

Work Package 7:

Integrating the Rapid Planning Methodology into Spatial Planning and Urban Development Procedures

D-07

Review of the Urban Development in Frankfurt am Main and the Lessons Learned for Trans-sectoral Planning

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This document revolves around five major topics. The first discusses the spatial planning system, procedures, and instruments utilised by the planning authority in the city of Frankfurt am Main. Therefore, a description of the institutional structure as well as of the development plans, measures and by-laws of the city becomes necessary in order to understand the formal framework steering urban development of the city. The second handles the city dynamics, urban development trends along with the goals and vision of the city. The goal is to understand the drivers as well as the challenges of city planning and infrastructure development. The third discusses the tensions between urban development and city planning in Frankfurt identifying the gaps between the planning procedures and the future vision. Based on the established understanding, the fourth summarises the lessons learned from the research experiences and activities in the city. And, the last proposes a set of recommendations.

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1. Introduction to the Document

Frankfurt am Main has been selected as a reference city for the Rapid Planning Project. This is in order to provide a study case to better understand the challenges posed by economic development, climate change and population growth in the context of a highly dynamic city, such as Frankfurt, to share the produced knowledge with the other case cities of the project and to reflect on their specific cases. The work-package 7 of the Rapid Planning Project, therefore, requires this document to achieve a sufficient understanding of Frankfurt's urban planning and development.

A sufficient understanding, in this regard, comprises a thorough review of the spatial planning system regulating the city and controlling its urban development. Therefore, aspects such as administrative and planning levels, institutional structures and major actors of urban planning, planning laws and regulations as well as planning instruments and procedures are seen to be essential for the course of discussion in this document as they relate strongly to the current state of urban development in the city. It also includes a thorough review of the trends and dynamics of urban development. This is in addition to an identification of short-, mid- and long-term goals and targets of urban development of the city as well as a documentation of existing urban development visions or on-going processes of vision formulation. Here, it is also relevant to address the environmental policies and development measures of the city to mitigate and adapt to climate change and environmental risks.

A thorough review of the various aspects of urban development in Frankfurt allows this document, in a later section, to re-examine the city but from a more critical perspective, especially with regards to urban management and planning procedures as well as visions for the future development of Frankfurt. Therefore, urban development tensions, risks, challenges and gaps in formal planning that are seen to hinder the delivery of the stated urban development goals or stand in conflict with the trends of development. In order to underline the observations and findings of the study, this document articulates the outstanding features of urban planning in the city as well as the lessons learned from its various experiences. The transferability of these lessons can benefit the other case cities of the Rapid Planning Project, especially in the contexts of municipal management and enhancement of institutional capacities. It can also support potential implementations and applications of the Rapid Planning Methodology as well as the development measures suggested by the project. Therefore, on the basis of the learned lessons as well as the findings of the prior research, this document closes its discussions with a list of recommendations that are identified to be constructive in the context of urban and infrastructure planning in Frankfurt for the consideration of the other project's partner cities. In general, this document drives a practice-oriented research process, which is characterized by qualitative applied research utilizing a set of mixed methods for the research and analysis.

2. Section One: Review of the Spatial Planning System of Frankfurt am Main

This section of the document corresponds to the Task 7.1 of the Rapid Planning Project. The aim of this task is to obtain a deep understanding of the spatial planning and urban development systems in the project's reference city, Frankfurt am Main. The specific objectives are to examine the urban planning administrative systems, instruments, actors and procedures, and to review the administrative adaptability and response towards population growth and environmental resource management. This overview would help present the planning instruments of a growing dynamic city that balances a world-class business atmosphere with a green urban profile, good provision of services and a good quality of life.

This section, therefore, establishes its course on the basis of a thorough literature review of available sources, documents and materials that are related to planning frameworks and regulations with regard to the federal, state, regional and municipal levels of planning and administration. Also, it takes benefit from the empirical component of the project's research activities that took place in the city in the form of a variety of expert meetings and workshops with leading municipal officials representing the city departments. This is in order to clarify the findings of the literature review as well as to validate the understanding of the spatial planning system regulating and controlling urban development in Frankfurt.

2.1 Understanding Spatial Planning

The metropolitan region of Frankfurt/Rhine-Main is an area influenced on a daily basis by its various city and regional dynamics and urban trends. The process of spatial planning is therefore intimately linked to the region and its economic activities, social composition and the challenges posed by the environment. In order to understand the spatial planning system in Frankfurt, there is the need to define the concept of spatial planning in the context of this research. The purpose of this research is to describe and understand the general processes and procedures of urban planning in Frankfurt. The definition of the concept of spatial planning in Frankfurt should not be generalized to other cities since this research is focused on a context-based qualitative applied research process. Therefore, contextual characterization of spatial planning in Frankfurt will be shaped and developed, explaining its opportunities, concerns, and limitations in the urban arena.

There is a multiplicity of understandings about spatial planning trying to explain this concept around the world. In the European context, the European Commission defined spatial planning as: "the methods used largely by the public sector to influence the future distribution of activities in space" (European Commission, 1997, p. 24). In other words, spatial planning is a set of governmental strategies aiming at rationalizing land uses while organizing activities within the city fabric. Other definitions describe spatial planning as a tool for integrated urban development, proposing programmes and policies in regards to the built environment, but also influence the uses of urban spaces and the behavior of residents (United Kingdom Office of the Deputy Prime Minister, 2005). In this sense, spatial planning is an instrument for integration between the territory, its different functions and development policies. In 2008, the United Nation's document "Spatial Planning: Key Instrument for Development and Effective Governance with Special Reference to Countries in

Transition” proposed a more extended definition, integrating the different aspects already mentioned before. This report stated that spatial planning is:

“Largely a public sector function to influence the future spatial distribution of activities. It aims at creating a more rational territorial organisation of land uses and the linkages between them, to balance demands for development with the need to protect the environment and to achieve social and economic objectives. Spatial planning comprises measures to coordinate and improve the social impacts of other sectorial policies so as to achieve a more even distribution of economic development within a given territory that would otherwise be created by market forces. Spatial planning is therefore an important lever for promoting sustainable development and improving the quality of life” (Belka, 2008, p. V).

This much more specific description of spatial planning acknowledged the existent tension between policies, urban processes and land uses taking place in the cities. The definition of Marek Belka in the UN report (2008) understands the lack of cooperation among urban development processes which could lead to urban contradictions and missing integration, in contradiction to processes of sustainable development. In that sense, spatial planning is the mechanism addressing the planning processes in a city considering its governmental structures, official guidelines and land use proposals altogether with the economic, environmental and social goals. Spatial planning becomes an instrument for short, middle and long-term urban objectives, engaging public and private interests while balancing development and economic objectives with social and environmental considerations.

2.2 The Administrative System of Spatial Planning in Frankfurt am Main

According to the federal structure of Germany, comprehensive urban and spatial planning in the country is organized in four levels of administration. The first three administrative levels represent supra-local management outside the administrative capabilities of the municipalities and towns; the last administrative level deals with local planning processes within the municipal boundaries. A brief description of those three levels is presented below (E. Pahl-Weber & Henckel, 2008):

- The federal level shapes the general policies for the country as a whole. Spatial planning in this level is directed to the development of guidelines and principles, which also provide the legal framework for spatial planning at the state level and superordinate specifications for sectoral planning.
- The state administrative level provides a more concrete form of the federal principles of spatial planning for each state. It is a two-phase process: Phase one is a state spatial planning process for development of the federal state; the second phase is a regional planning process concerned with the administrative subdivisions of a state in a given number of planning regions.
- The regional level (if applicable¹) represents the vital link between the state perspectives on urban development and the specific local decisions concerning urban land-use planning.

¹ Regional planning is usually a part of the structure of spatial planning in Germany. A regional plan, however, can be seen to replace local plans in two cases (E. Pahl-Weber & Henckel, 2008; Stadtplanungsamt Frankfurt am Main, 2017g):

- In the case of a city-state (Berlin, Bremen and Hamburg), where regional and local plans become the same from the political perspective.
- In the case of regional planning agreements, where neighbouring municipalities agree to join or are obliged by law to establish a higher regional planning authority that delivers their plans and coordinate their efforts.

- The local level produces final planning instruments and goals in compliance with both federal and state spatial planning specifications.

The allocation of competences and functions amongst these levels of government produces a system which is legally, organisationally and substantively well-defined with clearly differentiated planning levels. Moving downwards from federal to local, each level is meant to set a framework as well as guidelines for the planning process on the subordinate level. However, these levels are interlinked by a mutual feedback principle as well as complex requirements of notification, participation, coordination and compliance (E. Pahl-Weber & Henckel, 2008).



Figure 1: Spatial Planning in Germany. Source: (E. Pahl-Weber & Henckel, 2008, p. 39)

Through history, the full authority of conducting city planning and urban development in Germany was decentralized into a large extent of local urban governance. The traditional practice in Germany, where every municipality in the federal republic holds the right to plan its urban development within its administrative borders, continues to be a right established in the national constitution. It is the responsibility of local authorities to regulate the land uses for building and other purposes. Urban development, therefore, could be seen as a reflection of the history of mainstream politics adopted by the successive administrations of every city or municipality in the country (Erpenstein & Peterek, 2011; E. Pahl-Weber & Henckel, 2008).

Considering the major administrative role and authority granted to municipalities, this research focuses only on the local administrative level of urban planning, with the purpose of describing and analyzing the planning processes. Restricting the research the local level would better help to understand the processes of city planning of Frankfurt in its most applied and sensible scenarios concerning the key frameworks, procedures, instruments and examples.

2.3 Institutional Structure for Urban Planning in Frankfurt am Main

City planning and urban development processes in Frankfurt are generally conducted by the City Planning Department (*Stadtplanungsamt*). The Department is administrated by the Directorate IV: Planning and Housing (*Dezernat IV: Planung und Wohnen*) which is one of 11 Directorates within the City Magistrate (in 2017). Their Directors are approved by the City Parliament which secures the legitimacy.

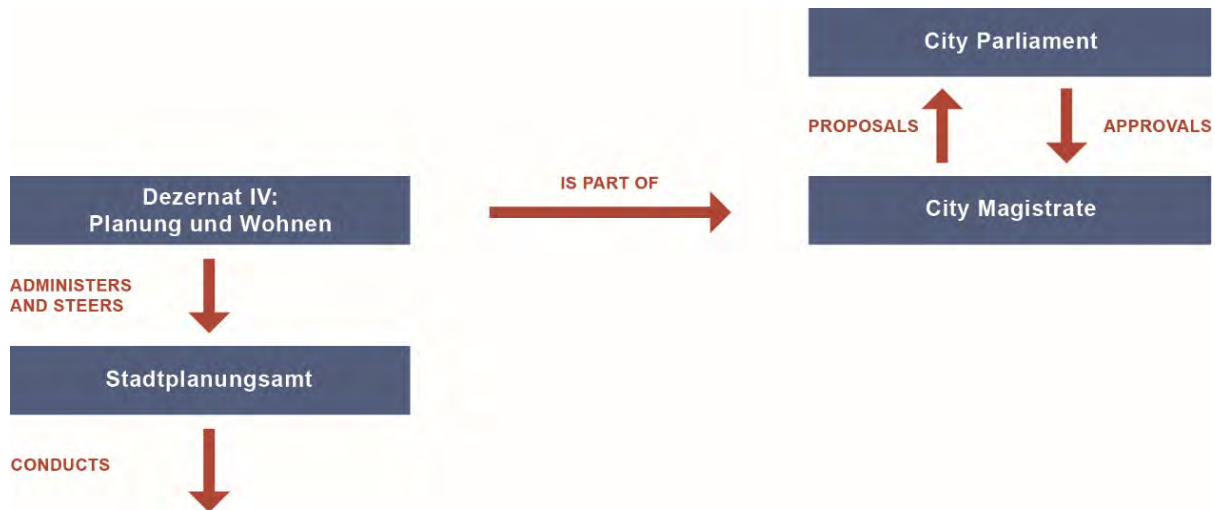


Figure 2: City Planning and Urban Development Processes in Frankfurt. Source: Elaborated by the FRA-UAS Team.

According to the City Planning Department, the major municipal planning instruments or tools in Frankfurt could be classified into three main categories, regarding their legal basis (Stadtplanungsamt Frankfurt am Main, 2017f):

- Legal site planning or land-use planning
- Measures and by-laws of the Federal Building Code
- By-laws of the State Building Code

Since non-formalised plans are also present and play a substantial part in the city planning and are commonly practiced by the public and public authorities, the non-formalised plans could be introduced into the aforementioned categories as a fourth planning instrument in order to better understand the planning procedures implemented in Frankfurt. It is important to mention that non-formalised planning, in this specific context, is not associated with illegality at any level. It rather indicates all planning activities that take place outside of the standard regulations and procedures of legal site planning approved in the relevant legal texts. Therefore, to explain the possible processes of urban planning and urban development at the local level of Frankfurt, the following four categories will be described thoroughly in the following points of this paper (E. Pahl-Weber & Henckel, 2008).

2.4 Legal Site, or Land-use, Planning (*Bauleitplanung*)

In principle, legal site planning aims at ensuring orderly and sustainable urban development that guarantees a socially fair use of land for the benefit of the general public and creates an environment that is fit for human beings. Its legal basis is constituted by the Federal Building Code (*Baugesetzbuch*)², which was developed in 1986 as an update of the formal Federal Planning Code (*Bundesbaugesetz*) in order to further regulate the required official procedures of managing,

² The Federal Building Code (*Baugesetzbuch*) is the most important plank of urban development law in Germany. (E. Pahl-Weber & Henckel, 2008) states that it contains four chapters:

- Chapter One: General Urban Planning Law covering such areas as urban land-use planning, building permission, land reallocation, expropriation and compensation, infrastructure provision and servicing, and nature conservation.
- Chapter Two: Special Urban Planning Law covering urban rehabilitation, urban development and redevelopment, the preservation of physical structures and the specific character of areas, and urban-development enforcement orders.
- Chapter Three: Other Provisions dealing with valuation, competencies, administrative procedures and planning safeguards.
- Chapter Four: Transitional and Concluding Provisions.

structuring and conducting city planning and urban development country-wide (Erpenstein & Peterek, 2011; Stadtplanungsamt Frankfurt am Main, 2017c). It is a form of land-use planning dedicating land to specific uses e.g., housing, commerce, industry, public amenities etc., as well as green and open spaces and others. It may also define restrictions e.g., maximum lot coverage, the maximum number of stories etc.; obligations e.g., housing for specific categories of person; and requirements with respect to the implementation of the use in question e.g., noise control, greenery etc. (E. Pahl-Weber & Henckel, 2008).

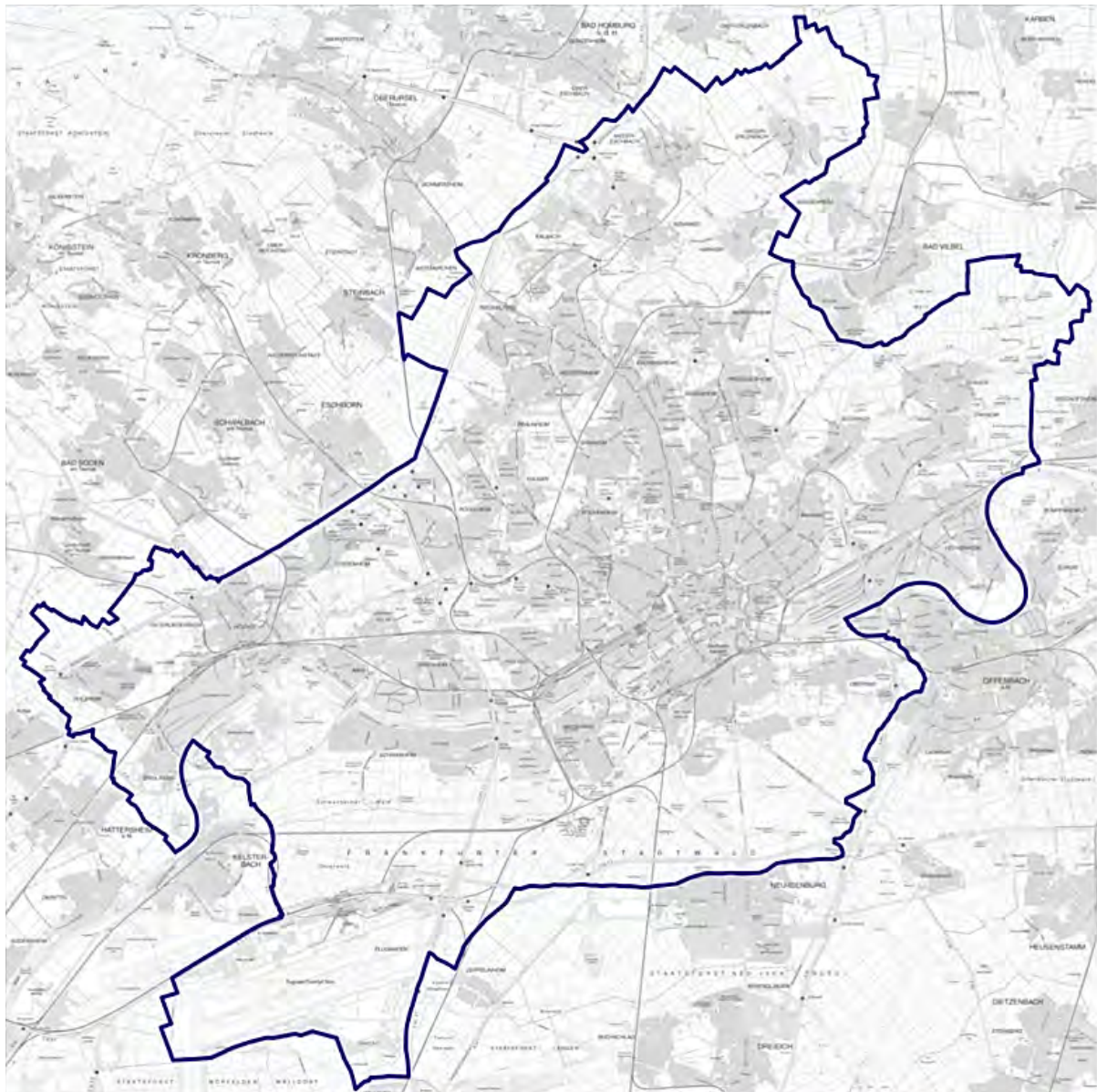


Figure 3: The Administrative Municipal Borders of Frankfurt am Main. Source: (Stadtplanungsamt Frankfurt am Main, 2017e)

Legal site planning is developed in a two-stage process, involving two types of plans: the preparatory land-use plan (*Flächennutzungsplan*) and legal zoning plans (*Bebauungspläne*). Therefore, it provides every municipality's most important two planning instruments for governing and preparing the use of private and public land for construction or other purposes. Both land-use plans are seen to be the

major plans that must come firstly into consideration throughout any planning procedure in Germany, and also in Frankfurt (Stadtplanungsamt Frankfurt am Main, 2017c).

2.4.1 The Preparatory Land-use Plan (*Flächennutzungsplan*)

Based on a formal enactment of the city or municipal council, the preparatory land-use plan (*Flächennutzungsplan*) regulates the type of use to which all land in an entire municipal area will be placed. It provides, therefore, a strategic base for decision making on land uses and on the allocation of resources (Stadtplanungsamt Frankfurt am Main, 2017g).

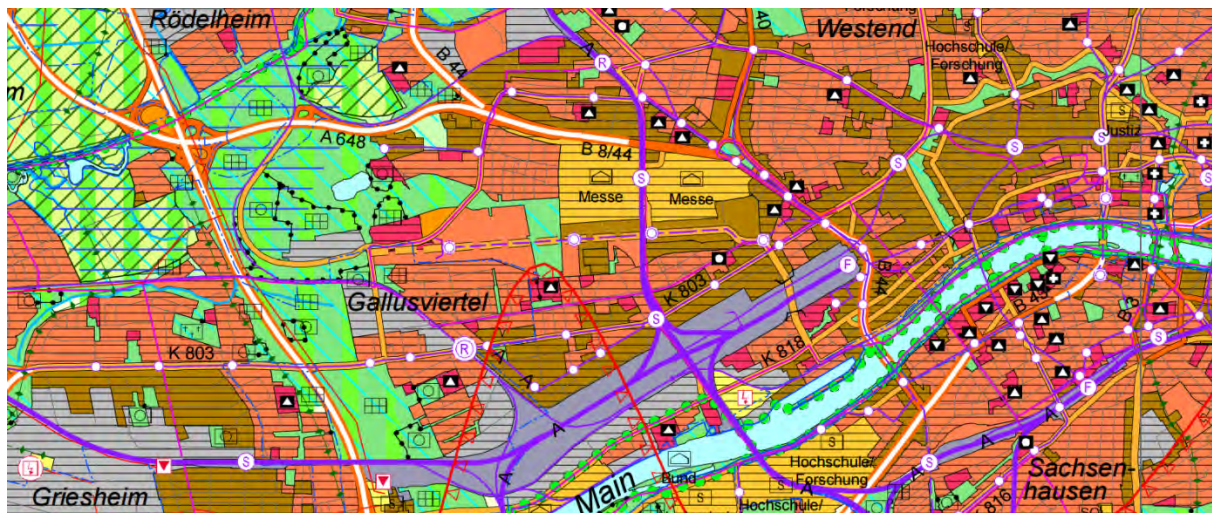


Figure 4: Section Showing Frankfurt's Downtown in the 2010 Regional Zoning Plan, Scale of the Original Document 1:50,000. Source: (Regionalverband FrankfurtRheinMain, 2016)

The main features of the preparatory land-use plan could be summarised in the following points (Berlin Senate Department for Urban Development and Housing, 2017; Erpenstein & Peterek, 2011; E. Pahl-Weber & Henckel, 2008; Stadtplanungsamt Frankfurt am Main, 2017g):

- Provides a general planning framework for the long-term development of the entire territory of the municipality.
- Provides a general development plan showing the proposed distribution of land uses according to the strategic objectives of urban development and the foreseeable needs of the community.
- Integrates policies relevant to the regional planning scale.
- Distinguishes between land for development and land to be kept as open space.
- Shows the projected urban uses of land e.g., residential, mixed uses, industrial, commercial, special purposes, community facilities and public utilities, urban characteristics, densities and other urban layouts e.g., major traffic corridors, green spaces, forests and agricultural land.
- Up-to-date and meant to be reviewed every 10 to 15 years³.
- Flexible regarding the numerous amendments to the plan that are usually made until every next comprehensive review in order to fulfill the plan's major role as an effective long-term planning instrument for strategic decision making on land-use matters.

³ Planning procedures geared to the scope and complexity of different types of modifications, the coordination of procedural stages and the possibility of early decisions on urgent matters make for efficient and flexible processes to keep the plan up-to-date. An early decision can be taken in order to facilitate undisputed developments, before the planning process for a complex modification covering more than one subject can be brought to its formal conclusion (Berlin Senate Department for Urban Development and Housing, 2017).

- Adaptive since it takes into account the changes in the overall and local circumstances as well as changing political and planning objectives relating to the city as a whole, to certain subject matters or to local development issues.
- Legally binding for local authorities as well as for public and statutory bodies consulted during its preparation; their own plans have to conform to the general framework of the land-use plan.
- Not legally relevant for individual citizens. The plan does not confer a right to be granted planning permission for a specific development or building projects, even if this conforms to the plan.

The Federal Building Code (*Baugesetzbuch*) and the Federal Spatial Planning Act (*Bundesraumordnungsgesetz*) require the local planning authorities to ensure that their land-use plans on the urban and municipal level conform to the goals of the superordinate regional⁴ and state planning. Thus, the importance of state and regional planning as a framework for urban land-use planning is stressed (Erpenstein & Peterek, 2011).



Figure 5: Metropolitan Regions in Germany. Source (Regionalverband FrankfurtRheinMain)

Parallel to this, on 2005 the Federal Government defined 11 metropolitan regions (*Metropolregionen*) based on political, decision-making and control functions, technical-scientific and socio-cultural

⁴ Regional planning is a function of the state spatial planning concerned with subdivisions of the territory. It is independent of comprehensive spatial planning, state spatial planning and local planning with its own functions pursuant to the Federal Spatial Planning Act. It is concerned with broad, supra-local, and cross-sectoral, foresighted planning for the spatial and settlement structural development of a region. It is differently regulated from state to state (E. Pahl-Weber & Henckel, 2008).

innovations, as well as to foster a quicker access to markets, knowledge and people (Regionalverband FrankfurtRheinMain, 2018a).

In response to this point together with the obligation to maintain a healthy interaction with the region and neighbouring towns as well as to optimize the regional coherence in terms of services and resources, the Government of the State of Hessen has taken a step forward and obliged the city of Frankfurt am Main and its neighbour municipalities by law to jointly develop and deliver their own preparatory land-use plans by means of a middle-tier-state-body, a higher regional planning authority, the Frankfurt/Rhein-Main Regional Authority (*Regionalverband FrankfurtRheinMain*). Thus, the Frankfurt/Rhein-Main Regional Authority, in which the city of Frankfurt takes part⁵ along with other 74 cities and municipalities of the Rhein-Main region, created in 2011 the second regional preparatory land-use plan (*Regionaler Flächennutzungsplan*) in Germany, preceded only by the regional land-use plan produced by the municipalities of the Rhine-Ruhr region (Erpenstein & Peterek, 2011, p. 2; Stadtplanungsamt Frankfurt am Main, 2017g).

Through its legal base, the ability to allocate land uses as well as urban characteristics, flexibility, adaptability, current and strategic approach, the Preparatory Land Use Plan provides the frameworks for city planning and urban development. The Plan aligns local policies and development goals to the needs and vision for the region. It is meant to empower municipalities to confront the wide spectrum of changing urban needs and challenges and pave the way for the subsequent legal zoning planning.

2.4.2 The Legal Zoning Plans, or Binding Land-use Plans (*Bebauungspläne*)

The Legal Zoning Plans are the second stage in the two-stage system of local urban development planning. These plans define legally binding rules for the developments of parts of the municipal territory. They should be produced for certain areas of the municipality when this is necessary for urban development. This is left to the discretion of the municipality. The City Planning Department is under no obligation to produce legal zoning plans for the entire city⁶. These Legal Zoning Plans are developed following the legal framework of the Preparatory Land Use Plan established by the Regional Authority. However, the Legal Zoning Plans produce much more detailed legally binding regulations and specifications steering urban development and the land uses for building as well as other purposes. According to (Berlin Senate Department for Urban Development and Housing, 2017; Erpenstein & Peterek, 2011; E. Pahl-Weber & Henckel, 2008; Stadtplanungsamt Frankfurt am Main, 2017d), the following points represent the main features of Legal Zoning Plans in Germany:

- Conforming to the Federal Building Use Ordinances (*Baunutzungsverordnung*), they can categorise land-use areas into exclusively residential areas, general residential areas, mixed-use areas, commercial areas, industrial areas or others; they also define the respective degree of building coverage⁷, the type of spatial development (open or closed) and the lot coverage.

⁵ The City General Issues Department (*Abteilung Gesamtstadt*) attached to the Municipal Planning Authority (City Planning Department) in Frankfurt “is responsible for all issues relating to regional preparatory land use planning that affect the city’s interests. As well as publishing expert statements, the department also prepares applications to the Regional Authority for amendments to the regional preparatory land use plan and coordinates amendment procedures with other municipal bodies” (Stadtplanungsamt Frankfurt am Main, 2017g).

⁶ For the municipal areas that are not covered by legal zoning plans, a building permission could still be obtained through a request at the City Planning Department (E. Pahl-Weber & Henckel, 2008).

⁷ The building coverage can be defined by fixing the plot ratio, the floor-space index, the cubing ration, the height of the building structures, or the number of stories. In addition, building lines, setback lines, or coverage depth can be determined (Erpenstein & Peterek, 2011).

- They can also denote sites for mitigation measures, sites for parking space or garages, for vehicular and pedestrian infrastructure, and open or green spaces.
- They regulate the building laws in the relevant restricted area of validity with regards to the exact parcels (or plots) of land. This means that for every plot of land, the valid building law is legible.
- They constitute the basis for other development activities and measures needed to implement the Building Code including land reallocation, land improvement (provision of local public infrastructure), compensation, expropriation, urban development enforcement orders⁸ and admissibility of projects within areas covered by Legal Zoning Plans.
- They are adopted by the municipal council in the form of a by-law or municipal statute⁹.
- They are composed of a plan with a legend, textual regulations and explanatory memorandum¹⁰ and an additional environmental report, which describes and assesses substantial environmental impacts.
- As a rule, they are not limited in time. However, under certain circumstances, time limits or conditions may be imposed.
- The scale employed for Legal Zoning Plans usually ranges from 1:500 to 1:2,000.



Figure 6: Legal Zoning Plan (Bebauungsplan) Riedberg from 2015. Source: (Stadtplanungsamt Frankfurt am Main, 2017e)

For developers, investors and individuals, Legal Zoning Plans are the key to securing building permissions since they are, unlike the preparatory land-use plan, legally binding on the local level. The admissibility of a project can then be decided on the basis of a qualified Legal Zoning Plan. A qualified Legal Zoning Plan follows the Preparatory Land Use Plan and should be in accordance with the current Federal Building Code, observing the minimum stipulations referring to the permitted land-use, the building type and density, the lot coverage percentage, and the local traffic areas including public infrastructure provision, among other stipulations which could also be made (Dobroschke & Gebhardt, 2015).

⁸ The Federal Building Code lists the following legally possible urban-development enforcement orders: preservation order, building order, modernisation and refurbishment order, planting order, and de-development and de-sealing order (formerly demolition order) (E. Pahl-Weber & Henckel, 2008).

⁹ By this adoption, the plan is legally binding for private individuals, too (Erpenstein & Peterek, 2011).

¹⁰ It sets out the aims, purposes and most significant effects of the plan (E. Pahl-Weber & Henckel, 2008).



Figure 7: The Legal Zoning Plan (Bebauungsplan) of Obermainstraße in 2015. Source: (Stadtplanungsamt Frankfurt am Main, 2017e)

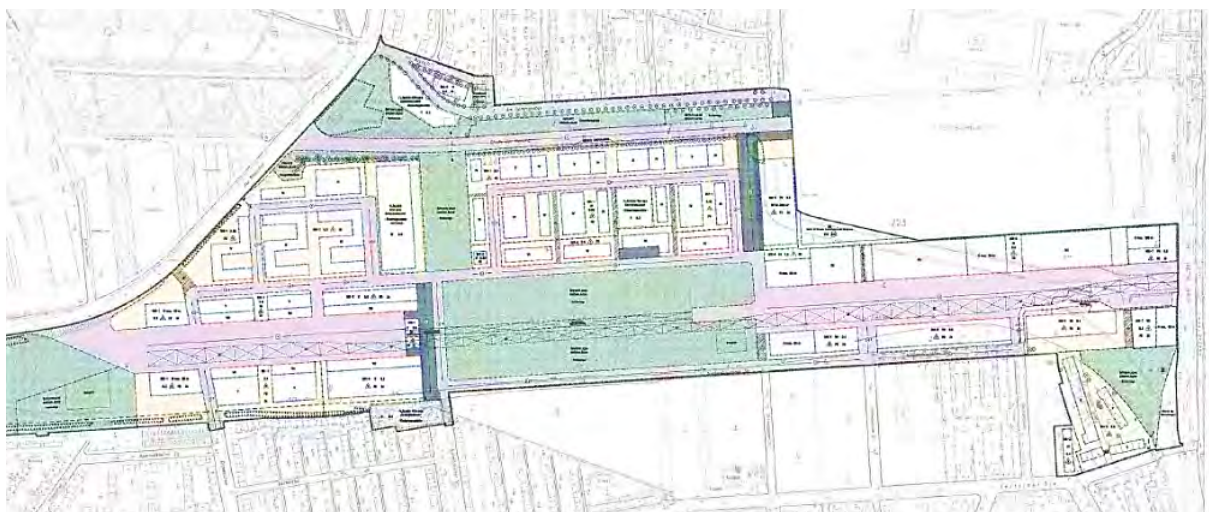


Figure 8: The Legal Zoning Plan (Bebauungsplan) of Europaviertel in 2010. Source: (Erpenstein & Peterek, 2011)

In addition to the qualified Legal Zoning Plan, and based on the information presented in this section, there are other two types of Legal Zoning Plans to be mentioned here (E. Pahl-Weber & Henckel, 2008; Stadtplanungsamt Frankfurt am Main, 2017i):

- A Simple Legal Zoning Plan: a plan that does not contain the minimum specifications is considered as simple. Although the specifications are legally binding, they are not sufficient to guarantee building permission, which means that the admissibility of projects, in areas covered by a just Simple Legal Zoning Plans, is referred to the authority that takes a decision according to the applicable building regulations¹¹.
- Project-based Legal Zoning Plan: These plans allow flexibility and adaptability within the planning system. The Project-based plan allows the local authority to grant permission for projects constructed by private developers. The developer provides the initial land use plan and integrates it into the Legal Site Plan. The municipality sets a deadline for the integration of the initial plan into the Legal Site Plan within certain delay. This instrument is used principally to

¹¹ In accordance with the related sections of the built-up areas/inner zone as well as undesignated outlying areas/outer zone of the Building Code (E. Pahl-Weber & Henckel, 2008).

satisfy the planning law conditions for obtaining authorization for a specific project. In this instance, the investor takes the initiative to demand a right to build. On the basis of a plan for realising the project and improving the land (project and infrastructure plan) prepared in consultation with the local authority, the developer must be willing and able to implement the project within a fixed period and to bear either total or partially the costs of planning and land improvement prior to adoption of the pertinent by-law (implementation contract).

In both types and other forms of Legal Zoning Plans, a project is permissible if it does not contravene the specifications of the Legal Zoning Plans and if the provision of local public infrastructure is ensured (E. Pahl-Weber & Henckel, 2008).

The Legal Zoning Plans are the main instrument both in Frankfurt and in Germany in general, for implementing local spatial planning. They give a specific form to the Preparatory Land-Use Plan through the clear, plot-by-plot definition of land uses. A wide range of further specifications and possible contents in the Legal Zoning Plans are allowed according to the Building Code (E. Pahl-Weber & Henckel, 2008).

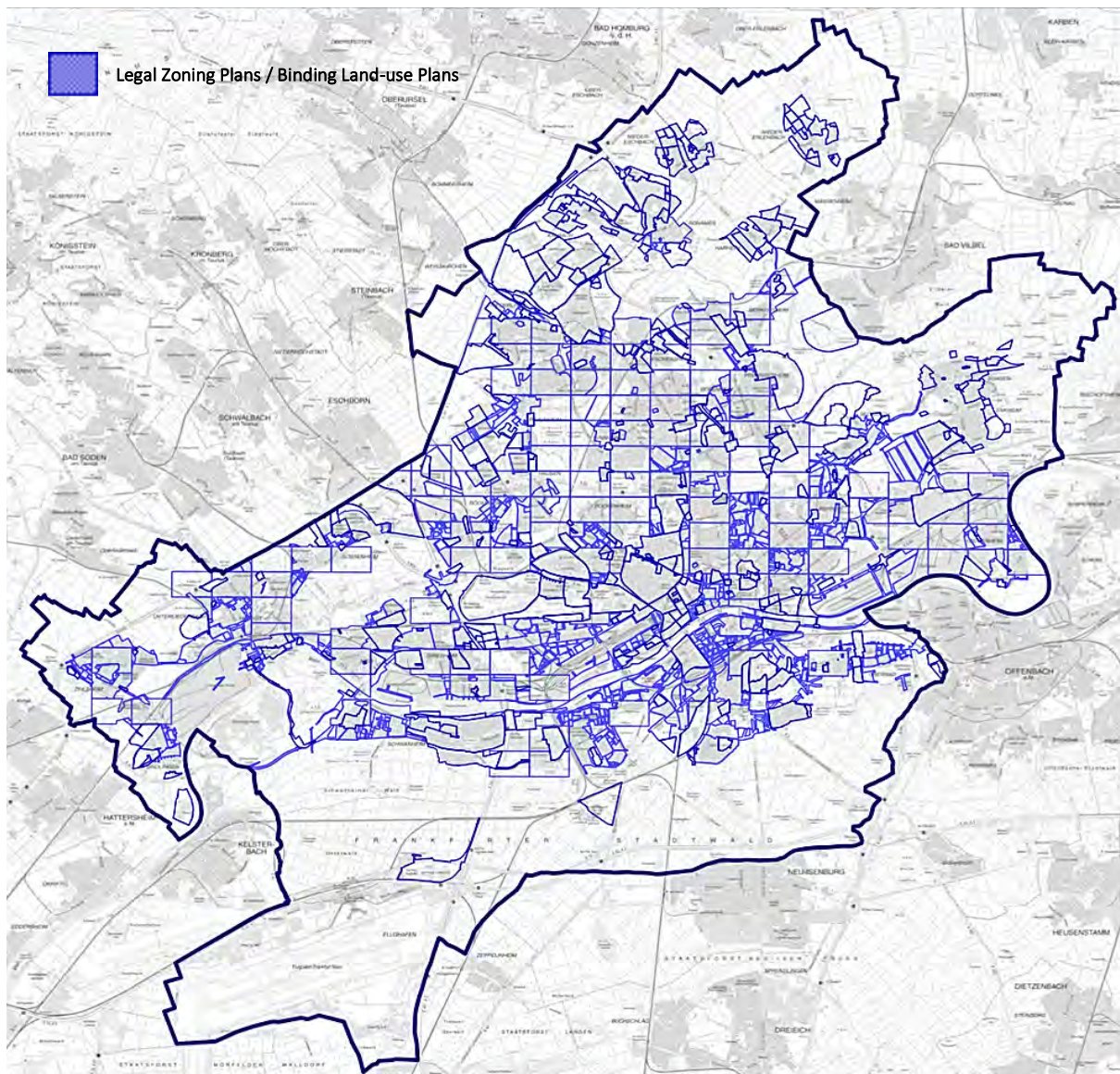


Figure 9: Overview of Legal Zoning Plans/Binding Land-use Plans in Frankfurt am Main as a Whole. Source: (Stadtplanungsamt Frankfurt am Main, 2017e)

2.5 Measures and By-laws/Statutes of the Federal Building Code (*Baugesetzbuch*)

Besides the regulation of Legal Site Planning, the Federal Building Code (*Baugesetzbuch*), also known as urban building laws, provides and regulates a set of measures¹² (*Maßnahme*) to assist and complement the function of land-use plans as well as to facilitate and control implementation. If well the Federal Building Code contemplates a series of different measures, for the extent of this document, only the ones most commonly employed by Frankfurt's City Planning Department will be addressed. In this context, the City Planning Department refers to the key complementary tools concerning its urban development in the following points (Stadtplanungsamt Frankfurt am Main, 2017f).

2.5.1 Urban Development Measures (*Städtebauliche Entwicklungsmaßnahme*)

When there is a significant public demand for a large volume of housing, workplaces or municipal facilities, in the case that the quality of life in the city is threatened, the municipality can implement measures for urban development. The Federal Building Code (*Baugesetzbuch*) frames the legal regulations of these measures, based on modernization law. These special measures are instruments in special urban development legislation characterized by the following features (Stadtplanungsamt Frankfurt am Main, 2017j):

- Allow the swift acquisition of previously unused land, vacant land, or land presently used wrongly by the municipality for building purposes.
- Serve to make building land available for residential buildings, workplaces, and communal facilities.
- Allow the financing of municipal development costs.

For the special measures to be implemented, an urgent need for development must be present, along with the feasibility of swift implementation, acquisition of property by the municipality and availability of finances. The measure is financed by the revenue resulting from the land appreciation. The municipality buys the land to be developed at a price not yet influenced by the potential development (initial value) and sells it after redevelopment at the price of developed building plots (final value). All costs occasioned by the measure are financed by the differential between the initial and the final value, e.g., the development of the area, the social infrastructure with schools and kindergartens, parks and greeneries. Owners can resist the purchase if they are willing and in a position themselves to conduct the development (of partial areas) in accordance with the plans. In such cases, an avoidance agreement is reached and a compensation is payable (Stadtplanungsamt Frankfurt am Main, 2017j).

¹² In the legal terms, the word "measure" refers to a set of regulatory laws that can be enacted by the municipal authorities to enforce certain development policies or actions. The word is directly translated from the German word "Maßnahme" (E. Pahl-Weber & Henckel, 2008).

The City Planning Department continues to give examples of such development measures that are currently being executed in Frankfurt am Main (Stadtplanungsamt Frankfurt am Main, 2017j):

- The Riedberg urban development measure for the creation of residential and mixed-use building land.
- The area triangle between *Huthpark*, the Main Cemetery, and *Günthersburgpark* is now subjected by the city magistrate to conduct preparatory investigations for a second urban development measure, which began on March 29, 2011. Partially boxing over the A661 highway is intended to create new quality in terms of urban fabric and the natural surroundings, major links, as well as new areas for housing around the districts of *Bornheim* and *Seckbach*.

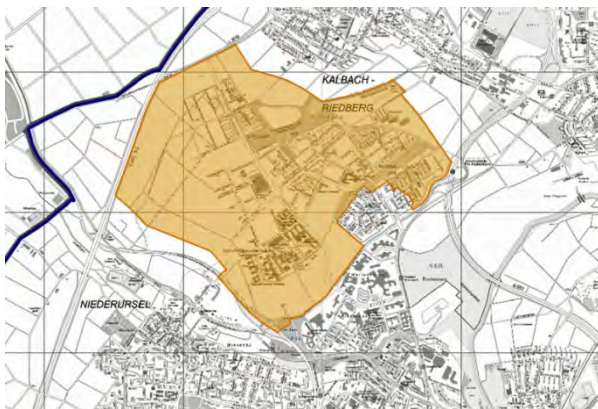


Figure 10: Area of Application with Regard to the Urban Development Measure Riedberg. Source: (Stadtplanungsamt Frankfurt am Main, 2017e)



Figure 11: Riedberg Urban Development Measure. Source: Peterek, 2015

2.5.2 The Urban Development Modernization Measures (*Städtebauliche Sanierungsmaßnahmen*)

When there are shortcomings in the urban fabric, rectifying modernization measures for urban development can be initiated by the municipality. An urban modernization measure is an instrument that comes under the special building laws covering the urban renewal of entire quarters. The legal basis for it is also regulated by the Federal Building Code. Unlike Legal Site Planning, which only creates the legal framework for the urban development, an urban modernization measure also aims at realizing the planning objectives swiftly within a specific period of time. The execution of an urban modernization measure is thus not a planned proposal (Stadtplanungsamt Frankfurt am Main, 2017k).

