local law focusing mainly on functional aspects, whereas masterplans are more flexible and also take into account spatial form. The shaping of space using masterplans goes beyond traditional planning frameworks. It encompasses not only aspects of function but also (in the form of concepts) spatial form, as discussed by Krystyna Solarek (2019), David Adams and Steve Tiesdell (2012), and Sebastian Loew (2012). Various types and practices of masterplanning, as well as different spatial situations, are thoroughly described by Lucy Bullivant (2012) in her book "Masterplanning Futures".

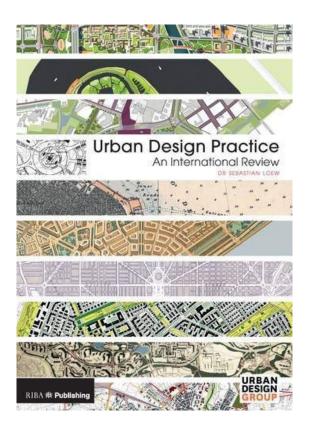
Masterplan documents are developed for very diverse spatial situations and in various geographical, cultural, and socio-political contexts. The practices of their preparation have been collected and elaborated upon, among others, in a work edited by Husam AlWaer and Barbara Illsley. The result of their efforts is the book "Rethinking Masterplanning: Creating Quality Places" (2017). This book is a collection of essays concerning a new approach to masterplanning that focuses on creating high-quality public spaces. The editors of this volume highlight the changing approaches to urban planning and the need for flexibility and collaboration in the masterplanning process. The book discusses various aspects of establishing masterplan agreements, including theoretical frameworks, practices of community collaboration, the role of clients in the planning process, and the importance of sustainable development. The authors propose that masterplans should be more inclusive, holistic, and adaptable to changing social and environmental conditions. This book captures the diverse perspectives and experiences of experts in architecture, urban planning, and design, making it a significant contribution to the discussion on the future of masterplanning in the context of the increasing urban needs of contemporary cities.



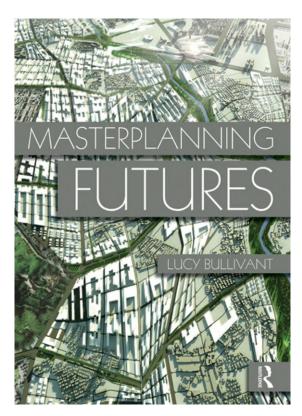
**Fig. 11.** Cover of Krystyna Solarek's publication "Urban Design in Town Planning. Current Issues and Dilemmas from the Polish and European Perspective" (2019)



**Fig. 12.** Cover of David Adams and Steve Tiesdell's publication "Shaping Places. Urban Planning, Design and Development" (2012)



**Fig. 13.** Cover of Sebastian Loew's publication "Urban Design Practice. An International Review" (2012)



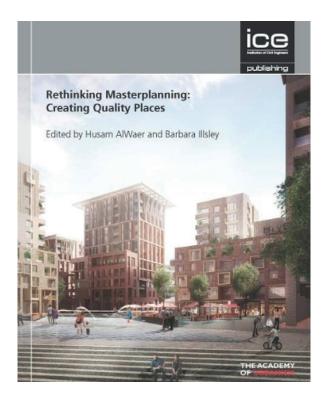
**Fig. 14.** Cover of the publication by Lucy Bullivant "Masterplanning Futures" (2012)

MAPPING OF PLANNING INSTRUMENTS 25

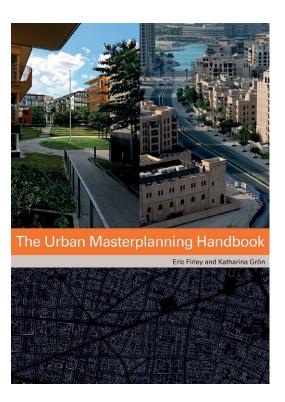
Additional information on techniques and methods for creating masterplans and urban planning guidelines can be found in the study by Eric Firley and Katharina Grön (2014). Their publication, "Urban Masterplanning Handbook," offers a comparative analysis of the development of various cities and the application of masterplans worldwide. This book describes 20 case studies, which are presented rather according to their size than date or geographical location, allowing design professionals, developers, urban planners, and students to make informed organisational and formal comparisons. The case studies cover a wide range of contemporary and historical masterplans from Europe and North America. The book is particularly useful for designers, developers, urban planners, and students who wish to deepen their understanding of modern urban planning methods and their practical applications.

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In the context of the interdisciplinarity of planning, including socio-political and environmental issues, these topics have been addressed by Peter Bishop and Lesley Williams (2019) as well as Ombretta Romice, Sergio Porta, and Alessandro Feliciotti (2020). The monograph "Planning, Politics and City Making: A Case Study of King's Cross" by Peter Bishop and Lesley Williams provides a detailed analysis of the complex urban processes involved in the redevelopment of the King's Cross area in London. The publication is a critical study of conventional planning theories, highlighting the intricacies of negotiations and the diversity of interests among the stakeholders involved. The authors highlight that the negotiation process concerning King's Cross lasted six years, involving exhaustive discussions and extensive technical documentation, which ultimately led to the project's approval by the committee. The book details the transformation of the post--industrial King's Cross area, with a particular focus on the investment process and the shaping of new public spaces, such as Granary Square and St. Pancras Square. In analysing the revitalisation, the authors examine how the project integrates elements of nature, especially water, to improve the quality of urban space while preserving the historical identity of the neighbourhood. In a broader context, the authors juxtapose this case study with the urban planning literature, drawing attention to the criticism of the lack of systematic approaches in other regions, where the influence of political and cultural factors leads to chaotic and inconsistent urban landscapes.



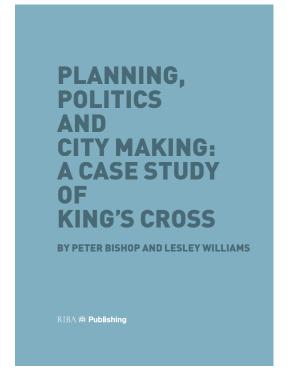
**Fig. 15.** Cover of Husam AlWaer and Barbara Illsley's publication "Rethinking Masterplanning: Creating Quality Places" (2017)



**Fig. 16.** Cover of Eric Firley and Katharina Grön's publication "Urban Masterplanning Handbook"

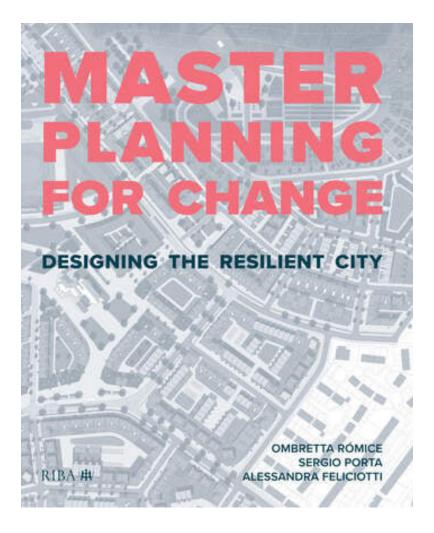


**Fig. 17.** Cover of Harald Bodenschatz and Celina Kress's publication "Kult und Krise des großen Plans im Städtebau" (2017)



**Fig. 18.** Cover of Peter Bishop and Lesley Williams' publication "Planning, Politics and City Making: A Case Study of King's Cross" (2016)

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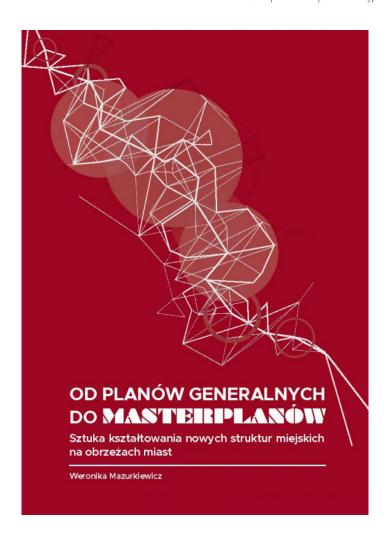


**Fig. 19.** Cover of the publication by Ombretta Romice, Sergio Porta and Alessandra Feliciotti "Masterplanning for Change: Designing the Resilient City" (2020)

In contrast, the book "Masterplanning for Change: Designing the Resilient City" by Romice, Porta, and Feliciotti (2020) analyses the urgent need for cities to adapt to the challenges of climate change and rapid urbanisation. The authors emphasise the necessity of a practical approach to masterplanning, viewing cities as complex adaptive systems that require flexible and innovative design strategies. They also highlight the crucial role of interdisciplinary collaboration between architects, urban planners, and communities in creating resilient cities. The book suggests that adaptability is central to future urban development.

The practice of masterplanning in Poland, both from a contemporary and historical perspective, was described in detail by Weronika Mazurkiewicz (2023) in the aforementioned publication. The monograph titled "Od planów generalnych do masterplanów. Sztuka kształtowania nowych struktur miejskich na obrzeżach miast" takes up the issue of creating cohesive spatial structures in Poland, with a particular focus on the development of peripheral districts after 1989. The author analyses holistic planning, based both on planning documents and urban practices, highlighting the need to coordinate the development of neighbouring districts through masterplans. This approach makes it possible to integrate different strategies, visions, and development concepts, thereby preventing the emergence of empty, undeveloped spaces between expanding settlements.

