1 ST INTERNATIONAL CAPACITY BUILDING WORKSHOP

FRANKFURT AM MAIN AND HEIDELBERG, GERMANY
MAY 22ND – MAY 29TH, 2016

SPONSORED BY THE

Federal Ministry of Education and Research

FFin Frankfurter Forschungsinstitut
für Architektur • Bauingenieurwesen • Geomatik

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

REPORT OF THE 1ST INTERNATIONAL CAPACITY BUILDING WORKSHOP
FRANKFURT AM MAIN AND HEIDELBERG, GERMANY
MAY 22ND - MAY 29TH, 2016

Deliverable D - 11.14b: Proceedings of the 1ST International Capacity Development Workshop, Part 2: Report

EDITORS

Rapid Planning Research Team
Frankfurt University of Applied Sciences:

Michael Peterek
Ulrike Reichhardt
Yaman Hebbo
Susana Restrepo Rico

LAYOUT

Carlos E. Guerra Bustani

COPYRIGHT COVER PHOTO
© Michael Peterek, 2004

SPONSOR

The research project "Rapid Planning" is sponsored by the German Federal Ministry of Education and Research (BMBF)

Federal Ministry
of Education
and Research

REPORT OF THE 1ST INTERNATIONAL CAPACITY BUILDING WORKSHOP

FRANKFURT AM MAIN AND HEIDELBERG, GERMANY
MAY 22ND - MAY 29TH, 2016

CONTENTS

INTRODUCTION TO THE WORKSHOP

The program of the First International Capacity Building Workshop from May 22nd to May 29th, 2016 had been developed together with the partners from the Frankfurt City Planning Department, the Environment Department, and the Municipal Energy Agency, as well as the Regional Association FrankfurtRheinMain.

The main objective of the workshop was an exchange of ideas and experiences between the representatives of the three case cities, the municipal departments of Frankfurt am Main as the reference city and the members of the Rapid Planning team. Furthermore, the capacity development workshop aimed at compiling the expectations of the city representatives and the Rapid Planning team in regards to trans-sectoral urban development and implementing capacity development processes in urban planning environments. Likewise, the workshop offered the Rapid Planning team to have a deeper understanding of the urban context, planning systems and challenges in the three case cities through presentations by city representatives. The presentations of the municipal departments gave an overview of the planning process in the German context, while the discussions and guided visits to specific urban development sites illustrated the implementation of related policies, programs and projects in the cities of Frankfurt and Heidelberg, as well as in the Metropolitan Region of FrankfurtRheinMain.

PARTICIPANTS

City Representatives of Assiut, Egypt

Ms. Amal Ahmed Kamal	Director of General Organization for Physical Planning (GOPP)
Ms. Eman Ali	Director of Urban Planning Assiut Governorate

City Representatives of Da Nang, Vietnam

Mr. Thanh Le Tu Gia	Director of Urban Planning Institute of Da Nang
Mr. Tien Nguyen Thanh	Vice Head of Urban Planning Management Division of Da Nang

City Representative of Kigali, Rwanda

Mr. Emmanuel Ingabire	District Urban Planner, District Nyarugenge, City of Kigali

Representatives of UN-Habitat

Mr. Sebastian Lange	Rapid Planning Team UN-Habitat, Nairobi
Ms. Sylvie Kanimba	Team Manager of Rapid Planning Kigali Office
Prof. Rabee Reffat	Team Manager of Rapid Planning Assiut Office
Ms. Hanh Vo Ho Bao	Team Manager of Rapid Planning Da Nang Office

DLR – Project Management Agency

Dr. Andrea Koch-Kraft	German Aerospace Center, Project Management Agency, Bonn

Speakers and Tour Guides

Dr. Thomas Hartmanshenn	Head of Environmental Precautions Division, Environment Department, City of Frankfurt am Main
Mr. Paul Fay	Vice Head of the Municipal Energy Agency, City of Frankfurt am Main
Prof. Peter Kreisl	Head of Overall City Issues Division, City Planning Department, City of Frankfurt am Main
Mr. Ingo Weiskopf	City Planning Department, City of Frankfurt am Main
Ms. Sabine Lachenicht	Head of Department of Environmental Protection, Trade Supervision and Energy, City of Heidelberg
Mr. Ralf Bermich	Head of Energy and Climate Protection Division, Department of Environmental Protection, Trade Supervision and Energy, City of Heidelberg
Ms. Elke Bayer	Coordination Unit Citizens' Participation, Department of Urban Development and Statistics, City of Heidelberg
Mr. Thomas Rebel	Vice Head of City Planning Department, City of Heidelberg
Mr. Joachim Hahn	Head of Department of Urban Development and Statistics, City of Heidelberg
Mr. Thomas Horn	Deputy Director of Regional Authority FrankfurtRheinMain
Dr. Gabriela Bloem	Area Manager, Regional Authority FrankfurtRheinMain
Ms. Pinar Bilgic	Regional Authority FrankfurtRheinMain
Ms. Doris Tyson	Regional Park RheinMain and Weilbacher Gravel Pits