Referring to the buildings' status and other urban characteristics of an area, the Planning Department underlines two indicators for shortcomings representing a need for modernization measures (Stadtplanungsamt Frankfurt am Main, 2017k):

- If the area falls short in fulfilling the general requirements in terms of the health and safety conditions for the people living and working.
- If the area is considerably constrained in its ability to fulfill the functions given its location and uses.

In the context of the urban fabric, the Planning Department states that these indicators bring the following points as common examples of deficiencies requiring an intervention (Stadtplanungsamt Frankfurt am Main, 2017k):

- The co-existence of mutually incompatible uses.
- A lack of links to public transportation.
- A lack of areas of greenery, sports facilities and playgrounds, and everyday facilities in an area.
- Contaminated ground.
- A lack of shopping facilities or other general utilities.

For modernization work, the fundamental steps for carrying on a measure are (Stadtplanungsamt Frankfurt am Main, 2017k):

- The preparatory examinations
- Formal specification of the modernization area by means of a by-law (to be voted by the city council)
- Implementation of the modernization work (regulatory and building measures): Regulatory and construction measures must be conducted in order to rectify the aspects in need of modernization and revitalize the area in question. It is the duty of the municipality to conduct the regulatory measures¹³.
- Completion of the modernization

The modernization is an enforcement order, it is mandatory for owners and their responsibility to undertake a modernization building measure (E. Pahl-Weber & Henckel, 2008). These include in particular the construction of new or substitute buildings, the modernization, overhaul and relocation of companies and if necessary changes to the firms' operations (Stadtplanungsamt Frankfurt am Main, 2017k). Currently, the measure around *Ostendstraße* in the Frankfurt East End district (Ostend) is an on-going urban modernization.



Figure 12: Urban Modernization in Ostendstraße, Frankfurt.
Source: Peterek, 2015



Figure 13: Urban Modernization in Ostendstraße, Frankfurt.
Source: Peterek, 2015

¹³ Possible regulatory measures include land management, the relocation of residents and companies, the clearance of plots of land, the creation and alteration of access paths, or other measures needed for the construction work to be carried out. Hence, once the modernisation by-law comes into force, thereafter the construction, alteration or change in use of structures, the division of a plot of land and sale of a plot of land, as well as the creation and sale of hereditary building rights all require special approval to ensure complying with the envisioned modernisation (Dobroschke & Gebhardt, 2015).

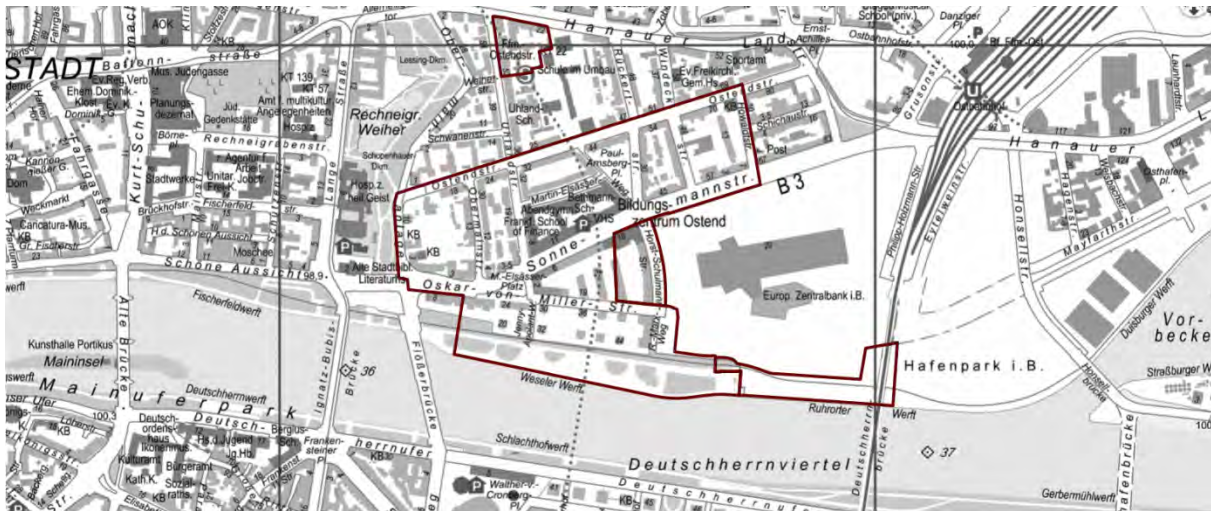


Figure 14: Area of Application with Regard to Urban Modernization Statutes in the Ostend District. Source: (Stadtplanungsamt Frankfurt am Main, 2017e)

2.5.3 Preservation By-laws (*Erhaltungssatzungen*)

In contrast to the previous two instruments, preservation by-laws are meant to halt urbanization and maintain a certain situation. According to (E. Pahl-Weber & Henckel, 2008; Stadtplanungsamt Frankfurt am Main, 2017h) preservation by-laws could be featured by the following points:

- They enable the municipality to designate specific areas in a Legal Zoning Plans, or in any other by-law, as areas where the dismantling or demolition of structures, alterations to them or changes to their use requires a special permission.
- Beyond the physical structures, preservation by-laws also enable the municipality to embrace plots of land, areas of greenery, open spaces, as well as plazas and roads.
- Preservation by-laws do not stipulate any precise design regulations for the designated areas, but rather contain guidelines that provide an overall framework for construction¹⁴.

Hence, when assessing a project in an area of a preservation measure, the preservation objectives of the applicable by-law are to be taken as benchmarks to determine whether a suggested development is accordingly permissible or not. Furthermore, in a preservation case, all other building activities that do not usually require building permissions, e.g. a new coat of painting on a façade, a new roof, advertising space, changes to the plot of land, etc., would require permission (E. Pahl-Weber & Henckel, 2008; Stadtplanungsamt Frankfurt am Main, 2017h).

The Federal Building Code provides three types of preservation by-laws in order to differentiate between three sets of circumstances that justify reserving the right not to issue construction permits (E. Pahl-Weber & Henckel, 2008; Stadtplanungsamt Frankfurt am Main, 2017h):

- By-laws to preserve the specific urban character of an area with regard to its own urban design. This is particularly relevant to protect the visual quality of the locality, the town or cityscape, the aesthetic value of a landscape or other physical structures and elements of outstanding historical or artistic importance.

¹⁴ These guidelines are derived from the design structures that define the cityscape. Within these structures various design elements that preserve the essential character of the particular urban fabric are permissible, even if they involve modern and up-to-date architecture (Dobroschke & Gebhardt, 2015).

- By-laws to maintain the social composition of the local residential population and their social milieu (neighborhood preservation statute). They might be adapted to counteract the threat of gentrification in an inner-city residential area.
- By-laws to support and reorganize the structure of urban development. Such a statute aims at ensuring that a necessary reorganization is undertaken in a manner which is socially equitable.

Since most of the preservation by-laws passed in Frankfurt were primarily from the first type, concerned with the urban character of the designated areas, the corresponding permissions needed to initiate new developments have considered the various features of the urban design, which usually refer to physical structures. This point makes the aspects of these structures together with their designing features seem to play the major concern in a common/ordinary preservation by-law in the city (Stadtplanungsamt Frankfurt am Main, 2017h).

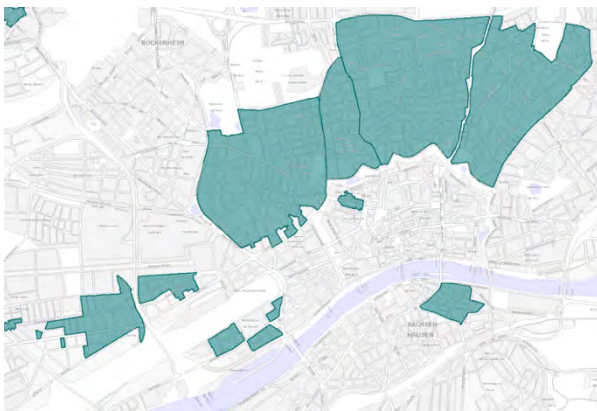


Figure 15: Areas of Application with Regard to Legally Binding Preservation Statutes, Frankfurt. Source: (Stadtplanungsamt Frankfurt am Main, 2017e)



Figure 16: Alte Oper, an Area of Preservation By-law. Source: Peterek, 2015

These three tools so far described (Urban Development Measures; Urban Development Modernisation Measures; and Preservation By-laws) and constituted in the Federal Building Code in the form of enforcement orders provide the municipality with the legal means to initiate, control, implement and safeguard urban planning in the city as well as to oblige property owners to undertake a building measure in cases of necessity. There are, however, some other measures listed by the (Stadtplanungsamt Frankfurt am Main 2017f) like the measures of planting, de-development and de-sealing. The major prerequisite for issuing these measures is that there is an urgent need for such measures on urban development grounds. Another point is that the measures are to be discussed beforehand with the affected owners, tenants, and leaseholders. They are, however, obliged to tolerate the measures, but legal remedies are available to them which can delay the actual implementation of the order for years. As a rule, the local authority will therefore seek a solution acceptable to all sides before they institute administrative execution proceedings (E. Pahl-Weber & Henckel, 2008).

2.6 By-laws of the State Building Code (*Hessische Bauordnung*)

On the state level of Hesse, the State Building Code (*Hessische Bauordnung*) is the building code providing the municipalities with further state-related instruments to assist and regulate the implementation of planning according to the state's general policies. In this context, the City Planning Department in Frankfurt refers to one major instrument: the Design By-Law (*Gestaltungsatzungen*).

2.6.1 Design By-laws (*Gestaltungsatzungen*)

In order to ensure the quality of the exterior design of structures, further regulation could be passed for specific areas under the jurisdiction of the municipality. These regulations are legally based on the State Building Code of Hesse. Design by-laws are characterized by the following points (Stadtplanungsamt Frankfurt am Main, 2017a):

- They regulate the design of buildings (the shape of the roof, the materials used, etc.), plots of land (enclosures, greening, etc.) and advertisement space.
- They stipulate the design framework that new buildings must adhere to. On the contrary to a preservation by-law, the design by-law makes precise stipulations with regard to the design of structures that are in the interest of a harmonious urban and architectural overall appearance.
- They can take the form of an independent by-law, or also be integrated into the Legal Zoning Plans (binding land-use plan).



Figure 17: Areas of Application of Design By-laws, Frankfurt.
Source: (Stadtplanungsamt Frankfurt am Main, 2017e)



Figure 18: Design By-law Area Dom-Römer, Frankfurt.
Source: Peterek, 2015

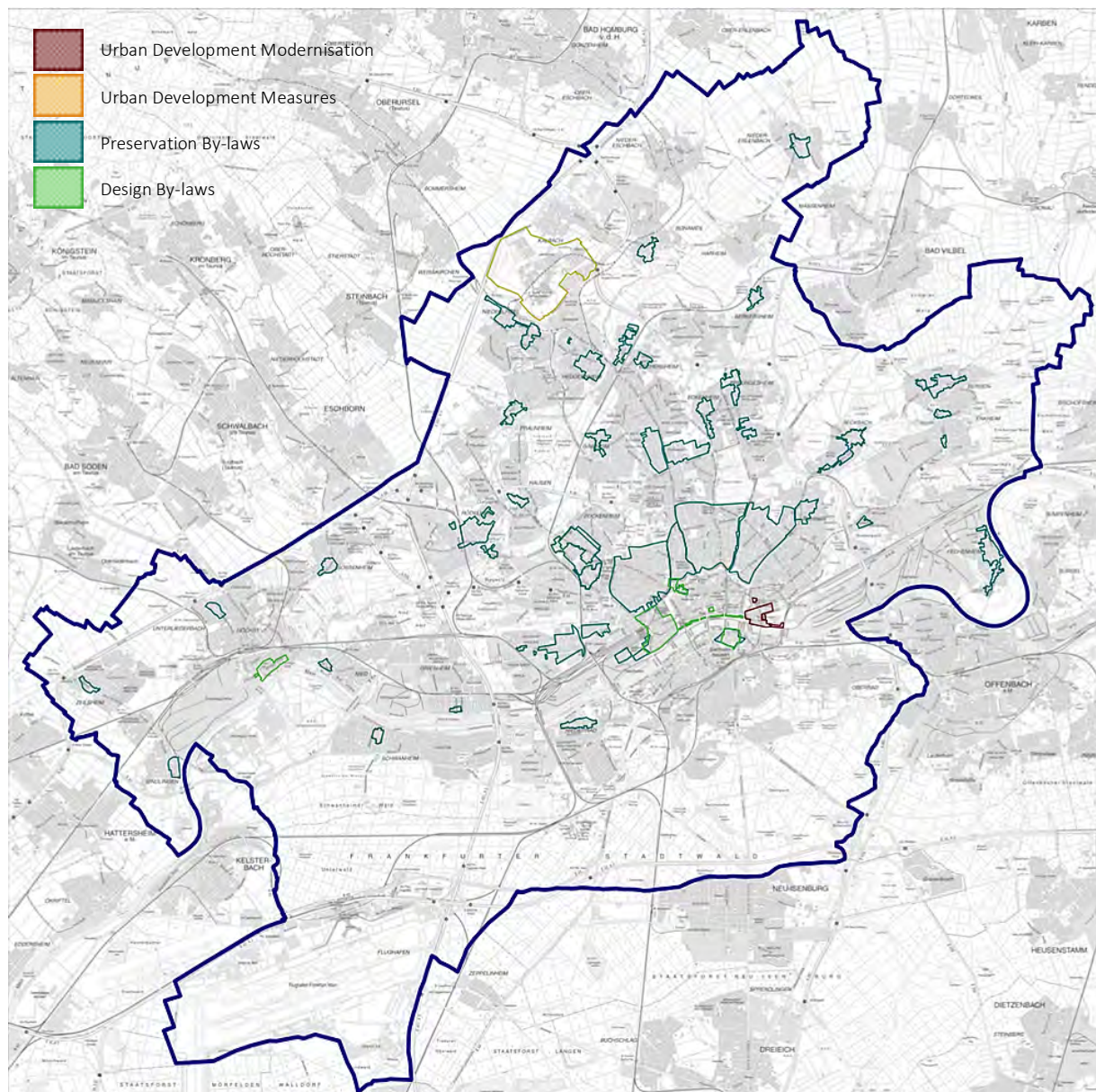


Figure 19: Measures and By-laws of Urban Development Enacted in Frankfurt am Main as a Whole. Source: (Stadtplanungsamt Frankfurt am Main, 2017e)

In Frankfurt, the design stipulations are already integrated for the most part to the Legal Zoning Plans. For the municipality as a whole, however, several independent design by-laws are now legally binding. According to the City Planning Department, these design by-laws were mandatory for the following districts of historical importance or townscape relevance (Stadtplanungsamt Frankfurt am Main, 2017a):

- The old quarter of *Höchst*
- The old quarter of *Sachsenhausen*
- The *Bahnhofsviertel*
- The *Fressgass* and adjoining streets
- The buildings on the northern bank of the River Main
- The cathedral and *Römer* area (*Dom-Römer*)

The by-laws of the State Building Code are becoming more complex through environmental law and European Union regulations (Erpenstein & Peterek, 2011).

2.7 Non-formalised Planning

Beyond the formal planning instruments mentioned in the previous sections, the means of non-formalised planning prove capable of dealing with a wide and shifting spectrum of urban themes since they have the advantage of being more flexible and problem-focused. These can address multiple challenges in the urban planning's tasks brought by the changing dynamics of progressing urban societies. As a rule, therefore, non-formalised plans are used to prepare alternative planning and give concrete form to land-use plans (E. Pahl-Weber & Henckel, 2008).

Pahl-Webber & Henckel (2008) continue to address the following points featuring the character of non-formalised planning:

- Non-formalised plans are neither regulated by law nor is there any formal procedure for their preparation. They are mostly seen as a continuous process in which procedural stages are not strictly chronological. Only their integration into formal urban land-use planning, however, is laid down by the Federal Building Code.
- Non-formalised plans may also be adopted (voted) by the local council/city magistrate. In such a case, they become binding only within the administration and thus must be taken into consideration by the public administration when preparing formal measures and legal land-use plans.
- Non-formalised plans are most likely established in the form of master plans (*Rahmenpläne*) i.e. urban development or framework or structure plans. There are, however, other forms of non-formalised planning too, such as studies and documents about more urban goals and visions.
- Non-formalised planning is strongly oriented in both substance and procedure on local conditions. Thus, the facilitation of subsequent modification, adaptation and feedback is stressed.

In order to legally recognize a non-formalised plan as legally binding for the public administration, it must meet certain formal and material conditions (E. Pahl-Weber & Henckel, 2008):

- The plan must be passed by the local council.
- In spite of statutory provisions, the general public and public authorities must have been given a prior opportunity to participate.
- Non-formalised planning must comply with the aims and principles of the established land-use planning and seek to balance the interests affected.

By legal recognition, the concerned urban authorities are internally obliged to refer to the non-formalised plan adopted and reflect it on the city planning in progress, which would include (E. Pahl-Weber & Henckel, 2008):

- Matters material to the weighing of interests
- Pre-emption statutes in areas where urban development measures are envisaged
- The interpretation of indeterminate legal concepts in the context of the Building Code
- The development of goals and purposes in rehabilitation, urban redevelopment, and the Socially Integrative City

Having the listed features, it could be noticed that non-formalised planning is considered non-formalised as it is not regulated by law. However, the Building Code's explicit statement that urban development concepts and other urban plans are matters of public interest to be duly weighed (E. Pahl-Weber & Henckel, 2008) shows that this type of planning is quite relevant and largely supported by law.

This makes non-formalised planning particularly important, as it introduces more flexible options and opportunities for a variety of stakeholders, including planning departments, landowners, investors or other groups. These stakeholders could initiate a planning process that could be adopted later by the municipal authority and be integrated into the formal plans. In this atmosphere, the preparation of non-formalised master plans and programmes has become a permanent part of the local government's planning practice, where the voluntary involvement of the public and public authorities has become the normal practice even though the procedure is not formally regulated.

According to their scale downward, the following points represent the major types of non-formalised planning:

2.7.1 Urban Development Planning / Spatial Development Planning / Sectoral Development Planning

Urban development planning (*Stadtentwicklungsplanung*) is a non-formalised, conceptual, as well as control tool that embraces the key elements, focal points and guidelines for urban development for an entire city or municipality. According to Pahl-Webber & Henckel (2008), the following points shape the character of Urban Development Plans:

- They are usually elaborated to deal with demographic, social, cultural, functional, economic, and environmental demands of the whole settlement area on the medium to long-term.
- Such plans are often composed of thematic sub-plans addressing sectors like work, housing, social infrastructure, utilities, open spaces, transport, and others. Based on this feature, one could name them sectoral plans as mentioned. This, however, does not mean that these plans are sectoral in principle. Rather, urban development plans are more comprehensive and inter- and trans-sectoral since they often consist of sub-plans dealing with specific sectors.
- They help prepare political and administrative decisions and constitute a tool for coordinating subsequent urban land-use and municipal sectoral planning. This would later give more concrete form to preparatory land-use planning by setting spatial and temporal priorities in space utilization and, in the process, by eliminating the conflicts recognized at an earlier stage.
- They can also elaborate functional space models, types of actions and areas for specific action, and determine their implementation in terms of importance and continuity.
- They are often filled in by means of detailed texts and programmes and thus not limited to graphical representations in the form of master plans.
- Single sectoral sub-areas are usually treated separately and, depending on the size of the community, depicted with a scale ranging between 1:5,000 and 1:25,000.

The advantage of such non-formalised urban development planning is more flexibility and scope.

2.7.2 Sub-area Development Planning / District Development Planning

Sub-area Development Planning or District Development Planning (*Stadtteilentwicklungsplanung*) is a non-formalised planning tool that gains more and more importance as the preparatory land-use plans, as well as sectoral, specialized and development plans of many local authorities, deal with sub-areas. The following points, according to (E. Pahl-Weber & Henckel, 2008), represent the main features of this tool:

- Instead of elaborating abstract programmes aiming to influence economic and societal forces for development as a whole, this new approach towards planning focuses on priority setting rather than all-embracing realization. Therefore, it concentrates on small steps and single tasks in order to obtain partial improvements that could be achieved in reasonably short periods (perspective incrementalism¹⁵).
- Master plans for sub-area development planning present differentiated proposals on the distribution of land use, urban design and the type as well as the priority of planning measures for limited areas.
- A medium scale is normally used for these non-formalised plans for sub-areas of the municipality (1:2,000 to 1:10,000).
- Sub-area development planning is medium to long-term.

On a smaller scale than urban development plans, it could be stated that sub-area development plans are prepared to deal with a medium scale of urban development that takes a far more relative view on specific contexts, problems and perspectives.

2.7.3 Framework Development Planning

A framework plan (*Rahmenplan*) is a differentiated plan of action which can be seen as both, a pointer to the administration and a source of information for the public and investors. The wide margin of flexibility in such a plan facilitates deepening the planning process into the level of selected aspects and problems. This would later elaborate specifications of the preparatory land-use plan at the neighborhood level and provide a basis for the Legal Zoning Plans. Thus, in contrast to urban development planning, the non-formalised tool of framework planning concentrates on spatially and substantively limited urban development tasks (E. Pahl-Weber & Henckel, 2008).

(E. Pahl-Weber & Henckel, 2008) refer to the following points as the main characters of framework plans:

- They are used primarily for urban extensions, but also in the development of existing urban areas that suffer from deficiencies and shortcomings.
- The framework plans generally present both, the categories of land use laid down by the preparatory land-use plan and the physical structures determined by Legal Zoning Plans. Structures, in this case, are usually identified in a far more concrete form than in Legal Zoning Plans.

¹⁵ Incrementalism is a methodology of work that usually refers to taking many small incremental steps and measures in reflection to specific problems and selective issues as they arise. Such actions are meant to be implemented in short terms using whatever means could be close at hand without having to initiate strategic approaches or trigger new policies on a larger scale (Overseas Development Institute, 2009).

- The framework plans can also address a range of other aspects: spatial-structural, functional, urban design, socio-economic and ecological.
- They are often prepared in connection with or as a follow-up of urban design competitions. Their objectives, however, can be detailed in many different ways.
- At the spatial level, they come between the Preparatory Land-use Plan and the Legal Zoning Plans (scale 1:1,000 to 1:5,000) to deal with urban sub-areas or neighborhoods or even more limited areas.
- Framework planning is medium term.

The importance of framework development plans is derived from their intermediate role between the two major forms of legal site planning, with which they provide a practical link between guidelines and policies on the strategic level and measures and objectives on the local one.

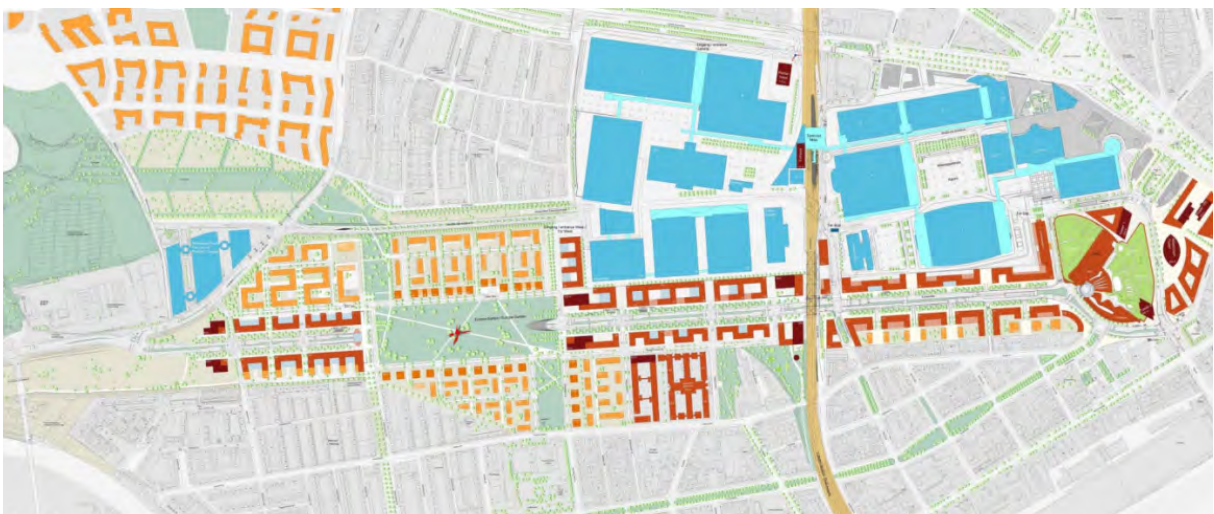


Figure 20: Framework Plan (Rahmenplan) for Europe District (Europaviertel), Frankfurt. Source: (Stadtplanungsamt Frankfurt am Main, 2017b), AS&P, 2005

There are various forms for shaping a non-formalised measure ranging from drawn plans to written development concepts, goals and visions covering certain issues on the short, mid and long term as well as on the scales of a municipality, sub-area and neighbourhood. Such plans have neither a direct legal effect nor any regulation regarding their processing except for their potential integration into the legal site planning. They can, however, be supported by law and internally binding for the administrations adopting them.

2.8 Summary of the Review of the Spatial Planning System in Frankfurt

Frankfurt in the described context of spatial planning instruments and procedures, likewise every municipality in Germany, has a set of instruments that are mostly constituted by the Federal Building Code (*Baugesetzbuch*) and partially by the State Building Code (*Hessische Bauordnung*). These instruments take the form of legal plans, texts and statutes with the normative character of by-laws, approved by the local council, in order to initiate, implement, control and safeguard the spatial planning in every relevant aspect. Additional non-formalised planning instruments supported by law are also available for stakeholders, including city administrations, willing to initiate a planning process out of or in parallel with the formal line. Therefore, city planning, in this case, is meant to be approachable from both sides of the equation, where the balance of interests should be always maintained. On the one side, the municipal authority employs the means of legal land-use planning as well as the measures of urban development, refurbishment, preservation, design by-laws on its part. And on the other side, a variety of actors and stakeholders can initiate development procedures using the means of project-based land-use plans and a range of non-formalised planning instruments that can make their way in to be formalized and integrated into the legally binding and preparatory land-use plans. This fact, approachability, added to the nature of the mentioned legal and non-formalised forms of planning, gives a space for personal or collective engagement and even entrepreneurship in urban planning and shows a considerable deal of flexibility, adaptability, integrative-ness and consistent readiness to change. Frankfurt, therefore, gives an alternative to other more rigid approaches towards formal urban planning.

In this document, there is an overview of the spatial planning system in Frankfurt in its general terms. At the local level, the urban planning system in Frankfurt is conducted by the City Planning Department using the formal tools granted by the federal, state and municipal law. This includes the Legal Site Planning (Preparatory and Legal Zoning Plans) in addition to development measures and by-laws (urban development, modernization, preservation and design regulations). Non-formalised plans which translate into unregulated local detailed plans are also considered to be a part of the planning system and can be initiated by city administrations, developers or other interested stakeholders. Here, the administrative planning system regulating urban development in Frankfurt seems to enable the local authorities to conduct urban development plans that are on the scale of the pressing development issues and challenges of the city. Having a wide set of planning instruments and by-laws at the disposal of the local authority, such as in Frankfurt, is essential to: first, allow a larger extent of planning responsiveness to certain necessities and emerging needs within the city and, second, grant enough authority to enforce implementation, which ensures the up-to-date-ness of the plans and their conformation to the actual status of the city. In parallel to the formal planning, non-formalised procedures of urban planning can grant an additional margin for efficient planning procedures on demand. This promotes the idea of an urban planning that is approachable by a wide set of development partners and stakeholders. The qualities of responsiveness, up-to-date-ness and approachability found in the administrative system of spatial planning enable Frankfurt to stand as an alternative planning model to other more rigid approaches towards formal urban planning in the case cities of the Rapid Planning research project.

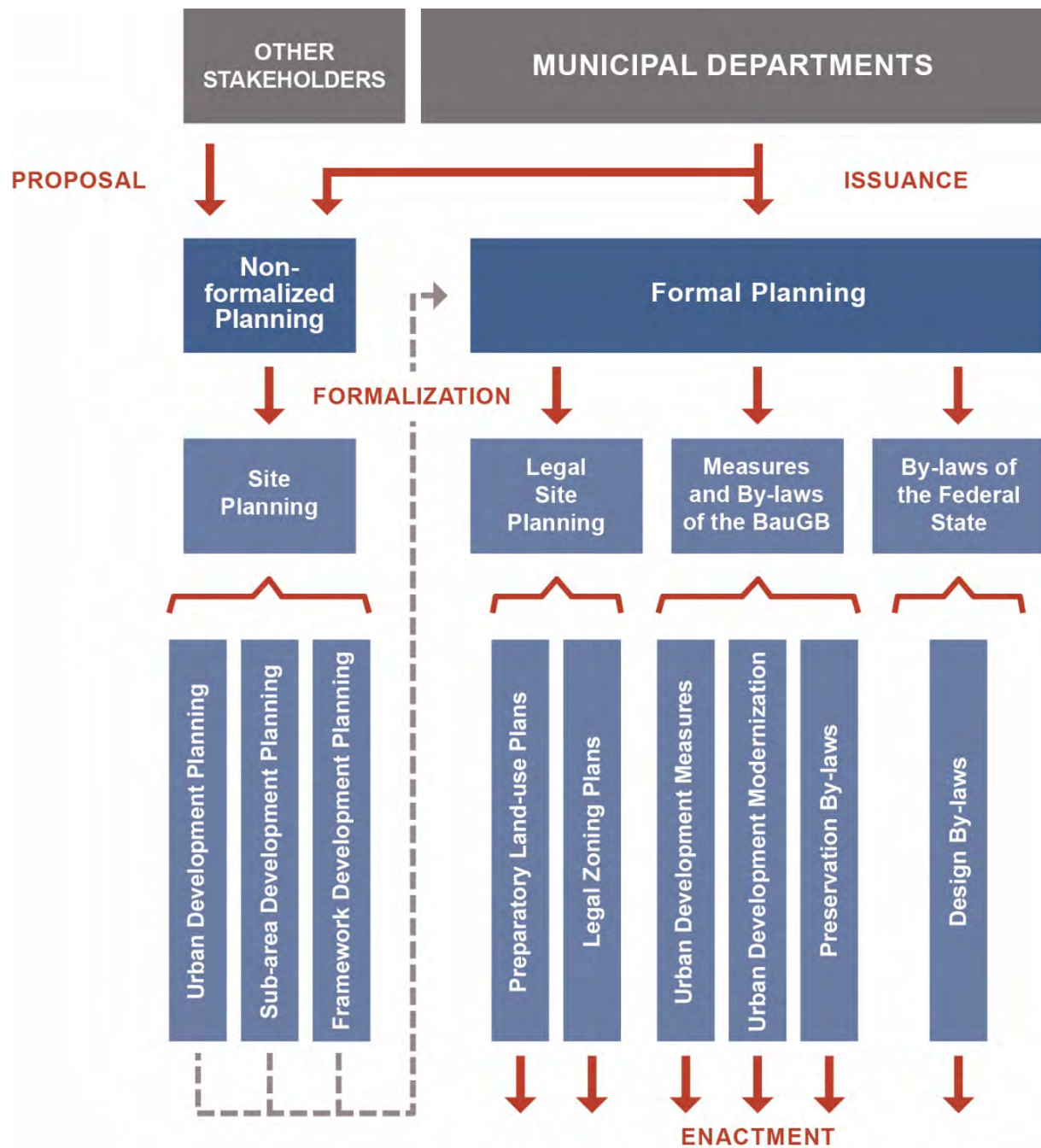


Figure 21: Review of the Spatial Planning System at the Municipal Level in Germany. Source: Elaborated by the FRA-UAS Team

3. Section Two: Identification and Documentation of the Dynamics, Development Trends, Goals and Visions of Frankfurt am Main

This section corresponds to the Task 7.2 of the Rapid Planning Project. Frankfurt am Main has been selected as reference city in order to understand the challenges posed by population growth, economic development and climate change on the urban development of the city. The objectives of this section are to understand the spatial planning, urban development trends and city dynamics; to identify and document urban development visions or officially planned futures and addressing the relevant documents that fall in line with RP approach; to address the short-, mid- and long-term goals and targets of urban development, as well as the information bases and indicators behind; and to examine the current measures of the city to mitigate and adapt to climate and environmental risks and hazards.

On the one hand, the examination would shed light on Frankfurt's administrative adaptability, as well as on the response towards growth and resource management. The research describes the current measures for climate change adaptation and mitigation and environmental policies taking into account the risks and hazards. On the other hand, the environmental policies would highlight the important challenges and urban tensions taking place within the city. With the challenges and policies identified, the research discusses the future of the city regarding urban development. The discussion will include the description of the urban development visions, the official plans for the future and relevant documents for the Rapid Planning Project. The results of the analysis of the different facets of Frankfurt as a reference city, along with its challenges and responses to population growth and economic development would pave the way for identifying those planning instruments and policies which could be potentially transferred to other cities and suggest constructive interventions.

For this section, the descriptions of the urban visions and trends were realized as part of a literature review of the official documents presented by the municipality and the direct observation of the participation process for the Integrated Urban Development Concept 2030. The methods utilized for the research of Task 7.2 also include expert interviews with officials from the Energy, Environment and City Planning Departments and one official from the Regional Authority Frankfurt Rhein-Main.

To achieve an understanding of what makes a city work would often require the topic to be seen from an abstract point of view. In this sense, despite the fact that every city in the world is different, they all respond to two factors: demography and functionality. From the demographic side, cities are defined as geographical sites that experience the accumulation of people. In other words, cities are the places where people permanently live and work and thus becoming propitious sites for the production of social encounters. From the functional aspect, cities are the places where several activities and mechanisms occur simultaneously. This means that cities are the places where services and goods are demanded, provided and consumed by an infinite number of users or stakeholders. If demographic and functional factors are seen and put together in one space, cities would occur as urban places where systems and activities interact and work together.

To understand the complexity hidden behind a city, it is then necessary to understand first the combination of such interactions taking part in it and how they drive its development. On its part, this development is distinguished to a large extent by three parameters: city dynamics, urban development trends and spatial planning. Together, they dictate its operational mechanisms, which

are based on the particular reality of every city, its aspirations or goals and the methods or strategies being applied to achieve them. Therefore, this paper will discuss these parameters in order to understand Frankfurt's urban development and its particular way of embracing the urban future of the city in the following points:

- City dynamics
- Urban development trends
- Future visions and urban development goals



Figure 22: Frankfurt's Financial Façade. Source: Peterek, 2015



Figure 23: Frankfurt's Residential Façade. Source: Peterek, 2015

3.1 City Dynamics of Frankfurt

City dynamics can be defined as patterns of change or growth that are experienced in a particular place and the intensity at which they are felt. Consequently, they are particular features that distinguish each city from the rest; features that shape its reality and provide insights or clues about its future. For the purpose of this report, city dynamics will be divided into two groups: demographic and functional dynamics. The demographic dynamics are mainly related to the changes in population, addressing three different areas: birth, aging and migration. The functional dynamics are related with the city's operative system and opportunities.

Every day, the city of Frankfurt experiences a series of demographic and functional dynamics that provide a personal identity to this metropolitan area. In that sense, it is a city where its various dynamics are continuously presenting challenges and opportunities for the city's development plans. Frankfurt's international and multicultural façade attracts newcomers on a daily basis. Its population is in constant change and rotation. Frankfurt's reputation as an international transportation hub, financial center and a research area, adds pressure and dynamism to the city that has to fulfill the demands of these developments to maintain such status. Therefore, it is a city that is under constant innovation, adapting itself to multiple users and usages.

3.1.1 Demographic Dynamics

Frankfurt am Main is the fifth-largest city in Germany and the largest one in the state of Hesse (Stadtplanungsamt, 2008, p. 13). It forms the heart of the Rhine-Main region with around 5.6 million inhabitants (Regionalverband FrankfurtRheinMain, 2018a). Contrary to other cities and regions in

Germany where the population is experiencing a shrinking process, Frankfurt is continuously attracting new residents¹⁶. In 2014, Frankfurt reached a population of 708,543 inhabitants; however, it is estimated that in 2030, Frankfurt's population will probably reach the number of 810,000 inhabitants (Dobroschke & Gebhardt, 2015, p. 62). This demographic growth is a trend mainly shaped by two dynamics. First, it is a city which does not so much experience growth from new births, but from newcomers from Germany and around the world (Stadtplanungsamt, 2012, pp. 33–35). Second, it is a city where demographic movement is constant, meaning that “only about half of Frankfurt's population inhabitants stay more than 15 years in the city” (Stadtplanungsamt, 2008, p. 13). In that sense, it is a city that constantly gains and loses residents, implying a constant social change.

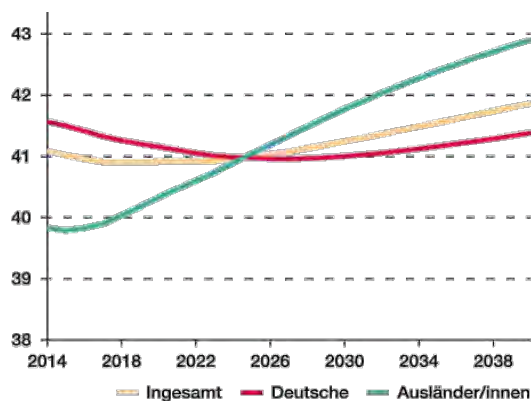


Figure 24: The Population Average Age by 2040 (in Total, Germans and Foreigners). Source: (Dobroschke & Gebhardt, 2015, p. 65)



Figure 25: Multiculturalism in Frankfurt. Source: Dobroschke & Gebhardt, 2015

Frankfurt is considered to be one of the most attractive cities in Germany and Europe thanks to its relative affordability (compared to other places of the continent), the provision of residential facilities, the good services and infrastructure, leisure and environmental amenities and its central geographic location. As a result, almost one-third of its population has a non-German passport, shaping the city's development and its social dynamics. This multicultural and international environment around the city has influenced the multiple uses that the city has to accommodate and adapt in order to satisfy the demands and needs of people coming from all around the world. Frankfurt usually profits from high migratory gains from both Germans (61% coming from other parts of Germany, 7% coming from abroad, and 31% from the surrounding areas) and foreigners (20% coming from other parts of Germany, 66% coming from abroad, and 14% from the surrounding areas). However, the income disparity between different districts and places in the Rhine-Main region as well as in the city itself has become noticeable and is on the rise (Stadtplanungsamt, 2008, p. 17).

Age is another important factor influencing demographic dynamics in Frankfurt. In this city, the share of children who are less than 5 years old is higher than their share Germany-wide. When looking at the national level, the 5 to early-20-years group is still more than its share in Frankfurt, but the early-20 to mid-40-years group is again higher in Frankfurt than in the whole of Germany. This group dominates the biggest share of Frankfurt's population, a group that also represents the majority of the working population found in the city of Frankfurt. Nevertheless, the city also experiences a high level of elderly

¹⁶ Germany is made up of eleven metropolitan regions. The Frankfurt/Rhine-Main metropolitan region is one of the most important ones in the country (Regionalverband FrankfurtRheinMain, 2018a).

population, which is part of the city's dynamics and will have to be taken into consideration for any future urban planning and development (Stadtplanungsamt, 2012, pp. 31–33).

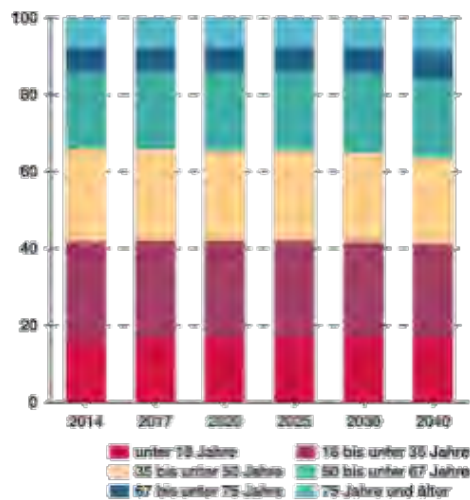


Figure 26: The Population Age Structure by 2040. Source: (Dobroschke & Gebhardt, 2015, p. 63)

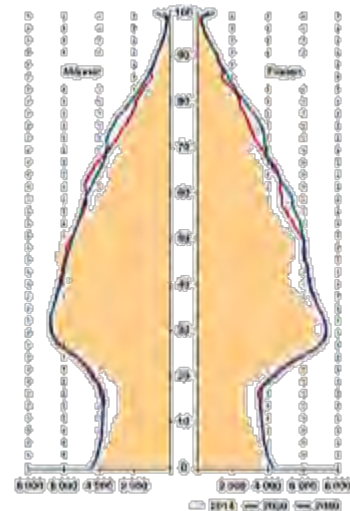


Figure 27: Population According to Gender and Age by 2040. Source: (Dobroschke & Gebhardt, 2015, p. 63)

3.1.2 Functionality Dynamics

Frankfurt is considered to be a central traffic hub in the international, European and German context. Therefore, logistics and transportation are among the strongest sectors in the city. The city is directly connected to other cities and countries through a transport system comprising the international airport, the railway and the motorways along the country. Frankfurt's airport is one of the largest international airports offering direct connections to the most important destinations in the world. In 2009, 51 million passengers went through the airport, which made it the tenth biggest airport worldwide and the third one in Europe after London's Heathrow and Paris's Charles de Gaulle. From Frankfurt airport, every capital in Europe can be reached in no longer than 2 hours. Every week there are 4,620 connecting flights to 300 destinations in 110 countries. In terms of railway connections in 2007, Frankfurt already counted with 342 long distance trains and 1,390 *S-Bahn* and regional trains, all of them working on a daily basis. The main railway station and the airport railway station are well integrated with the European high-speed train network. In addition to the ten-years functioning of the high-speed connection Frankfurt-Köln, the newly planned Rhine-Main/Rhine-Neckar high-speed corridor will increase Frankfurt's importance in the context of the European railway network. Frankfurt's highway intersections of the national north-south and east-west Autobahn connections are passed by 150,000 vehicles every day (Stadtplanungsamt, 2012, pp. 62, 63).