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**Fig. 20.** Cover of Weronika Mazurkiewicz's publication "Od planów generalnych do masterplanów. Sztuka kształtowania nowych struktur miejskich na obrzeżach miast" (2023)

The publication also addresses the issue of uncontrolled suburbanisation, which poses one of the greatest challenges for spatial planning in Poland. The author promotes integrated and flexible planning, which takes into account both the needs of modern urban structures and the principles of sustainable development.

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## Discussion of selected case studies of urban masterplan applications

**Masterplans** play a key role in spatial development management, integrating various urban functions and providing opportunities for sustainable development of regions, cities, and districts. This section of the study discusses contemporary examples of European practices in relation to masterplanning, as well as selected Polish examples of the modern application of masterplans.

Tab. 2. Examples of the use of masterplans outside Poland

City	Start of work on masterplan – planned end of construction	What document / MASTERPLAN	The area covered by the Masterplan
Hafencity/ Hamburg/ Germany	1998- 2025	masterplan HafenCity (2006, 2009, 2010)	155 ha
Aspern/Vienna/Austria	2003- 2028	Aspern seestadt masterplan	240 ha
Nordhavn/Copenhagen/ Denmark	2008- 2048	Nordhavn masterplan	360 ha
Västra Hamnen (Western Harbour)/ Malmö/ Sweden	2001-2035	Western Harbour masterplan	187 ha

Tab 3. Examples of the use of masterplans in Poland

City	Start of work on masterplan – planned end of construction	What document / MASTERPLAN	The area covered by the Masterplan
Miasteczko Wilanów/ Warsaw/Poland	1996-2000	Masterplan of Miasteczko Wilanów	169 ha
Nowe Żerniki/ Wrocław/ Poland	2015- 2025	Masterplan of Nowe Żerniki	40 ha
Port Praski//Warszawa/ Poland	2010-2022	Masterplan of Port Praski	40 ha
STARE ŚWIDRY/Warsaw/ Poland	2018- 2040	Masterplan of Stare Świdry	120 ha
FSO PARK/Warsaw/Poland	2019- 2050	Masterplan of Żerań FSO and FSO PARK ŻERAŃ	62 ha

Both of these groups of examples are related to the creation of urban districts with a compact, multifunctional character, in line with the concept of the 15-minute city. The examples described below show how planning with documents such as masterplans can help to effectively shape the spatial development of cities, promote sustainability, and improve the quality of life for residents. Each of these projects illustrates different approaches to the operational urban management, highlighting the importance of integration, planning, and innovation in creating modern urban spaces. The adjacent table (Table 2) presents a synthetic summary of information regarding the discussed masterplans, with a more detailed discussion provided later in this chapter.

## 4.1. HafenCity, Hamburg

## Context

HafenCity is a new 155-hectare district, being developed based on a masterplan on the former port lands of Hamburg. In Hanseatic times, the area now known as HafenCity was an integral part of the city. By the end of the 19th century, a complex of granaries was developed in this area, which held the status of a free trade zone. At this time, the city lost its direct access to the Elbe River due to the construction of these granaries and warehouses facilities in place of the former tenement houses. In the 1990s, due to the development of container transport, the port on the Elbe ceased to function. At that time, the city authorities decided to revitalise the post-port area. In 1998, a company was set up to oversee their development.

The premise will expand the existing city centre by approximately 40%. The construction is expected to be completed by 2025. The revitalisation of the post-port area from the Hanseatic period includes a project for a district accommodating 12,000 residents, with the potential to create jobs for 40,000 people. In total, nearly 2 million m² of gross floor area will be developed. In 2000, the concept for the development and revitalisation of the HafenCity area (drafted as a masterplan) was adopted, located south of the historic granaries of Speicherstadt. However, this document is not a legal regulation. The process of creating the masterplan was initiated by an urban planning competition held in 1998. The primary aim in implementing the masterplan was to create a part of the city rather than a housing estate. The HafenCity area was divided into thirteen distinct quarters. Due to the risk of flooding, the inclusion of residential functions in this area posed a challenge. In 2010, a public debate took place, resulting in revisions to the master plan (including urban planning competitions, landscape and architectural competitions).

## Masterplan

The first masterplan was prepared on the basis of the winning design by the Hamburgplan and Kees Christiansee/Astoc studio team, which was selected in 1998 in an urban planning competition. The document was adopted by the Hamburg Senate on 29th February 2000. It consists of drawings and text. It outlines the development goals for the HafenCity district and the land use plans for the individual development groups within its boundaries. The masterplan establishes the basis for shaping the entire HafenCity area, and architectural and urban planning competitions are being held for subsequent sections. The document includes conceptual designs for individual districts, spatial planning documents, as well as architectural concepts for specific buildings (HafenCity Hamburg 2017).



Fig. 21. Visualisation of the HafenCity 2006 masterplan. Source: https://www.hafencity.com/

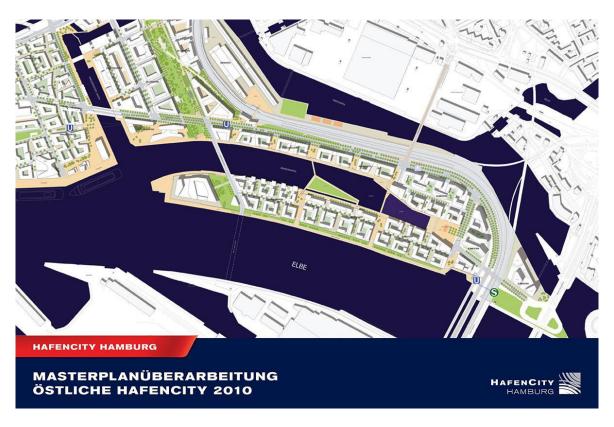


Fig. 22. HafenCity Masterplan 2010. Source: https://www.hafencity.com/en/overview/masterplan

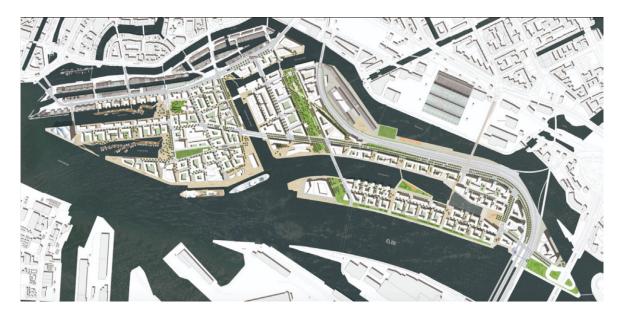


Fig. 23. Masterplan 2010. Source: Visualization © ASTOC/KCAP Architects & Planners/Hamburgplan



Fig. 24. Construction progress of the 2023 Hafencity district. Source: https://www.google.com/maps

The formula and provisions of the masterplan are open for change and the document has already been updated several times (including in 2006, 2009, and 2010) (Pancewicz 2012). In 2010, an intensive public debate took place, as a result of which the urban development assumptions of the district were redesigned. In the masterplan the area of the district was divided into 13 quarters. Each of them was designed in an individual, distinctive manner to achieve the greatest possible diversity within the district. The functions of the buildings, their heights, and typologies were specified. To counteract flooding, which was the greatest challenge for incorporating residential functions in this area, it was decided to raise the ground level by two metres (it is now to be 7.5 metres above sea level).

The district was planned in such a way that it could become a symbol of modernity and set new standards in residential and office architecture, while simultaneously preserving the historical identity of the city. Key objectives included the creation of diverse building quarters, the elimination of environmental pollution, and the integration of new technologies and energy-efficient solutions. The masterplan emphasised improving the quality of life through the development of green spaces and the limitation of suburbanisation. The urban composition of HafenCity was to combine the new urban fabric with the historical layout of the inner city, with the historic Speicherstadt district becoming a key element. The Überseequartier, the main commercial area, was designed as a multifunctional space that combines retail, offices, and residential units. The 2010 masterplan further increased the number of flats, workplaces and public spaces, highlighting the idea of HafenCity as a self-sustaining "city within a city".

## 4.2. Aspern, Vienna

## Context

Aspern Seestadt (eng. Aspern Urban Lakeside) is currently part of the extensive district of Vienna, Donaustadt (22nd district). This area is undergoing intense urbanisation processes and is one of the three largest investment zones in Europe. The Donaustadt district, with an area equivalent to eighteen small towns, has recently been characterised by a low level of urbanisation and a low building density. In 2007, the city authorities made a strategic decision to transform the former interwar airport area with the aim of creating a strong urban corridor connecting Vienna and Bratislava. The masterplan, developed by Tovatt Architects & Planners (Sweden), envisages the construction of a self-sufficient district, representing a modern, sustainable element of Vienna's urban fabric.

## Masterplan

The document has been developed on the basis of the numerous assumptions. A key element of the project is the network of public spaces, which has been designed with future use by all residents in mind. They were intended to become not only vibrant spaces but also to ensure privacy and safety of their users. Illustration no. 25 shows the concept of the structure division outlined in the masterplan.