Participating Rapid Planning Team Members

Ms. Andrea Schultheiß	AT-Association, Stuttgart
Mr. Dieter Steinbach	AT-Association, Stuttgart
Mr. Nigel Downes	Brandenburg University of Technology, Cottbus-Senftenberg
Dr. Harry Storch	Brandenburg University of Technology, Cottbus-Senftenberg
Mr. Bernd Franke	IFEU, Institute for Energy and Environmental Research, Heidelberg
Ms. Christin Zeitz	IFEU, Institute for Energy and Environmental Research, Heidelberg
Dr. Thomas Sterr	IUWA, Institute for Eco-Industrial Analyses, Heidelberg
Ms. Katja Weiler	IZES, Institute for Future Energy Systems, Saarbrücken
Ms. Renata Sultanbaeva	IZES, Institute for Future Energy Systems, Saarbrücken
Ms. Juliane Brandt	Technical University of Berlin
Mr. Marcus Mangeot	MANGEOT, Stuttgart

Rapid Planning Team – Frankfurt University Applied of Sciences (FRA-UAS)

Prof. Dr. Michael Peterek	FRA-UAS Project Leader
Dr. Ulrike Reichhardt	FRA-UAS Project Coordinator
Mr. Yaman Hebbo	FRA-UAS Research Assistant
Ms. Susana Restrepo Rico	FRA-UAS Research Assistant
Ms. Olga Korovina	FRA-UAS Research Assistant
Ms. Deborah Ayres	FRA-UAS Research Intern

EXPECTATIONS OF THE FIRST INTERNATIONAL CAPACITY BUILDING WORKSHOP

At the beginning, the international participants from the three case cities expressed some of their expectations towards to the program and the contents of the workshop. These expectations referred to the following main fields:

- Understanding the reasons why Frankfurt am Main has been chosen as the German reference city
- Comprehending the urban development challenges that Frankfurt faces today
- Reviewing the city´s current development policies, measures and municipal responses to the needs of increasing population
- Examining the administrative and planning systems in Frankfurt
- Examining environmental and infrastructure management in Frankfurt
- Comprehending the urban development challenges as well as the planning approaches in the three case cities of Assiut, Da Nang and Kigali
- Introducing the logic behind Rapid Planning and its methodology as a final product of the project
- Approaching a common understanding of trans-sectoral planning
- Discussing the available options for better capacity development activities in the contexts of the Rapid Planning research project

© Ayres, 2016

International Guests from Kigali and Assiut

© Ayres, 2016

International Guests from Da Nang

© Peterek, 2016

International Guests from Assiut and Da Nang

INTRODUCTION TO THE RAPID PLANNING PROJECT

Presentation by the FRA-UAS Research Team

The Urban World of Today and Tomorrow

More than half of the world's population is already urban. This global trend of increasing urbanisation seems yet to dominate the future. While Europe, North and South America have already hosted a large share of the urban population, the highest rates of urbanization nowadays are taking place in Africa and Asia indicating that cities in the developing world, especially in these both continents, are and will continue to host most of the expected growth.

Problem vs Opportunity

As urban population increases rapidly, existing infrastructures become strained, energy and other resources become scarce, inaccessible, depleted and expensive, the natural environment becomes severely threatened, and all risks entitled to the progressing climate change become even more inevitable. Also, in such cases, it could be noticed that city planning and urban development procedures are incapacitated to keep up with the fast pace of urbanization growth. The high pressure of rapid urbanization drains both human and natural resources leading into insufficient capacities as well as inefficient uses of resources. Further, sufficient data bases and correct information necessary for decision-making processes become harder to obtain as urbanization proceeds in an uncontrolled manner. All that could effectively force the municipal authorities in such urban settings to adopt reactive, short-term and sector-oriented development measures that lack the strategic aspects of spatial planning. With the absence of proactive measures, the consequential problems of overloaded infrastructure, shortage of basic services, exhausted resources and deteriorating environmental conditions will keep growing exponentially.

Such challenges, nevertheless, could be also seen as an opportunity to provide innovative models for sustainable planning and environmental efficiency. There is a need, therefore, for a responsible and achievable action plan that could be implemented in a timely manner to respond to the imposed challenges of rapid urbanization. The goal is to improve the quality of life and competitiveness in these cities and, at the same time, preserve the environment and resources. Here, the Rapid Planning Project fits as a comprehensive approach to urban management that tries to bring the capabilities of city planning and urban development at the local level of such developing cities closer to the dynamics and mechanisms of urbanization growth taking place on the ground.