Figure 28 Frankfurt Airport. Source: Fraport AG, Andreas Meinhardt, 2014



Figure 29 Frankfurt Train Main Station. Source: Fraport AG, Andreas Meinhardt, 2014

There are more than 300,000 people commuting to Frankfurt every day, which adds pressure to the services' provision, infrastructure and the mobility system in the city (Stadtplanungsamt, 2012, p. 63). These daily commuters can be roughly divided into three main groups:

- People working or studying in Frankfurt but living in nearby areas of the region
- International business travelers using the city for short periods as a result of meetings and conferences taking place in Frankfurt
- International travelers visiting Frankfurt or passing through the city on their way to other destinations.



Figure 30: Frankfurt's Location in Relation to Germany and Europe. Source: Creative Commons, modified by the FRA-UAS Team



Figure 31: European Central Bank. Source: Peterek, 2015



Figure 32: Frankfurt's Banking District. Source: Peterek, 2015



Figure 33: The Industrial Park in Höchst. Source: Industriepark Höchst, 2017



Figure 34: Goethe University – The Physics Campus in Riedberg. Source: Goethe-Universität Frankfurt, 2017

As a result of Frankfurt's central geographical location and transport connectivity, the city hosts the international economy. Frankfurt am Main has become the headquarters of the European Central Bank, the German Stock Exchange, the Federal Institute of Financial Performance and Supervision (*BaFin*) and around a hundred insurance companies which have settled their main headquarters or branches in the city. Frankfurt also hosts 267 credit institutes, 9 of them are Germany's biggest credit institutes. The fact that the city of Frankfurt offers good infrastructure combined with short distances between residential and commercial services, has allowed the city to compete with other important cities as Paris or London. By offering lower rent cost for offices, lower living expenses and an attractive international atmosphere, the city of Frankfurt has created excellent conditions for hosting businesses coming from all over Europe (Stadtplanungsamt, 2012, p. 62).

Besides the financial and the transportation sector, Frankfurt is nowadays also shaped by the telecommunications and informatics sector, the chemistry and pharmaceutical industries, and the creative and cultural economy located in the city. The informatics and telecommunications sector is one of the strongest on the labour market in the city. Frankfurt hosts the German Internet knots DE-CIX where more than 80% of German and 35% of European internet data traffic are managed, as well as DENIC where German internet addresses are registered. The chemistry and pharmaceutical industries have also found their places in the city. The Industrial Park in *Höchst* has been chosen as a place for the spatial concentration of such industries, where almost 80% of the 11,500 employees work on the development and production of innovative products for medical purposes. Research

institutions concerning the areas of life sciences are also found in Frankfurt in the new science and university district of Riedberg. Here, the natural sciences campus of Goethe University and the Frankfurt Innovation Center for Biotechnology (*FIZ*) are located. The creative economy and the cultural sector are also attracting more and more people to Frankfurt. Within this sector, 25% of the jobs are related to the games industry and the software production. This sector will most probably keep increasing as Frankfurt's young population grows in parallel (Stadtplanungsamt, 2012, p. 63).

Frankfurt's city dynamics can be divided in two general groups: demographic and functional dynamics. The demographic dynamics are made up of four different factors: the considerable amount of newcomers increasing every year, the constant rotation of people in this metropolitan area, the foreign nationality that one third of the population in Frankfurt has, and the high percentage of young people living in this city. These four dynamics together are influencing the continuous changes in work and lifestyles. Consequently, they all have to be taken into consideration when urban development plans are thought for the city. On the other side, the functional dynamics in the city of Frankfurt are mainly manifested in the sectors of transportation, finance, and research. Altogether, they have contributed to Frankfurt's image as a commuting destination, for national and international users. Thanks to its central location and the provision of efficient infrastructure, Frankfurt's popularity in the business and banking sector reflects one of the city's façades. However, the science-based economies and culture-based services can today be regarded as an additional special dynamics for further economic development, due to its continuous growth. Given the fact that such knowledge-based economies prefer an urban environment and are open to share and exchange with other sectors and areas of the city, there is now a strong opportunity for Frankfurt to intermingle both its work and life worlds together. Such mixture could bring new possibilities of living the city and promoting it. Thus, they present challenges as well as opportunities regarding the social aspects in Frankfurt, especially when considering the city's international profile and its atmosphere of cultural tolerance.

3.2 Urban Development Trends in Frankfurt

Frankfurt am Main is constantly driven by the various trends existing in the area. Such tendencies are frequently affecting the way Frankfurt is seen as a city by its multiple users. Urban trends can be divided into two groups: trends that respond to statistical data and indicators which are being witnessed in a metropolitan area, and popular ideas or concepts gaining momentum and awareness in the urban arena. Together, they both influence and dictate development paths that cities decide to follow. All of these trends are putting pressure on development plans for Frankfurt, requiring the city to tackle urban issues while achieving and maintaining a city's positive reputation and its inhabitant's wellbeing.

3.2.1 Statistical Trends

Statistical trends in Frankfurt mainly determine the employment and the housing sectors. Both of these areas have been experiencing increments in their demand as Frankfurt continuously becomes more desirable for national and international audiences in terms of working and living opportunities. Consequently, they represent key aspects to be tackled in order to allow Frankfurt to be recognized as a prosperous city and a high-quality residential region.

3.2.1.1 *Frankfurt as a High Quality Residential Area*

In Frankfurt, the commercial and economic influences have modified the city's urban fabric transforming it into the only city in Germany with a pronounced skyline reflecting this financial identity. The central area in the city displays an urban fabric that is mixed and compact, with a combination of low and high-rise buildings. However, in the peripheral areas, the city's modern silhouette transforms into a village, where agriculture and the natural environment are mingled with the urban fabric itself.



Figure 35: Urban Fabric from Above. Source: Peterek, 2015



Figure 36: Urban Fabric from Above. Source: Peterek, 2015

Despite the focus of German cities on controlling urban expansion and increasing inner quarters' densities, in the Rhine-Main region where Frankfurt is located, there is still a trend of suburbanization. Counteracting such trend, urban development strategies are being elaborated and promoted in order to reach appropriate densities in new and existing residential areas in such way that the city's growth is contained and organized in a more sustainable form. In the case of Frankfurt, these specific district densities are defined individually by the City Planning Department. Yet, residential density represents a challenge for the city considering that there is a parallel trend of single householders, which is currently on growth. Already in 2012, 53% of Frankfurt's households were one-person-households, 25% of the households accommodated two people, 11% three-people, and another 11% four-people or more (Stadtplanungsamt, 2012, p. 33). For 2020, it is predicted that the number of households accommodating a small number of people will increase (Stadtplanungsamt, 2008, p. 29). Additionally, the number of low-income households will increase.

Existing housing trends are nowadays influencing the way in which residential areas are planned and developed in the city of Frankfurt. Generally speaking, there is the need for an innovative housing approach where cost-effective dwellings are promoted while ensuring their energy efficiency and affordability. Nowadays, new zones for residential use are being designated. In general, they follow

the line of redevelopment on brownfields and already developed areas, assuring in this way, the provision of urban amenities and local transportation to the new residential zones and reducing the further consumption of open green spaces. Efforts are and will remain focused on: combating suburban sprawl, promoting multiple lifestyles and meeting the needs of the population while battling social segregation and spatial disparities in Frankfurt. After all, attractive housing facilities accompanied by the provision of good services and urban infrastructure can reinforce the urban quality of Frankfurt as a residential area.



Figure 37: Residential Areas – Ostend. Source: Peterek, 2015



Figure 38: Residential Areas – Riedberg. Source: Peterek, 2015

3.2.1.2 Job Opportunities and Retail

In Frankfurt, statistically, there are nine jobs for every ten of its inhabitants. In 2007, the city offered 66,000 jobs in the field of transportation, three-fifths of this amount being located at the airport, where about 500 companies are working and offering jobs for about 70,000 people. When considering the telecommunications and informatics sector, since 2004, 17,000 jobs have been offered in those areas. The chemistry and pharmaceutical industries have been offering 11,500 jobs in the areas of research, development and production. From the creative economy and the cultural sector, there is an approximate provision of 30,000 jobs for people in Frankfurt. The trend for new jobs to be offered in Frankfurt keeps increasing as newcomers arise and new businesses and industries are in place (Stadtplanungsamt, 2012, pp. 62, 63).

Parallel to the ongoing trend where jobs are continuously increasing in the financial, services and research sectors, there is a negative recent trend where the rationalization and concentration of retail businesses in Frankfurt is affecting prices, locations, and consumer behaviors. The City Planning Department in Frankfurt is working to face up this negative trend by ideally supporting local amenities and a balanced mix of services all around the city. Considering the fact that there is limited scope and space for new commercial areas, Frankfurt is concentrating its efforts on the existing ones, along with a regional cooperation in the fields of retail provision. In that sense, the main focus of planning policies is to rely on the already existing centers and retail premises, and to enhance the quality of their location while preserving or encouraging diversity in their offerings and functions. Finally, the functionality and life quality of urban locations within a certain city are determined by a successful combination of services, infrastructure, retail, culture and housing.

Employees by economic sector in 2013
(in per cent; total: 524,204 employees subject to social insurance contributions)

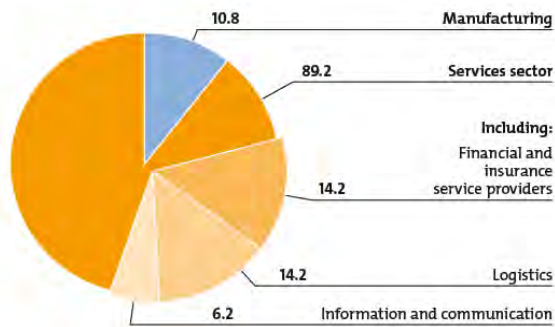


Figure 39: Employees by Economic Sector in 2013. Source: (Stadt Frankfurt am Main & Umweltamt, 2017)



Figure 40: Job Offer – Frankfurt Fair. Source: Messe Frankfurt GmbH / Sutura, 2017

3.2.2 Momentum or Popular Trends

The momentum trends in Frankfurt are various and they are all influencing the city at the same time. At the regional level, Frankfurt is following a path of cooperation and collaboration. From another perspective, on the city level, there is an increasing focus on the environmental protection and the mobility system, both of them considered as two of the main assets in Frankfurt. Local participation itself is a trend affecting every other urban trend in Frankfurt as the city's residents desire to be actively involved in the process of development and urban planning. These momentum trends give an insight on how Frankfurt desires to be seen in the future, and which actions are being taken in order to reach such goal.



Figure 41: The Rhine-Main Region. Source: (Stadtplanungsamt, 2012, p. 21)



Figure 42: Frankfurt and Neighbouring Towns. Source: (Stadtplanungsamt, 2008, p. 40)

3.2.2.1 Regional Cooperation

The already existing challenges regarding housing provision, traffic organization, water and energy supply, sewage, waste disposal and ecology in the city stress out the importance of concerted action from a regional cooperation. Thus, such cooperation is imperative for the city, in addition to the fact that the regional and the metropolitan area of Frankfurt/Rhine-Main is in constant comparison and competition with other metropolitan areas in the country such as Hamburg, Stuttgart and Munich, and many other ones around Europe.

Frankfurt, therefore, tends to assure its location as the inner city of a polycentric European metropolitan region of mutual interdependence. Regional cooperation must, therefore, be shaped by linkages, connections and concerted action, inhibiting any rivalry scenario within the region itself. It is commonly stated in Frankfurt that only through a fruitful regional cooperation, the potentials and problems of regional development can be dealt with in a manner that ensures a sustainable common future regarding the increasing population, concentration of jobs, the social and economic structures, the provision of infrastructure, cultural offers and the availability of green areas and open space.

3.2.2.2 Brownfield Development

Frankfurt follows the key principle of “brownfield development over greenfield development”, which in general terms gives priority to the rebuilding and reuse of already urbanized areas and previously built infrastructure, normally located within the urban areas, instead of new development projects on green sites often located at the periphery of the city. Already in the year 2013, 62% of the restructuring zones were cataloged under the brownfield denomination, a tendency that continues to increase until today (Stadtplanungsamt, 2013, p. 12).



Figure 43: Brownfield Development Westhafen. Source: Peterek, 2015



Figure 44: Brownfield Development New Atterberry. Source: Sahle Wohnen, 2017

For Frankfurt, it is important to focus development projects on brownfields or urban locations since the infrastructure is already in place, and the efforts can be targeted for the improvement of urban amenities and the correction of previous urban mistakes while the use of the green-field areas is considerably reduced and preserved. New redevelopment plans have already been located in large-scale abandon facilities (*Westhafen, Europaviertel*) and ex-military areas (*New Atterberry*), targeting different social needs and desires. In the future years, the university campus in *Bockenheim* will be

converted into a residential, working and cultural district (*Kulturcampus*), and the so far mono-functional (office) area of Bürostadt Niederrad (*Lyoner Viertel*) will be reorganized to satisfy mixed usages by providing around 3,000 new housing units (Stadtplanungsamt, 2013, 2017b).



Figure 45: Brownfield Development Europaviertel from Europaallee. Source: Guerra Bustani, 2016



Figure 46: Brownfield Development Europaviertel from Europagarten. Source: Guerra Bustani, 2016

The brownfield development trend followed by the city of Frankfurt has set various opportunities and challenges for the region. Firstly, it has eased some pressure on the existent green-field areas, supporting Frankfurt's decision to become a more sustainable and greener city. However, focusing on brownfield sites has also added pressure on the existent infrastructure and services within the city, since such redeveloped areas have to cope with the reconstruction periods as well as with new programs and users for which such infrastructures were originally not planned for. Despite any difficulties, development on brownfield sites has the capacity of revitalizing neighborhoods and reutilizing abandoned structures while controlling urban sprawl. For Frankfurt, such a trend is a viable way of following development as it supports its environmental, economic and residential assets.

3.2.2.3 Mobility and Transport

In 2012, the City Planning Department's report looked at mobility as a major factor driving all functions and activities in Frankfurt, making the city an attractive urban site and an outstanding economic and cultural capital of the Rhine-Main region. Generally talking, efficient mobility ensures participation in social life and creates the preconditions for economic prosperity and cultural exchange. However, it also imposes burdens on the environment and human health. Therefore, mobility planning has to take into account the common societal welfare, particularly in terms of environmental protection and traffic safety. In Frankfurt, an ongoing environmental trend supporting eco-friendly modes of transportation is having repercussions on the way mobility is being planned and developed in the city. There is a slowly growing public consensus demanding less motorized mobility and stronger public transport. This tendency is proved by the share of motorized individual trips in Frankfurt, which in total went down from 40% in 1998 to 34% in 2008. The share of pedestrian and public transport has stabilized at high levels, whereas the cycling share has actually doubled since 1998 and reached a proportion of 15% in 2012. As a matter of fact, in the inner city, almost three-quarters of the daily trips are done by walking, cycling, or public transport (Stadtplanungsamt, 2012, p. 86). The main trends in Frankfurt concerning mobility and transportation can be divided into three as in the following points:

3.2.2.4 Extending Transportation

The central focus relies on the extension and creation of urban tramway lines and new bus routes around the city. There is a special consideration towards the night bus system, especially regarding their safety and effectiveness.



Figure 47: Frankfurt Night Bus. Source: RMV / Helmut Vogler, 2017



Figure 48: Frankfurt Night Bus System. Source: RMV

3.2.2.5 Promoting Cycling as a Non-motorized Mobility

The promotion of cycling in Frankfurt has been one of the main efforts in the mobility area. The works are targeted at developing a proper cycling mobility system for the city. In that sense, efforts are localized in developing appropriate infrastructure, creating new cycle tracks reaching distant places in the city, maximizing the cyclists' safety, adapting traffic light sequences to cyclists' needs, creating more cycle parking facilities, developing traffic priority rules and organizing the cycling traffic and routes within Frankfurt. The 2010 Environment Department's report has already stated that cycling beats all other means of transport in Frankfurt as the most environmentally friendly way for covering distances up to 5 km and often competing fairly on even longer distances. Hence, the city is focused on encouraging a healthy cycling lifestyle and a culture of respect among all the traffic participants in the city (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt, 2010, p. 26).



Figure 49: Cycling Crossing in Frankfurt. Source: Guerra Bustani, 2016



Figure 50: Cycling Lane in Frankfurt. Source: Guerra Bustani, 2016

3.2.2.6 Promoting Pedestrian Walkways and Walkable Environments

The Transport Development Plan aims for a consistent promotion of pedestrian walkways. Proposals are being developed, in which safety and attractive environments for pedestrians are prioritized. The pilot project in the *Nordend* district - Networked Playing and Meeting Spaces (funded as a research project by the Federal Ministry of Transport, Building, and Urban Development) – has developed many proposals, specifically considering the children, youth, and elderly perspectives and needs regarding transportation. As a result, many ideas have been developed for their daily routes, improving their walkability, comfort and security. Other programs as Walkway Noses aim to improve the streets' cross-ability and attractiveness in public spaces. Within the mentioned program, new standards of producing barrier-free environments for both handicapped people and blind or visually impaired people have been tested and implemented (Stadtplanungsamt, 2012).



Figure 51: Pedestrian Mobility. Source: Peterek, 2015



Figure 52: Bicycle Paths. Source: Peterek, 2015



Figure 53: Traffic Calming Strategies in Nordend. Source: Guerra Bustani, 2016



Figure 54: Shared Space Strategies in Nordend. Source: Guerra Bustani, 2016

Innovative approaches to reshape street spaces developing traffic-calming responses have been adopted. In some residential streets, shared space concepts have been encouraged, where pedestrians, cyclists and cars have been set under equal terms, giving them all equal priority, and therefore enhancing their urban space share and respectful attitudes between each other. Reclaiming the streets as living spaces has also been experienced in temporary situations. During the summer months of 2008, 2009, and 2012, there were many street sections in the *Nordend* district that cut the traffic using the street for social activities once a week in the afternoon. These experiences seem to be an ongoing process (Stadtplanungsamt, 2012, p. 94).

Transport and mobility in Frankfurt have to fulfil the requirements of its various users (visitors, workers, residents) as well as the needs coming from the industrial and the financial sectors. Hence, there is a need for well-connected, time-saving and environmentally efficient public transportation. Moreover, such transportation system needs to include pedestrians, cyclists, public transportation users and vehicle owners, to efficiently serve and address everyone in the city. This has evidenced the need for functional, safe and creative streets design and mobility strategies. Such strategies and measures will always have to consider the close interactions between the city, the environment, and transport development. Only then, mobility will be really aligned with Frankfurt's ecological, functional and social concerns.



Figure 55: Public Transportation. Source: Lars Brüggemann, 2010



Figure 56: Public Transportation. Source: traffiQ, 2017

3.2.2.7 Frankfurt – The Green City

Frankfurt is a relatively green city in comparison with many other cities of similar size around the world, with green spaces covering about 52% of the total area of the city, i.e. more than 40 parks, over 50 lakes and ponds, 100 hectares of green spaces along the rivers Main and Nidda, a continuous Green Belt surrounding the city, and about 160,000 trees. The southern part of the city contains an extended city forest (*Stadtwald*), while the northern part is recognizable for its agricultural areas and meadows. (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt 2010, pp. 46, 47).

Frankfurt is following the green city global trend. Much of the city efforts are localized in enhancing, maintaining and promoting the addition of new green facilities for the metropolitan area. Understanding that environment, climate, and urban development are inseparable topics and interlinked to a large extent, Frankfurt has been planning its city in a way that it responds to ecological and urban concerns. As a matter of fact, the importance of Frankfurt as a national and international business location as well as an attractive residential city depends on maintaining its environmental assets while coping with the effects of the climate change. The city's Environment Department has already stated that the urban quality can only be strengthened if the natural resources are preserved in the long term, the environmental and housing quality is improved, and the natural resources are used as efficiently as possible (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt, 2010).



Figure 57: Map of Green and Open Spaces in Frankfurt. Source: (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt, 2010, p. 47)

In 2012, the City Planning Department report (Stadtplanungsamt, 2012, pp. 96, 97) mentioned several key points concerning green areas and open spaces in the city of Frankfurt:

- The quality of nature and landscape in the region of Frankfurt/Rhine-Main is a natural resource that is aimed to be protected and hopefully incremented in time.
- The networking of open space is extremely important, providing green connections around the city and linkages to open areas at the regional level.
- Land use modifications and the relocation of activities are opportunities to expand the existing green and open areas, and to promote the creation of new ones around the city.
- Attractive open space and green areas as soft location factors within the global competition are important to attract business and companies to this city. Open and green areas are to be empowered since such factors are serving Frankfurt positively.

- The multi-faceted lifestyles of Frankfurt's population make available, accessible, and adequate open space important. Such open space should be developed and designed to satisfy the different needs and desires of various users.
- The ecologic, economic, and social consequences of climate change will have an increasing impact in the coming decades. Forecasted climate changes include summer heat waves, dryness, stronger rains, and water floods. Therefore, suitable measures and adaptive strategies should be prepared to cope with the changes and their expected impacts.
- Since the end of 2009, the Energy and Climate Protection Concept has started to develop measures to show where and how it would be possible to save considerable amounts of CO2 emissions in the coming years. Frankfurt is ambitiously looking forward to reducing its CO2 emissions by 10% every five years.

Frankfurt's Green Belt contains 8,000 hectares covering around one-third of the surface area of the city and forming a lifeline of green open space counting to a length of 70 km around the city (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt, 2010, p. 48). In 1996 this green, permanently protected amenity was recognized as a positive example of sustainable urban development during the UN HABITAT II conference. Additionally to the Green Belt, the municipal forest (6,000 hectares of woodland area) represents another ecological site, which is by law ensured for its long-term preservation, avoiding additional streets being constructed in such place (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt, 2010, p. 54). Both of these natural features are nowadays two of the main factors influencing the urban development in Frankfurt while containing its urban sprawl within the city.



Figure 58: Green Belt in Frankfurt. Source: Frankfurt Green City - Umweltamt, 2015



Figure 59: Green Belt in Frankfurt. Source: Stefan Cop, 2017

The banks of the river Main are a key element in the city's development when thinking of Frankfurt as a service-based, residential and green city. This context provided the motivation for reclaiming the land and redeveloping some of the former port as well industrial areas located on both banks of the Main. These reclaimed areas are being promoted as new residential and open recreational areas where people can live, work, and relax, securing their continuity and accessibility to the city's waterfronts. Since 1997, redevelopment has taken place on different sites along the banks including the former slaughterhouse in the *Deuschherrnufer* district and *Weseler Wharf* on the opposite bank of the river, as well as the area of the former Western Harbour, close to the main railway station. Recently, the new European Central Bank headquarters development has been realized close to the

river in the Ostend district (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt, 2010).

Percentage of green and open spaces in the Frankfurt city area

(in per cent; total: 248.3 km²)

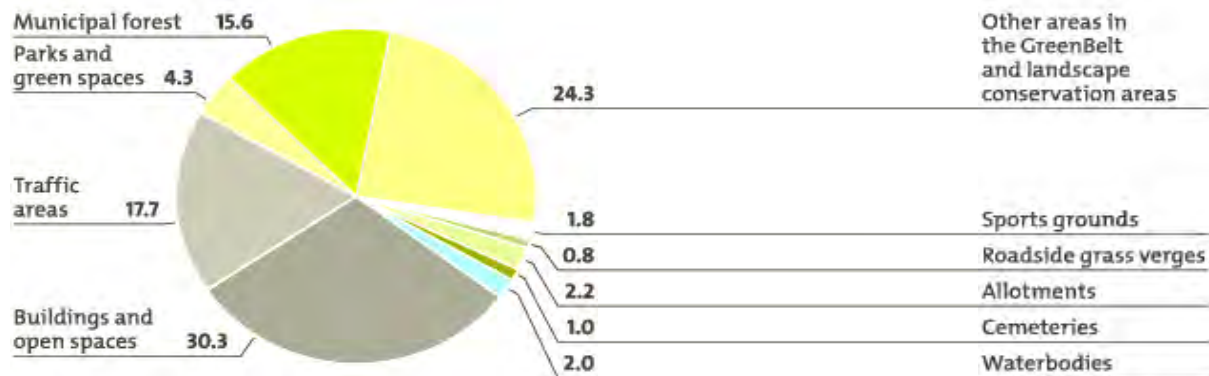


Figure 60: Percentage of Green and Open Spaces in Frankfurt. Source: (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt, 2010, p. 47)



Figure 61: The Banks of the River Main. Source: Peterek, 2015



Figure 62: Accessibility to the Waterfronts. Source: Peterek, 2015

Contaminated urban areas are also been taken into consideration for Frankfurt's urban development along with its effort for environmental protection. Contaminated areas may contain harmful substances coming from old waste disposal sites, previous industrial use, or the rubble of the post-war years, presenting risks for the groundwater and human health. Nevertheless, they are also an opportunity for redevelopment projects and new open areas in the city if proper surface recycling processes are implemented. Frankfurt has already developed a list of all contaminated areas in the city including: the former Gas Works in *Oskar-von-Miller-Straße*, the new City West in *Bockenheim*, the former fuel depot on the disused airfield in *Bonames*, the site of the former main rail freight station (now the *Europaviertel*), and the areas previously used by the US army. The cleaning processes, which has been already completed in some of the mentioned areas, has not only allowed new urban development projects to emerge but also contributed to the city's environmental protection (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt, 2010).

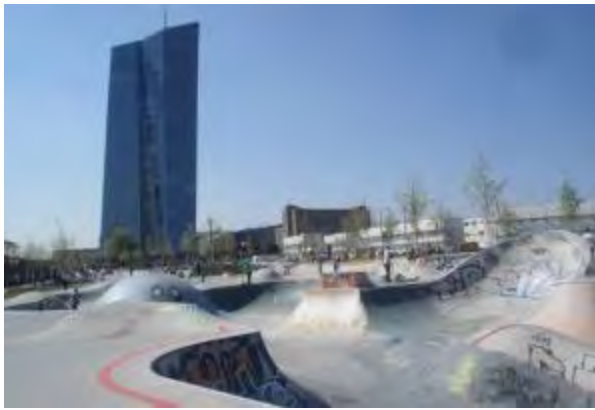


Figure 63: Hafenpark. Source: Peterek, 2015



Figure 64: Bonifatiuspark in Riedberg. Source: Riedberg Mein Frankfurt, 2017

Along with the processes of reclaiming areas in the city, there is also an urban trend supporting the construction of new parks located in Frankfurt. Along with the construction of the new urban districts and the conversion of previous industrial and railway sites, four large new parks have already been created or are in the process of realization in Frankfurt: *Bonifatiuspark*, which is a key element of the newly planned district in Riedberg; *Rebstockpark*, a site that used to be a car park for the Trade Fair; the new Europa Gardens (*Europagarten*) in the *Europaviertel*, which are taking shape on the site of the former rail freight station near the Trade Fair and the new Harbor Park (*Hafenpark*) in the densely urbanized Ostend district, adjacent to the site of the new European Central Bank headquarters (Stadt Frankfurt am Main Dezernat Umwelt und Gesundheit & Umweltamt, 2010).

In general, it is important for the metropolitan region and the city of Frankfurt to secure the accessibility, connectivity, expansion and the revitalization of green areas and open spaces. On the bigger scale, the new Regional Land Use Plan has already limited the possible urban expansion into the peripheries, allowing many areas to remain environmentally protected. At the city scale, there is a wide range of local measures being used to improve the environmental conditions in many locations such as the Green Belt of Frankfurt, *Hafenpark* in the Ostend district, *Europapark* in the *Europaviertel* and the Gallus district, and the river banks of the Main (Stadtplanungsamt, 2012).

In 2012, Frankfurt applied for the European Green Capital Award 2014. In this international application and the related dossier, the city focused on four elements of green development: first, green economy and consumption; second, sustainable mobility culture; third, planning and building in a dense urban setting; fourth, protection of climate and development of open space. Although Copenhagen finally got the title as Green Capital for 2014, the international jury was impressed by Frankfurt achievements so far and widely acknowledged the city's efforts in a wide range of domains towards a more sustainable future, seeking to settle the balance between economic, ecological, social, and cultural needs without harming third parties or affecting the future generations. If successful, Frankfurt could act as a true model for cities faced with similar problems (Stadt Frankfurt am Main, 2011).

3.2.2.8 Urban Community Gardens

Urban agriculture practice is defined as a “rapidly growing industry that is increasingly essential to the economic and nutritional security of urban residents, and has far-reaching economic, environmental, and health implications” (Smit, Nasr, & Ratta, 2001, p. 1). This urban movement connected mainly to

the idea that eating local enhances the access to healthy and affordable food, provides job skills, revitalizes the community's economic development, promotes the efficient use of vacant land for productive uses, reconnects communities and brings back traditions and skills related to agriculture. In other words, urban agriculture aims to produce, process and supply food and other agricultural outputs while contributing to food security, health, environmental protection and the community's wellbeing.

Urban community gardening is considered as a form of manifestation within urban agriculture as well as an indicator of the citizens' will to participate in sustainable communities. It is defined as single or multiple plots of land/territory on urban or peri-urban sites gardened by local residents who do not own the area. Such plots might respond to public or private ownership, but people occupy and cultivate on them with the permission of the owner. Throughout history, urban gardening programs have existed within urban communities. Between the end of the 19th century and the middle of the 20th century, community gardens became a mechanism for poverty alleviation and survival as a result of wars (World War I and II) and difficult economic times (Great Depression). However, since the middle of the 20th century and accompanied by the sustainability term, they started being related with a form of new social movement intimately connected with collective empowerment. In that sense, urban community gardens came to be known as an urban trend counteracting rapid urbanization, globalization and ecological concerns (Smit et al., 2001).

In the region of Frankfurt/Rhine-Main, there is a governmental and public promotion for urban community gardens. The Parks Department in Frankfurt offers numerous allotments for gardening and the institution is responsible for the planning, promotion and technical supervision of those (Stadt Frankfurt am Main, 2017). The regional support for urban gardening also comes through *Kultur-Region-FrankfurtRheinMain gGmbH* – a voluntary federal Border States union comprehending forty cities, counties and regional associations in the metropolitan area of Frankfurt/Rhine-Main. Accompanied by their project *GartenRheinMain*, the association aims to be an informative and communicative platform of the different types of gardening and other open green spaces in the area while increasing their attractiveness to the community in general. In fact, the project intends to stop seeing urban gardening together with the traditional planning concept in form of individual plots, but as a new urban trend where gardening comprehends much deeper conceptions of community participation and regional cooperation (KulturRegion FrankfurtRheinMain, 2017).

There are two main practices of urban gardening in Frankfurt, individual and community practices. Urban individual gardening is characterized by its private-accessible state along with private ownership. Examples of individual gardening are found in backyards, balconies, windows and roofs. On the other side, urban community gardening is managed by individuals or communities along with public accessibility which enables processes of human socialization. The two main internet platforms for urban gardening: Anstiftung & Ertomis (Anstiftung & Ertomis, 2017) and *Stadtacker* (Leibniz-Zentrum für Agrarlandschaftsforschung, 2015) have identified six types of gardening in the metropolitan area of Frankfurt: allotment gardening, community gardening, education gardening, guerrilla gardening, intercultural gardening and self-harvest gardening.

- Allotment Gardening. Gardening that is based on small fenced land plots, which are available to be rented for little money. They can be rented for non-commercial individual or family gardening or food production. They appeared as a social movement with the municipal support for healthier lifestyles during the industrial and urbanization period. It is the most common type of gardening in the region and along the country.

- **Community Gardening.** Gardening taking place in a plot or a territory and being cultivated by a group of people. Due to a lack of individual ownership, the community in general is expected to participate, rewarding everyone with an equal share of the harvest. Their organization depends entirely on the community, promoting engagement, socialization and teamwork.
- **Education Gardening.** The gardening plots respond to educational purposes. They allow children and young people to have a closer relationship with the activity of gardening. These plots are able to introduce topics concerning responsibility, gardening skills, and food production. In addition, they can become entertaining outdoors activities. Educational gardening is mostly conducted through schools.
- **Guerrilla Gardening.** This is a movement led by environmental activists who place plants around the urban fabric. The term has been borrowed from American protests that pointed out the misuse of territories in the city, redefining them as illegal gardening within the urban areas.
- **Intercultural Gardening.** Gardening that is managed by people coming from different cultural backgrounds and nationally recognized as a social movement in the context of civic organization, participation and engagement. These gardens are part of their own gardening umbrella organization: *Interkultureller Garten e.V. Göttingen*.
- **Self-harvest gardening.** This refers to a plot that is owned by a farmer (landowner), where the land is previously prepared during the spring (containing some plants in it), and later subdivided. Those sub-plots with already established plants are rented to self-harvesting individuals during the gardening season. At the end of the season, the gardeners prepare the land for the winter, and the cycle starts again. In other words, it is a gardening cooperation between landowners/farmers and gardeners.



Figure 65: Gardening at the Entrance of an Underground Metro Station. Source: Guerra Bustani, 2017



Figure 66: Korean Garden in Frankfurt. Source: Guerra Bustani, 2017



Figure 67: Allotment Garden. Source: DPA, 2011



Figure 68: Palmengarten. Source: Guerra Bustani, 2017



Figure 69: Frankfurter Garten – Community Gardening.
Source: Peterek, 2015



Figure 70: Frankfurter Garten – Community Gardening.
Source: Peterek, 2015

The community gardening in Frankfurt, for instance in the Frankfurter Garten project in the Ostend district, close to the development of the new European Central Bank headquarters, can be seen as a creative way in which a dialogue has been created between the city and its citizens, further enabling a new form of civic engagement with the city. There are various motivations associated with such trend, including the connection with nature, the first-hand experience, the contribution to the environment's protection, the social integration and the affordability of healthy food. Urban gardening is directed related to greening the city and improving the local structures of sustainable food production and consumption. In general terms, the positive effects of urban community gardening can be divided into four categories: economic, social, environmental and human. Positive impacts from the economic side include the possibility for the local food industry, the creation of jobs through the gardening activity and the flourish of entrepreneurial activities. From the social side, positive impacts include networking, community ownership, self-organization, and cultural integration. The environmental or ecological positive impacts include knowledge exchange in gardening/harvesting activities, the greening of the city, the ecological preservation, the efficient use of vacant land in the city and the addition of biodiversity through gardening. Last, the positive impacts on the human side are mainly related to educational purposes and healthier lifestyles (physical and mental). The trend of urban community gardens, finally, provides a whole spectrum of positive opportunities where the multiple benefits are directed to the city, the region and its inhabitants.

3.2.2.9 Participatory Planning

The success and social acceptance of a project largely depend on the participatory process behind it. Frankfurt has been emphasizing participatory planning as a mean to achieve proactive contribution taking into consideration the needs and aspirations from all the involved stakeholders. There is the need to achieve constructive forms of cooperation between city departments, planning agencies, governmental offices, politicians, citizens, investors, foundations, investment groups, or other private or public entities. As a result, the process of urban planning in Frankfurt nowadays takes into consideration the participation of committees and citizens from an early stage.



*Figure 71: Participatory Planning in Frankfurt am Main.
Source: Stadtplanungsamt Frankfurt am Main, 2012*



*Figure 72: Participatory Planning in Frankfurt am Main.
Source: Stadtplanungsamt Frankfurt am Main, 2012*

The constant communication between official entities and residents is imperative to reach the desired levels of collaboration and transparency throughout the process of participatory urban planning. The City Planning Department constantly hosts informative events and issues publications concerning future urban development projects. The Department's website publicly announces urban concerns, official decisions, and provides available material for free. The City Planning Department also supports the Municipal Advisory Council's work as an independent body and gets it engaged in the early stages of planning, by organizing public meetings and other activities with the purpose of intensifying discussions with the city's inhabitants. These discussions open the space for suggestions and constructive critiques concerning the planning processes in the city and its district and neighbourhoods. In that sense, there is an ongoing process of dialogues and building trust among all the stakeholders that make up and take part of Frankfurt am Main (Stadtplanungsamt, 2012).

3.2.2.10 Building Culture

During World War II, Frankfurt underwent a massive urban destruction and a considerable amount of its architectural heritage was completely destroyed. Consequently, much of Frankfurt's urban history was lost, a loss that has deeply affected the city's urban identity until the present times. Within this context, the concept of Building Culture has appeared in the City Planning Department in Frankfurt, as a path that could allow Frankfurt to reclaim its urban memory respecting and valorising at the same time its current contemporary façade.

In Frankfurt, the Building Culture concept is being generally promoted under two main approaches: the preservation of the historical heritage, relics and tradition, and the modernization and adaptability

of the city. In other words, it is a path aiming to respond to the city's contemporary urban needs and historical desires as well. It is fair to say then that urban development and architecture in the city of Frankfurt are not seen as merely technical or economic tools, but also as social and cultural ones. In order for such concept to achieve acceptance within the population, the City Planning Department in Frankfurt has also embraced parallel activities such as discussing publicly spatial planning and raising the awareness and participation in the fields of urban development, architecture and public space design, in such way that the city can truly reflect its users' requests. For this reason, regular design competitions for new public and private developments, advisory design committees for city-owned projects, as well as communicative and cooperative planning procedures have been put into practice in the city (Stadtplanungsamt, 2008).



Figure 73: Römer – City Center. Source: Peterek, 2015



Figure 74: Old Sachsenhausen. Source: Tourismus+Congress GmbH Frankfurt am Main, 2017

There is a variety of trends leading the scene in the city of Frankfurt. From the statistical side, the numbers regarding the incremental amount of jobs offered in this metropolitan region accompanied by the increasing demand for dwellings are the ones that concern the most. The city will most certainly need to deal with bigger amounts of inhabitants coming from multiple backgrounds and social incomes, along with job offers coming from different industries and sectors, either already established or desiring to establish themselves in the area of Frankfurt. On the other side, there are desirable popular trends, which are followed by the city of Frankfurt. As Frankfurt is recognized already as a green city, the metropolitan region has decided to focus their efforts on reinforcing and preserving its ecological assets while incrementing green and open areas around the city. Urban community gardens have also emerged, presenting themselves as social movements for local sustainability. Due to Frankfurt's importance as a major traffic hub, the mobility system is mobilising efforts to cover every area in the city in a much more efficient way. Additionally, such system is also including and promoting at all levels eco-friendly modes of transportation in the city such as cycling and walking. Overall, what is influencing every aspect and decision in the city is the openness for public participation in the City Planning Department. This process has become not only demanded by inhabitants but also from the authorities' side. After all, it is the participation of different committees, institutions and residents from early stages that assure transparency along the process of planning and designing, increasing the degree of acceptance and cooperation towards development projects and urban decisions.

3.3 Frankfurt's Urban Development Goals and Visions

Publications and reports tackling a wide range of urban development topics are regularly issued by the City Planning Department in Frankfurt. These documents are important in order to understand the urban progresses and intentions of the city as they present, for instance, the current urban state of the city as well as the visions dealing with it (e.g. *Baustein 8/08* and *Baustein 1/12*) and all the city projects that are taking place recently (e.g. *Plan.Werk 11* and *Plan.Werk 14*). Also in this context, other publications issued by the Environment Department (e.g. *Environment Frankfurt 2010*), Energy Agency (e.g. *Efficient Frankfurt*) and other municipal information portals are important to be considered.

The urban development goals in Frankfurt are basically formulated in the form of a Mission Statement that has been published in 2008 and later updated in terms of its data in 2012. Therefore, when talking about urban future, visions or goals in Frankfurt, the municipal authorities usually refer to the Mission Statement 2008. In 2014 however, the city of Frankfurt initiated an Integrated City Development Concept for 2030, which will take further steps envisioning the city's future while keeping the Mission Statement 2008 intact and integrating many other urban development aspects as well as actors.

On this basis, urban development goals and visions of Frankfurt could be discussed under two major points: the Mission Statement 2008 and the Integrated City Development Concept (Frankfurt 2030).

3.3.1 The Mission Statement 2008

The municipal publications have gradually promoted or set a multitude of goals for the city's future. In this context, the City Planning Department has formulated a mission statement in 2008 in order to directly respond to the actual state and to cope with the contemporary urban challenges of the city. The major points of this document, therefore, are merely a clear reflection of the mentioned city dynamics and urban development trends. The Mission Statement 2008 is considered as an official development strategy that is still valid. It focuses on achieving urban development goals that are discussed under the following seven areas of activities (Stadtplanungsamt, 2008).

3.3.1.1 A High Quality Inner City Development including Open Space and Green Areas

Due to Frankfurt's attractiveness and the considerable rise of newcomers in the last decades, the city experienced incremental needs for residential areas, commercial facilities, services, mobility and leisure activities. Consequently, the city witnessed a significant physical expansion of settlements and traffic infrastructure. It is now evident, however, that the vacant space in the city is limited and the large-scale extension possibilities that were planned or realized in the past years, will become exhausted in the foreseeable future.

It became clear to the Planning Department in Frankfurt, that there was a need for readjusting the policies and strategies in order to fulfil the city's social, economic and environmental demands. Therefore, the Mission Statement has emphasized three main goals for the inner city development:

- The efforts are to be shifted into the redevelopment of abandoned and brownfield zones within the boundaries of the already urbanized areas in the city. Such areas are nowadays being re-planned and redeveloped, offering potential opportunities for the city's future development.
- Residential development became prioritized over other urban projects. Nowadays, housing development in Frankfurt follows specific guidelines regarding mix usages and appropriate densities in all scales of urban development: district, block and single unit.
- The maintenance, addition and connection of green areas and open spaces within the urban fabric are essential. In this sense, the potential places for open space in areas under transformation or restructuring should be used to compensate for areas that are undersupplied. In the end, linking all green and open areas with the existing Green Belt and the Regional Park is to be secured in such a way that Frankfurt's ecological structure can be protected while it counteracts urban sprawl and contamination in the city.