The process of developing the masterplan began in Vienna in 2003, and the first public consultations were held as early as 2004. At the same time, three public representatives were appointed to play an active role in the development of the document. In 2004, the company Wien 3420 Aspern Development AG was established and entrusted with the preparation of a development concept for the 240-hectare area. This site, located in the central part of the 22nd district of Vienna, is crucial due to its location – it has direct connections to the city centre, the main train station, and the airport, as well as to Bratislava, the capital of Slovakia. The competition for the development of the masterplan was concluded in 2005 (illustration 24), with Swedish urban planner Johannes Tovatt being declared the winner. The masterplan, created by Tovatt Architects & Planners, was officially approved by the Vienna City Council on 25 May 2007 (Wien 3420 Aspern Development 2017).

The masterplan for Aspern envisioned the construction of a new, multifunctional district in Vienna. According to the plan, the area was to include housing, offices, services, and zones for industry,

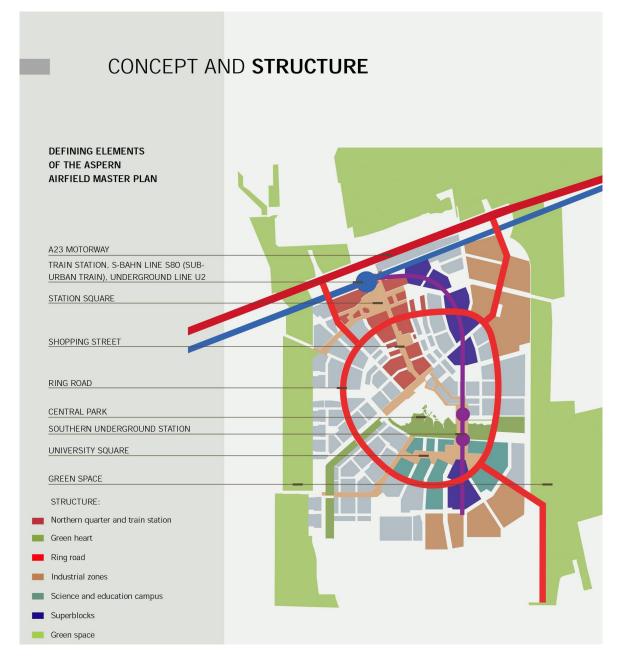


Fig. 25. Aspern Airfield masterplan concept. Source: https://www.aspern-seestadt.at/

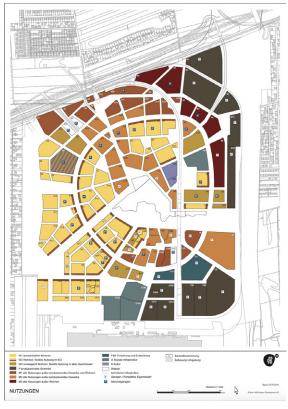
science, and education. The anticipated total usable area of the buildings was 2.2 million m<sup>2</sup>. The urban plan was inspired by Vienna's famous Ringstrasse and the classic, compact architecture of European cities. The new district was designed to accommodate 10,500 apartments, which would house approximately 20,000 residents, and it is expected to create around 20,000 jobs, with 75% allocated to services and 25% to industry and crafts. The completion of the entire project is scheduled for 2028, and the work has been divided into three phases (Wien 3420 AG, 2012). The masterplan document contains many layers, drawings, and diagrams. Each of the most important urban issues is illustrated on a separate figure. Additionally, after the masterplan was completed, a book (toolkit) was published that describes the process of creating this document (Seestadt Publications, 2022). Due to the detailed nature of the documentation, the authors have decided to include only a selection of drawings from the masterplan in the paper (illustrations 27-28).



**Fig. 26.** Visualisation of the whole development - Aspern Airfield masterplan. Source: https://www.aspern-seestadt. at/wirtschaftsstandort/planung\_wirklichkeit/der\_masterplan



**Fig. 27.** Division into public spaces and buildings. One of the boards included in the Aspern Seestadt masterplan, 2017



**Fig. 28.** Functional division. One of the boards included in the Aspern Seestadt masterplan, 2017

#### 4.3. Nordhavn, Copenhagen

#### Context

Nordhavn is currently the largest metropolitan development project in Northern Europe. It fits in with Copenhagen's historical strategy of expanding the city towards the sea. Nordhavn's urban concept is based on the creation of densely built "urban islands", treated as separate planning units. The masterplan for this area was conceived as a flexible and adaptable guide, intended to inspire future urban planners. This project, which includes Denmark's first urban area certified with a platinum DGNB rating, adopts a holistic approach to urban planning, responding to current environmental challenges and adapting to the needs of present and future generations. Over the next 40 years, Nordhavn is expected to become a vibrant coastal city with 40,000 residents and another 40,000 with access to jobs.





**Fig. 29 a, b.** Comparison of the land development from 2008 and the district development project included in the masterplan. Source: https://www.cobe.dk/projects/nordhavn



Fig. 30. View of Nordhavn district 2024. Source: https://www.cobe.dk/projects/nordhavn

#### Masterplan

The Nordhavn Masterplan is an urban development project commissioned by CPH City & Port Development. The study outlines the transformation of a former industrial port area of 360 hectares into a modern urban district. The masterplan envisages the development plans, the design of public spaces, streets, promenades, the landscaping of green areas, as well as the construction of cycling infrastructure and metro stations. The principles of the masterplan cover several key aspects, as illustrated in the table below:

Tab. 4. Principles of the Nordhavn masterplan. Source: https://www.cobe.dk/projects/nordhavn



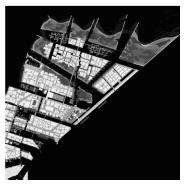
The district is to be aligned in size with the rest of Copenhagen's districts.



The planned additional loop added to the city's metro line will connect Nordhavn with the city centre.



A public transport loop is connected to a cycle corridor that links Nordhavn with the city's larger cycling network



The functional plan of the structure from the winning competition proposal of 2008 serves as the basis for the ongoing development of the masterplan. The plan envisions Nordhavn as an urban archipelago of small islands connected by pedestrian infrastructure and elements of greenery.

The division of Nordhavn into islands facilitates a phased development plan that progresses island by island, preventing urban sprawl. "Future generations will have the opportunity to influence the architecture of each island over time", says Dan Stubbergaard, architect and founder of the Cobe studio. The masterplan for Nordhavn integrates residential, commercial, and recreational spaces in close proximity (a 5-minute city). This action strengthens community cohesion, supports 24-hour urban life, and reduces the need for commuting. The plan promotes sustainable mobility through extensive pedestrian and cycling paths as well as efficient public transport, with an emphasis on walking, cycling, and the use of electric vehicles. An abundance of green spaces and seafront promenades are expected to enhance residents' well-being and create opportunities for social interaction. The concentration of local businesses, trade, and services within close proximity allows for reduced distances to daily needs, stimulates the local economy, and strengthens community identity. Additionally, in Nordhavn, smart city technology is utilised for effective traffic management, waste management, and energy-efficient buildings, which increases the district's resilience.



**Fig. 31.** Copenhagen International School. The district's waterfront with an intelligent building as a dominant feature. Source: Archive of Weronika Mazurkiewicz

The urban planning of Nordhavn is based on a scale-diverse approach, allowing for flexible adaptation to changing needs and challenges. At the "extra-large" level, the project envisions the development of the district through the construction of individual urban islands, enabling a responsive approach to unforeseen needs and the ability to adjust to emerging challenges over

time. This vision acts as a tool and set of principles to guide development in the years to come. At the general level, the local plan for the interior of Nordhavn defines the structure of the development and the possibilities in the initial phase of development. The plan divides the development into small units, which encourages the creation of intimate urban spaces and ensures access to the water from every building plot. At the detailed level, in the early stages of development, the vision focuses on constructing the interior of Nordhavn. The streets and urban spaces have been designed and built as intimate and pedestrian-friendly environments, which promotes their functionality and the quality of life of residents. This approach, combining different levels of planning, enables the realisation of sustainable and dynamic urban development while responding to the changing conditions and needs of the community.

#### 4.4. Western Harbor, Malmö

#### Context

The Western Harbour is an area of 175 hectares located to the north-west of the city centre of Malmö, the third largest city in Sweden (with a population of 318,000 in 2014 and a metropolitan area of approximately 700,000 residents) (Anderberg 2012).

The area stretches across the Öresund Strait and Universitetsholmen (University Island) and is located between the peninsula and the old city centre of Malmö, which is surrounded by canals. The Western Harbour peninsula developed in the late 19th century as the site of the Kockums shipyard.



**Fig. 32.** Turning Torso in the center of the district designed by Santiago Calatrava. Source: Archive of Weronika Mazurkiewicz

Like the rest of the 10 km<sup>2</sup> Malmö port area, this location was created by pouring earth into the sea. The peninsula emerged in the late 19th century as the site of the Kockums shipyard, which became one of the world's leading producers of tankers until the oil crisis of 1973. Malmö, which had been steadily developing since the early 19th century, experienced a recession in the 1970s, losing 10% of its population. A decline in the tax revenue base and the migration of wealthier groups to the suburbs weakened the city. The Kockum shipyard was taken over by the Swedish state and closed in 1986. Since the mid-1990s, Malmö has begun to revitalise, driven by immigration, education, trade, finance, and culture. The Western Harbour, with the Turning Torso skyscraper, has become a symbol of the city's new development.