The Rapid Planning Project

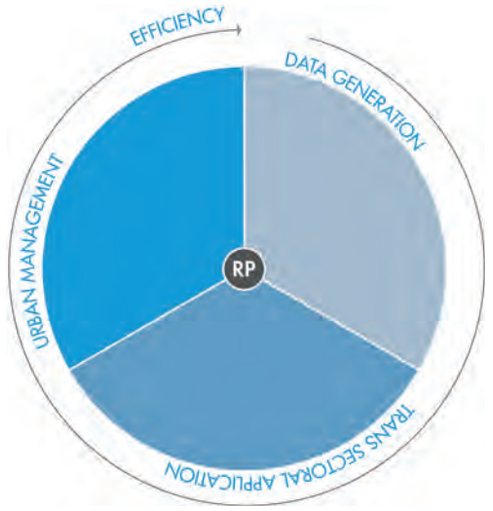
Rapid Planning aims at maximizing efficiency and effectiveness of city planning and urban development processes in the developing cities in order to enable them to compete better with the ongoing pressures. It seeks, therefore, to go deep in understanding the current urban status, dynamics, trends, tensions, visions and the overall processes of urban planning in each of the case cities. On this basis, the project proposes a methodological approach consisting of three major intervention fields:

1. Reinforcement of municipal capabilities to gather and analyze necessary framework data with modern data technologies,

2. Identification of trans-sectoral synergies and implementation of trans-sectoral planning approaches, and

3. The corresponding optimization of municipal management processes in order to regulate and secure sustainable impacts.

This three-fold intervention scheme would basically empower the cities and improve their performance so that more efficient urban planning processes could be achieved in less time in an ideal case. The spared costs, manpower and time could then be redirected properly to enhance the total quality of urban planning.



The Methodological Approach of the Rapid Planning Research Project. © FRA-UAS Rapid Planning Team, 2017

In each of the three intervention aspects, however, improving the current skills, accumulating knowledge and increasing the know-how are certainly vital for a successful implementation of the methodological approach of Rapid Planning and the strengthening of social and environmental responsibilities. Capacity development, therefore, has to be seen as an integral component of each step that goes hand in hand with the implementation plans as the project proceeds.

Five Sectors and Four Cities

To meet the expected outcomes of the research project in the timeframe given, Rapid Planning focuses on the following five major sectors of supply and disposal infrastructure: energy, water, waste water, solid waste and urban agriculture.

As practical cases for developing the methodology, the research has selected the three cities of Assiut in Egypt, Da Nang in Vietnam and Kigali in Rwanda as case cities. For further reflections and comparative studies, Frankfurt am Main in Germany has been selected as a reference case.

The three selected case cities and the reference city represent the range between landlocked least developed (Rwanda), developing country (Vietnam), transition country (Egypt) and developed country (Germany). The cities, except for Frankfurt, are characterized by rapid urban growth and planning needs to provide sustainable infrastructure and ensure continued economic growth. In addition, they have different energy sources, feedstock, waste management, as well as water supply and wastewater treatment systems. Kigali, Da Nang and Assiut are in need of municipal capacity development for sustainable city planning and have suitable academic research institutions to support and guide the capacity development process. Furthermore, the Rapid Planning Project attempts to establish an exchange of experiences and know-how between the involved case cities.


© Mohammed El Gazar

Assiut, Egypt

Expected Outcomes

As expected outcomes of the project, the research aims to deliver a localized toolbox for each of the case cities including:

1. A Rapid Planning methodology to show a roadmap for the implementation and empowerment of trans-sectoral planning

2. A map of the knowledge blocks produced by the project to document and help transfer the experiences

3. Data generation methodologies, feeding a data warehouse and bases to support urban and infrastructure planning

4. Computer-aided tools and simulators to support decision makers, and last not least

5. Stimulating entry projects initiated at each city

Some Points from the Workshop Discussion

It is important to realize that Rapid Planning is a research project and not a consulting one. Since it is still in progress, the final outcomes are expected to be reached by the end of the project.

The research partners develop and work with specific programs and data sets. On this basis, besides the research activities and entry projects, the obtained results, knowledge elements and the technical tools are identified. They are communicated through the deliverables, publications and workshops provided by the partners in accordance with the project's timeline. In order to face all the challenges imposed by the rapid urbanization growth, slow-motion and reactive planning procedures are certainly not affordable. In fact, city planning needs to go hand in hand with the speed of development on the ground. Here, the Rapid Planning Project could be seen as a necessity to face rapid urbanization.

It could be stated that the research methodology resembles action planning. It is, however, larger than that as it strategically promotes a full integration of all key aspects of urban planning, full investment in interlinked infrastructures as well as a full partnership with the relevant stakeholders in the planning processes. The role of Rapid Planning, in this sense, is to work as an enabler.

The Rapid Planning methodology, when ready for implementation, will require an institutional atmosphere that provides suitable conditions for the adoption of Rapid Planning in order to increase the efficiency of the planning procedures in the targeted case cities. Here, necessary changes targeting identified parts of the planning system might prove vital for a smoother implementation. It is, however, not expected that municipal authorities should completely change their planning systems to enact Rapid Planning. In other words, enabling Rapid Planning should not indicate the replacement of current planning systems, but rather expanding their capacities and capabilities.