Figure 75: Europaviertel, a Brown-field Development (before 2010). Source: Stadtvermessungsamt Stadt Frankfurt am Main



Figure 76: Europaviertel, a Brown-field Development (after in 2017). Source: Google Earth, 2017



Figure 77: Pedestrian Paths and Green Spaces in the Inner City. Source: (Stadtplanungsamt, 2008, p. 26)



Figure 78: Pedestrian Path along the River Main. Source: Peterek



Figure 79: Housing Development in Riedberg. Source: Peterek, 2015



Figure 80: Housing Development in Ostend. Source: Peterek, 2015

3.3.1.2 Housing Promotion and Social Mixture within the Urban Fabric

Due to Frankfurt's increasing population, nowadays there is a lack of dwellings being offered. This lack of supply is experienced in general at all quality and price levels. Considering the actual city dynamics, predicting the increasing amount of newcomers and residents in Frankfurt, the demand for housing will continue to increase. However, such demand will be particularly shaped by the fact that in the future, the number of people per household will most probably decrease, with a considerable amount of them coming from low-income groups with a migratory background. Within that scenario, new urban traditions and lifestyles will most probably arrive in Frankfurt accentuating, even more, the existent multicultural atmosphere in the area.

As goals, the Mission Statement 2008 has established that the efforts should be focused on the residential development and the housing policies, promoting specific guidelines that can stimulate the social integration, cultural balance and tolerance. In addition to the promotion of social mixture, the housing policies will be also targeting the special needs of families with children, handicapped people and the senior citizens, in a way that everyone can enjoy a good quality of life. In that sense, living in community and overall social integration is promoted at all levels. The assurance of housing and neighborhood quality is being promoted for existing buildings as well as the new residential areas. The challenges remain in finding the correct measures and arrangements between the municipality and

the private investors to achieve a secure fair trade among all the population groups, assuring quality and affordability in the housing sector (Stadtplanungsamt, 2008).

3.3.1.3 Strengthening the Districts in Frankfurt

The different urban districts that make up Frankfurt are in itself the urban structure of the city. In every particular district, individual living environments are formed. More than 40 districts conforming Frankfurt offer their inhabitants different urban environments according to their very different needs. It is within these districts that the economic, environmental and social manifestations of urban development take place. It is for this reason that the strengthening of districts in Frankfurt plays an essential role in defining urban identity and sense of belonging. In that sense, the districts' urban and social history, combined with their architectural and landscape particularities are essential factors to concentrate the efforts on (Stadtplanungsamt, 2008, p. 33).

The Mission Statement 2008 has identified several goals within this topic (Stadtplanungsamt, 2008, pp. 33–35):

- Initiate a change in the population structure and stimulate cultural integration inside each district and among the different districts.
- Transforming the districts' economic and commercial structures with regard to the weakened district centers responding to the changes in the traditional retail trade.
- Renewing and modernizing the buildings and urban structures in order to address its inhabitants' developing needs.
- Mitigating the high proportion of unemployment and the considerable amount of people being supported by the social welfare.



Figure 81: Sachsenhausen. Source: Frankfurter Rundblick, 2015



Figure 82: Frankfurt's Flea Market. Source: Frankfurter Rundblick, 2015

Taking these goals into consideration, an integrated and participatory process is being encouraged to invite citizens to take part in the planning processes of their districts. This participation aims to promote a stronger identification and solidarity with their living places and the people shaping it. Consequently, the municipality and the citizens will be able to work in cooperation to preserve the attractiveness values of every district as living, working and leisure related urban areas. This collaboration also aims to rehabilitate the traditional local retail and commercial sub-centers, to

enhance and increase the available public spaces within the urban fabric and to achieve social cohesion among its residents. Nowadays, different programs, including Social City and Urban Redevelopment (West), are being sponsored by the city, by the federated state of Hesse or even by the national government to pursue such diverse but essential objectives (Stadtplanungsamt, 2008).

3.3.1.4 Sustainable Forms of Urban Mobility

Frankfurt can be considered as a compact city with a limited space for expansion. In terms of mobility, it is defined as a city of short journeys within its own boundaries as well as the whole metropolitan region. This characteristic contributes to Frankfurt's uniqueness when compared to other metropolitan regions around the world. Furthermore, Frankfurt is considered as a national and international traffic hub, which is a distinctive reputation that comes with advantages and disadvantages that the city has to face and effectively manage. On one side, the effective and well-communicated transportation system in Frankfurt allows the economic, business and industrial development to continuously grow. On the other side, however, the excessive motorized mobility may negatively influence the environment and thus deteriorate the health of the inhabitants. Consequently, the Mission Statement 2008 in Frankfurt supports environmental-friendly modes of transportation and policies that can encourage the use of such eco-friendly means as walking, bicycle and public transportation.



Figure 83: Pedestrian and Cycling Networks. Source: Frankfurt's Best, 2012



Figure 84: Night Bike 2014. Source: ADFC Frankfurt, 2015

The following related goals have appeared within the Mission Statement (Stadtplanungsamt, 2008, pp. 36–39):

- To include every mode of transportation in the city to address all the inhabitants' needs: pedestrian, cycling, public transportation and private motorized vehicles.
- To expand the pedestrian and cycling networks, enhance these modes of transportation and assure safety at all levels.
- To reduce as much as possible the negative effects of congested motorways in the city.
- To promote public transportation within the city.

- Since a conscious urban mobility is the key to reach sustainable urban development in the city, it is important to regularly tie up urban land use conceptions with traffic plans and developments
- To extend the invitation for public participation and civic involvement in traffic and mobility developments.
- To raise the public awareness towards the use of sustainable forms of urban mobility.
- To include proficient management systems and the use of technology aiming for a maximum efficiency of the transportation system in terms of time, distance and pollution reduction.

3.3.1.5 Cooperation in and within the Region

As mentioned, Frankfurt is recognized as the economic and scientific heart of the Rhine-Main region. Under the general accepted administrative framework, cities tend to compete against each other in terms of tax collection, land allocation and the provision of jobs among other elements. However, the City Planning Department in Frankfurt states that only through regional cooperation, obstacles and potentials can be effectively addressed to respond to the metropolitan area's sustainable development objectives¹⁷. This regional cooperation comprehends many topics of collaboration including housing, employment, infrastructure, integrative mobility, traffic organization, water and energy supply, sewage, waste disposal, ecological preservation, cultural offers and the availability of green areas and open spaces within the region.

Frankfurt's urban development has always maintained a regional depth of cooperation, becoming its main factor to function as a global city (Stadtplanungsamt, 2012). The Mission Statement, therefore, provides some goals for such a regional cooperation (Stadtplanungsamt, 2008, pp. 40–43):

- To develop Frankfurt as a dense and compact physical center of the Rhine-Main region in order to reduce suburbanization and to avoid disparities and segregation within the region.
- To maintain balanced interests and resources within the region in order to avoid competition while encouraging collaboration and participation.
- To promote participation among all cities and municipalities in the region so that positive potential of constructive dialogues, development outlines and major projects can reach its fullest capacity for the region.
- To maintain open and constant discussions regarding traffic, commerce, retail trading and open space.
- To remain faithful to the Regional Mission Statement Frankfurt/Rhine-Main 2020 – a European Metropolitan Region.

¹⁷ Within this background, the agreement upon the guidelines for a Regional Mission Statement regarding land use in connection with the Regional Plan for South Hesse and the Regional Preparatory Land-Use Plan (created in 2011) presents an important step into the right direction (Dobroschke & Gebhardt, 2015).

The Mission Statement 2008 is an establishment of the administration's approach towards the urban future of Frankfurt. In accordance with the available data and information, this approach is clearly based on the current dynamics and trends of the city. In this context, the Mission Statement 2008 proposes seven fields of action that form thematic frameworks for the urban development goals. These goals are set to directly deal with the changing social, economic, environmental, cultural, physical and regional structures of the city. In summary, the major goals of urban development can be listed in the following point:

- To secure the social balance
- To secure sustainable mobility
- To secure energy efficiency
- To secure public participation
- To secure sufficient and networked green and open space
- To secure well-functioning sub-centers
- To secure regional cooperation
- To secure original identity
- To sustain Frankfurt as a global and compact city

The municipal administration in Frankfurt, therefore, seems to be responsive to the urban progresses taking place within the city. This becomes clear when the urban development trends and dynamics characterizing the presence are visibly reflected in the goals and visions shaping the future. Hence, it is the case in Frankfurt that what could be seen as a dynamic or a trend in the city forms an essence for what comes later as an urban development goal. In this sense, city dynamics, urban development trends and goals seem not only to reflect on each other, but also to nurture one another.

3.3.2 Integrated City Development Concept: Frankfurt 2030

Nowadays, Frankfurt finds itself in transformation. While its economic structure is changing, the city expects further population growth. In terms of planning the future, such trends open up a room for manoeuvres and new arrangements as well as challenges. However, what is extensively missing in such a developing scenario in Frankfurt is a higher-ranking coordination and integrated examination of the variety of what could be seen as potentials and risks of the future, especially with regard to their spatial references. For this reason, the city of Frankfurt has decided to embrace the challenge that economic growth represents by using it as an opportunity to strengthen the metropolitan area as a liveable and sustainable city. In order to do so, Frankfurt has stated the need to establish a common vision, concrete objectives and clear strategies to achieve them.

In this context, the city parliament has accordingly instructed the city magistrate on the 22 of October 2014 to prepare an Integrated City Development Concept (*Integriertes Stadtentwicklungskonzept*) to envisage an urban vision for the city in 2030. With the development of the integrated city development concept (ISEK), Frankfurt aims at having a common vision and policy framework shared by all administrative offices, in order to establish concrete strategies for future actions (Stadtplanungsamt, 2017a). Some of the main topics to be covered by this new development concept

include residential life, work, retailing, transportation, unbuilt and green areas, environmental and climate protection, settlement and building structure, and land use (Stadtplanungsamt, 2017c).

3.3.2.1 Aims and Challenges of the Integrated City Development Concept

With the Integrated City Development Concept, the main aim is to handle well the expected growth of population and to maintain Frankfurt as a location for living and economy, which stands a high quality of life and environment. Here, existing planning processes, goals, strategies and maps as well as starting initiatives should not stand isolated from each other. Rather, the integrated city development concept is perceived to formulate a total picture or a framework for all these developments to assure coherence, consistency and complete accordance with the spatial references. During all processes, a wide range of public participation is seen to be a major feature.

More specifically, this development concept also aims to (Stadt Frankfurt am Main & Stadtplanungsamt, 2016, p. 8):

- Create a framework and a binding-medium for political and administrative actions.
- Set thematic and spatial priorities for urban development in the city. This spatial analysis includes representing land use according to the foreseeable needs of the city, clarifying the city essential challenges and contradictions and develop further synergies between existing sectoral plans (this is not a preparatory land use plan).
- To be a process that enables cooperation between all actors involved, especially between administrative bodies or specialized plans.
- To collect and analyse all relevant information in a common and transparent platform for the discussion on the future urban development.
- To exchange knowledge internally with politics and city administrations and externally with local communities, economy and the interested public about the further spatial development of the city.
- To position Frankfurt in the region and assure its key function and contributions to the Frankfurt/Rhine-Main metropolitan area.

According to the City Planning Department, the following challenges represent the major drivers pushing the city to revisit its planned future (Stadt Frankfurt am Main & Stadtplanungsamt, 2016):

- The foreseeable growth of population that is often seen to be self-changing regarding its composition would trigger many concerns in the city under the social terms. This includes the increasing demand of newer, more fitting and more social infrastructures, more relevant education and consultancy offers. Regarding the high fluctuation of residents' population, one could also question the social coherence in some parts of the city.
- Adjusting mobility and traffic offers regarding the increasing and changing demands would become a necessity that needs to be properly addressed. This goes also for the functionality and sustainability of the whole system.
- The increasing pressure on claiming and protecting the resources as well as all the relevant aspects of open space, energy, climate protection and optimization of mobility systems would exhibit a need for a higher form of coordination and integration.

As a step forward, the city magistrate has accordingly addressed those challenges through initiatives that are already taking place¹⁸. On its part, the City Planning Department reflected that achieving an appropriate offer of living spaces for different price-levels is as important as securing an adequate quality of environment and life. However, further questions about foreseeable urban densities within the city and all other relevant topics tackling a future mix of urban restructuring, urban densification of existing settlements and city-extensions seem to remain also as essential.

3.3.2.2 Progress of the Integrated City Development Concept

In its preparation, four phases have been suggested to reach out for the final concept (see Figure 64). The first two are analytical phases as they first address the current urban state of the city and then integrate, analyse and evaluate the situation. The second two are more conceptual as they draw possible development scenarios and then formulate the final vision, strategy and agenda for 2030. At the moment the city is in phase four, developing a vision for Frankfurt 2030, as well as an implementation plan and necessary measures for the project initialization (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).



Figure 85: Phases of the Integrated Urban Development Concept. Source: (Stadt Frankfurt am Main & Stadtplanungsamt, 2016, p. 9)

According to (Stadt Frankfurt am Main & Stadtplanungsamt, 2016), the following points represent the expected activities within the Integrated City Development Concept:

- All relevant information will be gathered, refined and manageably condensed in order to support a universal and transparent launching basis for open discussion about the future spatial city development.

¹⁸ This includes, for instance, the citizens dialog for better connecting the green belt to the settlements areas of the city and networking with the regional park under the motion of spokes and rays (*Speichen und Strahlen*), the 100 % climate protection master plan (*Masterplan 100 % Klimaschutz*), the industry master plan (*Masterplan Industrie*), and the development of a mobility strategy in addition to those concerning the development of Frankfurt into a green city (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

- In the sense of path finding, Frankfurt is seen to interact internally with politics and city administration and externally with local communities, economy and the interested public about the further spatial development of the city.
- In terms of city management and administration, the process will strengthen the exchange, cooperation and collective learning between all actors.
- Frankfurt is seen to achieve a binding and middle-term orientation framework for the political and management actions, without covering every single aspect nor formulating details to their last degree.
- The city is seen to address the essential conflicts and contradictions and invest in synergies between already existing sectoral planning processes (*Fachplanungen*) and policies and positions (*Positionen*) of the city, while paying enough attention to their spatial references and tending to integrate and not to replace them.
- All thematic and spatial priorities for the intended urban planning of Frankfurt as well as the limitations of the developments will be addressed and clarified. This does not include, however, developing a preparatory land-use plan.
- The city is seen to position itself in the region and assure its key function and contributions to the Frankfurt/Rhine-Main agglomeration.

In July 2016, the city launched the urban dialogue process Frankfurt Your City (*Frankfurt Deine Stadt*), as part of the dialogue process. It is conceived as a citizen's forum for urban society and selected representatives from the industry, academia and civil society.

In future, the use of such an Integrated City Development Concept will depend to a high extent on whether the city magistrate would address it as an orientation framework and agenda for the intended further spatial development of the city, which binds also the decision-making regarding the ordinary projects.

3.3.2.3 Analytical Phase: Status Report Frankfurt 2030 (*Status Bericht: Frankfurt 2030*)

The city of Frankfurt has published the Status Report Frankfurt 2030 (*Status Bericht: Frankfurt 2030*) in May 2016. The document is a publication of the summarized results from the initial analysis made on central topics such as transport, housing and environmental protection in a civic forum in September 2015 (*Stadtentwicklung in Frankfurt am Main: Wo stehen wir heute?*). This document raised important questions to be discussed with the population that are also relevant for the Rapid Planning project, such as the right locations for urban growth, prices and typologies of the housing market and how can the infrastructure supply keep pace with population growth. The report is available online, and there is also available summarized version in the form of a newspaper (in German) (Stadt Frankfurt am Main, 2016e).

The status report is divided into two main parts. The first section of the document consists of an analysis made to eleven separated sectors previously defined by the city. This sectoral analysis describes the current situation with the key development drivers and trends. Based on this, an assessment of the current and emerging future situation was made with a SWOT analysis. The

strengths and weaknesses are present-oriented, while the opportunities and risks are future-oriented. In addition, the SWOT analysis is landed in a spatial urban plan. There are also significant existing decisions, programs and concepts listed in the appendix (Stadt Frankfurt am Main & Stadtplanungsamt, 2016). The sectors were previously defined by the city, and are listed as follows:

- Population, Social Affairs and Inclusion
- Settlement Structure and Reserves
- Housing and Environment
- Leisure, Culture and Sport
- Economy and Employment
- Landscape and Open Spaces
- Environment, Urban Climate and Health
- Energy and Climate Protection
- Education and Science
- Mobility and Transport
- Region

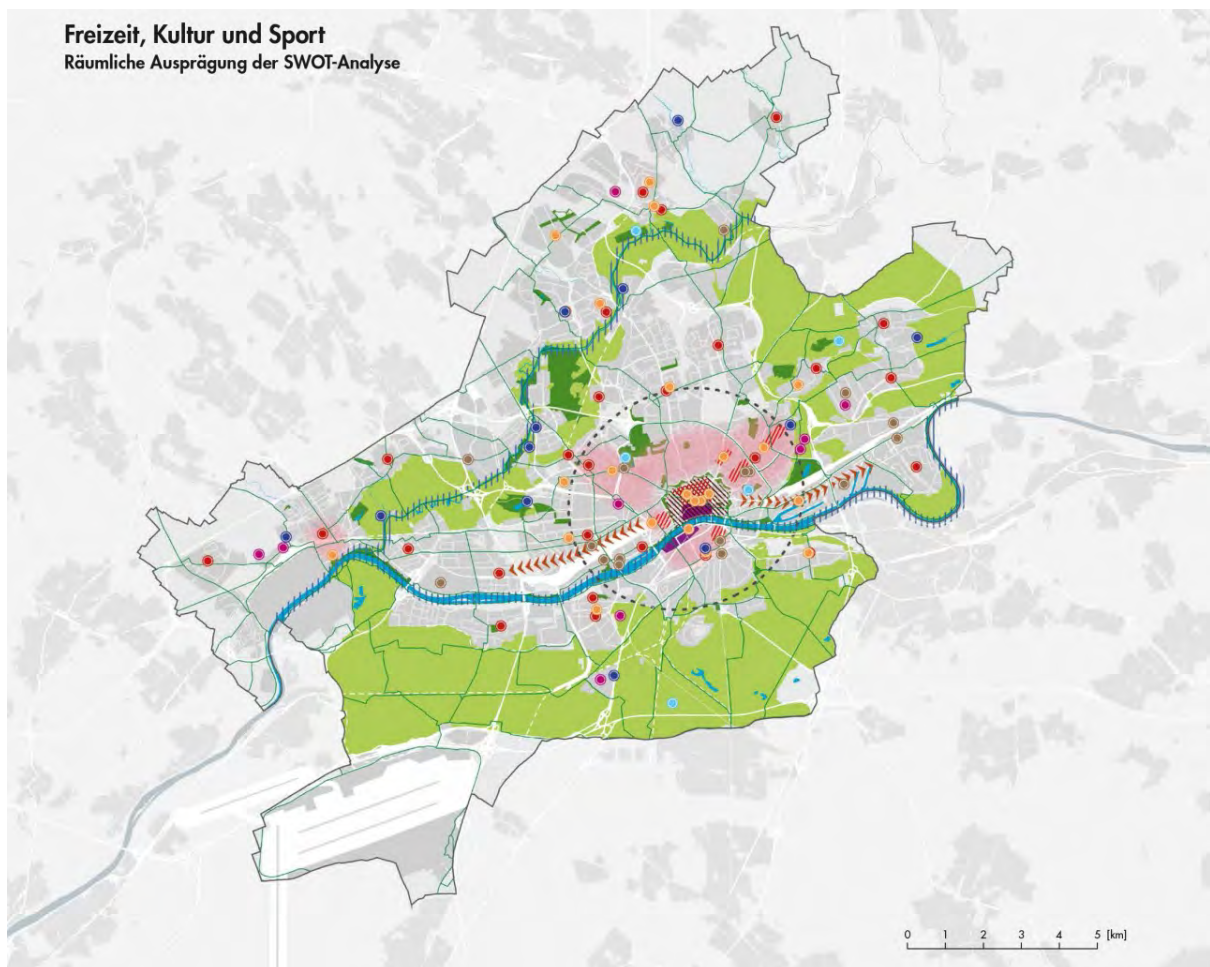


Figure 86: Spatial Analysis for the Sector Leisure, Culture and Sport. Source: (Stadt Frankfurt am Main & Stadtplanungsamt, 2016, p. 30)

The second part of the report includes the integrated analysis. This includes a first assessment and interpretation of the current and emerging situation of the city of Frankfurt, carried out by the internal administrative project group and the company Ernst Basler + Partner. The core component of the analysis is to describe the spatial synergies and conflicts that might be derived from the interaction of sectoral issues (Stadt Frankfurt am Main & Stadtplanungsamt, 2016). The publication finishes by summarizing the preliminary conclusions and essential findings and by giving an overview of the urban dialog process Frankfurt Your City.

3.3.2.4 Normative Phase: Development of Possible Scenarios and Urban Dialogue Process

Once the analytical part of the process was concluded, for the third phase of the Integrated City Development Concept, four different development scenarios for Frankfurt 2030 were defined. These scenarios are aimed at answering the questions, what should the focus of urban development be? How and where can Frankfurt grow? And what kind of infrastructures will be needed? Combined with the results of the analytical part, these scenarios were later presented to the city public and all interested parties through an urban dialogue process.

Considering the city dynamics and urban development trends previously described, Frankfurt's expected population growth and its limited land potential have become a challenge for the city's future. What can the city do for itself and which are the opportunities that the region could offer, are among the central questions that these four scenarios aim at clarifying. Rather than being urban plans, these scenarios are models which represent the effects of different actions. For describing the allocation of growth inside or outside the city, they make different assumptions about the necessary housing provision that will be needed both in new and in existing quarters, as well as its implications for mobility, open spaces, urban climatic needs and services infrastructure. In any case, the aim of all scenarios is to ensure high quality of life and good housing conditions for all Frankfurt residents in 2030 (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

To explore urban development from different angles, the scope of the scenarios was defined along the range of two different aspects (see Figure 67). The first one is the projection of the population growth, ranging between a moderate and a strong type of growth. The second one is the expected residential density, ranging from a serious inner development to meaningful outer development. These aspects, which will vary depending on the political and administrative goals, are also directly related to other challenges such as regional planning and environmental protection (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

The first scenario is called Sustainable Deceleration (*Nachhaltige Entschleunigung*) and aims at a controlled growth without outer development. In this scenario, Frankfurt has grown by around 45,000 new inhabitants in 2030 and almost 60,000 new apartments have been created. The growth in the city was reduced by the small amount of building land, which led to a stronger growth of the cities and municipalities in the surrounding area where many people had to move to find an apartment. As a result of the former, valuable areas of the green belt and agriculture fields have remained intact, preserving diverse and unique landscapes for natural and recreational purposes. As unused land in the inner city was occupied, residential density has increased, having new and better designed residential buildings in the 1950's and 1960's neighborhoods, even low-cost type of housing. This, however, has

also led to a loss of some greenery and open spaces within the inner city. On the other hand, with more people living in the surrounding areas, car traffic has noticeably increased. To address this issue, Frankfurt has opted for a targeted expansion of public regional and local transport, as well as for bicycle traffic. In the city center, thanks to a bicycle-friendly transformation of heavily used road sections, the number of cyclists has increased (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

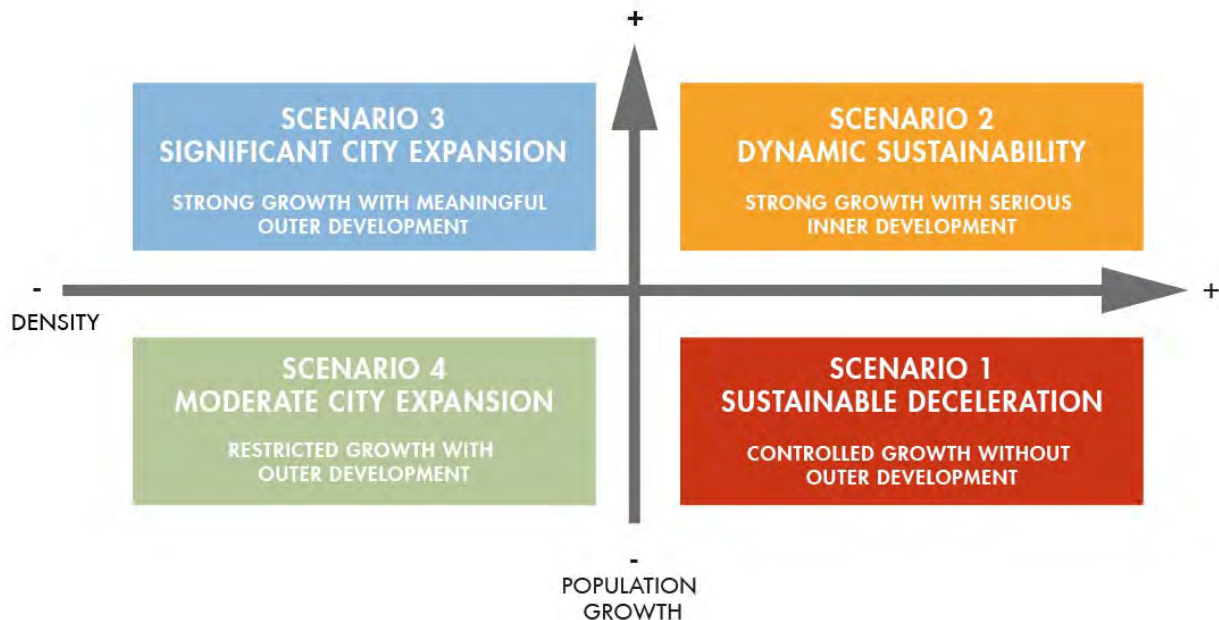


Figure 87: The Four Different Urban Development Scenarios. Source: Elaborated by the FRA-UAS Rapid Planning Team from (Stadt Frankfurt am Main & Stadtplanungsamt, 2016)

The second scenario is called Dynamic Sustainability (*Dynamische Nachhaltigkeit*) and aims at a strong growth with serious inner development. In this scenario, Frankfurt has grown by around 120,000 new inhabitants in 2030 and almost 100,000 new apartments have been created. The region and the surrounding areas have grown significantly less, over-compressing and considerably increasing the density in the inner city. In the existing districts 35,000 new dwellings have been created, including opportunities for the low-cost living segment. Frankfurt has also grown outside, converting 400 ha previously agricultural land into around 25,000 new dwellings. Whereas in the outer areas a compact development has allowed for the preservation of high-quality landscaped areas, in the inner-city districts open or green spaces have become smaller but of a higher quality. With more people living in the inner and outer areas, car traffic has increased. To address this issue, Frankfurt has opted for an extensive expansion of public transport, as well as for walking and cycling. The number of cyclists has significantly increased thanks to the implementation of separate cycle lanes and additional storage areas for bicycles (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

The third scenario is called Significant City Expansion (*Deutliche Stadterweiterung*) and aims at a strong growth with meaningful outer development. In this scenario, Frankfurt has grown by around 120,000 new inhabitants in 2030 and almost 100,000 new apartments have been created. The region and the surrounding areas have grown significantly less mainly because the urban area has expanded. Nearly 1,000 ha of previously agricultural land have been converted to provide room for around 40,000 new dwellings. Within the urban area, 20,000 new dwellings have been built, reducing the green and open spaces but producing better-designed and more user-oriented types of open spaces. While affordable housing units are available both in the new city quarters and in the outskirts, the city center and the areas inside the inner green ring have mainly become a high-price segment offer. With more people

living in the inner and outer areas, car traffic has increased. To address this issue, Frankfurt has opted for a punctual but stronger expansion of road and rail infrastructure to relieve the most important capacity bottlenecks (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

The fourth and last scenario is called Moderate City Expansion (*Moderate Stadterweiterung*) and aims at a restricted growth with outer development. In this scenario, Frankfurt has grown by around 45,000 new inhabitants in 2030 and almost 60,000 new apartments have been created. Contrary to the first scenario, the city has decided to cover the housing growth in its outer areas, converting 600 ha of previously agricultural land to build 25,000 new dwellings. However, by strategically selecting these plots, it has been possible to preserve high-quality landscape areas of the outskirts for natural and recreational purposes. Within the inner city districts, a targeted compression has not taken place, keeping the existing urban structures of these areas almost intact. If well the green and open spaces in the city centers have been preserved, they have not been renewed for some time, not corresponding or satisfying society's new demands. Due to the fact that the city center and the areas inside the inner green ring have mainly become a high-price segment offer, many people have had to move to the municipalities in the surrounding areas to find an affordable apartment. With more people living on the outskirts and in the region, car traffic has noticeably increased. To address this issue, Frankfurt has decided to improve road and rail infrastructure to remove the most important capacity bottlenecks (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

3.3.2.5 Frankfurt Your City (Frankfurt Deine Stadt): Report on the Urban Dialogue Process

The urban dialogue process Frankfurt Your City (*Frankfurt Deine Stadt*) is an ongoing process which started in July 2016 with numerous events in different formats. City public and all interested parties were invited to participate in order to be informed and discuss the current challenges and the future of urban development in Frankfurt.

As a starting point for the urban dialog, the city used the results from the Status Report Frankfurt 2030. Once the process was concluded, the city used the resulting outcomes to continue formulating the Frankfurt 2030 vision (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

Frankfurt Your City was managed and moderated by *IMORDE Projekt- und Kulturberatung* (Berlin) together with *Kokonsult* (Frankfurt), *Raumposition* (Wien), *Unverzagt* (Leipzig) and *Polidia* (Berlin), under the supervision of the City of Frankfurt (*Stadt Frankfurt am Main*) as project managers and the firm *Ernst Basler + Partner* as project support (Stadt Frankfurt am Main & Stadtplanungsamt, 2016). Frankfurt Your City is a program that comprises a variety of events, platforms and publications, which can be consulted online under www.frankfurtdeinestadt.de, as in the following points:

Citizens Forum: Ideas Collection (Bürgerforum: IdeenFlashMarkt)

The event took place at the first of July 2016 at *Zoogesellschaftshaus* in Frankfurt. The aim of the forum was to be an initial platform for the exchange of ideas. The event called the need for action and key tasks of urban development in Frankfurt and headed over in the central phase of the Integrated City Development Concept: development and design of the future of the city. (Stadt Frankfurt am

Main, 2016a). The urban dialogue process was advertised in June 2016 with posters located in *S-Bahn* and *U-Bahn* stations, a newspaper with summarized information from the Status Report and flyers.

The event included three main sessions to facilitate communication with the participants. In the first session, the city mayor and the city representatives introduced the current status of the city as well as the development concept. The main messages in this introduction part included the city's concern about providing enough housing for the growing city. Social equality and cohesion, especially with the recent presence refugees, is nowadays an even more pressing topic for the city.



Figure 88: Posters Promoting the Frankfurt Your City Events in Different U-Bahn and S-Bahn Stations. Source: Rapid Planning Team, 2016



Figure 89: Posters Promoting the Frankfurt Your City Events in Different U-Bahn and S-Bahn Stations. Source: Rapid Planning Team, 2016

Frankfurt, as a hub for businesses and traffic, needs to maintain its position and thus the improvement of the city's connectivity to other cities and town in the region is a key to secure a continuous success. Developing the digital infrastructure that the city possesses is also a matter that needs to be kept in mind. The spatial conflict of Frankfurt, green versus growth, is a dominating topic. The city is growing, so it needs further infrastructure development to increase the capacity of housing, services and mobility. At the same time, the city struggles to maintain yet a greener profile and provide adequate, decent open spaces.



Figure 90: First Session of the Citizens Forum 01.07.16. Source: Rapid Planning Team, 2016

The second session of the event took the form of world cafés to achieve a direct communication and discussion with the participating citizens. There were six discussion tables to handle the main development topics of (1) population diversity, (2) housing spaces, (3) open spaces, landscape and climate, (4) mobility and transport, (5) jobs and education and (6) culture and free-time. On table one, population diversity, two main questions were discussed: - What would an international community need for tomorrow? - How could the integration-ability of the growing city be improved? On table two, housing spaces, two main questions were discussed: - How could Frankfurt preserve its lively neighbourhoods and further develop them - How could Frankfurt provide housing with both cost-affordability and quality? On table three, open spaces, landscape and climate, two main questions were discussed: - What are the open spaces needed for the growing city? - How can Frankfurt reduce the usage-pressure on its open spaces? What could be the aspects of aviation un-used open spaces, like schoolyards, cemeteries, etc.? On table four, mobility and transport, three main questions were discussed: - How would transportation and mobility in Frankfurt look like in the future? - Which offers are available? - What and where are the gaps to be closed with the region? On table five, jobs and education, three main questions were discussed: - How and where could the growing city offer jobs? - How could the growing city improve its position as a city of education, science and research? - How to secure excellent offers for the students, scholars and researchers? And on table six, culture and free-time, four main questions were discussed: - How could the city achieve a diverse, rich culture? - What culture would the city need? - Which open spaces would the city need in future? - Where are the open spaces needed for leisure activities? As it could be suspected, the discussion over the topics of affordable housing and rent-fares as well as green, open spaces and trees in the city was heated.



Figure 91: Discussion Tables of the Citizens Forum 01.07.16.
Source: Rapid Planning Team, 2016



Figure 92: Discussion Tables of the Citizens Forum 01.07.16.
Source: Rapid Planning Team, 2016



Figure 93: Discussion Tables of the Citizens Forum 06.07.16.
Source: Rapid Planning Team, 2016



Figure 94: Discussion Tables of the Citizens Forum 06.07.16.
Source: Rapid Planning Team, 2016

The third session of the event was to sum up, as short summaries were presented by the moderators of the six discussion tables and a final wrap-up for the messages delivered from the participating citizens to be carried into a close consideration for the development of the vision.

Ideas Brunch (Ideenbrunch im Zukunftspavillon)

At the second of July 2016, The Frankfurt Your City exhibition was presented in an open space next to an open coffee shop in the city center, *Zukunftspavillon*, where the city had a stand to invite people to have an informal conversation on their ideas for Frankfurt 2030.

This event was different from the previous one, in the sense that on this occasion there was no program, moderators or structured plan. Instead, it was divided into two zones. The first one was an exhibition in the outside area, where the maps and SWOT analyses from the Status Report were shown. The second area was inside the coffee shop, where there was a mobile stand where people could write their ideas and comments. There were also available tables and materials inviting to take a seat. The atmosphere of this event was more casual than the day before. Due to bad weather, there were not many people in the area.



Figure 95: Ideas Brunch at 02.07.16. Source: Rapid Planning Team, 2016



Figure 96: Ideas Brunch at 02.07.16. Source: Rapid Planning Team, 2016

Ideas Tour (Ideentour)

From the third to the ninth of July, The Ideas Tour was a mobile stand meant to collect opinions from Frankfurt citizens in 13 different spots in the city, for a period of one week. The organizer was the City Planning Department and the implementer partners were *IMORDE Projekt- & Kulturberatung GmbH* in cooperation with *Kokonsult*, Frankfurt and *Raumposition* from Vienna. Official pictures and videos from the events can be found online (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

The collected ideas from citizens' forum, the ideas brunch and the ideas tour will be documented and evaluated by the city. Then they are compared with the Status Report to detect any gaps or contradictions (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).



Figure 97: Ideas Tour at Nord-West-Zentrum. Source: Rapid Planning Team, 2016



Figure 98: Ideas Tour at Zoo Frankfurt. Source: Rapid Planning Team, 2016

Online Forum: Ideas for a Better City (Frankfurt neu denken: Gesucht, Ideen für eine bessere Stadt!)

From the 13th of June the 31st of July 2016, there was an online dialogue platform, to which Frankfurt's citizens were invited to upload their comments and ideas on what could be improved in Frankfurt. The city published a list of questions to serve as a base for the online discussions.

As a result, the city got around 700 responses and categorized them into 3 main groups: 1) Areas of opportunity for Frankfurt 2) Frankfurt's current strength points 3) Frankfurt's current weak points. The city translated these ideas into a spatial analysis available online, where the ideas and comments have been mostly landed into the urban space. The results and ideas collected from this dialogue process will be compared, together with the ideas collected from other events, with the previous analysis from the status report in order to detect gaps and future possible lines of action (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

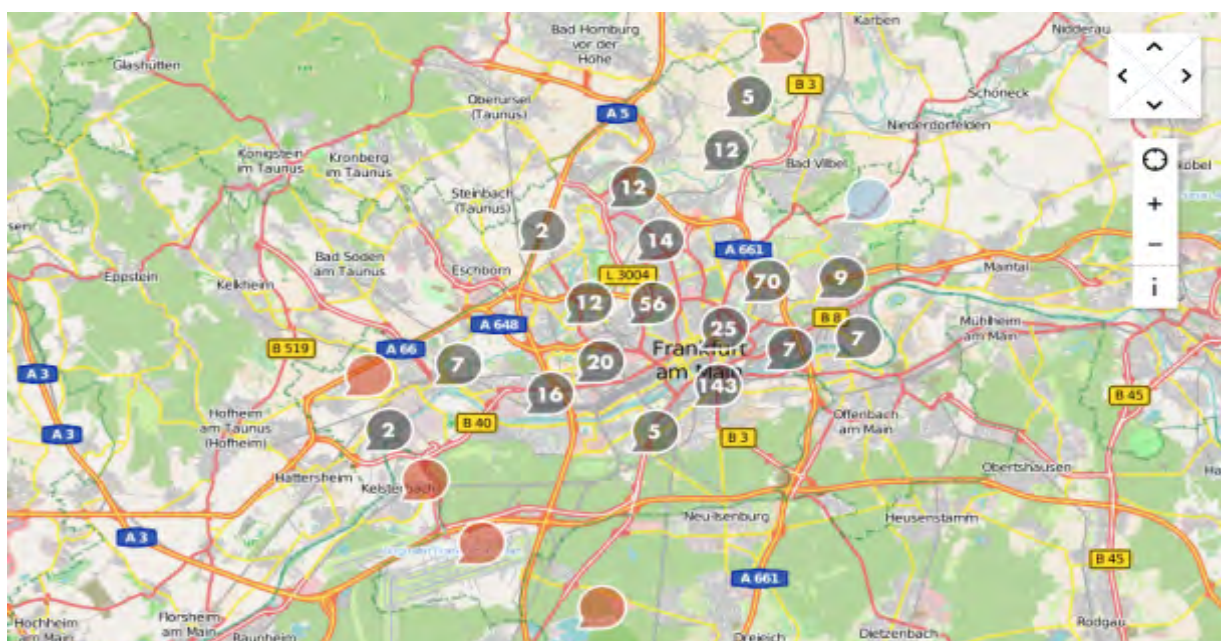


Figure 99: Map of Ideas from the Online Consultation Process. Source: (Stadt Frankfurt am Main & Stadtplanungsamt, 2016)

Citizens Forum: From an Area to the City (Bürgerforum: VorOrtStadt)

The forum was divided into four sessions by region (north, east, west and center-south). The event took place in Autumn 2016 with the aim of this forum was to discuss the qualities and possible contributions of each area for the future development of the entire city. The discussion included topics such as potential construction plots, conservation of existing green spaces, improvements to public spaces and infrastructure, etc. (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

Citizens Forum: From City to Place (Bürgerforum: VorOrtStadt)

In this forum, the city presented the preliminary results to Frankfurt's citizens before planning concrete strategies (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

Frankfurt 2030 in Progress (Die Zukunft im Entwurf!)

After the revision with Frankfurt's citizens, the city will develop a draft for Frankfurt. This document, which will be developed in the next months, will prioritize areas for urban development and describe the spatial development strategies (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

Citizens Forum: the City of the Future (Bürgerforum: ZukunftStadt)

At the end of the urban dialogue process, the draft for Frankfurt 2030 will be presented and discussed with the public in order to decide if the priorities set for the city have been the right ones (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

3.3.2.6 Frankfurt Your City: Preliminary Results

The first phase of the participation process on the Integrated City Development Concept Frankfurt 2030 within the context of the city dialogue Frankfurt Your City has been completed. The aim of the phase was, on the one hand, the reflection of the conclusions of the status report on the urban development concept and, on the other hand, to draft a concept of ideas for an overall strategy and scenario development. The results of this phase are available under the Frankfurt Your City website (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

The participation process Frankfurt Your City has so far generated 1,455 contributions (ideas, comments and suggestions). The respondent's participation (citizens' dialogue: *IdeenFlashMarkt* on July 1, 2016 and specialist dialogue on July 5, 2016) accounted for 530 contributions; the attending participation (*Ideentour* from 02 to 09 July 2016 in many places in the city) generated 278 contributions, and online participation contributed 647 ideas (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

The sectors that generated major concern were Housing and Environment, Mobility and Transport and Population, and Social Affairs and Inclusion. However, every format (the citizens' forum, the ideas tour and the online consultation) allocated very different contributions and dominant topics. According to the city, this might be because of the organizational structure of the thematic workgroups (Stadt Frankfurt am Main & Stadtplanungsamt, 2016). A possible explanation is that the dominant group that contributed to the citizens' forum was people over 60 years old. While it is plausible that online users are younger generations with a different understanding of space.

Another important factor that the city has published is that only 383 out of 539 contributions are landed in the urban space, and many of these are related to mobility and transport. 60% of the contributions relate to potential urban development strategies while 40% relate to spatial projects.