**Fig. 33.** Masterplan of the entire Western Harbour district, highlighting the Bo01 housing estate. Source: https://www.wearemunicipal.co.uk/thinking/malmo-vastra-hamnen



**Fig. 34.** Existing development of Western Harbour with the Bo01 housing estate marked - as of July 2024. Source: Archive of Weronika Mazurkiewicz

The Western Harbour project was initiated in response to the crisis in Malmö. Following the elections in 1994, the Social Democratic Party returned to power, restoring political stability to the city. Malmö, a traditional stronghold of the Social Democrats, needed a new development strategy after the recession of the 1970s and 1980s. The closure of the Saab factory in 1991 highlighted the necessity for the city to adopt a new approach to development.

#### Masterplan

Mayor Ilmar Reepalu initiated the "Vision" project, aimed at transforming Malmö into a competitive city in the Öresund region. An analysis of the project revealed that the city has strengths such as high population density, cultural heritage, parks, canals, and beaches. The construction of the Öresund Bridge, which began in 1995, was also a positive factor. The masterplan involves the development of the entire Western Harbour district, but the changes started with the experimental design of the Bo01 housing estate.

#### **Housing Estate Bo01**

The idea of organising a housing exhibition in Malmö was conceived to stimulate investment and construction, as well as to attract affluent residents. In 1996, Malmö won the competition to host the exhibition, surpassing other candidate cities. It was initially planned for Limhamn but was ultimately relocated to the Western Harbour. The exhibition, known as Bo01 – The City of Tomorrow, was launched in 1998. The main sponsors were the City of Malmö, the Swedish government, the company Sydkraft (now E.ON), and the European Union. The opening, originally scheduled for 2000, was postponed to 2001 to coincide with the first Swedish Presidency of the EU Council.

For the exhibition, the construction of "eco-neighbourhoods" was planned, featuring around a thousand new homes as a leading example of sustainable urban development. The vision was to create efficient, sustainable systems for an attractive and comfortable compact city, which would serve as a model for future urban development. Unlike previous proposals for urban solutions, residents should not have to give up comforts to reduce their environmental impact. Instead, the environmental benefits were intended to arise from the application of advanced and tested technologies and solutions that were to be universally applicable. The intention was for the experiences from the "eco-neighbourhoods" to inspire cities around the world. Following the conclusion of the Bo01 housing exhibition, the development of other parts of Western Harbour began. Around Dockan, the gigantic dry dock of the shipyard, a marina has been established, and the old shipyard buildings have taken on new functions related to the university, schools, the media industry, and other commercial ventures. New, densely built residential areas and office buildings began to spring up in this region. To the west of Dockan, Stapelbäddsparken was developed – a creative centre for youth and street culture, featuring a large skate park at the former shipyard slipway. Meanwhile, in the southern part of the peninsula, the transformation of sparsely built-up industrial areas into denser, mixed-use neighbourhoods in the Hamnporten area is underway. New residential and commercial buildings are emerging in connection with the World Trade Center, and the most ambitious project is Masthusen, intended to create a vibrant business and service centre inspired by European city centre layouts, certified by BREEAM Communities.

The development of Western Harbor is still ongoing and is not yet complete. Although some key residential areas are still under development, Western Harbor already serves as a new, dynamic, and creative showcase for Malmö. The area's international recognition has helped to improve the city's image and increase the confidence of its authorities and residents, as well as increasing



Fig. 35. Masterplan Bo01. Author: Peter Stahre (2008)



**Fig. 36.** Bo01. View of the district from above: https://www.google.com/maps



Fig. 37. Eco-neighborhood Bo01. Source: Archive of Weronika Mazurkiewicz

its ambition for sustainable development and cooperation with developers. In 2014, Western Harbour had a population of 7,300 residents and over 12,000 jobs, which was already double the number of employees that the former shipyard had at its peak.

The history of the area resembles the fate of many Polish cities during the economic transformation. Nevertheless, the far-reaching actions taken by the Malmö authorities differ from the responses of other cities. Instead of shifting the responsibility onto the residents, the authorities developed an ambitious, long-term development plan aimed at transforming the industrial city into a knowledge city. Twenty years after the initiation of the housing exhibition idea and the conversion of the port area in Malmö, it is difficult to state anything other than that Bo01 and the conversion of the Western Harbour have brought very positive impulses to the city. Along with the university, the Øresund Bridge, and improved connections to Copenhagen, these factors were important for the transformation of the city's development. Western Harbour has become a new façade for Malmö, where the city can present itself as it wishes to be seen: dynamic, creative, and at the forefront of international developments in vibrant and sustainable urban living. This has also convinced developers to be more interested in investing in the city and has improved collaboration between developers and the municipality.



Fig. 38. View of Western Harbour. Source: Archive of Weronika Mazurkiewicz

Starting with Bo01, the city, through partnerships with developers and other companies, has been able to create a new attractive district with a long list of interesting projects in terms of planning, architecture, environment, and infrastructure. The Western Harbour includes many examples of how densely built cities can be named both 15-minute, energy-efficient, and green areas. International interest and recognition for this area have been of immense significance to the city. Numerous groups from various parts of the world visit Malmö to see Bo01 and the Western Harbour, new projects in Hyllie on the outskirts, or revitalisation projects such as Eco-city Augustenborg. An increasing number of delegations are visiting Malmö to learn about the "transformation of the city from an industrial town in crisis to a knowledge city," as it is referred to in the official narrative. This has been instrumental in the development of a new image and self-confidence in Malmö, which in the Swedish context still often stands out as a city with many unresolved issues related to poverty, crime, poor school performance, and the integration of immigrants. International recognition has stimulated the sustainable development agenda and significantly increased the city's ambitions. Many initiatives and projects, along with international exposure, have also contributed to the development and modernisation of the municipality's environmental planning and administration (Anderberg 2012).

#### 4.5. Miasteczko Wilanów, Warsaw

#### Context

Miasteczko Wilanów is a residential estate located in the Wilanów district of Warsaw. Bounded by Przyczółkowa Street, Wilanowska Avenue, and the Southern Bypass of Warsaw, it covers an area of 169 hectares. Developers plan to construct 20,000 to 30,000 apartments, which is expected to provide accommodation for 20,000 residents in total. Construction work began in 2002 when Prokom Investments took over the land from the Warsaw University of Life Sciences.

#### Masterplan

After 1989, the first masterplan implemented in Poland was the masterplan for Miasteczko Wilanów. The history of this project dates back to 1992, when the spatial development plan for Warsaw was adopted, designating the Wilanów fields for residential and service development. In 1996, a competition was held to develop the area, which was won by the DJiO team (Paweł Detko, Piotr Jurkiewicz, Michał Owadowicz), proposing the concept of a garden city. The results of the competition were incorporated into the 1999 "Study of Conditions and Directions for Spatial Development of the Municipality of Warsaw-Wilanów", which ultimately approved the designation of the area for development. Two years later, local spatial development plans were adopted for Wilanów Zachodni and the Forecourt of the Wilanów Palace. In 1998, the Prokom Group acquired 169 hectares of land in Wilanów Zachodni, part of a larger area of 420 hectares, located along Klimczaka, Przyczółkowa, and al. Wilanowska streets. In 1999, Prokom hired urban planner Guy Perry as the chief urban designer for Miasteczko Wilanów.

Originally, the project envisaged the creation of a coherent, multifunctional urban structure that would be an integral part of Warsaw and accommodate more than 20,000 residents. The masterplan, prepared by the firm IN-VI, was based on the principles of new urbanism, sustainable planning, and adaptation to the needs of future inhabitants. The leading idea was to create a self-sufficient district with diverse functions (mixed-use), grounded in the concept of a "city within a city."

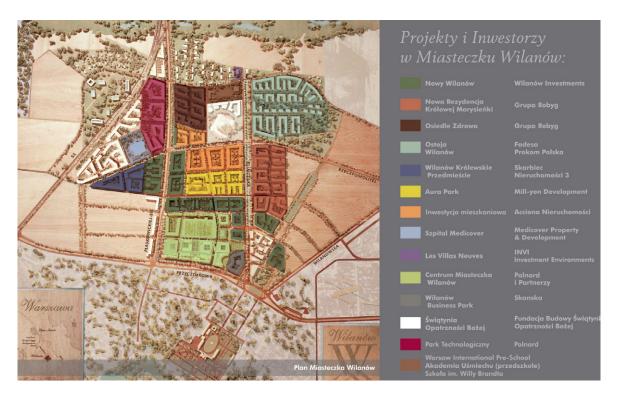


Fig 39. Projects and Investors involved in the construction of Miasteczko Wilanów. Source: IN-VI Company Archives



**Fig. 40.** Model of Miasteczko Wilanów made based on the masterplan. Source: Archive of Weronika Mazurkiewicz

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The main idea – a return to traditional urban planning that promotes a compact structure friendly to pedestrians and cyclists influenced subsequent elements of the project. To ensure architectural diversity, several developers and the architectural firms working on their behalf were engaged in the development of the district, with each designing a different quarter of buildings, thereby creating a coherent but varied urban structure. In Miasteczko Wilanów, space was planned for a town hall, a cultural, commercial, and entertainment centre, as well as cultural, recreational, office, and religious zones. The backbone

of the district consists of a grid of streets with building quarters that form solid façades along the streets and, internally, green courtyards for residents. The spatial layout is based on historical and newly defined compositional and visual axes (Wilanowska Avenue, the Royal Axis, Rzeczypospolita Avenue, Klimczak Street), creating what is known as a "chicken's foot" (fr. la patte d'oie). The masterplan (figure 39) also designates two main landmarks: the Wilanów Palace and the Temple of Divine Providence, near which the streets of Franciszek Klimczak, Cardinal Primate August Hlond, and Rzeczypospolita Avenue converge (Mazurkiewicz 2023).