© Stein, 2014

Kigali, Rwanda


© Mangeot

Da Nang, Vietnam


© Peterek, 2004

Frankfurt am Main, Germany

Riverside Main Park © *Peterek, 2015*

WALKING TOUR ALONG THE RIVER MAIN IN FRANKFURT

Guided by the FRA-UAS Research Team

As an introduction to the workshop, a walking tour along the river Main gave an overview of recent urban, residential and open space developments in the center of the city. Since the late eighties, the city of Frankfurt had started to revitalize the areas along the river Main in order to improve the quality of the public space and to create opportunities for new inner-city housing, jobs as well as recreational and cultural infrastructure. These projects include the development of the Riverside Main Park, the development of the Museums Embankment, with some 30 museums situated directly along the river or nearby, the conversion areas of the former Western Harbour and the Deutschherrnufer (former slaughterhouse) as well as the construction of the European Central Bank in the East End.

Riverside Main Park

Since 1990, the city has developed a linear park and open space along the Main, in total more than 7 kilometers long, on both sides of the river, as a recreational zone with wide lawns, trees and plants, and spectacular views of the Frankfurt skyline with its modern high-rise buildings and skyscrapers. The area is well accessible by many cycling tracks as well as public transport. Not only in summer and on the weekends, but also on warm days throughout the year, the Riverside Main Park is intensely used for leisure purposes of Frankfurt inhabitants as well as tourists, and it additionally often hosts public festivals and events.

Riverside Main Park © *Peterek, 2005*

Western Harbor

After the end of its original use, the brownfield area of the former Frankfurt Western Harbor has been revitalized and converted into a mixed-use area for offices and housing. Today, it has become a modern inner-city district with modern office buildings for approx. 3,500 jobs, including the Westhafen Tower, and residential units in different housing typologies for 1,600 inhabitants. The area is fully pedestrianized, with public spaces along the waterfront, restaurants and cafés, and some additional commercial infrastructure.

Deutschherrnufer

At the south-eastern limit of the city center, the former slaughterhouse area has been converted into another mixed-use urban district for about

Western Harbor © *Peterek, 2012*

Western Harbor © *Ayres, 2016*


Deutschherrnufer © *Ayres, 2016*


Deutschherrnufer © *Ayres, 2016*


Römerberg © *Ayres, 2016*


Deutschherrnufer © *Peterek, 2004*

2,500 new inhabitants and 40,000 square meters of office and commercial spaces. Along the riverfront, the former through road has been transformed into a pedestrianized promenade. A variety of housing typologies, such as attractive solitaire tower buildings along the promenade as well as city blocks with quiet courtyards in the areas behind, offer a mixture of privately owned apartments and social housing flats owned by public housing companies. A hotel, shops for daily provision and a central public square add up to the diversity of the district and contribute to the revitalization of this central part of the city.

Römerberg and Old City Centre

Almost all the medieval timber-framed houses in the historical city center of Frankfurt had been destroyed in 1944, at the end of the Second World War. Only the stone buildings, like churches, the town hall and some houses of the 19th century, remained, though heavily damaged. Already around 1980, the city of Frankfurt decided to reconstruct the medieval eastern front, the "Ostzeile", of the Römerberg, which has been the main public square of the city for many centuries. This heart of the city has since then become again a central place for residents and visitors, for public fairs and events, and all kind of other outdoor activities. Since the year 2010, additional reconstructions and modern reinterpretations of historical building scape take place in the adjoining area between the Römerberg and the Frankfurt Cathedral. In total, until 2018 35 buildings will recreate an impression of the former medieval urban structure, its spaces and places, thus bringing new life to the city's former historic center.


Römerberg © *Peterek, 2005*


Deutschherrnufer © *Ayres, 2016*


Römerberg © *Ayres, 2016*

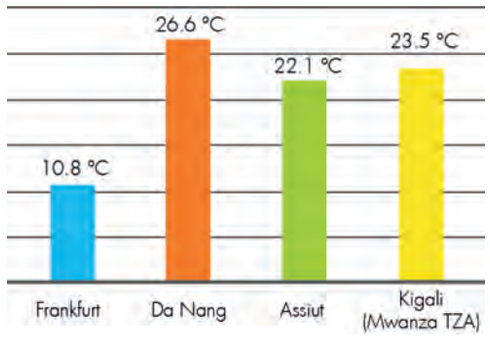

Frankfurt´s Cathedral Seen from the River Main © *Ayres, 2016*

MUNICIPAL ENERGY AGENCY OF THE CITY OF FRANKFURT AM MAIN

Presentation by Mr. Paul Fay, Vice Head of the Municipal Energy Agency

The Municipal Energy Agency was founded in 1990 with the aim to develop and implement energy and climate protection concepts and plans for the city of Frankfurt am Main. It was one of the first institutions of such a kind in Germany.

Compared with the other case cities of Rapid Planning, it is interesting to see that Frankfurt is the city with the lowest average annual temperature of just 10,8 C. Consequently, the climate characteristics in Frankfurt, a city with defined four seasons, mean a high demand for heating in the winter months, compared to other Rapid Planning case cities, which have higher cooling demands, as they are located in more tropical regions.



Average Annual Temperatures in Frankfurt and the Other Case Cities. Source: Fay, 2016.