3.3.2.7 Preliminary Conclusions for the Urban Dialogue Process Frankfurt Your City

The following points are considered to conclude the urban dialogue process that was driven in the frameworks of the Integrated City Development Concept, Frankfurt 2030:

- The urban dialogue process Frankfurt Your City is a forum consisting of several platforms aiming at the collection and analysis of relevant information in order to detect possible spatial synergies and conflicts in Frankfurt. It is part of the Integrated City Development Concept for the vision Frankfurt 2030. It has been developed by the city of Frankfurt with the collaboration of local and international urban and social experts.
- The platforms and events aimed at having an urban (internal and external) dialogue have been a collaborative effort between public and private actors. The municipal authorities have relied on specialized companies for organizing the public participation forums.
- Frankfurt Your City is an ongoing project currently at the phase of collecting and discussing information for its later revision with experts, the local government and the civil society. According to their website, they have gathered already more than 1500 ideas, from which 60% were related to urban planning strategies and 40% were related to specific spatial interventions. The results and ideas collected from every format were different, possibly due to the demographic differences in every event.
- At the end of the urban forum Frankfurt Your City the city is expecting to have a common vision for Frankfurt's urban development, together with concrete strategies, and a spatial plan. After this phase, the city will prepare the normative frameworks for achieving the Frankfurt 2030 vision.
- The urban dialogue process is not only aimed at collecting information from the civil society but also at having an internal discussion among local offices in order to make urban planning more effective.
- Frankfurt 2030 is mainly focused on detecting spatial synergies and challenges. However, there might also be gaps and possible areas of improvement in administrative systems that could contribute to having a more effective urban planning system.

The progressing Integrated City Development Concept promises to show a greater focus on the integration of all concerns, interests and ideas of the relevant and interested administrations, stakeholders, private partners and citizens. This shows that Frankfurt, in addition to the classical planning procedures, is increasingly shifting towards more transparency and further collaboration and openness. The aim is to build up a common vision for the city that represents the future in a responsible manner. As a conclusion, the concept comes absolutely in tune with the interests and concerns of the Rapid Planning research project as it aims at: (1) securing a better quality of life and environment in Frankfurt, (2) maintaining an efficient resource management, (3) embracing an inter-/trans-sectoral approach towards city planning, and (4) engaging all relevant service providers, stakeholders and the public in visioning the future of the city.

As a conclusion, it could be said that city development goals and visions are basically documented in the Mission Statement 2008. These goals came as a direct product of the city dynamics and urban development trends as well as of all the challenges they impose, which explains the similarity in the topics handled, especially in the urban trends and goals of the city. In other words, every urban trend in the city has more or less formulated itself into a goal to be achieved in the Mission Statement 2008. This closed gap between urban tendencies and adopted goals in a scale almost one to one could strongly indicate that Frankfurt enjoys a considerable awareness of the urban concerns within its city administrations as well as the public.

The statement, however, did not speculate much on the infrastructure planning and integration of relevant sectors and stakeholders to the development processes. This, in addition to the recent increase of population, pushed the city to revisit its stated development goals and approach the new Integrated City Development Concept (Frankfurt 2030). Up to the time of writing this document, shaping the concept was still in progress. It is expected to take integration into a whole new level of practice. Taking into account the concerns and interests of the relevant city administrations, service sectors, stakeholders and citizens, a common vision is awaited to represent the urban future of the city in 2030.

3.3.2.8 Next Steps and Potential Research Questions for the Upcoming Rapid Planning Events

Regarding the Integrated Urban Development Concept, the Rapid Planning Project is considered to document the progress of the initiative in order to share the knowledge and experiences with the other case cities of the project as well as to provide valuable inputs to Work Package 7.

Moreover, the Rapid Planning team in Frankfurt has realized a series of interviews with city officials and experts to obtain yet a deeper insight into the city's planning challenges and gaps, which will provide a basis for the next sections of this document. The following questions were identified and explored in the course of the interviews:

- Frankfurt 2030 is mainly addressed to detect spatial synergies and conflicts, but is it possible that there might be management synergies and challenges that could be detected in order to make planning in Frankfurt more efficient?
- How can the public, public-private and regional authorities detect cooperation opportunities?
- How can the cooperation challenges between municipal and regional partners be overcome in order to foster trans-sectoral planning?

The recent meetings concerning the Integrated City Development Concept stressed the importance of strategic planning, German-wide similar experiences, the dialogue with the public, as well as Frankfurt's strengths, weaknesses and chances regarding its further development. As a possible outline for the concept, the city administration introduced first development themes for Frankfurt to be conceived as a growing, open and social, living-worthy, prospering, resource-efficient, mobile, regional and learning city. For the year 2015, an inventory and analysis of relevant development drivers, trends, concepts and development ideas for Frankfurt are designated. The results of this working phase will be presented and published in a status report. Interested public is invited to comment and consult on the perception of challenges for the further development of the city (Stadt Frankfurt am Main & Stadtplanungsamt, 2016). However, the concept is still under shaping and has not been finalized yet.

3.4 Summary of the Dynamics, Trends, Goals and Visions of Urban Development in Frankfurt

Defining the actual state of urban development in the city has led this section to investigate the characteristics that are seen to shape the current urban profile of Frankfurt as well as to deal with the development visions, policies and plans that are set to cope with the city's future. In this context, Frankfurt's city dynamics are presented in two groups: demographic and functional dynamics. The demographic dynamics address the increasing amount of newcomers, the constant rotation of people in this metropolitan area, the international composition of the city's population and the age structure of the citizens. These four dynamics together are seen to contribute to the changing requirements of the city's job market and quality of life. The functional dynamics are mainly manifested in Frankfurt's leading sectors of transportation, finance and research. Altogether, they have coined Frankfurt's image as a destination for regional, national and international guests. There is a variety of trends leading the scene in Frankfurt.

From a statistical perspective, the increasing amount of job offers in the metropolitan region is seen to require more housing capacity to accommodate inhabitants coming from multiple backgrounds and social incomes. From a political perspective, preserving the city's green profile is seen to encourage the city to preserve its ecological assets while incrementing green and open spaces where possible. Urban community gardens have also emerged, presenting themselves as social movements for local sustainability. Due to Frankfurt's importance as a major traffic hub, the mobility system is mobilising efforts to cover the areas of the city in a more efficient manner. Additionally, the system is suggested to include and promote eco-friendly modes of transportation in the city, especially cycling and walking. Public participation is also seen to be a popular trend in the urban development scene of the city.

The Mission Statement 2008 presents a major vision towards the future in the form of a written document, which is considered to be a guiding framework at the institutional level of the municipal departments of the city. It comprises elements with regard to the social balance, sustainable mobility, energy efficiency, public participation, green and public spaces, sub-centers, regional cooperation, local identity as well as the global compact profile of the city. However, in 2014, the city initiated an Integrated City Development Concept to address its future in a participatory manner. The initiative is seen to address the growing requirements of the city resulted from the city's major dynamics and trends. More importantly, it is also seen as a proper response to the growing need for integrated planning and for an active engagement of a wider spectrum of stakeholders. Therefore, the initiative shows a greater focus on the integration of all concerns, interests and ideas of the relevant and interested administrations, stakeholders, private partners and citizens of the city. This is in order to secure a better quality of life and environment in Frankfurt, to maintain an efficient resource management, to embrace an integrated approach towards city planning, and to engage all relevant service providers, stakeholders and the public in visioning the future of the city. This shows that Frankfurt, in addition to the classical planning procedures, is increasingly shifting towards more transparency and further collaboration and openness.

In this context, Frankfurt seems to accommodate changing dynamics and evolving trends that stress certain urban tensions to be addressed in the next section. Both dynamics and trends are essentially influenced by the recent growth of Frankfurt's population that is indicating changes in the economic, social, environmental and cultural structures of the city. In response, the municipal authorities are reflecting these trends and dynamics on the goals and visions of the future.

4. Section Three: Identification and Evaluation of Gaps, Tensions and Deficits in the Planning and Urban Development of Frankfurt am Main

This section of the document corresponds with the task 7.3 of the Rapid Planning Project. Under the guidelines of the Rapid Planning research project, this section reviews the urban management, planning procedures and future development vision of Frankfurt from a critical perspective. It must be kept in mind, however, that Frankfurt is considered to be a reference city in the contexts of the Rapid Planning Project and not a case city. This basically means that there will be neither an entry project nor an implementation of the Rapid Planning Methodology in the city. This section, therefore, will not discuss the hindrances that may impede a possible trans-sectoral implementation of any sort, as in the case of the other Rapid Planning's case cities, since there will be none in Frankfurt. Instead, this section addresses, identifies and uncovers the urban development tensions, risks and challenges as well as gaps in the planning processes that may hinder the delivery of the stated urban development goals and the further evolution of inter-departmental cooperation in the city.

Tensions and gaps, in this context, are concluded from the review of the urban planning in the city presented previously in this document. They are also based on a series of interviews and discussions with officials and experts representing major municipal offices in the city in order to provide a professional insight to the points of discussion of this section in specific as well as and to examine the findings and observations of this document from a diagnostic perspective. In this sense, understanding urban planning in Frankfurt, reviewing the municipal practices and experiences it entails, documenting future plans and development policies and identifying tension and gaps can certainly help this document exhibit a beneficiary example to the case cities of the Rapid Planning Project to reflect on.

4.1 Urban Development Tensions

In order to comprehend spatial planning in Frankfurt and in the context of the metropolitan region of Frankfurt/Rhine-Main, there is the need to identify Frankfurt as a still comparatively compact city, surrounded by nature and open spaces, with limited spatial expansion capacities and where transportation plays a big role in the efficiency of the city's functions. Such specific characteristics must be accompanied by the city's economic, residential and environmental goals, where Frankfurt desires to become at all levels an attractive place for national and international audiences. Under this particular scenario, different urban tensions rise into a confrontation. These tensions describe the city's daily constraints, which have formed the way in which spatial planning shapes the urban development of Frankfurt.

4.1.1 Regional Coherence vs. Competition

At the regional level, there is a need for the city of Frankfurt am Main as well as the nearby cities and municipalities to collaborate and cooperate with each other. In such a way, a regional partnership could bring mutual benefits to all of the municipalities located within the metropolitan region. For instance, the future energy demand of the city is envisioned to be met completely by renewable resources by the year 2050, as stated by the 100% Masterplan Climate Protection (Energierreferat

Frankfurt am Main, 2016). Since the city alone cannot achieve this milestone, a full cooperation with the region is required to supply half of the estimated demand (Fay, 2017). Since regional policies today do not necessarily correlate with the administrative borders, another relevant aspect of regional cooperation is to address what happens on the other side of the immediate municipal borders, where areas that could have an influence over one municipality but are under the control of another. In such cases, a city like Frankfurt with greater resources and expertise, could really contribute to a better development of the neighbouring municipalities for the benefit of all (Bloem, 2017).

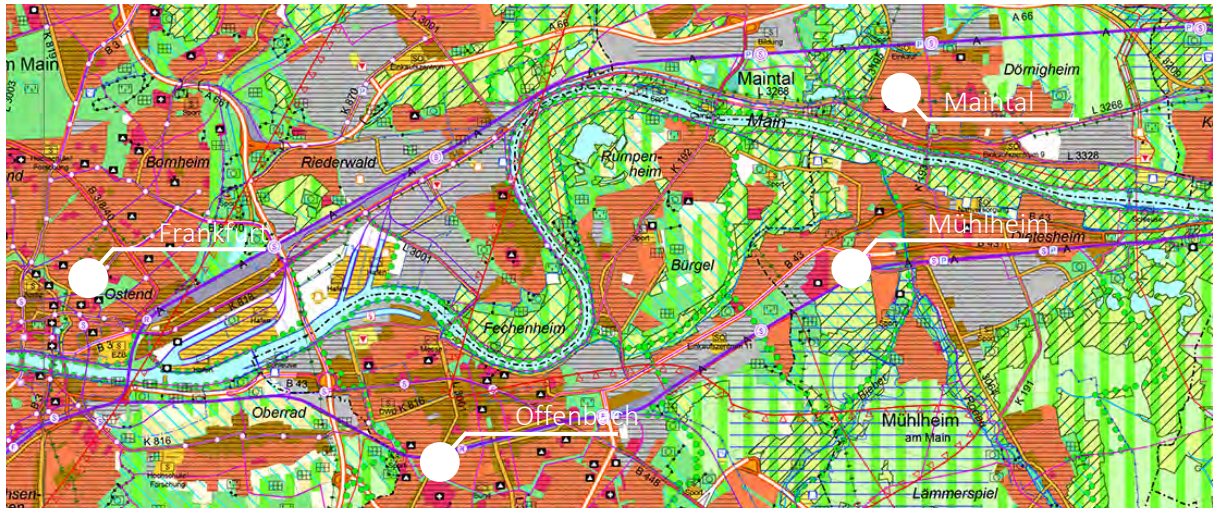


Figure 100: A Continuous Urbanization along the River Main under the Administration of the Four Different Municipalities of Frankfurt, Offenbach, Mühlheim and Maintal. Source: (Regionalverband FrankfurtRheinMain, 2016)

However, such collaborative processes must be integrative enough to avoid any internal competition that would only harm a coherent regional development, especially considering the fact that the Regional Authority Frankfurt/Rhine-Main (*Regionalverband Frankfurt/Rhein-Main*) is financed by all of the member municipalities and not by the State of Hesse (Regional Authority FrankfurtRheinMain, 2013). A municipality alone, therefore, cannot drive the growth of the region depending merely on local interests. Instead, the assets of the entire region must be pooled in order to “keep up in the never ending competition for brain power, green ideas, investments and jobs for the future” (Regional Authority FrankfurtRheinMain, 2013, p. 6). The Regional Authority is working to achieve a holistic urban development strategy at the regional and local levels. An integrative regional spatial planning, in this sense, should take into consideration policies, land uses and concepts for a sustainable development strategy on the short, middle and long terms.

4.1.2 City Expansion and Mobility vs. Green Preservation

Due to the reason that Frankfurt is persistently increasing its reputation as a financial and economic hub, the city is continuously attracting businesses as well as newcomers to the area. The city’s physical expansion seems to be encouraged as its reputation grows. The growth, however, is restrained by the city’s environmental agenda and challenged by the further implications of increasing mobility demands. First of all, in Frankfurt, many of the city’s potential expansion areas are regulated and restricted in their development by preservation policies. The natural resources, including the northern city areas close to the Taunus, the River Main, the floodplain of the River Nidda and the Green Belt are all preserved by law for agricultural, ecological and recreational purposes. Due to that reason, Frankfurt is a city with limited growth and expansion capacities. In addition to these environmental

limitations, mobility also challenges the city's expansion. Despite the fact that being an international traffic hub is part of Frankfurt's façade and reputation, it is also its burden. As the city attracts more people and growth, the transportation system has to cope with resulting pressure. The mobility expansion has to be studied in detail as it has a direct influence on pollution generated by the entire transportation infrastructure. The uncontrolled expansion of such infrastructures can generate excessive mobility accompanied by traffic bottlenecks, noise and air contamination, affecting negatively Frankfurt's image as a sustainable and liveable city. Under such conditions, not only newcomers but also actual residents would be driven away from the city.



Figure 101: Preservation Area of Bonames, the Former Helicopter Airport. Source: Reichhardt, 2016



Figure 102: Preservation Area Regional Park Rhine Main. Source: Peterek, 2016

Therefore, growth management is the most noticeable challenge of the city of Frankfurt today. The key task for the City Planning Department remains in promoting rebuilding as possible, as well as the densification of the already existent urban fabric and the brownfields, while maintaining the natural assets untouched for the future. It is essential to develop a mobility system compatible with the economic, environmental and social needs, minimizing as possible the negative effects of pollution on people and nature. Spatial planning then has to focus its efforts on a mobility system that allows Frankfurt to keep its international and national traffic hub prestige, while promoting it as a sustainable metropolitan area. In other words, the challenge for Frankfurt is to develop integrated strategies where the environmental protection and the provision of optimal transportation can work together in such way that the city's growth can be ordered and controlled while the environment assets are enhanced.

4.1.3 City Growth vs. Affordable Living

Due to Frankfurt's attractiveness for national and international audiences, the city receives newcomers every day. Consequently, the demand for new residences in Frankfurt is increasing considerably, overcoming the available supply in the city. Due to the fact that Frankfurt has only limited space to grow, the land-uses and land reserves in the city are meticulously planned. Therefore, there is a constant tension between the existing urban fabric of the city and the increasing demand for new developments or reconstruction projects. Additionally, there is another tension concerning the available land for development between housing purposes and the many other facilities and amenities that the city requires to maintain the wellbeing of its population. In Frankfurt, therefore, new residential areas have to compete with other necessary and demanded urban spaces such as commercial areas, public facilities, infrastructure, public places and others. As a matter of fact, some

delimited land in Frankfurt is strictly reserved to certain uses, which makes it even more difficult for new residential places to be developed, affecting directly the availability of affordable dwellings.



Figure 103: The Construction of the Mixed-use Winx Tower, Located at the CBD of the City. Source: Robledo, 2017

The demand for new residential areas in Frankfurt is one of the main concerns of the City Planning Department. As the city wishes to be recognized as an attractive residential area, obtaining and promoting affordable housing for residents and newcomers is required. Spatial planning then has an important role in the sense that it is a mechanism that can influence the spatial distribution and policies to achieve the mixture of certain activities in Frankfurt. Nowadays, the City Planning Department maintains an active policy towards high-quality urban reconstruction projects by favouring developments in existent urban areas. In the city of Frankfurt, any urban project under construction or being planned is promoted to have mix usages with regards to the area and to the district where the development takes place. In that sense, policies are not only taking into consideration the developed sites alone, but also the optimization and efficiency of its surroundings by promoting a mixed usage where residential area and other amenities can be proposed and develop altogether. The development and integration of such policies and strategies can allow Frankfurt to grow even within its limited urban area. However, such strategies should constantly enforce the element of affordable housing and sustainability in the future development projects.

4.1.4 International vs. Local Façades

Frankfurt's main reputation is based on being recognized as a vibrant international economic and traffic hub that is located at the center of Europe. In spite of the city's ability to attract newcomers as well as jobs to reside in the city, Frankfurt also desires to achieve and maintain a positive reputation as a liveable residential place. Although the city is required to remain faithful to its local community, it wishes for newcomers to feel welcome enough to stay, work and be part of the future. This requires a change in the urban character at the local scale of the city's districts in order to accommodate the changing needs of the expected population. Further, the arriving migratory backgrounds along with their various traditions, lifestyles and languages also suggest a continuous adjustment to the social dynamics of the city. The global role of Frankfurt, therefore, seems to entail a constant tension of scale and culture between the local and international as well as between the former and the new, since each requires the city to act in a different way and thus to pursue different outcomes of urban development.



Figure 104: Local Street Market, District Center, Berger Straße. Source: Guerra Bustani, 2016



Figure 105: Office and Commercial area, Westhafen. Source: Peterek, 2012

Spatial planning is the mechanism by which both the international and local façades can coexist. It provides the opportunity to link urban policies, land-uses and land restrictions in order to produce an inclusive planning where both atmospheres can spatially and functionally nurture from each other. Through cooperation, the private and economic interests coming from the financial and industrial sectors can be balanced with the public interests regarding the social and environmental benefits. If handled properly, this can provide an advantage for the city of Frankfurt to further advance its position. After all, the value of a place depends on both, the quality of the residential areas as well as the opportunities offered by the employment sector along with the availability of efficient services and social infrastructure. On one side, the city's high-quality residential areas are able to attract and welcome people. And, on the other, the job opportunities and offered services can keep increasing, bringing economic revenues to the city and the nearby municipalities. Such economic resources can be invested once again in urban development projects and the sustainability of Frankfurt over time.

The City Planning Department, as addressed in the mission statements of 2008 and 2012 (Stadtplanungsamt, 2012), has understood that one of the city's main positive assets is the international and multicultural atmosphere that can be felt within the city. Such positive characteristic is something worth maintaining and enhancing. However urban considerations are needed in such context in order to avoid social segregation and spatial disparities to happen in the future, as the percentage of people with a migratory background will further increase.



Figure 106: City for All, the Ideen-Flash-Markt Activity of the Frankfurt-Deine-Stadt Platform. Source: Erosa Mercado, 2016

Through spatial planning, the city of Frankfurt is trying to promote social inclusion and mixed residential areas within its territory. Such urban strategies and policies are also being shaped and implemented in a way that they can assure housing provision, efficient infrastructure and different social, cultural and environmental amenities for all social groups in the city. At the end, Frankfurt's uniqueness will be based on how foreigners and residents, locals and commuters are shaping together the city's identity.

4.2 Gaps in the Spatial Planning of Frankfurt

Since the research activities of the Rapid Planning Project focus on understanding the current urban development status of Frankfurt as well as its future development plans and policies, this document tries in this point to address the critical issues that could be found in the contexts of urban planning in the city. The document will further reflect the possible influences of these issues on the development goals stated by the city as well as on the quality of the planning procedures and municipal conduct. As the Rapid Planning Project focuses on urban development policies as well as trans-sectoral planning at the municipal level, the search for gaps in this paper will take place under two major categories: The future vision of the city as represented in the progressing Integrated City Development Concept and in the inter-departmental collaboration between the major municipal actors in the city.

4.2.1 The Integrated City Development Concept: Frankfurt 2030

The Integrated City Development Concept is still in progress. The concept has recently reached its final stages. It is expected to lay out its final proposal and plans by the end of the year 2018. When the development concept is approved by the City Council, it will be the guiding vision of the future development of Frankfurt. It is essential, therefore, to critically examine its recent statements in reflection with its own stated development goals. The following points of the discussion are seen to be the most critical and pressing issues in the development processes of the integrated concept:

4.2.1.1 Affordable Housing and its Impact on the Socio-Economic Structure

Affordable housing seems to be the most pressing issue in every public participation event that was organized by the city to introduce and discuss the recent progress of the development concept with the public. It is apparent that there is a definite need for more housing in the city in order to accommodate its growing population. However, the commitment towards the city's environmental agenda, the quality of life as well as the preservation of open- and green-spaces leaves the planning authorities with very little room for expansion. In fact, the 99% of the open space within the municipal borders of the city is already occupied either by agriculture or nature-, landscape and environment-protection territories (City of Frankfurt am Main, 2016). Only a third of the expected housing needs of Frankfurt in 2030 could be met in the city. This is through the areas identified as ready-to-build by the Construction and Development Program of Housing Land (*Wohnbauland-Entwicklungsprogramm*) in addition to the current openings in the built structure that could be found within the city. Consequently, since a further expansion of the city to cover the rest of the housing demands of 2030 is indeed difficult, two major options are available to expand the housing capacity. The first is to initiate densification and re-development projects within the built areas of the city, which stands as a favourable option. And, the second is a deliberate outsourcing of housing provision to the neighbouring towns and cities in the region. Both options are adopted in the development scenarios addressed by the Integrated Development Concept in some different portions (City of Frankfurt am Main, 2016).

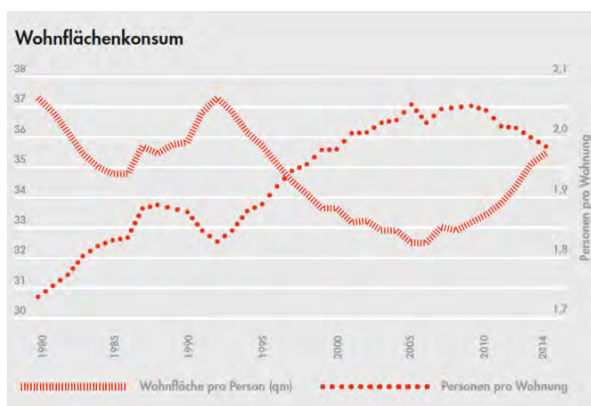


Figure 107: The Consumption of Residential Spaces. Source: (Stadtplanungsamt, 2016, p.24)

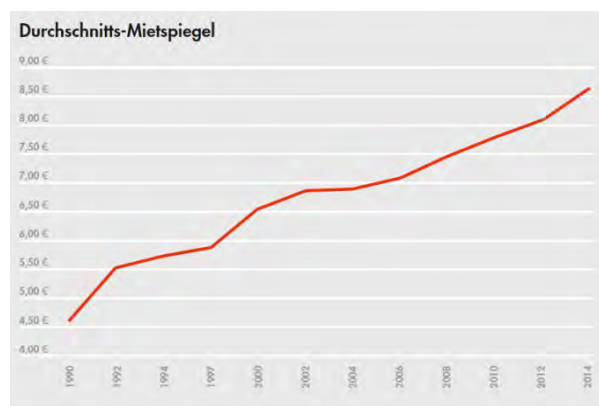


Figure 108: The Increasing Average of Housing Rents in Frankfurt. Source: (Stadtplanungsamt, 2016, p.25)



Figure 109: A Summarizing Presentation of the Unbuilt Space outside the City of Frankfurt, Based on the Priority and Preservation Areas as Regulated in the Regional Land-Use Plan 2010. Source: (City of Frankfurt am Main, 2016)

In addition to the increasing demand for housing in the market, both options can also indicate raising housing costs in the future. For instance, densification and re-development projects (e.g., *Westhafen* and *Europaviertel*) tend to increase the land-prices and thus provide housing units that would cost more than the former ones due to many reasons, such as the increased land-value, the demanding environmental and architectural standards of new constructions and the desire of investors to build for higher-income clients to secure a better marketing and faster generation of revenues. On the other hand, regional provision of housing would result in a higher portion of daily commuters willing to move closer to the jobs within the city, which would indicate a persistent demand for housing units that can always exceed the offers on the long run. This will certainly direct the market for higher housing prices.

Based on that, all cases seem to indicate that the affordability of housing remains a major concern in the city, especially for the low-income population of Frankfurt. This means that, without a proper municipal intervention, this portion of the population would certainly be challenged and probably be forced to move outside or to other parts of the city due to the increasing prices. The socio-economic structure of each neighbourhood as well as of the city as a whole would consequently change in the coming future. In this regard, the Integrated City Development Concept in its final stages of development addresses that in order to avoid undesirable exclusion cases in the socio-economic structure of the city, there is a real need to provide affordable living spaces in a quick and effective manner. It adds that the neighbourhoods of the future should not be exclusive to certain socio-economic patterns or cultures, which require differentiated building types, diverse infrastructures as

well as new partnerships and implementation models. Also, the enforcement of public participation and cooperation, as well as the promotion of self-responsibility, are essential steps to help secure socially-sustainable neighbourhoods (City of Frankfurt am Main, 2016). However, the mechanisms and the municipal measures needed to divert the concerns of housing affordability and its worrying consequences on the socio-economic structure of the city are not yet clear.

4.2.1.2 Quality of Life and Population Densities

Generally speaking, it is conventional to assume that more population densities could challenge the quality of life in urban communities. In Frankfurt, this statement could be valid due to the impacts that increasing densities could have on the city's traffic, social and service infrastructures and, more importantly, open spaces. The increasing population of Frankfurt as well as the limited areas available for urban expansion leads the planning authorities, as mentioned, to consider densification and re-development projects aiming at an increased housing capacity as a favourable option to accommodate the expected population growth. This could put the current quality of life in the city in a challenging position. This is due to the nature of such projects as they would have an inverse relation with open space, which means that increased densities would indicate fewer ratios of open space and green per capita throughout the city. This is in addition to the foreseeable burden of an increasing traffic as well as usage of services and infrastructure.



Figure 110: Paul-Arnsberg-Platz, Ostend, Frankfurt. Source: Peterek, 2005



Figure 111: Friedrich-Stolze-Platz, The Inner City, Frankfurt. Source: Peterek, 2005



Figure 112: Helicopter Airport Bonames, Frankfurt. Source: Peterek, 2016



Figure 113: Römer-Platz, The Inner City, Frankfurt. Source: Peterek, 2005

It is important to address that although these aspects could indicate negative influences on the city’s quality of life, they are not necessarily negative in their nature. On the opposite, if managed properly, they can imply more efficiency and thus sustainability. Here, the Integrated City Development Concept handles these concerns with the concepts of qualitative densities, compact urban development and post-fossil mobility. The new neighbourhoods, in this context, are seen to encourage urban diversity and provide sufficient infrastructure that is optimized to consume less space and resources and to promote multi-uses. Further, high-quality and accessible open spaces that can provide a variety of atmospheres and functions are seen to be an essential part of the future development of the city. Furthermore, the concept addresses that a comprehensive mobility policy aiming at handling the growing demands of traffic needs to be ecologically, economically and socially compatible. Here, ecological and multimodal mobility alternatives such as public transport, cycling, walking, electro-mobility and carpooling are promoted with the provision of proper stations, networks, park & ride facilities as well as friendly and supportive atmospheres (City of Frankfurt am Main, 2016).

It could be concluded that the development concept provides solid guidelines in response to the articulated impacts of population growth and its resulting densification processes on the quality of life in Frankfurt. Since the development concept is not yet finished, however, the exact municipal measures to neutralize these concerns are not yet clear.

4.2.1.3 Outward Development, Regional Politics and Urban Footprint

The development scenarios of the Integrated City Development Concept consider directing the expected population growth in full or partially in different quotas towards the neighbouring towns in the region to be an option. In this manner, the challenging requirements of more housing capacities and needed services would certainly be less within the municipal borders of the city. Further, a political benefit might be gained, which might appeal to decision makers in the city, as such a step could ease the uncertainties of the public concerned about the notion of densification within Frankfurt.

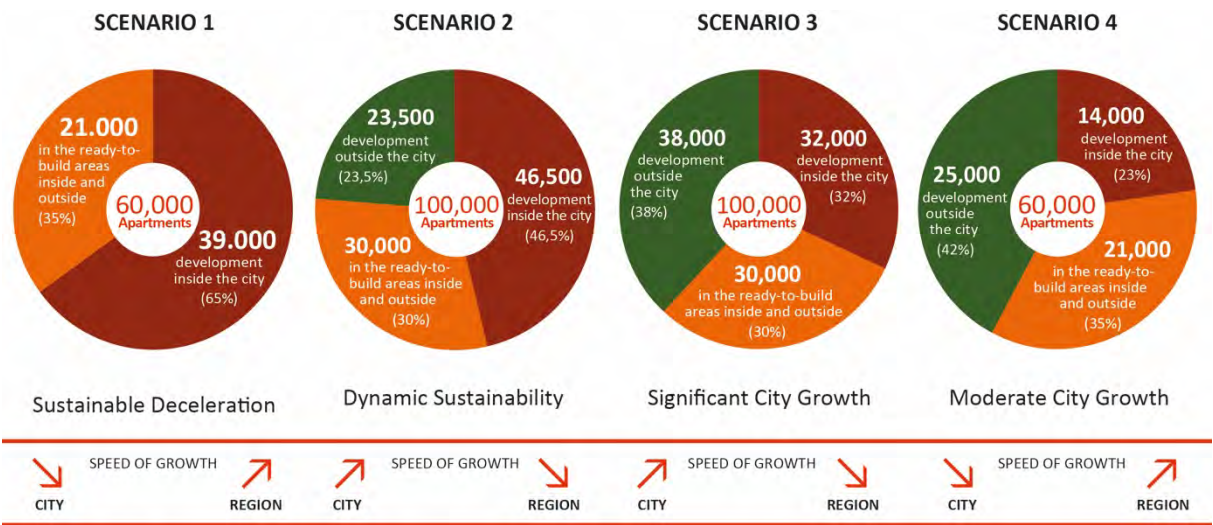


Figure 114: The Four Development Scenarios Suggested by the Integrated City Development Concept. Source: Modified by the Rapid Planning FRA-UAS Team based on: (City of Frankfurt am Main, 2016, pp. 6–9)

Apart from the aforementioned increased volume of daily commuters and its consequences on the environment as well as the housing market of the city, there could be further complications regarding the provision of adequate service and social infrastructures in the region as well as the resulting urban footprint on environment in total. Here, in comparison to a case where the growth would be contained within the city, one concern is whether or not diverting a share of the expected population growth of Frankfurt to the region would impose undesirable influences on the resources and efficiency of the urban infrastructures. In an ideal case, an outer development in the region would also focus on positive development concepts such as qualitative densities, compact urban development and post-fossil mobility in order to provide the needed housing in the region. However, as it has been seen in Frankfurt, a portion of the population would still be concerned about densification. In fact, in comparison to Frankfurt, the opposition might be manifested more clearly since the population of the region, in general, is already used to fewer density patterns as well as stronger connections to nature and open spaces that are less occupied. This assumption, in addition to the availability of lands for development in the region, could make the option of urban expansion in the neighbouring towns seems favourable over re-development projects especially from a political point of view. This would require building new service and social infrastructures as well as more demands for resources in the region, which would lead to a larger urban footprint at the regional level. Based on that, it could be safer to assume that it is more likely to achieve a more ecologically-responsible compact development within the city of Frankfurt than in the region. This is where the already build service and social infrastructures could be further optimized for more efficiency, which would meet the needs of the city's population in 2030 with the less urban footprint possible.

The Integrated City Development Concept addresses the factors of the densification rate, outer development rate, housing capacities provided, pressure on the city's open spaces and social infrastructure and energy demands as parameters to weigh four different scenarios of distributed outer- and inner-developments to provide the needed housing for the expected population growth (City of Frankfurt am Main, 2016). In accordance, the development concept will state in its final steps the official favourable development alternative. The exact development measures to be taken in order to realize the alternative to be chosen are also to be defined later and not yet clear.

4.2.1.4 *Trans-sectoral Application within the Integrated Urban Development Concept (INSEK)*

The Integrated City Development Concept handles the broader aspects of urban planning in order to address the type and size of urban development needed to enable the city to accommodate the expected population of the future. Therefore, it focuses on sustainable development principles that are socially, economically and environmentally compatible such as compact development and qualitative densities, robust and qualitative open spaces, post-fossil mobility, environmental innovations, societal responsibility, urban identity, process oriented-thinking and also productive, lively, mixed neighbourhoods and social diversity (City of Frankfurt am Main, 2016). The Integrated City Development Concept is also coherent with current development policies of the city, such as the 100% Master Plan Climate Protection and Frankfurt Green City, which are focused on environmental protection, sustainable development, green mobility as well as the advancement of clean and renewable energy production. It could be said, therefore, that the energy sector in specific as well as its related development measures is well positioned in the urban discussions of the city and the

development concept itself. The strong presence of this sector, in particular, is due to its essential relevance to climate protection, which is a topic of a high priority in Frankfurt, and also due to the fact that most of the technological advancements are taking place in this field and its applications.

The other basic service sectors such as water, wastewater, solid-waste and urban agriculture are not specifically addressed in the development concept so far. Rather, the topic of service provision, in general, is visited in the publications of the development concept in the sense of promoting innovation, renewable resources, efficiency and multi-uses of service infrastructures. Further investment possibilities in existing, as well as potential synergies between the different sectors of service provision in the city, are not yet fully explored. Such a process could be advised in the development concept to help the city secure better chances to efficiently provide its future citizens with adequate services. Since the topics of service infrastructure and provision are more technical and gain more importance towards the implementation phase, they could still arise more clearly in the final publications of the development concepts. In such a case, the development concept could take into advantage the city's considerable experiences of delivering services, inter-departmental cooperation and the involvement of public and private actors in the sectors of service-provision to the citizens.

4.2.2 The Collaborative Approach towards Trans-sectoral Planning in Frankfurt

Examining the urban development plans and policies of Frankfurt (e.g., the Mission Statements of 2008 and 2012, the progressing Integrated City Development Concept presented in the previous chapters of Work Package 7 as well as the 100% Master Plan Climate Protection and Frankfurt Green City presented in the research activities of Work package 10 of the Rapid Planning Project) shows a certain extent of inter-departmental collaboration between the municipal institutions in Frankfurt as well as in the region. This collaboration is essential to the successful preparation, implementation and control of city planning and urban development goals of the city. In the context of institutional collaboration, however, some points could be brought up as gaps or as room for improvement in both levels of the local and regional planning as in the following points.

4.2.2.1 *The Legal Status of Collaboration Procedures in Frankfurt's Urban Development*

The collaboration procedures that could be found within the different operations of urban planning, policy-making and service provision in Frankfurt are either formal, enforced by law or non-formal, freely initiated by relevant partners with no pre-regulatory frameworks. In the first case, collaboration is conducted in accordance with the regulations and expectations set by the applicable laws. In the latter, collaboration is rather driven by agreements and common goals that are pushed by the necessity of circumstances.

In the field of city planning and urban development, major collaboration procedures between the municipal departments in Frankfurt belong to the first case. They are instructed by the applicable planning and building laws. And, they are usually related to the formal procedures of infrastructure and city planning. As an example, the preparation procedures of the land-use plans in both forms, the Preparatory Land-use Plan (*Flächennutzungsplan*) and the Legal Zoning Plans (*Bebauungspläne*),

require formal inter-departmental collaborations. The City Planning Department, therefore, is obliged to consult with certain municipal offices, such as the Environment Department (*Umweltamt*), the Energy Agency (*Energie Referat*) and the Regional Authority (*Regionalverband*) at certain stages of the preparation before a new land-use plan could be officially issued (reference). Since inter-departmental collaborations in such cases are essential to the success of the overall planning process, the procedures of such collaborations are usually regulated in the legal references in order to secure the necessary outcome. However, there are two risks to be identified in such cases:

- Limiting regulatory frameworks: The technological advances, the evolving requirements of modern and environment-friendly constructions as well as the growing need for public participation, interdisciplinarity and integrated urban development suggest a changing presence of relevant stakeholders. The type of collaboration would also vary regarding the different circumstances and stages of the future development plans. The current planning and building laws, therefore, could be expected to overlook a variety of possible beneficiary interventions, consultations or arrangements that could ideally take place outside the existing frameworks. Municipal offices should keep an open mind in all development matters and not only follow the prescribed collaboration procedures, which could keep an open door to include fruitful collaborations with different stakeholders.
- Minimal interaction: The regulating planning and building laws provide a clear chronology of planning procedures including the times and types of collaboration. This, on the one hand, secures the necessary degree of collaboration between the key municipal departments involved in planning, in order to reach a successful outcome. On the other hand, however, this might also indicate a strong presence of an established routine, where communication and experience exchange between the partners happens at a minimal level, only to meet the expectations and to fulfil the requirements of the regulating laws, and not to achieve the fullest potential possible. For a better urban development, municipal offices should invest in the current collaboration procedures regulated by law to increase the benefit of communication and experience exchange to the high level possible, even if this would exceed the legal requirements.

As a manifestation of the abovementioned risks, the Energy Agency in Frankfurt indicated that the formal protocol of inter-departmental collaboration, called the Departmental Participation (*Ämterbeteiligung*), is rather limited and not sufficient to address energy planning in the city. The type and timing of formal collaboration between the stakeholders involved in urban planning, as prescribed in the planning and building laws regulating the issuance of new land-use plans, may overlook a variety of possible beneficiary interventions, consultations or arrangements from their side. Under these current laws, for instance, the energy efficiency aspects are not enforced as a prerequisite to new urban developments in the city. The agency, therefore, is not necessarily informed or included in the preliminary phase of contracting investors and shaping development proposals. This makes the integration of elaborated standards of energy efficiency in a later stage of the development a complicated matter. Further, when the consultation of the agency is sought, in accordance with the current laws, it would be too late so that the investors would already have developed their plans making the agency's suggestions represent double efforts or additional time to achieve only some benefits, instead of the best possible outcomes. Therefore, the extra value and experiences that the Energy Agency could add to urban development, through the regulated channel of communication and experience exchange, is restricted to a level that is certainly not the fullest potential. Such cases could be avoided by an early arrangement with the investors, which is not regulated by the current

laws. An earlier role of the Energy Agency in the planning procedure, preferably starting from the conceptualization phase of the development, can encourage a better urban development. In a similar manner, the inclusion of energy efficiency standards at the early stages of preparing new land-use plans should also be enforced by law .

Other collaboration procedures regarding urban development policies are not formally regulated but rather project-oriented processes that are seen to be initiated on-demand by the major municipal departments of Frankfurt. From an administrative point of view, it could be stated that many of the leading development policies addressing the future of the city, such as the 100% Master Plan Climate Protection, Frankfurt Green City and the progressing Integrated City Development Concept, are considered to be an outcome of non-formalized planning procedures that the city itself has initiated and approved. This means that there are no formal regulations granted by the planning regulatory laws, such as the Federal Building Code (*Baugesetzbuch*) and the State Building Code (*Hessische Bauordnung*), to oblige the development partners to cooperate in a certain manner. The obligation, however, seems to come from the necessity itself to establish a meaningful cooperation among the partners in order to come into a common set of desired conclusions.

On the one hand, this observation indicates a wide margin of flexibility at the disposal of the municipal institutions so that they can initiate a non-formalized planning procedure. Also, this indicates a high level of discretion that allows the engagement of relevant stakeholders, from public and private sectors, as well as the possibility to define the nature, extent and time of their collaboration in order to achieve the fullest potential possible. This would encourage other willing stakeholders to approach urban development and planning activities in the city. It would also open up a wider spectrum of activities in different fields such as education, public awareness and consultancy. On the other hand, however, since this type of collaboration is based on individuals and self-initiative, not on prescribed processes and regulations, there is a risk of a fluctuating performance, which might affect the consistency of the expected outcomes. Unlike the regulated collaborations, where they are expected to maintain a certain level of quality and fulfil certain requirements of the regulating laws, a non-formalized collaboration depends greatly on the networking skills and compatibility of the individuals involved, the common interests of their institutions, the political agenda of the municipal administration, the availability of necessary resources as well as the smooth integration of new stakeholders into the process when needed. If not properly handled, these points would represent some risk factors to the desired outcomes. A successful practice of non-formalized collaboration, therefore, would take the advantage of previous experiences between the partners, established communication channels and individual skills of the working teams.

To conclude, having regulated collaborations between certain partners following certain planning and building codes is an essential part of city planning and service provision. In Frankfurt, there is also another form of collaboration, non-formalized, which allows the city to think and work creatively outside the predefined norms when needed. It is not the intention of this paper to favour one approach above the other, but rather to indicate the many advantages of having both possibilities available at the disposal of a discretionary planning authority, as well as the risks that can influence the desired outcomes. Having a proper presence of both approaches can significantly encourage better procedures for city planning and urban development.