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#### 4.6. Nowe Żerniki, Wrocław

#### Context

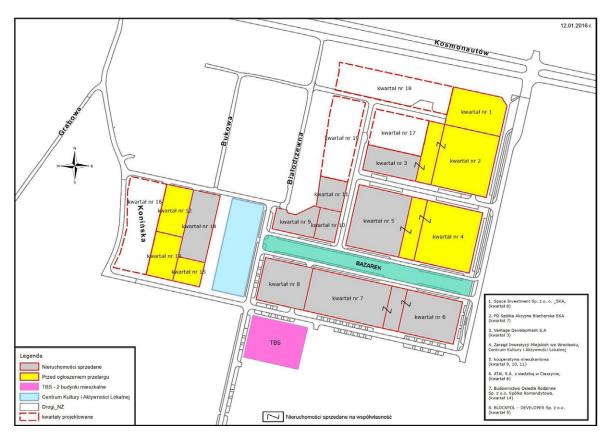
In 2009, during a visit by members of the Polish Chamber of Architects to the site of the historical WUWA exhibition in Wrocław from 1929, the idea of creating a modern, model housing complex was born. During this site visit, the building intended for the new headquarters of the Chamber of Architects was also viewed. The condition of the model kindergarten (from the early 20th century), which was destroyed by fire (for unexplained reasons) in July 2006, highlighted the need for its reconstruction. In 2009, an exhibition celebrating the 80th anniversary of WUWA was also held at the Museum of Architecture in Wrocław, which served as inspiration for the creation of a new housing complex based on this historic prototype.

During an interview conducted in July 2015 by one of the authors of this study, architect Zbigniew Maćków explained that the anniversary of the establishment of the WUWA housing estate prompted the architectural community to reflect on the possibilities of creating something equally significant under contemporary conditions. In 2010, during a meeting with the Mayor of Wrocław, Rafał Dutkiewicz, the city architect Piotr Fokczyński, the former head of the Lower Silesian Regional Chamber of Architects of the Republic of Poland, Andrzej Poniewierka, and Zbigniew Maćków, a decision was made to construct a new housing complex inspired by WUWA. The meeting also focused on the reconstruction of the former kindergarten at 18 Wróblewskiego Street, which was intended to function as a training and information centre for the Lower Silesian Regional Chamber of Architects of the Republic of Poland. Mayor Dutkiewicz then posed the question of whether it is possible, in contemporary realities, to create a coherent, holistically designed building complex along the lines of WUWA. Zbigniew Maćków decided to take on this challenge by coordinating the construction of a modern housing complex for the 21st century. This was the first undertaking of its kind in Poland, both in terms of the architectural exhibition formula and the design process implemented. The city mayor proposed organisation of a new exhibition of a similar nature, aimed at showcasing how a complete, fully equipped housing complex, characterised by diverse and high-quality architecture, could be built. The project was also intended as a response to the problems associated with the spatial crisis in Poland and the lack of capacity to create coherent urban structures.

#### Masterplan

The Chamber of Architects of the Republic of Poland, in collaboration with the Municipal Office in Wrocław, coordinated the implementation of the masterplan, engaging over 40 top architectural studios from Lower Silesia. This team developed an integrated urban concept (Masterplan), organising workshops involving experts from various fields, developers, and residents of the existing part of the estate. Based on the collaboratively developed concept, the Wrocław Development Office prepared a draft of the local spatial development plan for an area of approximately 40 hectares. Following the adoption of the spatial development plan, the areas designated for residential construction were divided into plots with diverse purposes, each receiving an original conceptual design prepared by a different architectural studio.

In the next step, the municipality sold plots of land to developers, who in turn committed to carrying out the construction according to the developed concept. At the same time, the city constructed the entire public infrastructure, including streets, squares, utility networks, green areas with a water reservoir, a kindergarten, a community centre, a senior citizens' home, and



**Fig. 41.** Estate masterplan dated 12 January 2016. Prepared based on the estate masterplan, 2016. Source: Mazurkiewicz W., "Od planów generalnych do Masterplanów" (2023) with permission from: Archive of the Lower Silesian Regional Chamber of Polish Architects, 2017.



Fig. 42. The estate masterplan updated on the project website. 2024. Source: https://nowezerniki.pl/

a shelter for the estate market. Numerous ecological solutions were used and the development of the estate was closely linked to the European Capital of Culture programme, which Wrocław was in 2017.

The first phase of Nowe Żerniki involves investments over an area of 10 hectares. Ultimately, the estate is set to cover 40 hectares and be a fully eco-friendly residential complex, with extensive public space including a kindergarten, a school, a cultural centre, a church, a local market, a care home for the elderly, sports fields, and a health clinic. By the end of 2020, residential buildings comprising over 3,000 flats were completed, completing the first phase of the development.

#### 4.7. Port Praski, Warsaw

#### Context

Port Praski is a vast area of 40 hectares, located in Warsaw's Praga Północ district, in close proximity to the Vistula River and the National Stadium. This location is characterised by a high level of transport accessibility, provided by the National Stadium metro station and the nearby railway stop. Additionally, the area is connected to other parts of the city via the Świętokrzyski Bridge and the Miedzeszyński Embankment, as well as the planned New Świętokrzyska route, which significantly increases its infrastructural potential.

#### Masterplan

The masterplan for Port Praski presents a comprehensive vision for sustainable development, combining modern functions with the historical character of the siteto create a dynamic and prestigious urban space. The development vision for Port Praski, presented by Port Praski Sp. z o.o. based in Warsaw, divides the area into four parts. The first is the "Office City by the National Stadium". This section includes four skyscrapers ranging from 100 to 160 metres in height. The modern office buildings are intended to create a dynamic business centre that will attract both national and international companies. The second part is the Docks. This is the most luxurious section of the new Port Praski. Multi-storey residential and service buildings are planned here, surrounded by charming Praga boulevards. Some premises are planned to include docking facilities for boats, which will emphasise the unique character of this location. The Docks are intended to be a space that combines exclusive apartments with modern service infrastructure, creating a prestigious living environment. The third section is the Media Park which is designed to function as a media and sports centre. As part of this project, a cable car connection to the Copernicus Science Centre is planned, which will facilitate access to both locations. The Media Park will serve as a modern conference and sports events centre, promoting innovation and an active lifestyle. The final part consists of residential buildings on Okrzei Street. This part of the project comprises residential buildings whose architecture will be reminiscent of the atmosphere of old Praga. Located on Okrzei Street, they are intended to provide a harmonious combination of modern amenities with the historical character of the district, offering residents comfortable living conditions in an area rich in tradition.

The concept of the local development plan for this area allows for high-rise investments, including four skyscrapers exceeding 100 metres in height. The tallest of these, with a height of 160 metres, is to be constructed between the harbour bay and a new street parallel to Sokola Street. A main square has been planned around it. A promenade is also planned along Sokola Street, running



Fig. 43. Masterplan visualization. Source: www.portpraski.pl



Fig. 44. Port Praski, masterplan, design: APA Wojciechowski Sp. z o.o. Source: https://warszawa.naszemiasto.pl/

through the office and service development area, ending with three skyscrapers: a 120-metre tower on the Zamoyskiego Street side, a 140-metre tower in the central part, and a 100-metre tower in the southern section. In total, this area could accommodate around 200,000 square metres of office space, which represents one fifth of the office space in Służewiec.

#### 4.8. Stare Świdry, Warsaw

#### Context

In the past, the factory of large-scale building panels operated in the area of Stare Świdry. The now defunct industrial facility was located in the vicinity of Stare Świdry and Piekiełko near Tarchomin (Białołęka), at the intersection of Myśliborska and Świderska streets in Warsaw. The factory was established on former agricultural fields at the end of the 1970s to produce prefabricated elements for residential buildings, including those in the North Residential District, and it was closed in the early 1990s due to the political transformation and a lack of demand for factory products. Plans were made for the construction of the Kępa Iberyjska housing estate on the site of the former factory, which was to accommodate from ten to fifteen thousand residents. The project was prepared by a group of Spanish architects and was meant to serve as a central point for Białołęka. A key idea was to prioritise public spaces, such as streets, green areas, and places for social activities, before introducing any built structures. The plans included a shopping centre, a boulevard, a multi-purpose sports and entertainment hall for 3,000 people, a school, a hospital, clinics, a cultural centre, and a language learning centre. The project, which was supposed to be completed by 2016, was not realised, mainly due to ownership issues (warszawa.fancom. com, 2022). In 2018-2019, the A2P2 Architecture & Planning studio, commissioned by the city authorities, developed a functional and spatial concept for the area of the former factory and the nearby ash storage from the Żerań Heat and Power Plant, covering 120 hectares (architektura. um.warszawa.pl, 2019).