Master Plan 100% Climate Protection

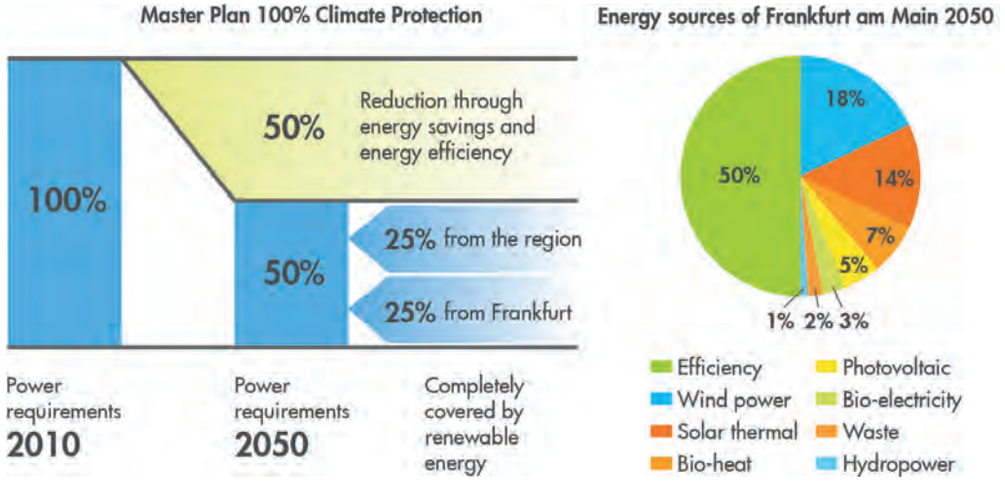
The Master Plan 100% Climate Protection is an initiative of the German Federal Ministry for the Environment and part of the National Climate Protection Initiative, which includes 16 cities and four regions, including around 3,9 million inhabitants with an investment of 9,3 million Euros in the first four years.

Since the creation of the Energy Agency in 1990, the city of Frankfurt has established ambitious goals for reducing energy consumption and the transition from fossil fuels to renewable energies. As part of the Cities Climate Alliance, already in 1990, the city had the vision of reducing CO_2 emissions by 50% until 2030. Signing a "Convention of Mayors" in 2008, the city aimed at reducing CO_2 emissions by more than 20% by 2020. And in 2010, as a deliberation of the local city parliament, the city decided to supply 100% of its energy demand through renewable energies by 2050.

"Frankfurt has the objective to cover all its energy demands completely with renewable sources by the year 2050."

In this sense, the vision of the Master Plan 100% Climate Protection aims at the following targets for Frankfurt for the year 2050:

- 50% reduction of energy demand
- 100% supply by renewable energies, half of which would be produced within the city of Frankfurt through solar, waste, biomass, geothermal, hydro facilities, while the other half would be produced in the region from the wind, biomass, photovoltaic and hydro facilities.



Frankfurt's Energy Prevision Scenario for 2050. Source: Energiereferat Frankfurt am Main, 2015

The main instruments to achieve these ambitious energy goals will be based on specific characteristics of sustainable urban and regional energy systems, such as a high efficiency, decentralized generation, high interdependency of electricity, heating, cooling and mobility sectors as well as the use of thermal and electrical stores.

A new modeling tool was developed by the Fraunhofer Institute (ISE) to find the most suitable energy system and calculate optimized energy systems for cities and regions. Thereby, the combination of energy planning and urban planning gives opportunities to local authorities to:

- Develop specific energy concepts for urban districts and development areas
- Assess zoning plans
- Develop district heating
- Conceive legal agreements with private persons and institutions
- Integrate energy concepts into urban development proposals already at a very early planning stage

In terms of reducing the consumption, the instruments are focused on: participatory frameworks with city departments and institutions; cooperation within the region and its member municipalities; creation of a climate protection board; sensibilization through public events; citizens' participation workshops in pilot districts; and public citizens' participation conferences.

Example - The Riedberg Project

The Riedberg new neighborhood for about 6,500 housing units and 15,000 inhabitants is an example of an urban extension area, where the energy concept was conceived even before the zoning plan came legally into force.

The Riedberg energy concept includes the following elements:

- Calculations showed an advantage in costs for a district heating solution, where the energy comes from a nearby cogeneration plant from waste products.

© Ayres, 2016

Visit to the Heating/Cooling System of the Passive Energy Agency Building

- Based on this, a mandatory status of centralized district heating for all buildings with a heat demand higher than 15kWh/m^2 a has been decided by the local parliament.

- The benefits for the environment are 9,000 to 13,000 tons of CO_2 reduction, compared to a conventional gas heating, equivalent to 21-30% of savings.

- A further outcome is the construction of more than 30,000 m^2 in passive buildings (until 2016), as these do not require any heating and are exempted from the mandatory district heating regulations in the area.

Based on this example, it is important to keep in mind that energy concepts for new development areas should be taken into consideration from the very first step. Likewise, comprehensive energy maps for the city can help to implement district heating in existing areas. However, in order to be competitive with other heating alternatives, district heating systems require a long-term infrastructural investment. Therefore, local statutes for district heating or private agreements are necessary to ensure the repayment of the investment.