4.2.2.2 Regional Management, Natural Resources and Local Planning

The spatial planning system in Germany adopts the concept of “decentralized concentration” as a guiding principle that envisions a balanced spatial and settlement structures throughout the country. In this regard, the prevention of strong spatial disparities and overburdened regions of growth is sought through decentralized settlement structures that feature a grid of efficient centers and urban regions on the entire national territory. Such a model is also seen to enhance the regional potentials and improve the prospects for urban development in regions that are distant from the bigger urban agglomerations (E. Pahl-Weber & Henckel, 2008). In this context, the State of Hesse has established the Regional Authority FrankfurtRheinMain according to the law governing the Frankfurt/Rhine-Main metropolitan Region, which was passed by the state’s parliament in 2011 (Regional Authority FrankfurtRheinMain, 2013). Due to this arrangement, as stated before, the Regional Authority took over the issuance of the Preparatory Land-use Plan for the entire region. Planning at the local level of the municipalities is expected to adhere to this plan as it is considered to be a legally-binding document for all municipal institutions in the region.

Although Frankfurt is the major stakeholder at the Regional Authority due to its strong influence on the region in terms of population, job offering as well as service and social infrastructures, the city is still surrounded by fairly competitive municipalities (e.g., *Offenbach, Hanau, Rüsselsheim, Bad Homburg, Eschborn*, etc.). This means that there will be other regional players involved, who might pursue different political agendas and local development goals. Frankfurt in this case differs significantly from the other case cities of the Rapid Planning Project, where these cities are exclusively dominant in their regions. It could be noticed, therefore, that the regional geopolitics might impose some extent of regional restrictions on urban development at the local level of the city. For instance, in the case of new development proposals demanding necessary changes or significant adjustments to land-uses in Frankfurt, the city must negotiate the matter first with the Regional Authority in order to alter the Preparatory Land-use Plan accordingly and to commence the intended development. The negotiation is a political procedure, where the different demands and interests of the stakeholders are exchanged, discussed and traded (Kreisl, 2016). Therefore, a challenge could be formed if the political atmospheres of the member municipalities in the Regional Authority differ from the one of Frankfurt. In a similar manner, environmental, economic and social development goals of Frankfurt are dependent on the agreement, support and commitment of the regional partners since most of the natural resources needed for service and energy provision lay beyond the municipal border of the city. Therefore, future development policies, such as the Integrated City Development Concept and the 100% Master Plan Climate Protection¹⁹, are also subjects to negotiations that could be influenced by the presence of different political agendas on the regional level. Another example comes from the conflicting interests in the desired scale and level of detailing of the Preparatory Land-use Plan. It could be seen that Frankfurt desires a less detailed Preparatory Land-use Plan in order to gain more freedom in the interpretation as well as the preparation of the Legal Zoning Plans (*Bebauungspläne*) when needed. Smaller municipalities with fewer capacities, on the other hand, tend to demand more detailing to the extent that is enough to manage urban development and eliminate the necessity of zoning plans at the local level (Bloem, 2017). The scale and level of detailing of the Preparatory Land-

¹⁹ The Integrated City Development Concept: Frankfurt 2030 (INSEK) addresses four development scenarios, where housing could be outsourced to the region in different portions (City of Frankfurt am Main, 2016). The 100% Master Plan Climate Protection sets the goal to meet all Frankfurt’s energy demand with 100% renewable energy. Half of the renewable energy needed is seen to be provided by the region (Stadt Frankfurt am Main, 2019).

use Plan, therefore, could represent a challenge to the city as it influences Frankfurt's freedom of local city planning.

As a well-established business hub with global links, the Frankfurt/Rhine-Main region is a prospering nucleus in the polycentric world of European cities. The region enjoys international acclaim thanks to its status as a financial centre, trade-fair location, transportation hub and seat for important research institutes (Stadtplanungsamt, 2013, p. 8). In such a region that is consisting of a network of well-connected urban centres, challenges in terms of the need for additional infrastructures are brought to local level of the more attractive municipalities that provide more jobs, services and recreational facilities. Frankfurt, in this regard, plays the central role in its region and thus it is required to provide a bigger share of service and social infrastructures that are not necessarily packed up with taxes, equivalent to the rate of usage. The city has also to cope with the economic, social and environmental consequences of a considerable share of 354,397 daily commuting, which counts up to about half of the city's current population (Regionalverband FrankfurtRheinMain, 2018b). These consequences are manifested in the increasing demands for housing, social and recreational facilities as well as in the worrying aspects of the increasing traffic and also in the growing need for public transportation and mobility.

Regional planning in principle is an essential planning level that should ensure a sufficient representation of all member municipalities and maintain a balanced urban development in the region. The Regional Authority plays, therefore, an essential role to lead regional development and to provide an official platform for regional coordination and communication. Even if a coherent regional planning would bring the influence of regional stakeholders onto local planning, it is a necessity since all cities are strongly dependent on their regions and vice versa. Therefore, a proper regional planning implies the maturity of planning systems as long as it maintains regional coherence in terms of equitable service distribution and resource management, it ensures a healthy interaction between neighbouring towns in the region and it reflects harmony between the planning procedures at the local level of municipal planning and the regional development goals.

4.3 Summary of the Identified Gaps, Tensions and Deficits of the Planning and Urban Development of Frankfurt

Spatial Planning in Frankfurt is a process that is being constantly shaped by the already mentioned urban tensions of population growth, affordability, regional politics and the global role of the city. All of these tensions are being tackled in a different but integrative approach in such a way that Frankfurt can aim for a sustainable urban development. Spatial planning is being used as a tool integrating urban processes, policies and land-uses to achieve objectives in a collaborative manner. Efforts are being focused on maintaining and enhancing a regional cooperation that can bring benefits to all who are part of this regional area. The City Planning Department in Frankfurt has been developing a series of strategies and projects that can allow the city to maintain its international status while assuring its residents' wellbeing. In the end, spatial planning in Frankfurt is aiming to address economic and development interests while considering social and environmental concerns, engaging public and private interests that can promote the city's sustainable growth and overall attractiveness.

Urban development in Frankfurt am Main could be described as a continuous process of spatial negotiation and interaction carried out between the people living and working in the area, and the city's economic, social and environmental mechanisms. This represents a constant interaction

between demographic and functional elements taking place within the city space. Its uniqueness is based on the fact that Frankfurt is an international and multicultural connected city, and at the same time, a key area for regional integration which desires to remain faithful to its local residents. The city's residents coming from different nations and backgrounds have given the city an interesting social character that is distinctive from any other city in Germany. Frankfurt's social, economic and environmental constraints and trends constantly influence the spatial planning process in the city, where tensions have risen between the city's economic and financial profile, and its cultural and residential identity.

In this document, there is an attempt to review Frankfurt's urban planning from a critical perspective that takes into account the indications of two major topics: The first is the progressing Integrated City Development Concept, as the leading and most recent urban development policy that handles the future of the city. And, the second is the inter-departmental collaboration that could be recognized within the current progress of urban planning in the city. The critical points found are then reflected on the stated urban development goals of the city as well as the consistency of its municipal processes. The purpose is to uncover the potential gaps or risks that can delay the delivery of the stated development goals and impair a proper implementation.

Under the first topic, the Integrated City Development Concept, it could be found that affordable housing seems to be the most concerning issue since there is a deficit in the lands available for housing project. This leaves the city with the options of urban redevelopment and densification as well as the delegation of the region to provide the necessary housing to accommodate the expected population growth. Both options indicate rising housing costs, which puts the current socio-economic structure of the city in a questionable position. The Integrated City Development Concept addresses the need to provide affordable living spaces in a quick and effective manner in order to avoid undesirable exclusion cases in the socio-economic structure of the city. In addition to the establishment of new partnerships and implementation models, promotion of citizen-responsibility and enhancement of public participation and cooperation, the development concept also suggests that a socially-sustainable neighbourhood providing differentiated building types and diverse infrastructures are necessary. However, the mechanisms and the municipal measures needed to divert the concerns of housing affordability and its worrying consequences on the socio-economic structure of the city are not yet clear.

The expected growth of population indicates increased densities especially in the potential areas of urban redevelopment. This basically means fewer ratios of open space and green per capita as well as an additional burden of traffic and usage of urban services and infrastructure. It could be assumed, therefore, that the current quality of life in the city is in a challenging position. The Integrated City Development Concept stresses, therefore, the importance of qualitative densities, compact urban development and post-fossil mobility as major concepts for the future urban development. Here, the future development should encourage urban diversity, provide optimized infrastructure promoting multi-uses, increase the quality and accessibility of open spaces and encourage public transport, ecological and multimodal mobility. Since the development concept is not yet finished, however, the exact municipal measures to neutralize these concerns are not yet clear.

Outsourcing the expected population growth to the surrounding region in different portions is an idea that is discussed in the four development scenarios suggested by the development concept. Even if this can help mitigate the increasing demands of housing and service provision in the city, the resulting increase of housing and service demands in the region as the as the daily commuters to the

city can still influence the environment and the urban footprint negatively. The consistent demand for more housing in the city could also be expected to remain high. And, the implementation of such development scenarios is dependent on the political atmosphere of the region and beyond the full control of the municipal authority of city. The factors of the densification rate, outer development rate, housing capacities provided, pressure on the city's open spaces and social infrastructure and energy demands are the major parameters to determine the distributable amount of outer-developments. In accordance, the development concept will state in its final steps the official favourable development alternative. The exact development measures to be taken in order to realize the alternative to be chosen are also to be defined later and not yet clear.

The energy sector in Frankfurt as well as its related development measures is well positioned in the urban discussions of the city and the development concept itself due to its essential relevance to the environmental agenda of the city. This is also due to the fact that most of the technological advancements are taking place in this field and its applications. Other basic service sectors, however, such as water, wastewater, solid-waste and urban agriculture are not specifically addressed in the development concept so far. Rather, the topic of service provision, in general, is visited in the publications of the development concept in the sense of promoting innovation, renewable resources, efficiency and multi-uses of service infrastructures. It could be suggested, therefore, that further investment possibilities in existing and potential synergies between the different sectors of service provision are worth exploring in order to maintain an adequate service.

Under the second topic, municipal collaboration between the municipal offices, it could be stated that collaboration procedures found within the operations of urban development in Frankfurt are either formal and or non-formal. Major collaboration procedures especially with regards to the preparations of land-use plans belong to the first case. Here, even if the formalization of inter-departmental collaboration is essential to secure a certain level of quality, it could be argued that the regulatory frameworks can be limiting and thus overlooking other collaborations possibilities that could ideally take place outside the existing norms. Also, a strong presence of an established routine, where communication and experience exchange between the partners happens at a minimal level, only to fulfil the requirements of the regulating laws, can miss the fullest potential possible of existing collaborations. On the other hand, it could be stated that the leading development policies in the city are non-formal. Therefore, they feature project-oriented collaborations with no formal regulations granted by the planning laws. Although these collaborations indicate a high margin of autonomy, the risk of fluctuating performance is present since such collaborations depend greatly on the individual merits of the staff, common interests of their institutions, political agenda, necessary resources and the smooth integration of new stakeholders. A successful practice of non-formalized collaboration, therefore, would take the advantage of previous experiences between the partners, established communication channels and individual skills of the working teams. If handled properly, the presence of both formal and non-formal collaboration can significantly encourage a better city planning and urban development.

The development of the Preparatory Land-use Plan gives the regional players represented in the Regional Authority Frankfurt/Rhine-Main some influence over the local planning in Frankfurt and vice-versa. Although Frankfurt is the major stakeholder at the Regional Authority due to its strong influence, the city is still surrounded by fairly competitive regional partners, who could pursue different political agendas and local development goals. It could be noticed, therefore, that the regional geopolitics might impose some extent of regional restrictions on urban development at the local level of the city especially with regards to new development proposals demanding necessary

changes or significant adjustments to land-uses in Frankfurt as well as the scale and detailing level of the Preparatory Land-use Plan. In a similar manner, environmental, economic and social development goals of Frankfurt are dependent on the agreement, support and commitment of the regional partners since most of the natural resources needed for service and energy provision lay beyond the control as well as the municipal borders of the city. In the region, due to its central role, Frankfurt is also required to provide a bigger share of service and social infrastructures in the region. Maintaining a regional coherence in terms of equitable service distribution and resource management, ensuring a healthy interaction between neighbouring towns in the region and reflecting harmony between the planning procedures at the local level and the regional development goals reflect the maturity of planning systems.

It could be seen, that in such a case as in Frankfurt, finding new gaps²⁰ either in the planning system or in the development policies of the city is not easy since flaws and potential risks are commonly addressed in the municipal publications or discussed in public events. This could be referred to the experience, active roles and contributions of the major planning institutions, public participation in the city as well as to the planning and building laws that secure a strong ownership of city planning at the local level. These factors seem to have enabled urban planning in both fields of regulation and implementation to respond to emerging gaps and to adapt the necessary correcting measures.

²⁰ A gap, in the context of this paper, is understood to be an uncovered territory or a flaw in the planning system or development policies, which would consequently generate challenges or impede implementation.

5. Section Four: Lessons Learned from Frankfurt am Main

This section of the document corresponds to the task 7.4 of the Rapid Planning Project. As previously mentioned, Frankfurt is only considered as a reference city and not as a case city for the extent of the Rapid Planning Project, as there will be neither an entry project nor an implementation phase of the Rapid Planning Methodology in the city. In this context, the Rapid Planning Project required establishing an understanding of the current status of urban development in Frankfurt and its future development plans. Therefore, a thorough review has been conducted to shed the light on the city's administrative structure and planning regulations as well as the city's recent planning and development procedures in both fields of urban development and service provision. This review has led the research to articulate a set of outstanding features of urban planning in the city as well as a variety of lessons learned from its various experiences. These lessons are seen to have an influence on the quality of the municipal progresses in Frankfurt. The first part of this section, therefore, addresses these lessons.

Moreover, based on rounds of interviews and further discussions with experts from the City Planning Department, the Environment Department, the Energy Agency and the Regional Association of Frankfurt, as well as experts from the municipal offices of the case cities, these lessons are also seen to have the potential to benefit the quality of municipal progresses in the case cities of the Rapid Planning Project. Therefore, on the basis on the discussed lessons, specific considerations for the municipal administrations of the Rapid Planning's case cities are proposed in the next section of this document.

Through the analysis of relevant events, documents and interviews²¹, the goal for this chapter was to identify the key characteristics that have made Frankfurt's urban planning and policy-making systems carry on in their missions. This helps this paper set a beneficiary example to the case cities of the Rapid Planning Project to reflect on. As a result of the former, a variety of lessons could be learned from Frankfurt, with regard to its planning system. From the perspective of the research activities of the Rapid Planning project, Frankfurt's planning system is observed to be decentralized, collaborative, responsive, flexible, open and preactive. These features can be seen as a basis of interesting lessons to be considered, as in the following points:

5.1 Decentralized Collaborative Planning

One of the most decisive features of Germany's spatial planning system is its federal structure. By distributing competences and clearly differentiating functions between the three levels of government, and the same time interlinking them by the mutual feedback principle to coordinate, collaborate and participate, spatial planning has become decentralized in this country. This is why, even if the Federal and State levels provide the guiding principles and legal basis for spatial planning, it is at the local level that the use of land for building and other purposes is finally regulated and further specified (E. Pahl-Weber & Henckel, 2008).

²¹ Events such as the different activities carried out by the dialog platform Frankfurt *Deine Stadt*; publications of the City Planning Department, Environment Department and the Energy Agency; and the professional meetings and interviews with members of the different municipal departments and Regional Authority.

Rather than being something new, this decentralization of responsibilities for spatial planning is based on the traditional practice in Germany where every municipality in the federal republic holds the right to plan its urban development within its administrative borders, as it is established in the national constitution. In this regard, Frankfurt is not the exception, having the autonomy to develop its own detailed planning and implement its own strategies and measures (Erpenstein & Peterek, 2011; E. Pahl-Weber & Henckel, 2008).

One of the advantages of this degree of autonomy is that Frankfurt is able to deal with local problems in a closer way, distributing the responsibilities among the different municipal departments without having to ask for validation or authorization from the higher government levels. Nonetheless, what differentiates Frankfurt's planning system from others is that it is both autonomous and collaborative at the same time.

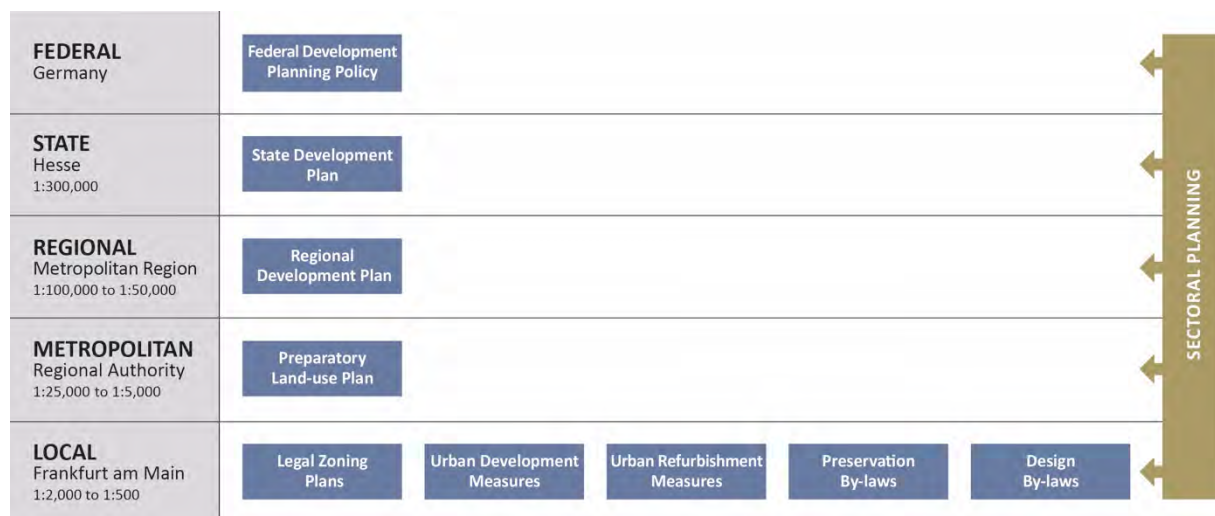


Figure 115: The Formal Instruments of Comprehensive Spatial Planning Influencing Urban Planning at the Local Level. The figure shows a variety of legal instruments at the disposal of local authorities. Source: Elaborated by the FRA-UAS Team based on: (Elke Pahl-Weber & Henckel, 2008a, pp. 39, 41, 69–86; Stadtplanungsamt Frankfurt am Main, 2017f)

According to the report of the Economic Commission for Europe (2008, p.11), one of the fundamental concepts of spatial planning is the “*Subsidiarity Principle*”. It indicates that even if “the decision-making process should be driven by local requirements” (p. 11), in the cases where the positive or negative implications of the aspects being regulated go beyond the boundaries of the administrations conducting the policies, “it might be necessary for the decision to be made at higher levels” (p. 11). This is why in terms of land-use planning, in order to avoid the duplication of functions between different municipalities, the implementation of incoherent spatial development strategies or the development of ineffective infrastructure systems, Frankfurt is obliged to cooperate with the region (Stadtplanungsamt Frankfurt am Main, 2017g). In this regard, the autonomy as a feature of Frankfurt's city planning system is tempered thanks to the regional collaboration which helps maintain a healthy interaction with neighbouring towns and to optimize the regional coherence in terms of service provision and resource management. A system of this kind allows the possibility to have coherent regional strategies and to address problems of a more global or broader scale, without neglecting the local problems of the particular municipalities.

5.2 Responsive Planning

According to the research conducted, the tensions identified by the city of Frankfurt as challenges, particularly the ones discussed by the public in the events of the dialog platform Frankfurt *Deine Stadt*, are consistent with the city's mission statements 2008 and 2012, and development goals of the INSEK plan. In this regard, Frankfurt's planning system could be described as having responsiveness, in the sense that it is directly offering a response or addressing these challenges, thus, being up-to-date (Stadt Frankfurt am Main & Stadtplanungsamt, 2016; Stadtplanungsamt, 2008, 2012).



Figure 116: Ideen-Flash-Markt Activity of the Frankfurt-Deine-Stadt Platform. Source: Erik Pfeiffer, 2016

This could be said to happen in Frankfurt due to three main factors:

- The role of public participation: The city of Frankfurt invests in public participation events as a way to obtain solid on-the-ground feedbacks on certain topics, and not only as a legal requirement which has to be met. Even if conducting these events requires more resources, time and effort, their main outcome is a planning process with a better understanding of the current situation of several urban issues. Additionally, it also strengthens the communication channels between the city and the public, improves the citizens' trust and increases the public's acceptance of the plans to be implemented in the years to follow.
- Availability of data: The second factor influencing this characteristic is the existence of the Civil Registration, Statistics and Elections Office (*Bürgeramt, Statistik und Wahlen*) and each municipal department's data division. Whereas the Civil Registration, Statistics and Elections Office periodically collects overall information to produce accurate and up-to-date reports about different topics, each municipal department also collects and processes specialized data according to their sector, sharing them with other municipal departments upon request (Stadt Frankfurt am Main, 2018c).
- Availability of capacity: According to some interviews conducted with some public officials, the third and last factor is the presence of experienced and qualified staff at the different municipal departments. It is the existence of a qualified staff what allows Frankfurt to collect, process, analyze and interpret the information in an effective way, thus being able to identify the challenges and further develop strategies to address them.

5.3 Flexible Planning (The Proportionality Principle)

When referring to the concept of flexibility in the context of spatial planning, the report of the Economic Commission for Europe (2008, p.12) highlights that the “*Proportionality Principle*” is directly being addressed. This principle states that although the presence of strong regulations contribute to create stability in the city and control the utilization of non-renewable resources, a certain degree of flexibility is necessary to determining to which degree a specific regulation can be used for formulating a development plan.

In other words, *“an enduring problem in managing spatial development is that of maintaining an appropriate balance between commitment and flexibility in policy. Commitment in the form of robust, unambiguous policies is of great benefit when encouraging development since it can contribute to creating certainty and reducing risk for investors. It is also important for safeguarding finite resources such as high quality agricultural land. On the other hand, spatial planning policy must also be flexible enough to adapt to economic, social and technological trends as well as to stimulate innovation”* (United Nations, 2008, p. 12).

In this regard, flexibility is achieved when thanks to the existence of a minimum number of necessary criteria-based regulations planners are able to focus their attention on the most urgent and sometimes unanticipated matters, aiming at reaching the expected outcomes rather than trying to prescribe a solution (United Nations, 2008).

In the case of the city of Frankfurt, this flexibility can be identified in the way in which the city develops its legal zoning or binding land-use plans. Based on the city’s discretion, the City Planning Department is not obliged to produce a master plan or legal zoning plans for the entire municipality (Stadtplanungsamt Frankfurt am Main, 2017d). Due to this, legal zoning plans are only developed for the areas where it is considered necessary for urban development, allowing the city to focus and prioritize its efforts on finding solutions for more pressing urban issues in specific areas at certain times, as the local authorities see fit. For that matter, by relieving the planning authorities from the unnecessary burden of the areas with no particular needs, they are able to focus on the most vulnerable ones at the scale of the problem, thus saving time and achieving a greater level of efficiency. Additionally, if well the preparatory land-use plan regulates the type of use to which all land in an entire municipal area will be put, it is a strategic document which is only legally binding to institutions (Erpenstein & Peterrek, 2011). By not granting any construction rights or providing any construction details, this plan is also flexible in the sense that it provides a certain commitment while also opening the possibility for further reconsiderations.

Urban developments, particularly in cities with a rapid population growth, are influenced by many changing and sometimes unpredictable variables. Therefore, it is unreasonable to assume that a detailed long-term masterplan, which is produced at a given moment for a city to envision its future, will be carried out exactly as planned. As urban development trends change during the course of time, it is predictable that certain aspects of any approved masterplan would not make it into implementation due to the emerging requirements and challenges of developing circumstances. The need for development, however, would still exist entailing the risk of forcing those in need into informality. For that matter, the spatial planning system in Germany breaks down the masterplan approach into smaller-scale and more specific plans. It is possible, therefore, to shift the focus of masterplanning towards more strategic purposes with a margin of flexibility (e.g. preparatory land-use plans) and leave the rigid detailing to the smaller scale plan where there is a greater need for such

efforts (e.g. legal zoning-plans). This would facilitate adjustments at the higher planning level and, at the same time, give more attention to details at the local level when needed. The more flexible the planning system of a municipality is, the wider margin this city will have to correct the course of urban development on new or appearing challenges and issues.

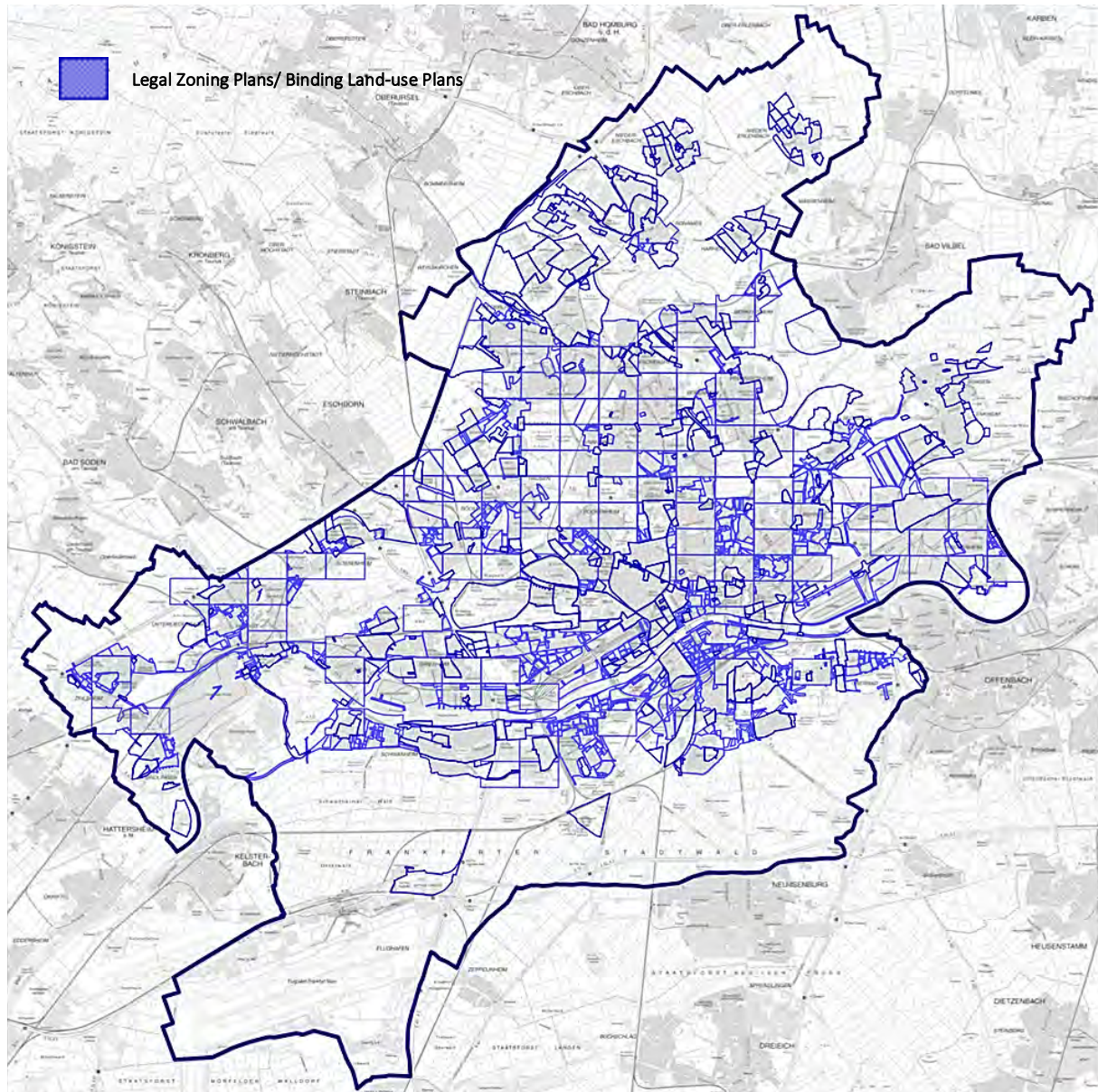


Figure 117: Overview of Legal Zoning Plans/Binding Land-use Plans in Frankfurt am Main as a Whole (the city is not entirely covered by detailed plans). Source: (Stadtplanungsamt Frankfurt am Main, 2017e)

5.4 Open System Planning

The concept of openness in Frankfurt's spatial planning system is very much intertwined with the existence and practice of non-formalized or non-legally-binding planning in Germany. Starting from the 1970's, this non-formalized type of spatial planning has become an alternative for different stakeholders to get involved in the increasingly complex planning procedures in an easier and more flexible way. With the potential to be employed for a wide spectrum of urban themes, these approaches "aim to eliminate or resolve conflicts consensually and on a co-operative basis prior to the

initiation of formal and legally binding planning procedures" (E. Pahl-Weber & Henckel, 2008, p. 199). In this context, an open planning system is to be understood as one in which interested stakeholders associated with urban development can have the chance to propose new development projects or planning policies as well as to experiment other planning alternatives beyond the scope of formal city planning.

Such a feature can allow the interested parties from public and private sectors to engage in the initial stages of city planning. And, it can also facilitate required adjustments of enacted development measures and land-use plans upon the approval of the city authority. Municipal departments, in this regard, are seen to be enabled to think out of the prescribed regulations of the planning and building laws and, when necessary, to escape the established formal procedures in order to explore other planning concepts and development alternatives more freely. Further, the resulting atmosphere of an open system seems to encourage other groups of interest such as landowners and private investors to approach the city and suggest development projects or negotiate beneficiary planning adjustments from the outside of the existing frameworks of formal planning. Keeping such a room open for potential development partners as well as development alternatives in spatial planning systems can certainly bring into consideration more options and opportunities for better outcomes. In all cases, however, it must be reminded that non-formalized planning projects must endure a formalization process regulated by the planning and building laws prior to their implementation. This is first by securing the approval of the municipal authority and second by being integrated into the enacted formal land-use plans (E. Pahl-Weber & Henckel, 2008). Open system planning should be combined with the principles of good governance such as accountability and transparency. Otherwise, this type of planning might be susceptible to the appearance of corrupt practices.

In the case of Frankfurt, leading development programs and urban policies such as the Integrated City Development Concept, the 100% Masterplan Climate Protection, the High-rise Development Plan and the Frankfurt Green City platform are examples where major municipal departments in the city have led non-formalized procedures in order to equip the city with an extended understanding of the challenges and goals of future development. Recent development projects such as the Western Harbour (*Westhafen*), Europa Quarter (*Europaviertel*) and the Riedberg developments were achieved on the basis of mutual agreements between the city and private developers. Since these agreements have been approved by the City Council and formally integrated to the formal land-use plans, they also feature non-formalized planning procedures that went all the way into formalization. It is reasonable, therefore, to argue that the involvement of public and private stakeholders in the preparation of non-formalized plans and development policies has become a normal practice in Frankfurt even though the procedure is not formally regulated.

The usability of a planning system by different stakeholders, municipal and otherwise, next to the possibility to spark necessary changes in the legally-binding regulations manifests the extent of openness in city planning. In this regard, there are three main factors which can promote the creation of an open system. The first and most important one is flexibility, which opens the possibility for making adjustments of the current legal plans in a way that better suits the interest of both the public and private stakeholders. In order to be able to do this, the second factor, the presence of a strong local authority with full autonomy, is also needed. Since referring an interested local stakeholder to a national level for a proposal would consume much more time and effort, the existence of a strong local authority, with a better understanding of the local conditions, challenges and opportunities, becomes fundamental to get a more informed and adequate non-formalized agreement. And lastly, the involvement of the private stakeholders in the initiation of new proposals and projects is also

important. For that matter, even with a centralized government, it is possible to encourage a healthy engagement of the private sector into a responsible urban development process. The implementation of a series of incentives and public-private partnerships are just some of the ways to put this into practice.



Figure 118: Western Harbour Development (Westhafen).
Source: Peterek, 2012



Figure 119: Riedberg Development. Source: Peterek, 2012

5.5 Preactive Planning

When any organization faces new challenges or opportunities, based on its attitude towards time and change, there are four main possible types of response which it could follow, including the *“reactive (the rear-view mirror), inactive (going with the flow), preactive (preparing for the future) and proactive (designing the future and making it happen)”* (Albrechts, 2010, p. 3) types of planning. To counteract a generalized discontent with the current conditions or trends of an organization, a reactive approach to a challenge aims at returning to the organization’s initial state, longing for the past as the objective to be reached again. As it tries to undo something rather than to prevent future problems from happening, this approach could be considered as an ineffective management practice, because *“effective management must be directed at getting what one wants, not getting rid of what one does not want”* (Ackoff, 1999, p. 49).

Unlike the reactive planning, an inactive approach is satisfied with the present or the good enough status of the current conditions, thus it aims at preventing any major change from happening. Since inactivists don’t act until there is a crisis, they could be said to be anti-planners or crisis managers, putting their focus on eliminating the symptoms of a particular problem rather than its causes (Ackoff, 1999).

The third type of response to a challenge is a preactive approach, which aims at reading, projecting or predicting the future to come, to set objectives, plan and be prepared for it. In this regard, the availability of good enough information and the generation of adequate forecasts are of particular importance since *“their plan is directed at minimizing forecasted threats and maximizing forecasted opportunities. Prediction is taken to be more critical than preparation because if the forecast is wrong, no matter how well it is prepared for, the error is generally more serious than poor preparation for the correct future”* (Ackoff, 1999, pp. 52, 53).

And lastly, the proactive or interactive approach, which is based on the idea that much of what happens to an organization is a consequence of what it does, aims to design and *“create as much of the future as is possible”* (Ackoff, 1999, p. 55). Unlike the previous three approaches, proactive

planning goes backward, starting from their projected vision for the future and going towards their current state. For that matter, proactive planning is also a continuous process, requiring a lot of resources like capacities, data, technologies and autonomy to be able to deal with the current problems to reach the designed outcome (Ackoff, 1999).

Based on the conducted research, and as it was mentioned in a previous point, Frankfurt's planning system could be described as responsive in the sense that it is directly addressing its current problems. Additionally, by having institutions which collect and provide data to be able to make projections on future development trends, Frankfurt's urban development and city planning could also be described as being preactive. Through the implementation of initiatives like the INSEK, Frankfurt is not only foreseeing future urban development challenges but also working on a goal-focused type of approach to solving them. By doing this, future challenges such as the limited amount of available land in the city could be even solved beforehand. For that matter, apart from the data provided by the different municipal departments, the city is also addressing these future challenges through the public participation platforms, where some urging concerns have been raised by the public. Furthermore, in particular aspects such as environmental development, which currently has strong political support, the city seems to be even one step ahead. With the approval of the 100% Master Climate Protection Plan, Frankfurt's energy sector has already reached a proactive type of approach, introducing very ambitious goals which will most likely revolutionize the way service provision and construction standards are conducted in the future (Energierreferat Frankfurt am Main, 2016; Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

In order for municipal administrations to be able to shift from one type of planning to another, one of the most important capacities is to be able to change from a problem-oriented to a solution-oriented approach. By having adequate data, enabled personnel, access to technology and autonomy to act, administrations will increase their capability to effectively predict the future and act upon it. Over time, if combined with a flexible spatial planning system, administrations could gradually reach a point where they are not only providing a solution for their current problems but also addressing future challenges in advance. At the end, for the type of complex urban challenges which are increasingly affecting cities, both the preactive and proactive approaches seem to be more fit than the reactive or the inactive ones. In this regard, the decision between following a preactive or a proactive approach will most likely be based on how well does the defined goal addresses the different identified issues.

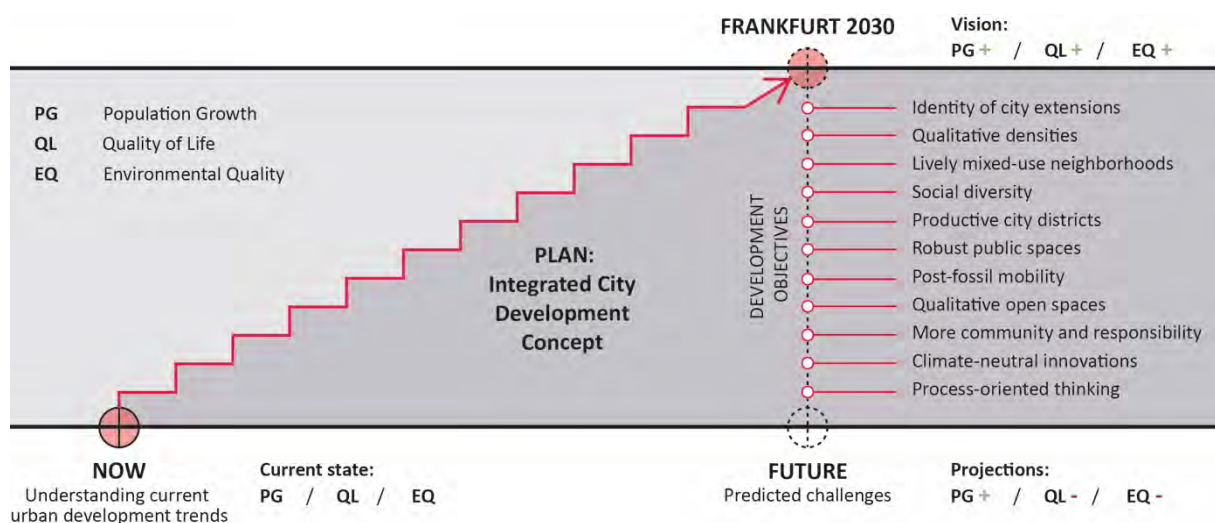


Figure 120: The Integrated City Development Concept as an Example of Pre-active Planning. Source: Elaborated by the Rapid Planning FRA-UAS Team from: (Ackoff, 1999, p. 53; City of Frankfurt am Main, 2016, pp. 12–13)

5.6 Summary of the Lessons Learned from Frankfurt

Since Frankfurt is considered as a reference city for the Rapid Planning project, five main lessons were identified from its urban planning and policy-making systems to be able to present a beneficiary example, with which the rest of the Rapid Planning case cities can reflect upon. Firstly, Frankfurt has a decentralized collaborative system, being able to maintain a healthy interaction, coherent service provision and coordinated infrastructure with the region, without losing its autonomy or capacity to deal by itself with local problems in a closer way. Secondly, Frankfurt's planning system could be described as being responsive because it is directly addressing the challenges identified in the mission statements and city development goals. In this regard, the role of public participation, the existence of accurate and up-to-date information by the municipal departments and the Civil Registration, Statistics and Elections Office, as well as the presence of experienced and qualified staff at the different municipal departments, is of great importance. Thirdly, for breaking down the masterplan approach into smaller-scale and more detailed plans, Frankfurt's spatial planning system is flexible. Because of this, the city is able to leave the greater scale plans for more strategic purposes and the rigid detailed smaller scale plans for the inclusion of the minimum necessary restrictions which, at the same time, can create commitment and facilitate initiative and intuition. Fourthly, Frankfurt's spatial planning system is open because both the public and private stakeholders can voluntarily get involved in the planning system in a non-formalized way, or outside the routine and bureaucratic procedures. For that matter, it is possible for them to explore and prepare alternatives, concepts, master plans or programs which can later be integrated into formal plans. Flexibility, the presence of a strong local authority with full autonomy, the involvement of the private stakeholders in the initiation of new proposals and projects, as well as the principles of good governance such as accountability and transparency, are all fundamental elements for an open system to happen. And lastly, by having institutions which collect and provide data to be able to make projections and plans to be prepared for future urban development trends, Frankfurt's spatial planning system could also be described as being preactive. Furthermore, with the approval of the 100% Master Climate Protection Plan, in areas such as the energy sector, Frankfurt has already reached a proactive type of approach, defining an ambitious set of goals to shape and create the desired future.

6. Section Five: Recommendations for a Better Form of Municipal Management and Progress

This section of the document correlates with the task 7.5 of the Rapid Planning Project. It can be assumed that the development of Frankfurt is correlated with the performance of its municipal authority, especially with regard to the city's capacity to provide city planning and infrastructure development in an effective manner. Based on the research activities of the Rapid Planning Project in Frankfurt, which included a review of the administrative structure and planning system regulating and controlling the development of the city as well as of the present condition of urban development, challenges, goals and future visions, certain features were identified as characteristics of the city's planning system providing a basis to discuss a variety of lessons. The transferability of these lessons can be of benefit to the other case cities of the Rapid Planning Project, especially in the contexts of municipal management and enhancement of institutional capacities, which can support potential implementations and applications of the Rapid Planning Methodology as well as the development measures suggested by the project. Therefore, on the basis of the learned lessons as well as the findings of the prior research, this document lists the recommendations that are seen to be constructive in the context of urban and infrastructure planning in Frankfurt for the consideration of the other case cities of the project. These recommendations, however, are to be taken as a general set of enhancement measures or to be understood as constructive concepts that could be integrated into the structure, regulations and procedures of the municipal authorities of the case cities as well as of others, if there is an interest. It is acknowledged, however, that these considerations are to be put with respect to the local contexts of each city and the attributes of the various administration approaches. The second part of this section accounts for these recommendations.

For a smoother presentation, this section organizes the identified recommendations with regard to their area of focus under the three categories of Organizational Structures, Planning Systems and Implementation Mechanisms. These categories represent the major components of the organization and function of public and municipal institutions. They can also serve later as a platform of points of discussion for comparative studies and knowledge exchange between the respective cities. Each point of consideration under each of the three categories is based on a brief explanation of relevant terms or concepts, an identification of its major features as well as an indication of associated benefits that could be expected.