#### Masterplan

The vision for the development of the Stare Świdry area was developed through dialogue with representatives from the offices and departments of the Warsaw City Hall and the Białołęka District Office, as well as invited experts and local residents, including private landowners. Due to the complex nature of the project, it required an interdisciplinary team of designers and specialists, including sociologists, transport engineers and environmental experts. The guidelines developed were intended to serve as the basis for the assumptions of the Study of Conditions and Directions of Spatial Development for Warsaw, as well as for local spatial development plans or decisions on building conditions. The final concept for the development of 120 hectares in the Stare Świdry area was presented by designers from the A2P2 studio during a meeting held on 26 June 2019 at the Białołęka District Office. It proposes that the areas of the former factory and the ash storage from the Żerań Combined Heat and Power Plant, PGNiG and Termika facilities will be radically transformed. In turn, the residents of Białołęka will gain new recreational and sports areas, as well as playgrounds, which will be integrated into green spaces covering approximately 70 hectares. The parks will encompass 17 hectares, while a unique green space along the Vistula River, referred to as the Vistula Park, will occupy 32 hectares. Street greenery and the interiors of the development quarters have also been taken into account. The concept behind the development in Stare Świdry is to provide current and future residents with access to full social infrastructure, including four primary schools designed for 3,500 pupils, as well as kindergartens and nurseries, which will



Fig. 45. Visualisation of the Stare Świdry masterplan. Source: https://www.architekturaibiznes.pl/



Fig. 46. Masterplan of Stare Świdry. Source: https://www.architekturaibiznes.pl/

be located, among other places, on the ground floors of the planned buildings. The new housing estate will be well-connected to other parts of the city thanks to a new tram line that is set to be constructed, among others, along Myśliborska Street. The designers also recommend reorganising traffic in the area of the intersection of Myśliborska, Obrazkowa, and General Kukliński Streets. A detailed transport concept has been presented in the published master plan (Warsaw Stare Świdry – Functional and Spatial Concept).

The authors of the study emphasise the particular importance of complementing social infrastructure, which includes educational, cultural, and sports facilities, as well as technical infrastructure, including transport. It is also essential to plan job opportunities for residents with different qualifications – ultimately, it is expected that around 13,500 jobs will be created within the district. A new tram line is planned along Myśliborska and Familijna Streets, and the proposed road layout will allow bus lines to be introduced at any stage of development.

The project envisages a multi-phase development of the district, based on successive stages of technical and social infrastructure development. The layout of the housing estate is based on a coherent system of public spaces and green areas, which are arranged in a gradient — from the most urban, adjacent to already developed areas, to more natural ones as they approach the Vistula River. The buildings will be shaped similarly – from the intensive development of the acoustic buffer along Myśliborska Street and the viaduct of the Maria Skłodowska-Curie Bridge (primarily serving a commercial function), through compact quarters of buildings forming a new district, to more dispersed buildings among the riverside greenery. The project incorporates numerous green connections towards the river, including a 32-hectare naturalistic park on the reclaimed ash landfills. The entire development has been divided into urban "colonies" – residential and commercial complexes, each featuring its own shopping street, school, and public space: a marketplace, a square with post-industrial elements, or recreational space by a water reservoir.

During the consultations, the significant demand for infrastructure for children was emphasised. The design company A2P2 has taken into account the needs of the youngest, as well as teenagers and seniors, transforming the remnants of the House Factory (including reinforced concrete silos and a huge shed) into venues for local events and urban sports. The project's authors note that the sustainable development of new housing estates requires not only "green" technologies but also simple, effective solutions that allow for adaptation to new conditions. In the area of Stare Świdry, local retention of rainwater has been planned, and all proposed greenery will be "working greenery" that in addition to storing rainwater, will also absorb carbon dioxide and other pollutants.

#### 4.9. FSO-Żerań, Warsaw

#### Context

The first masterplan for the former site of the Car Factory in Żerań, developed by the Dawos company in 2019 (Żerań FSO Masterplan), includes a comprehensive programme-spatial concept for transforming the post-industrial areas into a new residential and service district. The concept is based on a coherent urban and architectural vision that takes into account the development of the area in the context of the surrounding areas. This project aligns with the goals of the #Warsaw2030 Development Strategy, emphasising the creation of a city with a compact spatial struc-

ture, a diverse and sustainable programme, as well as an attractive arrangement of public spaces and green areas. A key advantage of the location is its proximity to the centre of Warsaw (between 4 and 6.5 km) and the availability of tram and rail transport.

Since 2021, the site of the former factory is owned by the Okam company, which has begun work on a new masterplan for the area, known as **FSO PARK ŻERAŃ**. The spatial vision project, developed by the WXCA and SAWAWA offices, is partially based on the solutions proposed in the 2019 masterplan. According to the concept, a multifunctional development with flats, offices, and commercial spaces is planned for the 62-hectare site. One third of the area has been reserved for greenery, including a 10-hectare park. The start of construction work is scheduled for the first quarter of 2025. The total usable area of the site will be approximately 700,000 m², with the usable area of almost 440,000 m². As part of the first phase, covering around 11 hectares, the construction of some residential buildings, commercial and service spaces, as well as the initial section of the park is planned. Ultimately, the investment is expected to include around 12,000 flats for 17,000 to 19,000 people, and the creation of approximately 13,000 new jobs, with the total project planned to take around 25 years to complete.

#### Masterplan

The masterplan for the site of the former Passenger Car Factory in Żerań constitutes a comprehensive spatial and programmatic concept aimed at transforming post-industrial areas into an attractive part of the city. This project, which is the result of a tripartite workshop as part of the Settlements of Warsaw series, integrates the knowledge and experience of experts from various fields. The basic assumptions of the concept presented in the document include the creation of



**Fig. 47.** Masterplan for the area of the former Żerań passenger car factory. Source: https://architektura.um.warszawa.pl/

a segment of the city with diverse functions that would respond to the needs of residents and users. A key element is the transformation of the area from an industrial to an urban character, featuring a clearly designed layout of local public spaces based on an internal axis – the FSO Avenue – and linked to the surrounding areas. The transformation of Jagiellońska Street into a metropolitan avenue aims to ensure a balance between public transport and individual car, pedestrian and bicycle movement. The masterplan also includes improving accessibility to tram, bus, and train stops, as well as creating local neighbourhood centres that would serve as places for social interaction. The introduction of a social services programme is essential for the functioning of the new residential complexes. The project also envisages the adaptation of distinctive post-industrial buildings for service purposes, while preserving their historical identity.



**Fig. 48.** Masterplan for the area of the former Żerań Passenger Car Factory (Żerań FSO). Source: FSO Masterplan (2019)

An important aspect of the masterplan is the preservation and exposition of the existing residential buildings (the Kolonia Śliwice complex and individual multi-family houses) as well as elements of industrial architecture. The masterplan also provides for the development of a system of local green spaces, including parks, squares, avenues, and areas for leisure and recreation, accompanying the residential and service buildings. The project also envisages providing connections to the recreational areas along the Vistula River.



Fig. 49. The plot of land where the project is to be implemented. Source: https://nowawarszawa.pl/



Fig. 50. OKAM visualisation for the F.S.O. Park. Source: https://www.isbtech.pl/

## Identification of the main characteristics of districts shaped on the basis of masterplans

All the analysed masterplans pertain to districts built from the 1990s to the present day, in accordance with the principles of sustainable development, and present unique approaches to shaping the urban environment. The masterplans in Hamburg (HafenCity), Vienna (Aspern), Malmö (Western Harbour), Copenhagen (Nordhavn), Warsaw (Miasteczko Wilanów), and Wrocław (Nowe Żerniki) relate to pioneering district concepts on the scale of these cities. In each of these cases, the process of implementing and updating the masterplan, as well as constructing, and monitoring the given structure is long-term, flexible, and comprehensive. The districts that emerge in this way possess their own distinctive character while simultaneously working in line with the 15-minute city.

The main features of districts developed according to masterplans include several significant aspects. Firstly, masterplans define the spatial structure of the district in a long-term vision (Romice et al., 2020, p. 147), including the layout of functions such as residential areas, offices, retail spaces, and recreational areas. This planning ensures a harmonious organisation of public and private spaces, which promotes the efficient use of available land. The designed areas include not only places to live but also shopping centres, offices, and leisure spaces, with the aim of creating a coherent and sustainable urban environment. Another key element is sustainable development (Alwaer and Illsey, 2017, pp. 10-11). In modern masterplans, there is a strong emphasis on ecological aspects, such as the energy efficiency of buildings, stormwater management, and the creation of green spaces and parks. Within this approach, systems for waste management and infrastructure that minimise environmental impact are also designed. Important aspects include greenery and public spaces. The masterplans often anticipate creation of an adequate amount of green spaces, such as parks, squares, and avenues, which foster social integration and provide places for residents to relax and enjoy recreation (Bullivant, 2012, pp. 277-278). These spaces are designed with aesthetics and functionality in mind, enhancing the quality of life in the neighbourhood. The masterplans also include a comprehensive transport system that encompasses public transport, cycling paths, and pedestrian infrastructure. The designed solutions usually aim to improve accessibility and mobility within the neighbourhood, facilitating the daily lives of residents. This holistic approach also allows for sustainable infrastructure planning. The masterplans not only contain the design of necessary water supply, sewage, and energy networks but also the location of public utility institutions, such as schools, health clinics, and cultural centres. In neighbourhoods developed according to these masterplans, the aesthetics and identity of the

area are also designed. Their authors place a strong emphasis on creating a **coherent aesthetic** and **urban identity**, taking into account local building traditions and designing distinctive urban elements which give the neighbourhood a unique character. Finally, the scopes of masterplans are adapted to **local contexts**, considering the geographical, social, and economic specifics of the area. As a result, neighbourhoods are developed that respond to the local needs of residents and exploit the potential of local resources (Alwaer and Illsey, 2017, pp. 13-15). All these elements together form the foundations for the **comprehensive development of neighbourhoods**, which aim to create functional, aesthetic, and sustainable urban spaces.