Discussion Points with the Energy Agency

The main approach of the Municipal Energy Agency is planning and regulating the provision of energy in the city and devising specific energy concepts for different areas in the city. The Agency has established an energy consumption and production vision until 2050 in order to plan energy provision according to the Master Plan 100% Climate Protection, a program promoted by the Federal Government.

The Master Plan 100% Climate Protection, which started in 2013, guides the tasks of the Energy Agency as well as many other departments in the city of Frankfurt related to energy issues. Frankfurt is the only metropolitan city in Germany so far committed to such a Master Plan.

In this context, the city of Frankfurt has a municipal mandate prescribing that all municipal buildings must be designed following the passive house guidelines, reducing energy demands and even producing energy for its own consumption, for e-mobility or feeding it back to the public network (so-called "Energy Plus Houses"). The building where the Municipal Energy Agency is located is such an example of a passive building in itself.

One of the most important challenges of providing 100% energy from renewable sources is the need for storage to cover the demand at peak hours and balance the fluctuations of the renewable sources. The Energy Agency expects major progress on this issue in the next future.

© Ayres, 2016

Terrace of the Passive Energy Agency Building

© Reichhardt, 2016

Visit to the Heating/Cooling System of the Passive Energy Agency Building

ENVIRONMENT DEPARTMENT OF THE CITY OF FRANKFURT AM MAIN

Presentation by Dr. Thomas Hartmanshenn, Head of Environmental Precautions Division, Environment Department

Frankfurt am Main in Figures

The city has a population of 724,000 inhabitants (in early 2016) and 330,000 commuters coming for work each day, what actually makes Frankfurt am Main a city with more than one million inhabitants during the day. The total area of the city of Frankfurt comports 248 sq. km. Despite its high population, Frankfurt is a "Green City" based on the fact that almost half of its total territory is represented by green and open spaces: 44% of the urban area is protected landscape areas, 25% is agricultural land.

Structure of the Department

The Environment Department (in German: Umweltamt) is one of about 60 departments or administrative bodies in the city administration. Overall, there are 10,600 employees in the city of Frankfurt administration.

The Environment Department has five divisions and two administrative units within specific duties:

- Environment Communication
- Noise Protection and Management
- Administration (of finances and human resources of the department)
- Environmental Precautions including:
  - Environmental Planning
  - Public Authority for Nature Protection
- Environmental Monitoring for Water, Air and Soil including:
  - Landfill Aftercare
  - Public Authority for Water and Soil Protection
  - Emission Protection
  - Contaminated Sites
- Environmental Monitoring for Waste Water
- Waste Management including:
  - Waste Disposal
  - Street Cleaning

"Everything the Environment Department does has a legal framework. In this sense, it is an implementer of the applicable national and local laws.

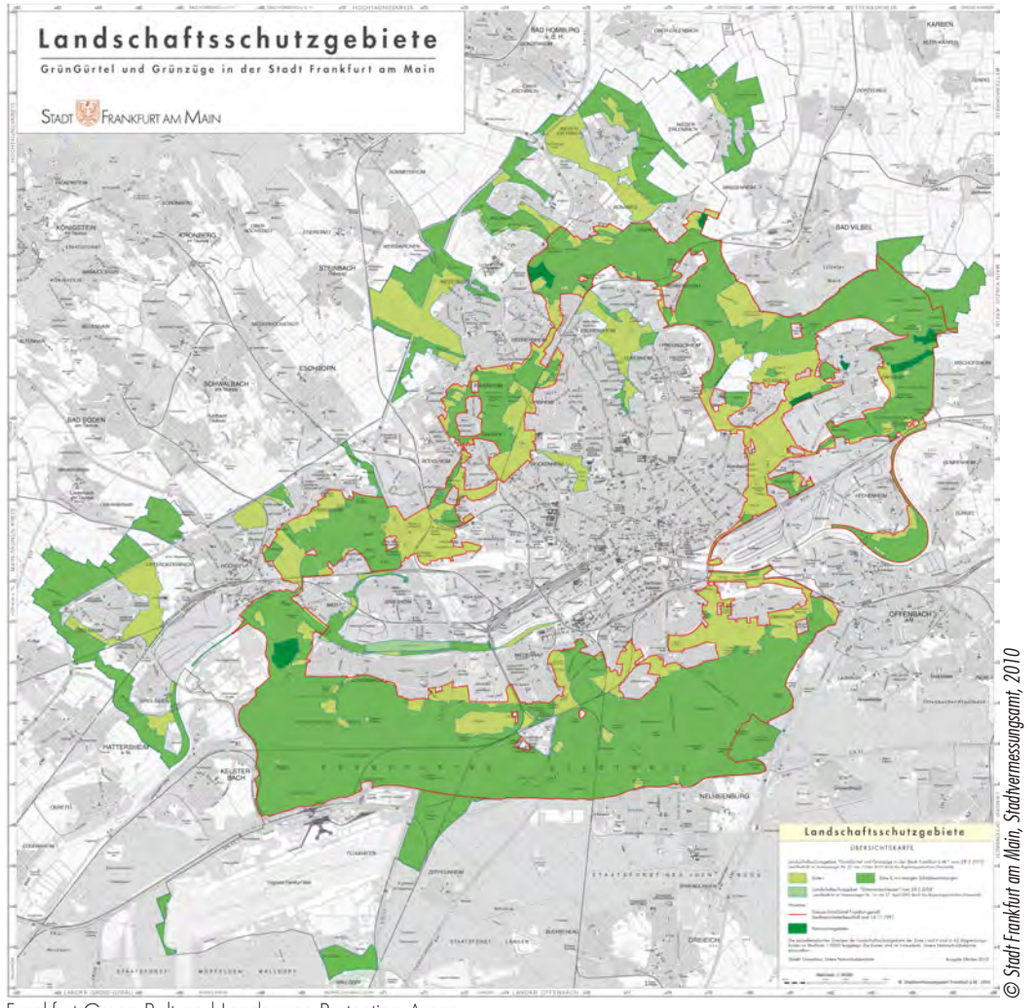
Together with the municipal partners, the department has already developed many inter-departmental structures."