6.1 Recommendations for a Better Organizational Structure

In general, municipal administrations comprise a variety of municipal institutions in many different forms such as municipal directorates, departments, offices and agencies. Each municipal institution is in charge of a set of tasks that define its character as a consolidated body of government. These institutions are linked together forming an organizational structure, which provides the platform to fulfil the functions and achieve the goals of municipal administrations. A common understanding of the term "Organizational Structure" could be found in its definition as the formal configuration regarding the allocation of tasks, responsibilities, and authority within the organization (Galbraith, 1987; Greenberg, 2001). Under this category, therefore, this document gathers the interesting

qualities found in the organization of the municipal institutions in Frankfurt, the procedures of their operation and the function as well as the models of their internal and external collaboration.

6.1.1 Local Governance

Based on a traditional German practice of decentralization and as established in the national constitution, municipalities in the federal republic are “*corporate local self-governing bodies* [which] *have the right to manage all the affairs of the local community on their own responsibility within the limits set by law*” (Elke Pahl-Weber & Henckel, 2008a, p. 28). In terms of spatial planning, this degree of autonomy allows Frankfurt, in accordance with the state and federal legal frameworks, to be responsible for the development and implementation of its own plans, strategies and measures, sometimes even on behalf of higher governmental levels (Erpenstein & Peterek, 2011; Elke Pahl-Weber & Henckel, 2008a). On the one hand, this autonomy allows the city to address its urban development in a discretionary manner. On the other hand, however, meeting the requirements of the local residents as well as coping with future challenges are under the mere responsibility of the city, which is considered to be accountable for satisfying them successfully.

This tradition of decentralized administration in German cities is reflected in Frankfurt in three main aspects:

6.1.1.1 Institutionalized Autonomous Local Authority

Decisions of the executive branch of power in the city are made at the local level by the City Magistrate (*Magistrat der Stadt Frankfurt am Main*), a body composed of different Directorates (*Dezernenten*) that are responsible for administrating the different municipal departments in the city (Stadt Frankfurt am Main, 2018a). Depending on the complexity, scale and impact of the projects to be developed, further decentralization of authority could be observed through the various activities of the municipal departments in the city. The high level of localization of authority is manifested by the capacity of municipal departments in Frankfurt to propose and implement initiatives by themselves. For instance, the development of a legal zoning plan, which is a key planning procedure that controls urban development in the city, is requested, developed and approved as a legally-binding statute at the local levels of planning and administration, with the participation of a variety of major municipal departments without the need to receive further authorization from the higher administrative levels of the state nor the federation (Stadtplanungsamt, 2018).

6.1.1.2 Clear Distribution of Roles and Functions of the Municipal Institutions

To avoid the overlapping of tasks and confusion of roles, a clear definition and distribution of functions and responsibilities must be made for each municipal department.

6.1.1.3 Ability to Adjust the Administrative Structure at the Local Level

At the beginning of every new administration, an agreement regarding the management of the city's main affairs is to be reached by the elected representatives in accordance with the legal frameworks. This offers the city an opportunity to evaluate and reorganize its administrative structure to better incorporate the development interests voted by the citizens. As an example of this, in response to the pressing issue of affordable housing, the current administration decided to restructure the former Directorate IV: Planning and Building (*Dezernat IV: Planung und Bauen*) to emphasize the housing component within planning, therefore creating the Directorate IV: Planning and Housing (*Dezernat IV: Planung und Wohnen*) instead. As a consequence, the building component was incorporated into the Directorate V: Building, Real Estate, Reform Project, Citizens' Services and IT (*Dezernat V: Bau und Immobilien, Reformprojekte, Bürgerservice und IT*) (Stadt Frankfurt am Main, 2018b). As a result, decision making Frankfurt is brought closer to its local challenges and thus the city is able to work more efficiently breaking down the complexity of development problems, in a clear, defined and focused manner.

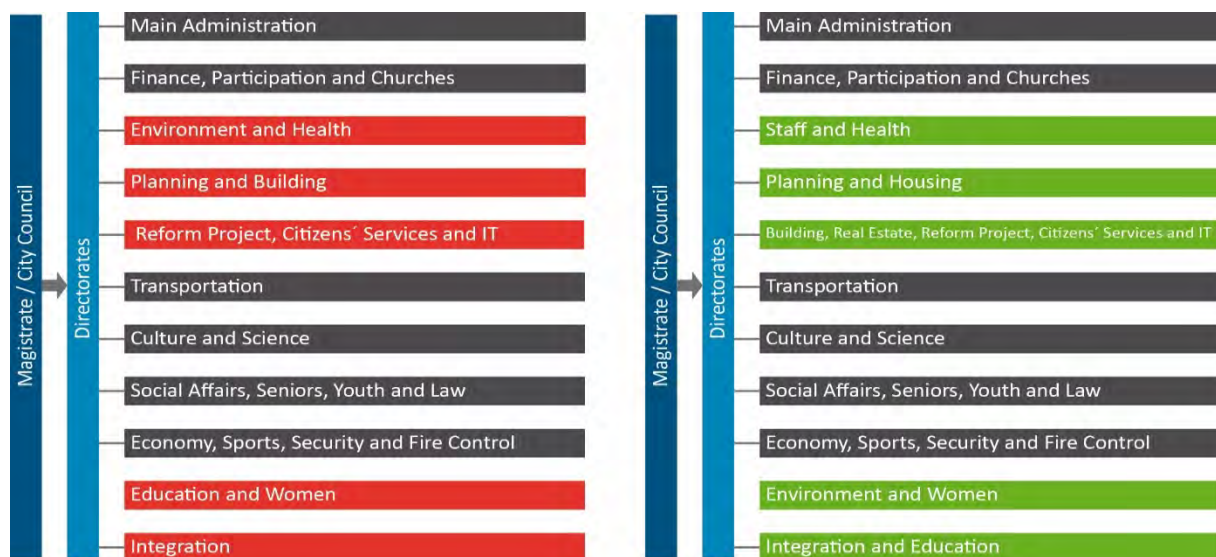


Figure 121 Changes in Municipal Structure. Source: Elaborated by the Rapid Planning FRA-UAS Team from (Stadt Frankfurt am Main, 2018b)

6.1.2 Competent and Transparent Municipal Institutions

According to a series of interactions with public officials in Frankfurt, it could be suggested that one of the key features that greatly benefit the city's urban development is the presence of competent and transparent municipal institutions that are able to do their jobs. Competence and transparency, in this context, go hand in hand and seem to be a result of three major factors as in the following points:

6.1.2.1 Qualified Staff of the Municipality

To support the capability and performance of the city's public offices, the accessibility of professionals to public positions must be granted. Therefore, transparent employment procedures are of a great importance. In such procedures, employment offers must be announced publicly for a sufficient amount of time and employment decisions must be based on the personal merits of the applicants,

such as qualification, relevant skills as well as previous education and experiences. When on board, a qualified staff can significantly increase the ability of public offices to meet the expectations of their roles and functions and to fulfil their responsibilities. As a consequence, the city is then able to better employ the available knowledge and mechanisms of professional institutional work; to better enquire, collect, process, analyze and interpret the information in an effective manner; and to better identify the challenges and develop adequate strategies to deal with them.

6.1.2.2 *Supportive Working Environment*

Another requirement for a competent municipal department is the provision of a working atmosphere that supports the productivity of the personnel. The concept of a supportive environment may vary from one context to another. In Frankfurt, however, the observation made under this point is meant to refer to the presence of major conditions allowing municipal departments in the city to obtain the resources they need when they need them, and thus to conduct their jobs in an adequate and effective manner. These conditions include, therefore, a proper management and logistics, adequate allocation of funds, appropriate conditions of working spaces, accessibility to public facilities and the enactment of specific laws and regulations supporting the department's course of actions. A more supportive working environment can inspire the municipal staff to reach their fullest potential and increase the productivity and relevance of public offices.

6.1.2.3 *Continuous Documentation of Institutional Experiences*

Although it is not among their main functions, it could be observed that the major public offices in Frankfurt, such as the City Planning Department, Environment Department and Energy Agency, are keen to produce series of publications in the form of reports, mission statements, development policies and information booklets. This helps the efforts of these offices to preserve the institutional experiences they accumulated throughout the development and implementation of previous as well as on-going projects and initiatives. Publications are also considered to be a major instrument to share municipal knowledge and visions with other parties of interest, such as other municipal bodies, academia and the general public, which increases the awareness of their roles and functions and stimulates a wider spectrum of constructive feedbacks. As they usually address the state of progress regarding on-going projects, publications can also indicate a higher level of transparency in the municipal conduct.



Figure 122 Publications of the City Planning Department.
Source: Stadtplanungsamt Frankfurt am Main, 2019



Figure 123 Publications of the Energy Agency of Frankfurt.
Source: Mainova, 2019

In this regard, having competent municipal departments has helped Frankfurt to maintain a certain degree of continuity and consistence of urban development throughout the changing politics of the successive administrations. Since the municipal departments in Frankfurt are responsible for giving counsel to the policy-makers, their level of competence is fundamental to ensure that the decisions made are not only informed but also able to lead urban policies in accordance with the general progress and development vision of the city.

6.1.3 Strong Inter-departmental Collaboration

A proper engagement of a variety of municipal departments in different projects of urban development has played a fundamental role, both in securing a steady development progress in the city and in pursuing its future developments goals and visions. In this context, collaborations between the municipal institutions have often been based on a common problem to be solved or a common objective to be reached. These collaborations, therefore, could be seen as implementation-oriented procedures that focus on the final outcome to be produced and stress the importance of establishing meaningful partnerships within the municipal working forces, on the one hand; and between the different public offices and relevant stakeholders on the other. In Frankfurt, there are two types of inter-departmental collaboration as manifested under the following points:

6.1.3.1 Regulated Collaboration

This type is regulated by the administrative laws and thus defined by formal procedures (*Ämterbeteiligung*) that aim at securing a minimum degree of cooperation between certain partners that is necessary for the desired quality of municipal work.

6.1.3.2 Non-Formalized Collaboration

As autonomous institutions, municipal departments in Frankfurt are authorized to initiate beneficial cooperation or communication processes with other municipal offices or relevant stakeholders when demanded.

In either case, regulated or non-formalized, a strong inter-departmental collaboration could be incited by the formal ability or level of authorization entitled to municipal institutions, alongside the willingness of municipal partners to commit to fruitful cooperation. They also depend greatly on previous experiences, professional networks and personal skills of the municipal personnel. In Frankfurt, the platforms of inter-departmental collaborations may also vary depending on the sector, focus and type of activity. Hence, there is a variety of collaborative procedures for the purpose of construction, implementation, promotion, optimization, education, etc. Nonetheless, these procedures work in a similar manner as one of the municipal offices assumes the role of coordinator and leads the progress towards the desired outcome. This key actor becomes the liaison between stakeholders addressing their concerns and interests, maintaining communication channels, enforcing the common agreement and ensuring the focus of collaboration.

A strong inter-departmental collaboration fosters the indirect involvement of other municipal institutions in development progresses that are outside their specific sector or line of work. This involvement increases the range of constructive feedback. It also provides a wider perspective and a better understanding of the requirements and consequences of the desired development. And, it certainly enhances an inclusive, more considerate and trans-sectoral mind-set for the development approach of the city. These are capacities that allow the municipal offices in Frankfurt to include their agendas in the overall progress of the city, to incorporate potential workforces and also to reduce the possibility of conflicts within the municipal workflow. It could be argued, therefore, that strong inter-departmental collaborations help cities manage their planning and urban development more efficiently.

As a conclusion, integrating administrative decentralization, increasing the competency of municipal institutions and initiating objective-driven collaborations are seen to be beneficial for the performance of municipal administration in Frankfurt. These qualities bring the processes of decision making closer to the various challenges of local development. They equip the municipal administration with sufficient qualification as well as access to the employment of relevant solutions and technologies. They also enhance a proper consideration of the local contexts and drivers of urban development with a high degree of coordination and investment in time, efforts and manpower. In total, it could be argued that these qualities could bring municipal authorities closer to the reality of their different states of urban development and to incorporate implementable approaches for the development of the future.

6.2 Recommendations for a Better Planning System

When talking about the planning system of a city, this category refers to the regulatory approach to urban planning, the characteristics of the decision-making process, the features of the planning and building laws as well as of the planning instruments and the stakeholders of urban development.

6.2.1 Strategic Integrated Approach

Frankfurt's approach to city planning could be described through the concept of strategic integrated planning, which shows a case where the two planning concepts of strategic planning and integrated urban development seem to be working together in a coherent manner. In this context, along with the implementation of the basic definition of strategic planning as an action-oriented approach that manages expectations and participation of relevant actors within a specific time frame (Steinberg,

2005), Frankfurt also incorporates an integral approach into its planning system, which simultaneously addresses the multiple dimensions of urban development to satisfy the society's vital individual and collective needs (Stadt Frankfurt am Main & Stadtplanungsamt, 2016)(UN-Habitat, 2016).

Therefore, the planning system regulating Frankfurt's urban development displays the following features:

6.2.1.1 Integrated Approach

To conduct a sustainable development process, Frankfurt is creating a framework in which all of the city's main policies and programs can be supported, the Integrated City Development Concept (*Integriertes Stadtentwicklungskonzept*). This development concept of the whole city started in 2014. Once completed, it is expected to bring together aspects from the social, infrastructural, residential, economic, work, cultural, recreational, open space, health, environmental, energy, mobility and regional issues into one integral framework (Stadt Frankfurt am Main & Stadtplanungsamt, 2016). Such a framework helps the city cover all fields of development so that the likelihood of missing points of concern is minimized. Further, an integral framework helps the different public stakeholders to better see the full picture of city's development, encouraging more realistic development proposals in which partners can better recognize the goals of other sectors and stakeholders. This will help avoid potential conflicts, secure coherence and thus, facilitate a collaborative atmosphere where stakeholders are more likely to communicate, negotiate and compensate, based on a common understanding of the general needs and interests that the city recognizes as essentials.

6.2.1.2 Consensus Building

To build an integrated development framework in Frankfurt, municipal departments as well as relevant stakeholders are invited to be part of mutually understanding dialogs. To reach a common agreement, the participating stakeholders make sure to address all needs and interests regarding the desired development as well as to consider all possible measures to satisfy them (Innes, 2004). This agreement provides a guiding reference to the stakeholders allowing them to evaluate their progress along the different stages of development and if necessary, to readjust their tasks and goals accordingly. In this sense, consensus building is considered to be a continuous process that maintains the acceptance of roles and responsibilities between public offices. On the other hand, rather than being imposed by the higher planning levels, consensus in Frankfurt is built at the local level so that all partners involved are represented in the future of the city.

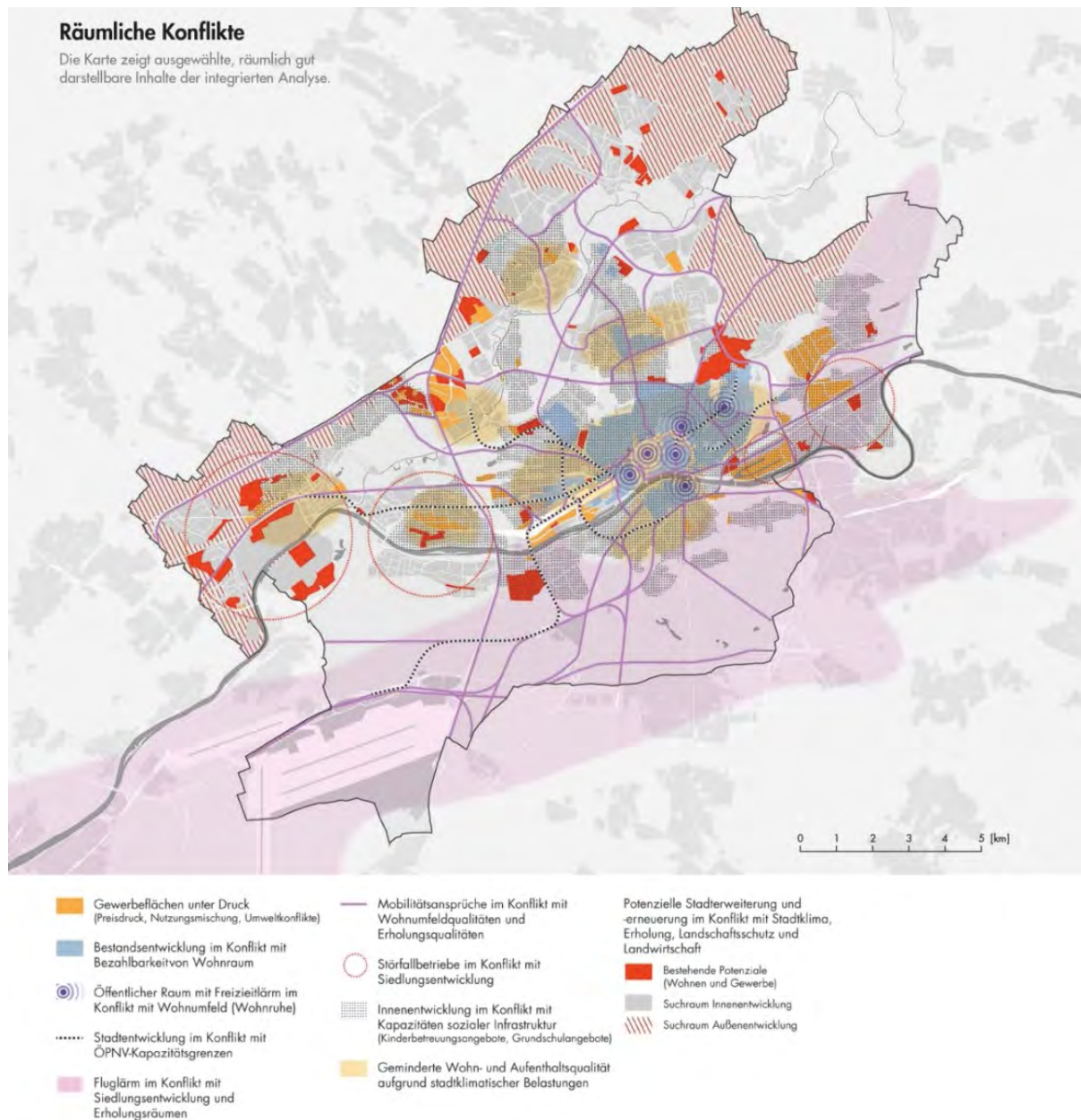


Figure 124 Integrated Spatial Analysis: Potential Conflicts from the Status Report: Frankfurt 2030. Source: (Stadt Frankfurt am Main & Stadtplanungsamt, 2016, p. 66).

6.2.1.3 Realizable Visions

Based on a clear understanding of Frankfurt's current state of urban development, urban visions in the form of plans and documents have been periodically introduced to meet the changing needs of the city. As observed in Frankfurt, these visions are accompanied with clear development objectives to be achieved within a defined period of time through a series of specified short-, middle- and long-term implementation strategies and action plans. The Master Plan 100% Climate Protection gives an example of the former as it sets the clear objective of meeting all Frankfurt's demands of energy supply through renewable resources (Energierreferat Frankfurt am Main, 2016). This objective is set to be reached by the year 2050 through the implementation of a variety of specified measures. These measures range from the improvement of electrical appliances and energy efficiency at the scale of households in the short-term, the incorporation of building regulations for energy-efficient

constructions at the city scale in the middle-term, to the provision of the necessary infrastructure for a renewable energy network at the regional scale on the long-term. These points, the clear objective, time frame and implementation measures, seem to be crucial to secure an achievable outcome that meets the addressed requirements and accommodates a meaningful progress towards the future.

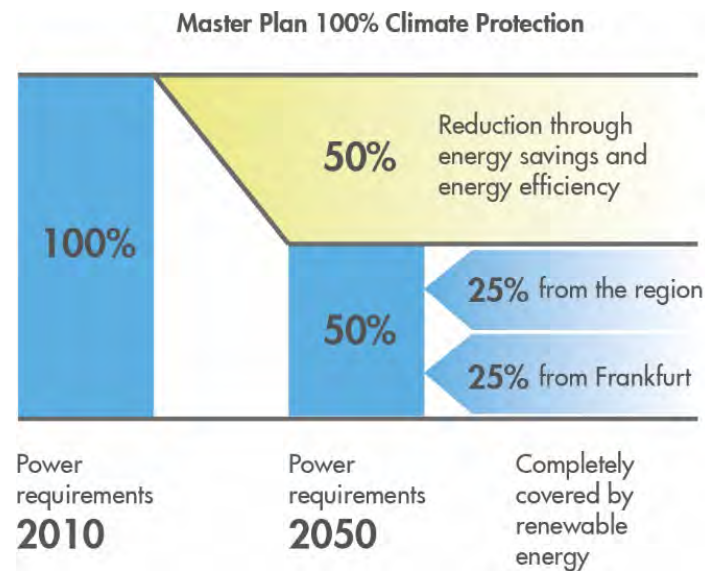


Figure 125 Energetic Demand Provision (Energierreferat, 2016). Source: (Stadt Frankfurt am Main, 2016b)

6.2.1.4 Prioritization

Acknowledging the city's own constraints, in terms of implementation, Frankfurt prioritizes needs to select strategies and projects which are more likely to have a greater impact or the ones which are expected to contribute the most in the accomplishment of its development goals. As an example, observations indicate that the topic of affordable housing has gained more and more importance in response to the emerging population increase in the city (Dobroschke & Gebhardt, 2015). Therefore, this topic has become a priority for the municipal authority which is reflected in the recent development policies such as the progressing concepts of the integrated city development and the high-rise development plan. The first addresses affordable housing as an essential requirement for the future development of the city and discusses the possible strategies towards that outcome (Stadt Frankfurt am Main & Stadtplanungsamt, 2016). The later, further discusses the possibility of including a certain portion of social housing units within new high-rise developments as a pre-requisite to granting building approval (Guerra Bustani, 2017). Prioritization, in this sense, helps the city to utilize available resources in an efficient manner, bringing it closer to its urging development goals.

Strategic integrated planning in Frankfurt, allows the city to address its future in a realistic manner which takes into consideration the diversity of development fields as well as the contributions of relevant stakeholders in the city. It further provides a reference with clear objectives and implementation strategies allowing the city to evaluate its progress and, if necessary, to readjust the development measures. In total, a proper strategic integrated approach can enhance the efficiency and effectiveness of both planning and implementation in the city.

6.2.2 Discretionary Decision-Making

The autonomy that the German spatial planning system grants to the cities in Germany is reflected in the high extent of discretion that the local authorities possess regarding local planning decisions. Frankfurt, in this sense, is in charge of making decisions regarding its own course of actions with no need for authorization from central planning institutions. Nonetheless, there are some critical issues of regional, national and international significance that need to be decided at a higher administrative level to ensure the consistency of national policies and to maintain a nationwide development balance.

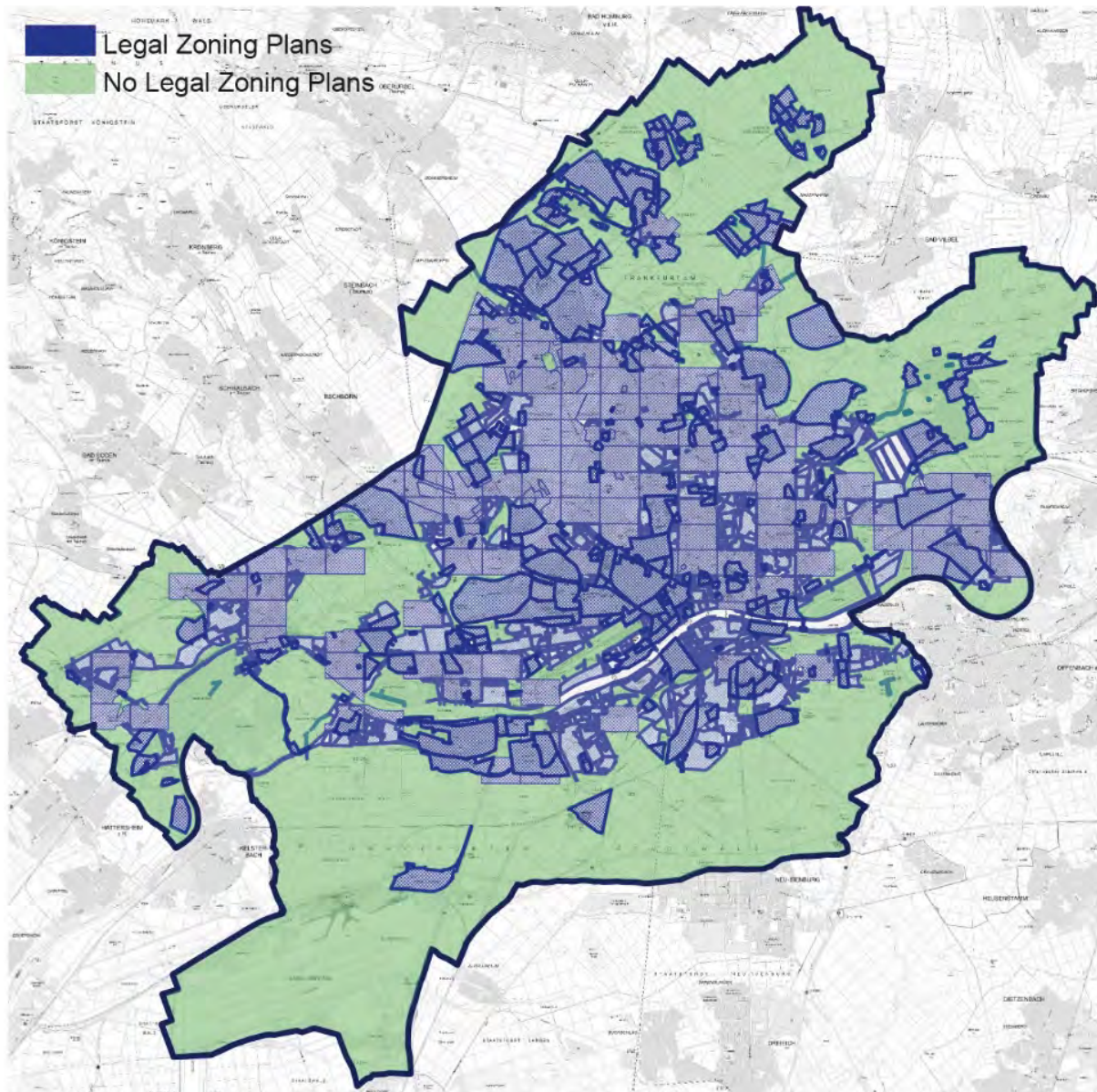


Figure 126 Overview of Legal Zoning Plans/Binding Land-use Plans in Frankfurt am Main as a Whole. Source: modifications over image from (Stadtplanungsamt Frankfurt am Main, 2017e)

A closer look at the municipal procedures shows that decision makers in Frankfurt are equipped with the necessary legal support to determine the city policies they deem adequate. The variety of legal and planning instruments under the authority of the city is also seen to empower the level of discretion as they enrich the city's freedom of choice in terms of deciding which areas are to be

developed, what planning instrument is to be incorporated, and also when such processes are to be initiated. This extended level of discretion, therefore, is evidenced through the city's ability to decide on the following three prerequisites of development:

6.2.2.1 *Area and Focus*

Cities are composed of different areas with different sets of urban characteristics. A proper urban development, therefore, requires a planning attitude that does not treat the city as a homogenous entity but rather addresses the needs and characteristics of each area within the city in accordance with the stated vision. The absence of a master plan in Frankfurt, liberates the city from having a rigid planning framework, thus, allowing it to shift the focus of development from an unnecessary city-wide scale into more specific areas of need. As a consequence, the City Planning Department is under no obligation to produce a city-wide master plan or legal zoning plans for the entire municipality (Stadtplanungsamt Frankfurt am Main, 2017d). Therefore, legal zoning plans are only developed for areas where it is considered necessary for urban development by the city. This allows the city to focus and prioritize its efforts on finding innovative solutions for more pressing urban issues in specific areas with a different character. The focus of urban development, in this sense, is also to promote certain development aspects such as housing, mobility and education, as determined by the city. The discretionary nature of the City Planning Department avoids spending unnecessary time and resources in the development of legal zoning plans for areas with no particular needs, increasing the efficiency of the municipality work.

6.2.2.2 *Planning Instruments and Implementation Mechanisms*

The ability to choose from different types of planning instruments and implementation mechanisms is a manifestation of a discretionary municipal authority. Here, the availability of sufficient options in both fields of planning and implementation seems to be essential for decision makers to explore all possible alternatives of urban development, thus, enhancing the decision-making process in total. In Frankfurt, the City Planning Department can initiate and control urban development by utilizing a set of planning instruments that vary in form, scale and objective to be able to satisfy the requirements of the different circumstances. Additionally, based on previous experiences, the local authority in the city can also employ different implementation mechanisms that vary in terms of the participating partners, collaboration models and funding schemes in order to achieve the planned urban developments in designated areas, provide necessary infrastructure, as well as to deliver the basic public services within the city.

6.2.2.3 *Time of Initiation*

Another manifestation of a discretionary authority is to be able to initiate an urban planning process at any time, if proven necessary, with no need for further authorization from higher administrative levels. In Frankfurt, for instance, new legal zoning plans as well as urban development measures could be initiated upon the request of the City Council to cope with emerging urban challenges. This gives the city the temporal flexibility to respond to specific or unpredicted urban changes as they appear.

The ability of Frankfurt's local authority to make its own decision regarding the key prerequisites of urban development, with no need of further approvals of the state or the federation, helps the city to effectively respond to the changing urbanization challenges as well as to the pressures imposed by globalization and internationalization of the economy. Although the city has the ability to make decisions, it should be able to defend them based on sufficient information, analysis, consideration of alternatives and feasibility in accordance with the applicable laws, to ensure transparency and accountability.

6.2.3 Collaborative Planning System

A competent municipal authority such as of Frankfurt, which is consistently dealing with all different issues of urban development and service provision simultaneously, will still need a meaningful engagement of relevant public and private stakeholders in order to secure a successful urban development. As observed in Frankfurt, all reviewed policies, programs and projects emphasize the importance of involving a variety of influential stakeholders throughout all stages of development. This observation could be referred to the integrative approach of urban planning in the city, as mentioned previously, which indicates the necessity of a sufficient representation of all related development sectors in the planning processes. Further, it could also be related with the regulatory planning and building laws that require the engagement of the affected stakeholders at certain stages of development. It could be suggested, therefore, that a meaningful engagement of stakeholders can significantly improve the chances of a successful implementation. In this context, considering the following two points seems to be essential for achieving the fullest potential of stakeholder engagement:

6.2.3.1 *Diversity of Stakeholders*

All partners that are considered to be beneficial to a proposed urban development should be granted the possibility to be incorporated in a fruitful engagement with the city. To achieve this purpose, the planning system should address the invitation of the relevant stakeholders as a legal prerequisite for the initiation of a planning process. On the other hand, it should provide the room for including other self-initiated proposals by interested parties coming from outside the formal norms. Such a planning system, as in Frankfurt, facilitates the consideration of a diverse multitude of possible development partners with whom the city could negotiate in order to reach an agreement that is based on a clear understanding of the roles and contributions.

6.2.3.2 *Timing of the Engagement*

Each development partner can bring certain value into the process that is necessary at certain stages. Therefore, another factor that is important for a fruitful collaboration is to define when such an engagement is most relevant to the type of contribution as well as to the expected outcome. Planning processes, in this sense, should be open for engagement throughout all stages of development, starting from the initial conceptualization until the implementation and beyond. In Frankfurt, the regulatory frameworks of formal planning, such as the preparation of land-use plans, indicate the time of the involvement of certain stakeholders at specific stages of development in order to obtain

necessary feedbacks and contributions. Additionally, the planning system allows the city to explore other alternatives of urban planning with the engagement of relevant stakeholders at any time.

Securing a diversity of effective development partners can significantly improve the quality of planning and implementation in the city. In addition to securing valuable contributions throughout the process of urban development, this can also help address all points of concern and interest of the active stakeholders into the consideration of the city, providing an opportunity to better understand its dynamics and development drivers from different perspectives. This understanding allows the city to achieve a better representation of the current state of the art in the future plans of the city.

6.2.4 Practical Planning Instruments

Planning instruments such as land-use plans in their different forms as well as planning and building measures and regulations are all meant to enable cities to control their urban development. Due to the complex nature of urban development, however, a proper city planning requires the available planning instruments to be efficient, effective and very practical to ensure their compatibility and achieve their purposes. This is essential to cope with the evolving requirements of different urban settings and to handle the variety of development circumstances that can occur and challenge the municipal authority in many contexts. In Frankfurt, therefore, having a set of capable planning instruments that enjoy a solid legal basis, promote a balance between flexibility and restriction and incorporate a margin for extended applicability seems to be a valuable asset of the city.

The thorough examination of the spatial planning system in Frankfurt highlighted a set of formal planning instruments that is regulated by the federal building code (*Baugesetzbuch*) as well as the state planning and building laws (*Hessische Bauordnung*). Based on their form, the key planning instruments of the city can be classified and presented under three main categories (Stadtplanungsamt Frankfurt am Main, 2017f), as in the following points:

6.2.4.1 Land-use Plans

These are two kinds of plans regulated by the federal Building Code (*Baugesetzbuch*). The first is the bigger scale Preparatory Land-use Plan (*Flächennutzungsplan*) that covers the whole Frankfurt/Rhein-Main Region. It sets a flexible framework for the long-term development of the city. It shows the proposed distribution of land-uses. And, it aligns local policies and development goals with the needs and vision of the region as a whole. The second is the smaller scale Legal Zoning Plans (*Bebauungspläne*). These define the legally binding regulations for land set for construction and other purposes at the level of parcels and plots. This can include defining the type of uses or spatial development, building and lot coverage and denoting sites for mitigation or development measures as well as for certain uses (Berlin Senate Department for Urban Development and Housing, 2017; Erpenstein & Peterek, 2011; Elke Pahl-Weber & Henckel, 2008b; Stadtplanungsamt Frankfurt am Main, 2017g).

6.2.4.2 Urban Development Measures

In Frankfurt, the Federal Building Code (*Baugesetzbuch*) provides two important development instruments. The first is the Urban Development Measure (*Städtebauliche Entwicklungsmaßnahme*).

This measure is relevant when there is a definite need for acquiring new spaces for urban development within the municipal borders together with an acknowledgment of the lack of alternatives. This measure enables the city to require a swift acquisition of property, unused land, vacant land, or publically-owned land that is under-invested in order to provide an essential expansion of the city's capacity of residential buildings, workplaces, and communal facilities. It also allows the city to finance the intended development through the employment of the surplus gained from the difference of the value of land before and after the implementation of a project. The second instrument is the Urban Development Modernization Measures (*Städtebauliche Sanierungsmaßnahmen*). This is relevant when there is a need to intervene in an area that fails to fulfil the assigned urban functions, given its location and uses, or falls short of the minimum safety and general health conditions.

6.2.4.3 Urban Development By-Laws

In Frankfurt, two important instruments are considered to be important. The first is the Preservation By-Laws (*Erhaltungssatzungen*) regulated by the Federal Building Code (*Baugesetzbuch*). This is very helpful to halt urbanization and maintain a certain state of land so that any alteration to structure or changes to their use requires a special permission. It also enables the city to embrace plots of land, areas of greenery, open spaces, as well as plazas and roads (Elke Pahl-Weber & Henckel, 2008b; Stadtplanungsamt Frankfurt am Main, 2017h). The second instrument under this type is the Design By-Laws (*Gestaltungssatzungen*) regulated by the State Building Code (*Hessische Bauordnung*). This is essential when there is an interest in harmonious urban and architectural overall appearances as they regulate the architectural characteristics of buildings and provide precise stipulations with regard to the design of structures (Elke Pahl-Weber & Henckel, 2008b; Stadtplanungsamt Frankfurt am Main, 2017h).

While the land-use plans, under the first type, are planning instruments introduced in the form of plans, development measures and by-laws, under the second and third types, are mostly introduced in the form of instructions, statutes and legal documents that could also be accompanied by explanatory drawings. When formally enacted, a land-use plan, a development measure or a regulatory by-law is considered to be legally binding in terms of defining the formal future development of the city and also, if applicable, granting building and construction permits. Reviewing the specifications of Frankfurt's major planning instruments with a focus on their entitled mandate, incorporated level of detailing and the exhibited margin of applicability has led this document to conclude three observations. First one is that each of these instruments can be utilized in a range of scales depending on the development circumstance.

These observations seem to make it possible for the mentioned formal planning instruments to be useable in different scales to cover different areas of different sizes. This increases their applicability allowing the city to choose the most fitting instruments for different development proposal and enforce an appropriate obligation on the relevant stakeholders to act accordingly. Having such a set of planning instruments seems to enable Frankfurt to cope with the evolving requirements of its urban settings and to handle the variety of development circumstances and challenges that can occur in different contexts. Such instruments can highly support the planning authority in the city to fulfil its responsibilities in a sufficient manner.

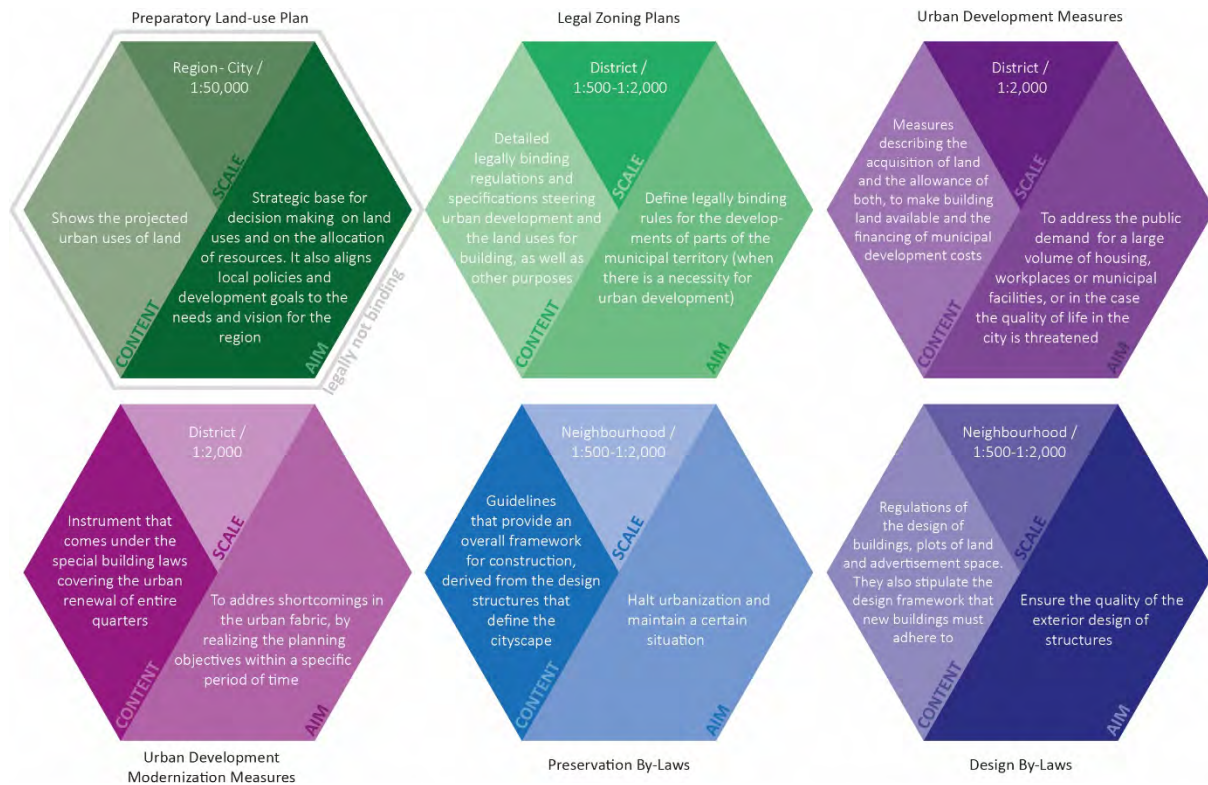


Figure 127: The Major Formal Planning Instruments in Frankfurt. Source: Elaborated by the Rapid Planning Team based on (E. Pahl-Weber & Henckel, 2008; Berlin Senate Department for Urban Development and Housing 2017; Stadtplanungsamt Frankfurt am Main, 2017a,d,e,g,h,i,j,k)

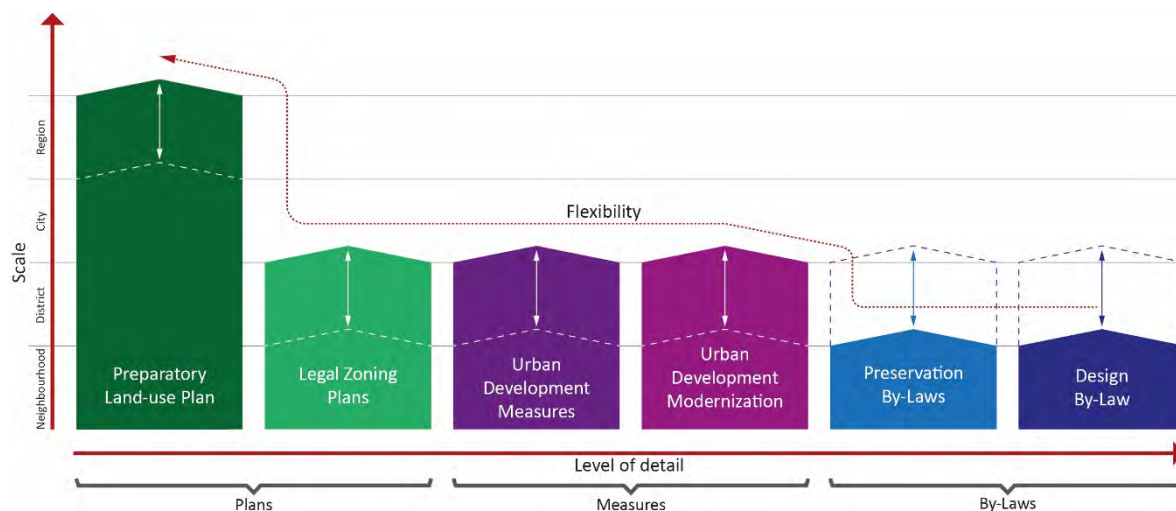


Figure 128: Scale and Flexibility in Formal Planning Instruments. Source: FRA-UAS Rapid Planning Team

As an advantage of the flexible planning system, it could be reminded here that the planning authority in Frankfurt has the choice to initiate non-formalized planning procedures to explore other development alternatives, to consider a broader perspective of the real estate market as well as urbanization trends in the city and to complement the function of the formal planning instruments it possesses. This discretionary character of the municipality also motivates the private sector to propose innovative development projects, as well as inclusive discussions about a wide spectrum of urban issues. It could be argued, therefore, that the local planning authority of the city retains a resourceful set of planning and implementation options that can allow the city to enforce certain procedures in a timely manner. This helps the city to better handle the complex nature of city planning and respond to the varying challenges of urban development.