### 5.1. Characteristics of districts created on the basis of masterplans in post-shipyard areas

The transformation of post-shipyard areas is a complex process through which old, often neglected industrial zones are converted into vibrant urban districts. Masterplans play a key role in this process by providing a framework for integrated actions for the benefit of the local community, space, and economy. The first step is usually a thorough analysis of the current state of the area to be transformed, including an assessment of infrastructure, the condition of buildings, social and economic conditions, as well as identifying issues and potentials of the site. Based on the collected data, a vision of the area's future appearance and function is most often developed, aligned with the needs of the local community and the goals of sustainable development.

The masterplan for the transformation of such district includes – as a comprehensive document – detailed plans for land use, infrastructure, transport, urban greenery, and public services, as well as a timetable for the implementation of individual stages of revitalisation and sources of funding.

The transformation of post-shipyard areas based on masterplans is a multi-year process that requires the involvement of numerous stakeholders and coordinated actions. With careful planning and collaboration among all parties involved, it is possible to convert neglected areas into modern, functional, and attractive urban districts. In Table 5, the characteristics of several such districts that have been developed based on the principles of master plans are presented, and they may serve as models for successful transformations.

The post-shipyard masterplans are characterised by a **comprehensive approach to the transfor-mation of degraded areas**, focusing on converting former industrial zones into modern, sustainable urban districts. The projects involve the **integration of various functions**, such as housing, offices, retail and service spaces, as well as recreational areas, with the goal of creating a vibrant and multifunctional neighbourhood. There is a strong emphasis on **sustainable development**, including energy efficiency, climate change adaptation, water resource management, and the promotion of sustainable mobility, such as cycling paths and public transport. Projects often take into account the **historical and cultural aspects of the areas**, preserving and adapting existing elements of industrial architecture while integrating them with new urban solutions. Masterplans are **flexible documents** that can be adjusted to changing conditions and social needs, allowing projects to be implemented in stages and respond to new challenges and opportunities.

**Tab. 5.** Characteristics of the post-shipyard masterplans

City	Purpose and scope of the masterplan	History and context	Masterplan development process
HAMBURG (HafenCity)	District covering 155 hectares on former port land. The plan aims to expand the existing city centre by approximately 40%, with construction expected to be completed by 2025. The project includes the creation of housing for 12,000 people and jobs for 40,000 individuals, with a total usable area of nearly 2 million m <sup>2</sup> .	Once an integral part of the city, it was transformed from a warehouse district and free trade zone into a space for new parts of city central district, especially after the port ceased to operate in the 1990s.	The process began with an urban design competition in 1998, which resulted in the selection of the winning project by the Hamburgplan team and Kees Christiansee/Astoc. The masterplan was adopted by the Senate of Hamburg on 29 February 2000. It consists of drawings and text that outline development goals, land use plans, and architectural concepts for individual buildings. The document is open and has been updated several times (in 2006, 2009, and 2010) as a result of intensive public debate in 2010.
COPENHAGEN (Nordhavn)	Project involves the transformation of a 360-hectare area of the industrial port into a modern urban district. Key elements include: the construction of public spaces, streets, promenades, green areas, cycling infrastructure, and metro station.	The development concept is based on Copenhagen's strategy of expanding the city towards the water. This project is the largest metropolitan development venture in Northern Europe.	The masterplan is a flexible guide that can be adapted to changes. Nordhavn is the first urban area in Denmark to achieve DGNB Platinum certification. The project places a strong emphasis on sustainable development, addressing environmental challenges and the needs of future generations. Nordhavn is divided into "urban islands", which allows for phased planning and prevents sprawl. The project promotes sustainable mobility with extensive pedestrian and cycling paths, as well as efficient public transport.
MALMÖ (Bo01)	Bo01 in West Malmö Harbour is a project to transform a former industrial site into a modern urban district. The plan is to create a functional residential, commercial, and recreational space, with sustainability in mind.	The estate is a part of a larger initiative for the Western Harbour. It combines technological innovations with environmental and social requirements.	The planning process used a "creative dialogue" mechanism to communicate the project's vision and objectives with municipal authorities and developers. The masterplan established an irregular road network, considering the needs of both vehicular and pedestrian transport. The placement of larger buildings along the coastline was intended to create a backdrop for the promenade and to shield the central residential blocks from the wind. The plan also incorporated water elements, such as a promenade and a canal park, which were designed to serve as recreational spaces.

In all examples, an important element is the creation of attractive public spaces, such as parks, promenades, and squares, which are designed to foster social interactions and enhance the quality of life for residents. The projects aim to achieve high urban quality through careful spatial planning, a balanced distribution of buildings, and consideration of the microclimate and user comfort. These features make masterplans for post-shipyard areas comprehensive instruments for transforming old industrial sites into modern, sustainable, and vibrant urban districts.

### 5.2. Analysis of the strengths, limitations, and adaptive potential of masterplans for post-shipyard areas

Post-shipyard areas, due to their specificity and history, require carefully considered urban planning concepts in order to effectively integrate into the urban environment. Often neglected and disused, post-shipyard areas can be successfully revitalised through comprehensive urban planning concepts. The use of masterplans provides an opportunity to plan their complex transformation and breathe new life into these areas, converting them into modern urban districts. A detailed analysis of the strengths and limitations of these documents is presented in Table 6.

The use of master plans facilitates the **implementation of sustainable development principles**, which is essential in the context of transforming post-shipyard areas. They allow for the efficient use of space, the introduction of ecological solutions such as stormwater and energy management, as well as the creation of green spaces, all of which contribute to improving the quality of the urban environment. Masterplans also help in planning the **integration of former shipyard areas** with the rest of the city by designing transport layouts that enhance access to new areas and improve connections with existing infrastructure. Furthermore, improvements in transport accessibility and the creation of coherent transport corridors increase the attractiveness of these areas. Planning based on masterplans enables the introduction of **various functions** in post-shipyard areas, such as housing, offices, shopping, cultural, or recreational centres. This promotes the creation of a diverse urban environment that meets the needs of different social groups. The use of masterplans also allows for the **preservation and adaptation of existing industrial structures and sites**, which can enrich new spaces with elements of industrial heritage. The integration of historical buildings with modern designs contributes to the creation of unique and distinctive places in the city.

Through transformation and the introduction of new functions, areas of former shipyard can increase in land value, which contributes to **economic development and enhances the investment attractiveness of the region**. New investments may also lead to job growth and improved living conditions for residents. Planning of the post-shipyard areas with regard to public spaces, green areas, and public amenities, can significantly improve the **quality of life for residents**. Creating friendly and functional urban spaces promotes social integration and meets the needs of the community. Masterplans are **flexible and can be adapted to changing urban needs and trends**. The ability to update and modify masterplans as the socio-economic situation evolves ensures that former shipyard areas can effectively respond to future challenges and needs.

**Tab 6.** Strengths, limitations and adaptation potential of the masterplans

MASTERPLANS STRENGTHS	LIMITATIONS	ADAPTATION POTENTIAL TO POST-SHIPYARD AREAS
Complex planning of the entire structure	Frequent lack of final developed version – evolving process	Possibility to plan a holistic revitalisation and regeneration of post-shipyard areas
Flexibility of the instrument	No guarantee that all masterplan assumptions will be realised	Planning according to sustainable development
Assistance in coordinating the activities of different stakeholders and ensuring coherence between projects	Initial assumptions may prove inadequate in the face of new challenges such as demographic change or technological innovation	Possibility to plan integration with the environment
Long-term vision for development, allowing future needs and developments to be planned in a structured way	Implementation of masterplans often involves high costs that may exceed available budgets	Planning and creation of new functions
Enabling the implementation of sustainable development principles, including energy efficiency and spatial management	Different stakeholders and entities involved in the implementation of the plan may have different goals and priorities, which can lead to conflicts and delays	Preserving the cultural heritage of the area
Help in the effective management of urban space, which can improve the quality of life of residents and the functionality of urban areas	Changes in urban planning laws and regulations may affect the implementation of masterplans	Increasing the value of real estate
Assistance in integrating existing cultural and historic heritage elements, enhancing new developments with unique local characteristics	Lack of social acceptance may hinder the implementation of the plan and lead to conflicts	Improvement of the quality of life for residents
Support in optimising investments through strategic planning and minimising costs associated with subsequent modifications and adaptations	Changing goals and priorities of the municipal administration may affect the implementation of masterplans. New authorities may have different visions of development, which can lead to changes in plans and delays in their execution	Adaptation to changing needs

# Masterplans as instruments for shaping the 15-minute city in the context of mobility

The 15-minute city model is an urban planning approach that promotes the development of compact and easily accessible urban infrastructure. The concept is based on the creation of neighbourhoods in which all basic services and amenities, such as shops, schools, workplaces, medical facilities and recreational facilities, are within a 15-minute walk or bicycle ride from residents' homes. This planning method aims to reduce reliance on cars, decrease traffic congestion, and limit CO2 emissions, ultimately contributing to more sustainable and livable cities (Moreno, 2024, pp. 13-15).