Role and Tasks of the Department

The main roles of the department are: the implementation of national and federal laws as well as the district and municipal instructions and policies; policy consultation and information; consultation and cooperation with the municipal partners such as the coordination and working groups of climate change, traffic, the Green Belt, sustainable agriculture, environmental education, GIS as well as the Integrated City Development Concept – Frankfurt 2030.

In this way, the department issues the official statements and regulations needed for planning and construction processes, for the implementation of the adaptation concept to climate change, for landscape protection and development, for the conceptual development and implementation of environmental education, for open space development as well as for the development and implementation of the protection concept to preserve the species and biotypes in urban areas.

Thereby, the Environment Department manages a variety of environment-related programs and projects in the context of urban development, amongst which only a few can be presented briefly in the following points.



© Stadt Frankfurt am Main, Stadtvermessungsamt, 2010

Frankfurt Green Belt and Landscape Protection Areas

The Frankfurt Green Belt

The Frankfurt Green Belt is an area of about 80 sq. km around the city, which has been protected and developed since 1991, according to a formal decision of the City Assembly. It is part of even larger landscape protection areas of about 108 sq. km. since 1994.

Since 1998, the Green Belt is the heart of the then created "Rhine Main Regional Park", connecting and connected with an even wider network of green and open spaces within the Rhine Main Metropolitan Region.

Some typical parts and landscapes within the Green Belt include: the small river Nidda as its central recreational area; the Nidda Valley for nature protection and as a transport line for fresh air; the surrounding hillsides as a centre of open apple tree areas and fresh air production, too; the city forest ("Stadtwald") which is Frankfurt's "green lung"; areas of allotment gardens and communal gardening; leisure and recreation along the river Main; more than 60 km of cycle tracks, and others more.

The main value, output and capacity of the remarkable Frankfurt Green Belt project relates

not only to biotic (species and biotypes) and abiotic (climate, soil, water, air) values, but also to recreation and health potentials, to the generation of economic income (agriculture, forestry, catering industries) as well as to the very important role of environmental education. Hereby a central aspect is the involvement and interest of the people in the Green Belt.

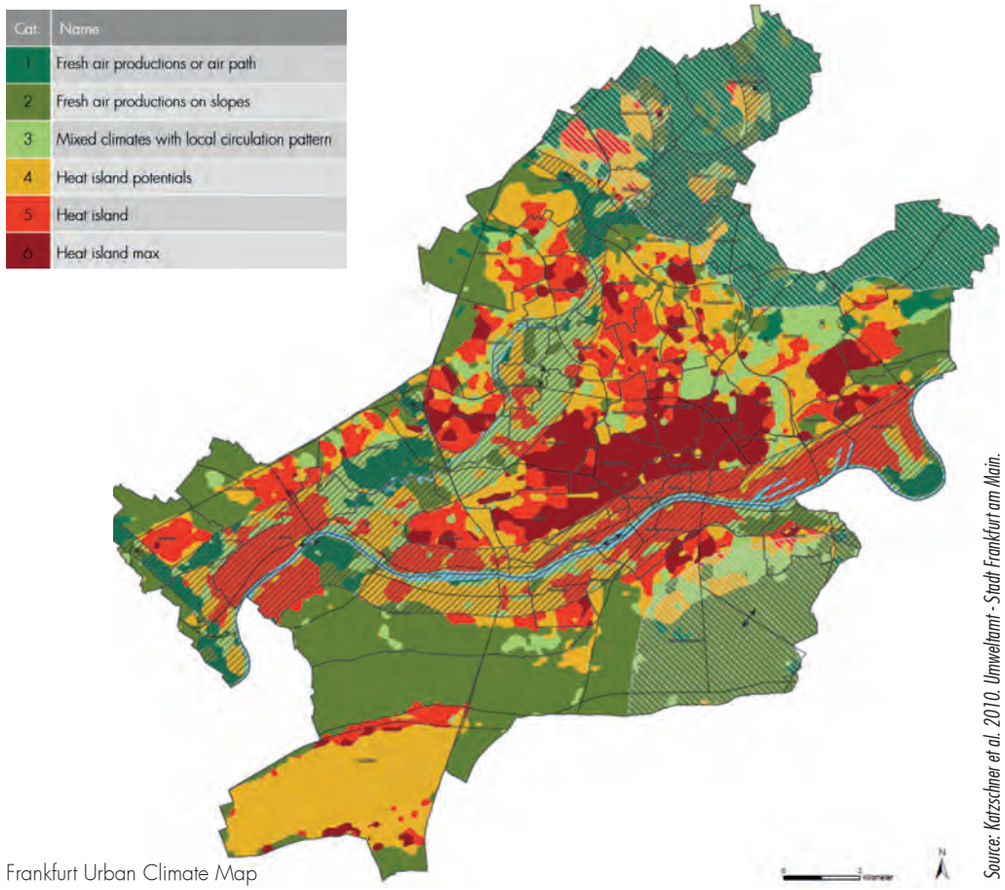
"In a growing city such as Frankfurt, which constantly needs new constructions not only for living spaces but also for traffic lines and leisure-time activities, open spaces are in a permanent conflict with urban development and densification.