6.2.5 Entrepreneurial Engagement

In Frankfurt, there are some major development policies such as the Integrated City Development Concept (*Integriertes Stadtentwicklungskonzept*), the 100% Master Plan Climate Protection (*Masterplan 100% Klimaschutz*) and Frankfurt Green City. These policies together with their stated development goals can show an extent of municipal entrepreneurship that could be reflected in the following points:

6.2.5.1 Innovation

Reviewing the development goals indicates the will and capacity of Frankfurt's municipal institutions to incorporate new ideas and innovative solutions into the future development of the city. This is evidenced in the acknowledgement of pioneering concepts such as compact development, qualitative densities, robust open spaces, post-fossil mobility, environmental innovation, societal responsibility, process oriented-thinking, productive neighbourhoods as well as the promotion of clean and renewable energy production (City of Frankfurt am Main, 2016).

6.2.5.2 Ambition

Reviewing the goals can also expose an attitude to set rather ambitious goals such as to propose an entire provision of Frankfurt's energy only from renewable resources by the year 2050, which can help the city accommodate growth and, at the same time, preserve a green profile.

6.2.5.3 Initiative

A high degree of self-initiative could also be observed in the several enacted development programs and policies, where key self-driven municipal actors are seen to initiate proposals, to lead the implementation and to provide the necessary links for collaboration with the relevant public and private partners.

The way the city is able to integrate the elements of innovation, ambition and initiative into its major policies and development goals can indicate a degree of public entrepreneurship. This could be referred to decades of local governance together with competent municipal conduct and seems to motivate the municipal departments to move faster in the desired direction, which improves Frankfurt's chances to cope with its challenges and maintain its status as an attractive place for living and working.

To conclude, the formal system of urban planning in Frankfurt seems to have enabled the city to deal well with its progress of urban development. In this context, the system supports an integrated strategic approach to city planning in which the concerns and interests of all development sectors as well as relevant stakeholders are to be considered. Based on a common agreement, realizable visions are to be driven by clear sets of prioritized projects and development objectives to be achieved in specified timeframes and short-, middle- and long-term implantation strategies that allow the city to evaluate its progress and, if necessary, to readjust the development measures. The planning system preserves the right of planning to the local planning authority of the city. It has, therefore, the power

to initiate a planning procedure or a development project whenever and wherever necessary within its domain. The system also preserves the right of the city to work with a diversity of development partners throughout the different stages of planning and implementation. It also allows the city to employ fitting development procedures. For this purpose, the planning system supports the city with a practical set of formal planning instruments that are adjustable in terms of their scale, combination and level of detailing in order to increase their applicability with the different circumstances of urban development of the city. The system, however, leaves a room for non-formalized planning procedures for the city to explore other narratives and planning alternatives unbounded by the formal regulations. As a result, the competent and enabled municipal institutions of Frankfurt are keen to self-initiate and integrate innovative solutions and ambitious goals into the major development policies of the city, which enhances the degree of public entrepreneurship in the city.

6.3 Recommendations for Better Implementation Mechanisms

This category refers to the established processes of the city to bring about its enacted plans and development policies into realization. This includes characteristics of the implementation schemes as well as the engagement of public and private sectors in the city's projects as well as service provision. Under this category, the following features of the implementation mechanisms in Frankfurt are discussed:

6.3.1 Public-Private Partnerships in Service Provision

Most of the projects implemented in the field of basic urban services in Frankfurt tend to engage a high degree of complexity in both aspects of technology and organization (e.g., cogeneration, sludge dewatering and incineration). This requires the involvement of different stakeholders and collaboration between infrastructure sectors. The city, therefore, acknowledges the benefit that could be gained from an active engagement of capable partners from the private sector who are equipped with approved technologies and relevant experiences. It is common, therefore, to come across many service operators who are functioning in the form of operating companies and on the basis of a public-private partnership (e.g., *Stadtwerke Frankfurt am Main Holdings Group* for energy and water sectors, *Mainova AG.* for energy and water sectors, *ABG Frankfurt Holding Group* for energy sector, *FES: Frankfurt Disposal and Service* for waste sector and *MHKW: Müllheizkraftwerk Frankfurt GmbH/AVA Nordweststadt GmbH* for energy sector and cogeneration), especially in the fields related to energy production in all service sectors. In Frankfurt, these partnerships must adhere to the following principles:

6.3.1.1 Public Management

The city emphasizes the need for these companies to be controlled by the municipality. This means that the municipality must have the control of the at least 51% of the total shares of each operating company. Public management, in this sense, is seen as an important measure to avoid the privatisation of public services in the city as well as to control the tariffs and protect the citizens from unnecessary charges.

6.3.1.2 *Independent Management*

Despite the municipal majority shareholding, these companies work as private enterprises. They are independently managed by their own boards of directors and only supervised by one designated municipal directorate.

6.3.1.3 *Business-oriented Management*

Since these companies are meant to be managed independently, they receive no municipal fund. Their management approach, therefore, aims to enable them to finance their operations in a profit-oriented manner. They work to provide feasible services and generate revenues that are later reinvested in the development of the city.

The forms of public-private-partnerships in the fields of service provision in Frankfurt seem to help the city finance its vital infrastructure and service provision facilities, maintain a good management of services and infrastructural operations and also access the high-end technologies, that are needed for a better efficiency as well as management of resources, without transferring overly-charged costs to the citizens.

6.3.2 Investment in Potential Synergies across the Sectors

Synergies that can be found between the different sectors of urban services represent an opportunity for further investment that can increase the feasibility and efficiency of the overall operations of service provision. Such investments can allow the employment of the otherwise-dismissible-outcome of a sector as a valuable input to another. As an example, a biogas plant using bio-waste as an input can provide gas to be utilized to generate electricity as well as heat. The remaining sludge from the biogas plant, as an output, is then to be used as an input in agriculture, thus reducing its water demand (Franke, Busch, & Zeitz, 2018). Investments in synergetic approaches could result in several environmental and economic benefits as the consumption of natural resources is reduced, so as time, effort and costs. This fact makes even more sense in the context of cities with rapid urbanization processes, where natural resources are and will continue to be under a huge pressure. Saving primary resources by using the outcomes of the urban metabolism gives cities the opportunity to reinvest in these outcomes, resulting in an optimization of the infrastructure and in a lower environmental impact.

In Frankfurt, the topic of environment protection is a major motive that is stated by the several urban development and service provision policies, programs and plans of the municipal authority of the city that have been reviewed by this document. It is also considered to be a major concern of all infrastructure sectors. Environmental protection, therefore, serves as the main political drive and platform for collaboration between different sectors, in order to find more ecologically sustainable practices. Furthermore, and after reviewing trans-sectoral applications in Frankfurt, the key sector connecting other urban infrastructure sectors seems to be the energy sector. Many trans-sectoral projects of the city include energy generation as a fundamental outcome of different processes. Hence could be said that the energy sector serves as a catalyst that helps to intertwine sectors and maintain the green profile of the city. Two examples of this approach can be found in the cogeneration and compost incineration practices. The implementation of these processes also represents the major

trans-sectoral investments that also have the most impact on infrastructure planning in the city, and are briefly described below:

6.3.2.1 Cogeneration

Combined heat and power (CHP) reduces CO₂ emissions, as well as the carbon footprint of the city. CHP units normally run on natural gas or fossil fuels, but cogeneration units are running on clean energy or renewable fuels e.g. landfill gases, biogas, sewage gas, wood pellets, biodiesel, etc., are particularly lucrative and eco-friendly. In Frankfurt cogeneration is an essential part of energy planning. The city is committed to the European programme “*CHP goes Green*” that promotes an increased use of renewable energy sources from cogeneration. Combined heat and power –CHP– generation systems are a particularly efficient way of using energy as electricity and heat are produced simultaneously. The waste heat that is generated in the production of electricity is used for district heating purposes, combining energy generation with a central district heating system for distributing generated heat, hence the term *Cogeneration*. The main advantage of cogeneration is that the system uses 90% of the engaged energy and saves up to 40% of primary energy, whereas in conventional power stations 60% to 70% of the primary energy is lost in production (City of Frankfurt am Main, 2010; Stadt Frankfurt am Main, 2016d). Frankfurt operates more than 200 decentralized facilities and has three major cogeneration-based district heating networks: coal, natural gas and waste e.g. old wood, domestic bio-waste, industrial bio waste, and sewage sludge. All together they efficiently produce about 50% of the power and supply large parts of the city with heating like Frankfurt Airport and office skyscrapers.



Figure 129: CHP West. Source: Mainova AG, 2019



Figure 130: CHP Norweststadt. Source: Mainova AG, 2019

6.3.2.2 Compost incineration

300 million litres of wastewater are produced each day in Frankfurt and surrounding towns connected to the Frankfurt sewage plants. A network of sewers that is approximately 1,600 km long serves to collect the wastewater, which is then channelled to the wastewater treatment plants in *Niederrad* and *Sindlingen*, where it is filtered. The remaining sludge is drained of water and burned (Stadt Frankfurt am Main, 2015). Because of unavailable landfill space and not sufficiently large agriculture area for utilisation of the sludge from the wastewater treatment, the city of Frankfurt and its City Drainage Department decided to build a central sludge dewatering and incineration facility - ARA/SEVA

Sindlingen. It was one of the most environmentally friendly and economically effective methods to dispose of the sewage sludge for city standards. Nowadays the sewage sludge incineration plant is connected to both wastewater treatment plants and has four incineration lines, three of which can operate simultaneously and operates as a cogeneration power plant for efficient use of energy (Stadtentwässerung Frankfurt am Main, 2016; Umweltamt Frankfurt am Main, 2014).



Figure 131: ARA/SEVA Sindlingen. Source: Stadtentwässerung



Figure 132: ARA/SEVA Sindlingen. Source: Stadtentwässerung

Both cogeneration and compost incineration represent the major investments of the city in trans-sectoral synergies. They both efficiently use what can be called the residues of the city and transform them into energy. Besides a platform for political will and collaboration and a catalyst to join different sectors, other factors seem to be important for trans-sectoral applications, as in the following points:

6.3.2.3 Institutional Commitment

The will of the city is a key point to introduce and maintain collaboration between sectors. Without the support of decision-making stakeholders, synergy initiatives could hardly be implemented and kept in the political agenda.

6.3.2.4 Relevant Knowledge

Available Knowledge is crucial in order to determine how sectors can work together in a specific context. Here, professionals play a very important role in researching possible technologies that could be used to link the outputs of certain sector to the inputs of another one, optimizing the resources and infrastructure. Additionally, knowing exactly how these technologies must be operated and maintained once implemented is fundamental to bring the highest potential out of them.

6.3.2.5 Available Technology

This aspect represents the physical assets needed to enable the implementation of trans-sectoral plans. Technology is necessary to create a production line which transforms the inputs of one sector into the outputs of another one. When already existing technology for this purpose is not available, cities would need to find alternative technologies and innovative solutions to fulfil this gap. Therefore, knowledge is so important in this process.

6.3.2.6 Collaboration Across the Sectors

Synergetic approaches require the active collaboration of the different urban infrastructure stakeholders. In addition, it could be the case that the previously mentioned needed factors of knowledge and technology are not available for the city. This case could open the opportunity for private enterprises to get involved in this process. Partnerships with the private sector could be made, however keeping the municipality as the main actor so to control the prices of the provided services. In Frankfurt, different shades of public-private partnerships can be identified. There are cases when no private involvement is present, such as the wastewater sector. This sector is 100% managed and controlled by the City Drainage Office, a public organization for the transport, collection, treatment, and management of wastewater. The system requires strict control and monitoring, which could be one of the reasons why the wastewater sector is the exclusive responsibility of the municipality. Also, there could be lack of interest of the private sector because of its low profitability. A different gradient is a city-shared company, where the city owns at least 51% of the total shares. This is the case of the waste, energy and water sectors which are provided by city-shared companies. These companies are controlled by the municipality but work as private enterprises and are profit-oriented. At the opposite side, with no involvement of the public sector, urban agriculture and food provision is completely driven by the private sector. The involvement of the municipality in this economic activity is limited to the programmatic stakeholders formulating regulations for the protection of agricultural areas and the environment.

Trans-sectorality represents diverse challenges, since the combination of several aspects of sectoral planning in a development or service provision projects demands advanced levels of managerial and technical knowledge by the stakeholders involved. The process, nonetheless, results in active collaboration and knowledge production throughout implementation. It enhances communication among different stakeholders and institutions. Also, it increases integral planning practices and helps to expand the sectoral views of the city's different municipal and service provision offices and departments, which promotes trans-sectoral thinking in the municipal conduct. Although investments in trans-sectoral synergies could entail the employment of more-complex technologies or the requirement of certain managerial assets, they can greatly benefit the city. Such investments, therefore, should be seen as an option worth considering for maximizing urban sustainability.

6.3.3 Citizen Engagement

Public participation can be defined as an *“umbrella term that describes the activities by which people's concerns, needs, interests, and values are incorporated into decisions and actions on public matters and issues”* (Nabatchi & Leighninger, 2015). Public participation may foster the success and social acceptance of an urban project, as it takes into consideration the needs and aspirations from all the involved stakeholders. Several public participation strategies are currently ongoing in the city of Frankfurt, from formal to informal procedures.

On the one hand, the city is under federal regulations that already include public participation in different levels. As for urban development projects, local authorities must follow planning approval procedures in order to weigh and balance the interests of the developer and any other public or private parties which might be affected by the project. In order to obtain the legal status, all development projects regardless to their scale are required to be publicly displayed for a period of one month. After the public display, objections may be done by affected parties and are discussed to reach

the best possible consensus. If the plan is substantively modified, the public display must be repeated and reopened for discussion again. The planning approval procedures aim to be a comprehensive process to determine the spatial impacts of a particular development project and to take into account all parties interested for its authorization. On this basis, it concludes with a legally binding decision. Regarding urban land-use planning procedures, two stages are provided for the involvement of the public and are defined in the Building Code. The first one implies early public participation and serves to inform the general public about the objectives and purposes of planning. Participants can propose and express their points of view before planning has taken definite contours. After all comments have been collected, the different interests are weighed and the local authority drafts a plan. The draft is then displayed on public, with an explanatory memorandum, and the public has the opportunity to give recommendations and objections, which are again weighed and considered (Elke Pahl-Weber & Henckel, 2008a).

In addition to the mentioned federal regulations, the city council in Frankfurt has decided to go a step further and develop the foundations, goals and strategies of the Integrated City Development Concept (*ISEK*) including a broad public participation. The concept's development process aimed to enable cooperation between all actors involved, including industry, academia, and civil society. The city, therefore, launched the urban dialogue process "Frankfurt Your City" (*Frankfurt Deine Stadt*) with five different arenas, in which all interested parties were invited to be informed and discuss the current challenges and the future of urban development in Frankfurt (Stadtplanungsamt Frankfurt am Main, 2019). This dialogue process included important characteristics needed for a participation process to be successful (Rowe & Frewer, 2000):

6.3.3.1 Representativeness

In order to reach a broadly representative sample of the population, the city provided multiple arenas and formats which provided convenient, accessible, and motivating settings for different target groups. These included a) the Citizen's Forums for Ideas' collection (*Bürgerforum: IdeenFlashMarkt*), as an initial platform for the exchange of ideas concerning the topics of population diversity, housing spaces, open spaces, landscape and climate, mobility and transport, jobs and education, and culture and free-time; b) the Ideas Tour (*Ideentour*), a mobile stand placed in 16 different locations in the urban area; c) the Ideas Brunch (*Ideenbrunch*), in which the Frankfurt Your City exhibition was presented to invite people to have an informal conversation and give ideas; d) an Online Forum, in which citizens were invited to upload their comments and ideas on what could be improved in Frankfurt; e) the Citizens' Forum From an Area to the City (*Bürgerforum VorOrtStadt*), to discuss the qualities and possible contributions of each area for the future development of the city. Every format allocated different contributions and dominant topics. Additionally and parallel to the participation of the general public, experts from administration, science and urban society were invited to three specialist dialogues (Stadt Frankfurt am Main, 2016a) (Stadt Frankfurt am Main & Stadtplanungsamt, 2016) (Stadt Frankfurt am Main 2016c) (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

6.3.3.2 Independence

The process should be managed in an unbiased way. In this case, the municipal authorities have relied on specialized companies for organizing the public participation forums. The Frankfurt your City was

managed and moderated by five professional agencies from outside the city to keep their neutrality during the process (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

6.3.3.3 Early Involvement of Citizens and Stakeholders

The participatory process was first introduced at a kick-off event in September 2015, where the objectives and the process of the Integrated city Development Concept were presented to the public (Stadtplanungsamt Frankfurt am Main, 2019). Frankfurt Your City was the tool through which citizens and public institutions could be able to directly influence future decisions about the city before the ISEK itself took shape.

6.3.3.4 Influence of Participation Measures

As a result, around 1,500 ideas and suggestions were collected. Once the process was concluded, the contributions of the entire dialogue have been incorporated in the further development of the Integrated Urban Development Concept (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

6.3.3.5 Transparency of the Participation Process

The respective partial results were presented to the public and discussed, so that people were able to see which and how decisions were done. Also, at the end of the urban dialogue process, the draft for Frankfurt 2030 will be presented and discussed with the public in order to decide if the priorities set for the city have been the right ones (Stadt Frankfurt am Main & Stadtplanungsamt, 2016).

6.3.3.6 Resource Accessibility for Public Participation

Participants had access to the appropriate resources to enable them to successfully fulfil their brief, which were completely given by the managers of the process.



Figure 133: Citizen's Forum East, November 2016. Source: Stadtplanungsamt Frankfurt am Main, 2019



Figure 134: Second Expert Dialogue, December 2016. Source: Stadtplanungsamt Frankfurt am Main, 2019

The urban dialogue process was not only aimed at collecting information from the civil society but also at having an internal discussion among local offices in order to make urban planning more effective.

Apart from this process, the City Planning Department constantly organizes different informative events, issues publications concerning future urban development projects, publishes official decisions, and provides available material for free (Stadtplanungsamt, 2012). These initiatives are completely taken by the city, without being obliged by federal plans. That demonstrates the active interest and political commitment to engage the public in building trust among all the stakeholders in order to create its own future.

6.4 Summary of the Recommendations for a Better Form of Municipal Management and Progress

Based on the research activities of the Rapid Planning Project in Frankfurt, certain features were identified as characteristics of the planning processes of the city, which indicated a variety of interesting lessons to be addressed. On this basis, a set of recommendations has been developed to share the observations and interesting experiences concluded by the research activities with the other case cities of the Rapid Planning Project. This is also seen to smooth possible implementations and applications of the project's methodology as well as to support the planning processes, especially in terms of municipal management and capacity development. This section, therefore, organises three sets of recommendations to be considered with regard to the organisational structures, planning systems and implementation mechanisms of the project's case cities.

Under the first category, the organisational structure, this section discusses the significant role of the local institutions and municipal departments in leading urban planning and infrastructure development in their cities. It states that enabled local governance and sufficient local authority can foster and maintain the focus of planning processes with regard to the local issues, pressing challenges and development goals of the cities. Also, local governance is indicated to significantly reduce the pressure on central national planning, thus making room for more flexibility and capacity of national guidelines on that level. For an effective local planning, however, it is important to have a clear distribution of roles and responsibilities among the municipal department to avoid overlapping and confusion of tasks. It is also important to ensure that these institutions are authorised to lead their processes and function to the fullest potential with a minimal need for further approvals from higher administrative levels. Local administrative structures, in this regard, are not to be seen static once established, but rather dynamic and adaptive. Therefore, the ability to readjust the organisational structure of the municipal institutions should be preserved at the local level of administration in order to better respond to local changes with regard to political orientations and development policies. On another level, it is stated that local governance requires competent departments. Therefore, equipping the local department with qualified municipal staff through credible employment processes is considered to be essential to the functions of the municipal authority. It is also as important to secure a productive environment with sufficient working facilities and infrastructure as well as to focus on institutional learning and capacity development. In this context, a continuous documentation of previous implementations and on-going projects is seen to be an effective tool not only to preserve the intuitional knowledge, but also to share it with other parties of interest. Publications help improve the credibility and accountability of local authorities and foster a cycle of feedbacks and relevant discussions. Solid inter-departmental collaboration between the municipal offices concerning the variety of issues of urban planning is considered to be advantageous to the development process. Coordination with all relevant municipal departments in this sense can allow a sufficient consideration of the priorities, interests and concerns of the development partners. It can also secure a better

understanding of the available and required capacities to achieve the development goals. Therefore, setting a municipal framework as well as a platform regulating and enhancing inter-departmental collaboration is seen to indicate a better municipal progress.

Under the second category, this section discusses five attributes of planning systems that can help improve the performance of municipal planning. Integrated strategic planning, as the first feature, is a planning approach that incorporates the relevant sectors, stakeholders and beneficiaries in the desired development. An active engagement is stated to be essential to achieve a common agreement among the partners with regard to the development goals and distribution of tasks. It also provides a basis to formulate a realizable vision and associated development measures to be achieved in accordance with certain timeframes in the short, middle and long terms. Identifying the most pressing issues of development should indicate a set of prioritised projects to be considered first by the planning authorities.

The second feature, discretionary decision making, relates strongly to the administrative aspect of local governance discussed previously. It endorses, therefore, planning regulations that secure the ability of local planning authorities to initiate planning processes addressing certain areas of the city to improve certain aspects upon their will, with minimal intervention or authorisation from higher administrative levels. In a similar manner, they should also be able to set the development timeframes and utilise the planning instruments and development measures that seem to fit best with their local contexts.

The third feature, collaborative planning system, encourages planning systems to incorporate stakeholder engagement already in the formal planning processes in order to secure a sufficient participation in the different stages of development. Local planning authorities should also be able to engage relevant development partners and set the timeframes of engagement. In this sense, this feature relates to the administrative aspect of inter-departmental collaboration. The fourth feature, practical planning instruments, is essential to planning systems as it stresses the importance of providing urban planners with a sufficient variety of planning instruments that is able to cover a variety of development circumstances. These instruments can be in the form of formal plans, regulatory documents and legal articles. In all cases, dynamic planning instruments that can be utilised in several development scales are indicated to strengthen the planning systems of the case cities. The level of detailing of the planning instruments is seen to inverse with the scale of the instrument together with its flexibility. In other words, while it is important to incorporate a high level of detailing in development plans, it should be limited to executive smaller-scale planning instruments, upon necessity, as it makes them less flexible. And, other instruments regulating larger scales of development should incorporate more room for flexibility and interpretation with less detailing. Further, it is stated that non-formal planning processes can also be valuable as they can explore other development alternatives and address certain development cases more efficiently. A practical toolkit of planning instruments, together with a room for non-formalised procedures, is seen to support the local planning authorities of the project's case cities.

The last feature, entrepreneurial engagement, encourages the municipal departments of the partner cities to manifest a high extent of engagement in public affairs. The regulatory frameworks in these cities, therefore, need to support and make room for new ideas and innovative solutions in order to approach certain development cases from different perspectives. Ambitious but reasonable development goals are seen to inspire innovation and motivate a wider spectrum of municipal players to join and support the development. Also, self-initiative of enabled municipal bodies to propose new development concepts or measures, to establish necessary networks, to lead and implement projects

should be empowered in the planning regulations and formal frameworks. Entrepreneurial municipal offices are seen to be an advantage to drive better development and planning processes.

Under the third category, this section continues to discuss the features that can support the implementation of development policies of the partner cities, especially with regard to infrastructure development and service provision. Preserving the possibility to establish public-private-partnerships in municipal affairs seems to ensure the city's ability to acquire necessary technologies, knowledge and experience beyond the current capacities of public institutions. In such cases, a convenient form of public control is considered to be an important factor ensuring the conformity of established public-private entities with public interests. Public control, however, should not replace an independent and professional form of management that is indicated to be essential to the success and performance of infrastructure and service operators. Generating sufficient revenues, through a business-oriented approach, indicates a successful partnership model that can sustain itself, reduce the financial pressure on the municipality and help fund further development projects of the city.

Next, this section addresses the benefit of investment in synergies across the different sectors of urban services and infrastructure. In this sense, a sufficient consideration of alternative solutions and technologies that utilize the output of one sector, or more, as an input to another sector, or more, is indicated to help the city fulfil its demands and use its resources in a sustainable manner. Such investments, however, require commitment from the city and promotion of trans-sectoral thinking. They also require sufficient knowledge, skill and accessibility to advanced technologies, which can be acquired by an active engagement of the private sector if necessary. In this sense, it is also stated that implementations of trans-sectoral operations can enhance a positive form of coordination and collaboration among the municipal departments related to urban planning and infrastructure development, which enforces their capacities to drive development projects of a more complex nature.

In addition to the essential role of municipal institutions, public participation and engagement of citizens in the affairs of urban planning and infrastructure development marks the last recommendation of this section. This is not only seen to integrate the interests, concerns and values of the affected local communities, but also to foster the success and social acceptance of the development. It is indicated that formal planning procedures in many cities include windows for certain inputs from the general public with regard to the contents of upcoming developments. This aspect, however, can be further enforced by a variety of events to reach a broader audience and enable a dialogue process between all actors involved, including industry, academia, and civil society. This dialogue process is stated to represent the affected population properly and in a sufficient manner that includes all groups of population, if applicable. It makes sense, therefore, to organize a variety of events to take place in different locations within the city in order to increase the chances of the municipal administration to reach out for the entire targeted population. It is also stated that the dialogue process should be independent, unbiased and preferably managed by a third party to ensure the credibility of the process. It is also important to consider such a process in the early stages of development in order to ensure that the upcoming projects, in principle, fall in line with the public interests and the most pressing issues of the local community are properly addressed. The findings and results of the participation events are seen to influence the development and to be incorporated with the upcoming plans and development measures. Also it is stated that the entire process of public participation is indicated to be transparent. Therefore, the procedures, partial results and findings of the dialogue process are indicated to be shared and discussed thoroughly with the public or their representatives. And, finally, due to the importance of the process, it should be provided with

sufficient attention, resources and access to public facilities in order to fulfil its purpose. In this context, an active form of public engagement is stated to empower implementation processes of urban development, to better understand the requirements of the local community and to build trust among all the stakeholders in order to create a better future.

All recommendations addressed under the three categories of organisational structure, planning system and implementation mechanisms are based on the experience and research activities of the Rapid Planning Project in Frankfurt. In line with the objectives of the project, they are meant to be presented to the municipal authorities of the project's partners. With a sufficient consideration of the local contexts, frameworks and specifications, these recommendations are seen to smooth possible implementations and applications of the Rapid Planning Methodology within the case cities of the project as well as to benefit their progress of urban planning and infrastructure development.

7. Conclusion

This document explores city planning and urban development in Frankfurt in order to establish a solid understanding of the reference city of the Rapid Planning Project. Therefore, certain aspects such as the spatial planning regulations, instruments and procedures controlling urban development of the city, the dynamics and trends characterising its urban profile and the enacted visions, development policies and development goals conceiving the future of the city become essential fields of research for the course of this document. Such a solid understanding of the city comprising the mentioned aspects allows the document to identify a variety of interesting features and observations with regard to the planning processes in Frankfurt and present them in the form of learned lessons. For a smoother transferability, exchange and sharing of knowledge between Frankfurt and the other case cities of the project, this document tends to list of recommendations, which are seen to influence Frankfurt's municipal progress in a positive manner, to be presented to the administrations of the partner cities. These recommendations are to be understood as constructive concepts that have the potential to facilitate possible implementations and applications of the Rapid Planning Project in the case cities as well as to enhance the functions of their planning authorities. It is important, however, to also consider the local context of these cities in order to increase the applicability of the suggested recommendations.

On this basis, Section One of the document explores the spatial planning system in Frankfurt. It finds that Frankfurt, likewise every municipality in Germany, has a set of instruments that are granted by the Federal Building Code (*Baugesetzbuch*) as well as the State Building Code (*Hessische Bauordnung*). These instruments take the form of legal plans (i.e. the preparatory Land-use Plan and the Legal Zoning Plan), texts and statutes with the normative character of law (e.g., the Urban Development and Modernization Measures as well as the Preservation and Design By-laws). Additional non-formalised planning instruments, which can be formalised later, are also available for stakeholders, including city administrations, in order to facilitate a beneficial planning process out of or in parallel with the formal planning procedure. Under the control of the local council, these instruments can be utilized to commence, implement, control and safeguard the spatial planning in every relevant aspect. In this sense, the spatial planning system in Frankfurt is seen to provide the city with an effective set of tools, while maintaining a considerable margin for flexibility and adaptability.

Section Two examines the characteristics that are indicated to shape the current urban profile of Frankfurt. Also, it deals with the development visions, policies and plans that are set to cope with the city's future. In this context, Frankfurt's city dynamics are presented in two groups: demographic and functional dynamics. The demographic dynamics address the increasing amount of newcomers, the constant rotation of people in this metropolitan area, the international composition of the city's population and the age structure of the citizens. These four dynamics together are seen to contribute to the changing requirements of the city's job market and quality of life. The functional dynamics are mainly manifested in Frankfurt's leading sectors of transportation, finance and research. Altogether, they have coined Frankfurt's image as a destination for regional, national and international guests. There is a variety of trends leading the scene in Frankfurt.

From a statistical perspective, the increasing amount of job offers in the metropolitan region is seen to require more housing capacity to accommodate inhabitants coming from multiple backgrounds and

social incomes. From a political perspective, preserving the city's green profile is seen to encourage the city to preserve its ecological assets while incrementing green and open spaces where possible. Urban community gardens have also emerged, presenting themselves as social movements for local sustainability. Due to Frankfurt's importance as a major traffic hub, the mobility system is mobilising efforts to cover the areas of the city in a more efficient manner. Additionally, the system is suggested to include and promote eco-friendly modes of transportation in the city, especially cycling and walking. Public participation is also seen to be a popular trend in the urban development scene of the city.

The Mission Statement 2008 presents a major vision towards the future in the form of a written document, which is considered to be a guiding framework at the institutional level of the municipal departments of the city. It comprises elements with regard to the social balance, sustainable mobility, energy efficiency, public participation, green and public spaces, sub-centers, regional cooperation, local identity as well as the global compact profile of the city. However, in 2014, the city initiated an Integrated City Development Concept to address its future in a participatory manner. The initiative is seen to address to the growing requirements of the city resulted from the city's major dynamics and trends. More importantly, it is also seen as a proper response to the growing need for integrated planning and for an active engagement of a wider spectrum of stakeholders. Therefore, the initiative show a greater focus on the integration of all concerns, interests and ideas of the relevant and interested administrations, stakeholders, private partners and citizens of the city. This is in order to secure a better quality of life and environment in Frankfurt, to maintaining an efficient resource management, to embrace an integrated approach towards city planning, and to engage all relevant service providers, stakeholders and the public in visioning the future of the city. This shows that Frankfurt, in addition to the classical planning procedures, is increasingly shifting towards more transparency and further collaboration and openness.

Section Three discusses the mentioned aspect, but from a critical perspective. As addressed in the reviewed documents and discussed with experts and officials representing the major municipal department in Frankfurt, this section highlights a set of tensions. This includes (1) the competition among the cities in the metropolitan region of Frankfurt and the need for regional coherence, (2) the topic of population as well as economic growth and the desire to maintain the city's green profile as well as quality of life, (3) the availability of affordable housing under the pressure of growing population and (4) the international function of the city in relation to its local atmosphere. In order to mitigate the addressed tensions, spatial planning is seen to be utilised as a tool integrating urban processes, policies and land-uses to achieve its objectives in a collaborative manner.

In a similar manner, this section re-examines the Integrated City Development Concept in order to reflect on its stated options with regard to the city's growing demand for housing and the possible effects on the socio-economic structure that could result from such measures. It discusses the topic of required densification with regard to the quality of life in the city. It addresses the concept's proposals of outsourcing the development towards the region and the required regional politics and effects on environmental footprint. And, it highlights the service sectors that are overlooked in the development. This section continues to identify the gaps that could be found in the planning processes in Frankfurt. Therefore, it addresses the topic of formal collaboration between the municipal departments and the aspects of regulatory limitations and sufficiency of interaction. It discusses the issue of regional planning that might impose some extent of regional restrictions on urban development and accessibility to natural resources. Due to the experiences, active roles and contributions of the major

planning institutions, public participation in the city as well as to the planning and building laws that secure a strong ownership of city planning at the local level, most of the tensions, potential risks and gaps are commonly addressed in the municipal publications or discussed in public events.

Section Four concludes five lessons representing the major features that are observed by the research with regard to the processes of urban planning in Frankfurt. In this context, Frankfurt is seen to have a decentralized collaborative system enabling the city to focus on its local development, to maintain a coherent service provision and quality of life and to coordinate with its regional neighbours. The responsive nature of the planning system regulating and controlling urban development of the city is manifested in the focus of the development policies (e.g., the Mission Statement 2008 and the Integrated City Development Concept) as they clearly address the major challenges and pressing issues encountered within the frameworks of city planning and infrastructure development of the city. A responsive planning system, however, necessitates the availability of sufficient and up-to-date information as well as an active engagement of professionals, citizens and related stakeholders. Another feature that can be assigned to the spatial planning system of Frankfurt is that of flexibility. In this sense, the city is able to break down the need for detailed planning at the city scale and leave it to smaller-scale and more detailed plans at the level of the city's districts, neighbourhoods and streets, upon request. Frankfurt, therefore, is able to leave the greater scale plans for more strategic purposes and the rigid detailed smaller scale plans for the inclusion of the minimum necessary restrictions which, at the same time, can create commitment and facilitate initiative and intuition. Also, the city's spatial planning system exhibits the ability to engage both public and private stakeholders in formal and non-formalised planning procedures. The openness of the planning system, in this regard, allows the city to consider, explore and prepare alternative concepts, master plans or development programs taking the full advantage of available knowledge, skills and financial resources beyond the municipal capacities. Lastly, keeping in mind the availability of sufficient understanding of the city's current urbanisation dynamics, trends, challenges and their projections on the short, medium and long-terms, Frankfurt's spatial planning is enabled to prepare the city to cope with its future in a pre-active manner. In certain sectors such as energy, with an ambitious set of goals, the city seems to go yet one step further and actually shape its future in a proactive type of planning approaches.

Based on the addressed lessons, as well as on the previous sections of this document reviewing Frankfurt's spatial planning system and urban development, Section Five concludes three sets of recommendations for a better form of municipal management and progress. The first set addresses the backbone of municipal progress, which is the organisational structure of municipal departments. In this regard, it stresses the significant role of local governance and the enablement of local institutions and municipal departments to lead urban planning and infrastructure development in their own cities in order to cope better with local issues, pressing challenges and development goals. It is important, however, to achieve a clear distribution of roles and responsibilities among the departments, to minimise the need for further approvals from higher administrative levels and to maintain the ability to adjust the structure of municipal administration at the local level. Further, this set states that effective local governance requires competent municipal. Therefore, equipping the local department with qualified municipal staff through credible employment processes, securing a productive environment with sufficient working facilities and infrastructure and promoting a continuous documentation of previous implementations and on-going projects are seen to be vital for the functions of the municipal authority and good governance as well as for institutional learning and capacity development. Furthermore, solid inter-departmental collaboration is considered to be advantageous to both planning and development processes in order to allow a sufficient consideration

of the priorities, interests and concerns of the development partners, to secure a better understanding of the available and required capacities to achieve the development goals. Therefore, setting a municipal framework as well as a platform regulating and enhancing inter-departmental collaboration is seen to indicate a better municipal progress.

The second set of recommendations addresses spatial planning systems, based on the features identified in Frankfurt's planning processes. Integrated strategic planning, in this regard, is recommended first in order to incorporate an interdisciplinary approach to city planning. Such an approach is seen to ensure a sufficient representation of the relevant sectors of development, to establish a common agreement between the city's officials, professionals, stakeholders as well as beneficiaries, to promote the formulation of realisable development visions and to prioritise certain projects in correlation with the most pressing issues of local development, all in accordance with certain timeframes. Next recommendation of this set is to endorse planning regulations that secure the authority of local planning authorities to initiate certain planning processes. Defining the area, focus, timeframe as well as the planning instrument of development is seen to be under the mandate of local authority. Also, collaborative planning is recommended as a tool to incorporate the stakeholders required in the formal planning processes. Local planning authorities, therefore, are stated to engage relevant development partners and to set the timeframes of their engagement upon their estimation. As a major recommendation, this set addresses the applicability of available planning instruments as a valuable asset for local planning and urban development that can be enhanced. In this sense, each planning instrument is seen to be fit to deal with a variety of development forms and scales. In addition, non-formal planning is also considered to assist formal planning instruments to explore other development alternatives and address certain development cases more efficiently. In this sense, a toolkit of practical planning instruments together with a room for non-formalised procedures is seen to help local planning authorities to respond better to different circumstances of required development. The last recommendation of this set is to encourage the regulatory frameworks of local planning authorities to promote an entrepreneurial engagement of its municipal offices and departments. Therefore, it is suggested to keep room for new ideas and innovative solutions as well as for ambitious development goals. It also suggested encouraging the self-initiative of enabled municipal bodies to propose new development concepts or measures, to establish necessary networks and to lead and implement the proposed projects. In total, these features of spatial planning systems are found to be advantageous in the context of city planning and urban development of Frankfurt. They are, therefore, considered to be relevant points of discussion that can benefit the course of municipal management and enhancement of municipal progresses.

The third set of recommendations focuses on the implementation mechanisms of development policies, especially with regard to infrastructure development and service provision. It starts, therefore, with the suggestion to consider the potential of public-private-partnerships in municipal affairs in a proper manner. This is to ensure the city's ability to acquire necessary technologies, knowledge and experience beyond the current capacities of public institutions. It is important, therefore, to ensure the alignment of such partnerships with public interests through a convenient form of public control. This, however, should not replace an independent form of professional management for public-private entities. Also, a business-oriented model of partnership is considered to be necessary to generate sufficient revenues and sustain its operations. Next, in line with the Rapid Planning Project, this set promotes the concept of trans-sectoral planning and investment in synergies across the sectors of urban infrastructure to help the city fulfil its demands and use its resources in a sustainable and environmental manner. It stresses, therefore, the importance of political commitment

towards such investments, accessibility to knowledge, skills and advanced technologies and coordination between the relevant sectors. As a final recommendation of this set as well as of this section, this document acknowledges the significant role of public participation in the various affairs of urban development. In addition to the better integration of interests, concerns and values of the affected local communities, public participation can foster the success and social acceptance of the development. In this context, it is suggested to initiate representative dialogue processes, involving all actors including industry, academia, and the civil society, to take place in different locations, if necessary, to reach out for the targeted population. Independent management of public participation events, preferably managed by a third party, is seen to be vital for a credible and unbiased dialogue. An early engagement is also seen important to ensure conformity with the leading interests of local communities. The output of such events is expected to be manifested in the upcoming plans and development measures in a clear and transparent manner. The procedures, partial results and findings of the dialogue processes are indicated to be shared and discussed thoroughly with the public or their representatives. And, finally, sufficient attention, resources and access to public facilities are considered to be necessary for the success of the dialogue. An active form of public engagement is stated to empower implementation processes of urban development, to better understand the requirements of the local community and to build trust among all the stakeholders in order to create a better future.

In general, the stated recommendations categorised under organisational structure, planning system and implementation mechanisms are suggested to support the municipal management and planning processes of the case cities of the Rapid Planning Project. They are also seen to enhance the institutional capacities as well as to smooth possible implementations and applications of the Rapid Planning Methodology in the partner cities of the project.

All in all, based on the presented understanding of the spatial planning system, urban development tensions, urban development policies and potential risks that could challenge the stated development goals, implementation mechanisms as well as the lessons learned from the urban planning experiences, it could be reasoned that urban planning in Frankfurt holds a privileged position. Municipal capabilities in the city in both fields of planning regulation and implementation seem to be advanced and highly consolidated as they have been accumulated and shaped throughout decades of consistent urban development. This conclusion could be referred, firstly, to the federal structure of the country, where the distribution of competences and functions between the federal, state, regional and local levels of urban governance produces a system with legally, organizationally and substantively differentiated planning levels (Elke Pahl-Weber & Henckel, 2008b). This system features a variety of active public institutions attending to different planning roles and scopes, allowing a remarkable engagement of capable municipal offices as well as relevant partners and other stakeholders to take place in the planning procedures across the country. Secondly, it could be attributed to the planning and building laws themselves as they grant an autonomous municipal planning braced by a long history of a decentralized practice of city planning and urban development, which enables a direct and fully-authorized engagement of municipal offices at the local level. These laws have also changed over the years and decades in accordance with changing urban and social dynamics (Erpenstein & Peterek, 2011), which shows an ability to evolve in order to cope with emerging challenges and changing driving forces of urban development. And, thirdly, the argument of the conclusion could also be associated with the presence of other supporting factors such as the relatively slow growth of population, accessible resources, obtainable data and advanced technologies as they can be expected to mitigate the severity of urban development challenges on the one hand. And, on the other, they

can also be expected to enhance the chances of the city to understand its current urban dynamics, to better predict its future challenges and foresee the possible development scenarios and thus to pursue more considered development visions and relatively slow-paced urbanization growth.

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