Achieving the goals associated with the concept of the 15-minute city is now the responsibility of numerous urban actors, and the path towards these goals is being defined in urban policies, such as the Plan Local d'Urbanisme (local urban planning plan) (collectivites-locales.gouv.fr) in Paris, which emphasises the development of mixed-use neighbourhoods, the enhancement of public transport and the improvement of public spaces. Another example from Paris is the Plan Climat Air Énergie (climate and energy strategy document) (outil2amenagement.cerema.fr), which details actions aimed at reducing CO2 emissions and promoting cycling and walking. This approach is similar to Singapore's Sustainable Singapore Blueprint, a comprehensive strategy that includes measures for environmental protection, energy efficiency, and the promotion of sustainable transport. Other examples include Barcelona's Superilles (Superblocks) urban planning concept and strategy (ajuntament.barcelona.cat), which involves the creation of 'superblocks', defined as areas with limited car traffic to increase space for pedestrians and cyclists and improve the quality of life for residents. Additionally, the city's Plan de Mobilitat Urbana (urban mobility plan) (barcelona. cat) promotes sustainable modes of transport and seeks to reduce dependence on cars.

Another example of a mobility-related document is the **Plan de Movilidad de Bogotá** (movilidadbogota.gov.co) which is the urban mobility plan for the city of Bogotá in Colombia. This plan emphasizes the development of public transport and bicycle infrastructure.

In Melbourne, Australia, a significant current planning document is **Plan Melbourne 2017-2050** (planning.vic.gov.au) in other words the City of Melbourne's strategic development plan that promotes sustainable development through the creation of accessible neighbourhoods, diverse housing options, and the enhancement of public transport, and the **Melbourne Planning Scheme** (melbourne.vic. gov.au), which is a set of zoning regulations that supports the development of mixed-use neighbourhoods and the protection of green spaces.

The development of one of the more popular cities mentioned in terms of the 15-minute city idea – Portland in the USA – is based on two strategic documents: the **Portland Plan** (portland.gov) and the Central City 2035 Plan (portland.gov). The Portland Plan focuses on sustainable development of the city, including transport planning, local economic development, and environmental protection. Meanwhile, the **Central City 2035 Plan** is prioritizing the establishment of densely populated, accessible, and sustainable neighbourhoods.

Another example of a strategy document is **Structural Vision Amsterdam 2040** (sustainable-amsterdam.com), a city development strategy that aims to enhance public transport accessibility, develop mixed-use neighbourhoods, and protect green spaces in Amsterdam in the Netherlands. Similarly, the **London Plan** (london.gov.uk) is a strategic development plan for London in the UK that promotes these same values.

In Amsterdam, additionally, an integrated green infrastructure plan has been developed to improve the quality of life for residents and protect the environment titled the **Amsterdam Green Infrastructure Vision 2050**. A document with similar characteristics is the **Greenest City Action Plan** (vancouver.ca) developed for Vancouver, Canada, which aims to make the city the greenest in the world by promoting sustainable transport, energy efficiency, and the protection of green spaces.

Based on the examples from around the world, it is possible to select from the existing planning instruments masterplans, land use plans, urban mobility plans, strategic plans, development strategies, and visions, as well as documents related to climate protection and green infrastructure. Each of these planning instruments aligns with the 15-minute city concept, which aims to create accessible, sustainable, and functional neighbourhoods where residents have easy access to basic services and amenities. However, it is vital that these instruments work (not independently of each other) to form a coherent and integrated whole. Only then can the full potential of the 15-minute city concept can be reached. Masterplans are the examples of comprehensive planning instruments that integrate various aspects of urban development. In Poland, the discussion concerning the roles of masterplans in urban planning has gained momentum since around 2018 (Mazurkiewicz 2023), but documents bearing their hallmarks have been existing for a long time and encompass a range of strategies and visions for urban development. Urban strategies very often include soft measures such as social policies, environmental initiatives or cultural programmes. However, contemporary masterplans are notable for their integration of specific urban elements, including transport infrastructure development, housing planning, the creation of green spaces, and enhancing the availability of services. In contrast to traditional strategies, masterplans are more comprehensive and focus on the physical transformation of urban space while considering both technical and social aspects. This perspective enables the achievement of sustainable urban development that addresses the needs of today's citizens. Masterplans act as a link between vision and implementation, providing an integrated approach to creating sustainable, friendly and functional cities that respond to the challenges of rapid urbanisation and social change. By incorporating these elements, masterplans are crucial for the successful implementation of the 15-minute city concept and for ensuring its long-term viability.

A critical analysis of masterplans in the context of developing a 15-minute city involves assessing how urban plans respond to residents' needs for accessibility and functionality. It is crucial that masterplans provide a diversity of functions within a short range, including housing, jobs, servi-

ces, schools, and recreational spaces. This approach ensures that residents can meet most of their daily needs within a 15-minute walking or cycling radius.

It's equally important to include an effective public transport network and infrastructure for pedestrians and cyclists, which supports the mobility of residents and reduces reliance on cars. Additionally, masterplans should feature well-designed public spaces, such as parks, squares and plazas. These spaces foster social integration and offer places for recreation within walking distance.

In addition, masterplans must consider the appropriate density of development to support local services and infrastructure, which helps create lively and functional neighbourhoods. Sustainability should be promoted through the integration of green and energy-efficient solutions, such as stormwater management, energy-efficient buildings and green spaces. Analysis of these elements enables to determine whether masterplans effectively support the creation of a 15-minute city, where residents can comfortably access essential services within a short period of time, without excessive dependence on motorised transport.



## Summary

There are many instruments that can be used in the process of shaping contemporary patterns of development and transformation of cities, including those that fall under the concept of operational urban planning. As mentioned, according to the classification by IFHP (by Markowski 2001), five groups of these instruments can be distinguished: planning, market, development financing, tax, legal, and supportive ones. All of these instruments fall under the category of non-statutory (in the Polish legal system) ones.

Achieving the goals of the 15-minute city concept requires coordination and integration of actions. In this regard, it seems reasonable to employ non-statutory instruments, such as masterplans. They play a key role in contemporary spatial management, especially in the increasingly popular concept of the 15-minute city, according to which essential services and jobs are available within a short distance of residential areas. Thanks to employment of urban masterplans, it is possible to design compact, multifunctional development patterns that support sustainable growth and promote walking and cycling mobility. They enable the effective organization of urban space by integrating residential, service, and public functions. This integrated approach not only enhances the quality of life for residents but also fosters the development of sustainable transport modes.

Creating new districts based on the concept of the 15-minute city requires precise spatial management. Through masterplanning, it is possible to shape multifunctional areas known as mixed-use spaces – alongside residential areas, commercial, office, and recreational spaces are developed, which reduces the need for car use and promotes sustainable development.

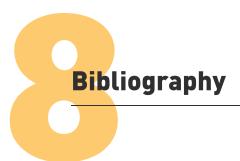
The adaptation of post-industrial sites, such as former shipyard areas, is essential for contemporary urban development. Masterplans enable the effective transformation of these sites into modern, multifunctional districts that blend seamlessly with the existing urban landscape. Examples of the revitalisation of post-shipyard areas, both in Poland and in other countries, prove that well-designed masterplans can help revive these locations and integrating them into the surrounding urban fabric. In these projects, masterplans help in preservation of the industrial heritage as well as introduction of modern solutions such as eco-friendly housing developments, public spaces, or new business and cultural centres. This approach effectively demonstrates how former industrial infrastructure can be harmonized with the modern needs of the city.

Contemporary urban planning increasingly depends on integrating the aspirations of various stakeholders, including city authorities, developers, and residents. This dialogue is crucial for creating spaces that address the needs of all social groups. Public participation is particularly relevant in ensuring that new neighborhoods – especially those developed within the areas of the former shipyard – become friendly places for living, working, and for leisure activities. An integrated approach to urban planning that considers not only technical aspects but also social and ecological factors promotes the development of sustainable cities that are resilient to evolving climate and economic challenges.

Masterplans are not only planning documents – they are becoming essential instruments for managing cities in a flexible and adaptive way. Flexibility in planning is crucial in the face of the dynamic changes occurring in cities – both technological and social. Cities of the future, designed according to the 15-minute city concept of proximity to essential services, must be not only functional but also sustainable and resilient to climate change. Masterplans play a vital role here, facilitating a harmonious transformation of urban areas that promotes social integration, reduces CO2 emissions, and enhances the overall quality of life.







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STUDIES MATERIALS ANALYSES

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