This conflict comes with the risk of losing qualities of open spaces. It´s up to the decision makers to define the responding course of actions."

Urban Climate and Adaptation to Climate Change

As part of the strategy of adaptation to climate change with in total six main areas of intervention – health, planning, construction, landscape development, mobility and traffic, water – the Environment Department, in cooperation with the German Meteorological Service Provider (DWD) and the inter-departmental Coordination Group of Climate Change (including further departments responsible for energy, mobility, health, parks, planning, building and fire), is responsible for generating and updating the "Urban Climate Map" (in German: Klimaplanatlas, 2016).

The "Urban Climate Map" integrates urban climatic factors and town planning considerations (e.g. by mapping existing heat islands, potential heat islands, fresh air production areas, fresh air corridors). It provides an information platform to planners for making more informed environmental planning decisions.



Frankfurt Urban Climate Map

Source: Katzschner et al. 2010. Umweltamt - Stadt Frankfurt am Main.

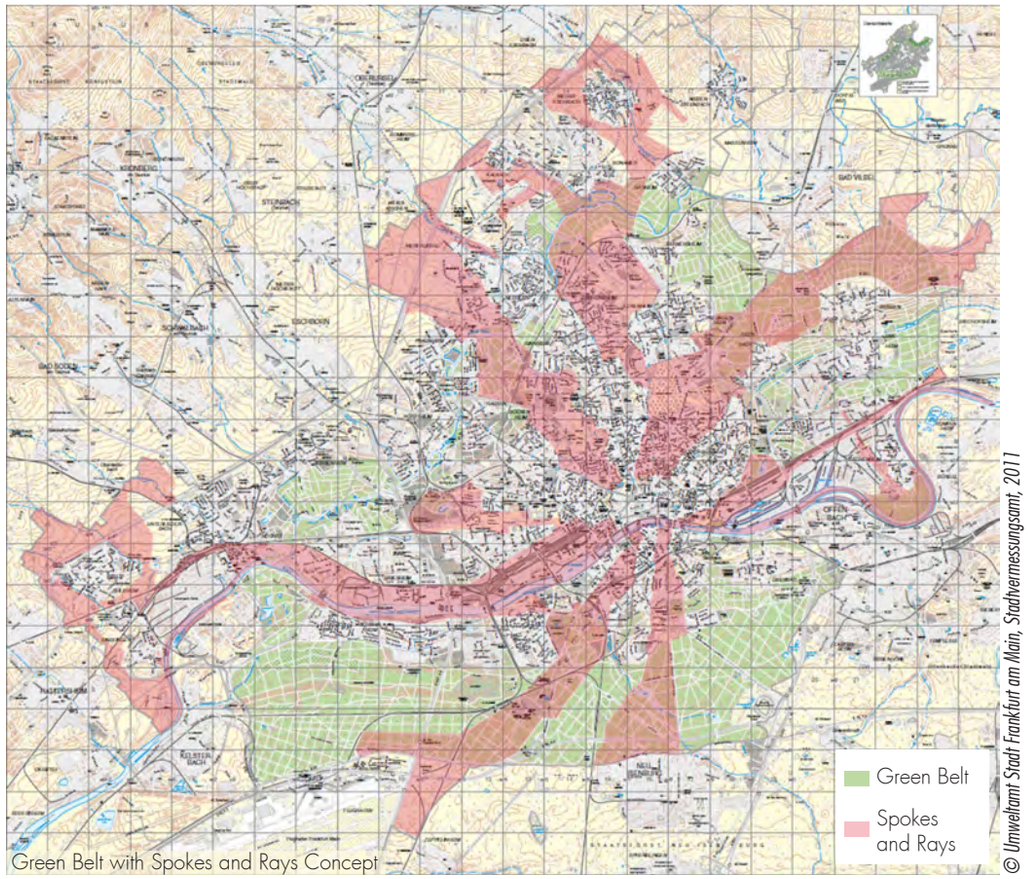
The adaptation of the city to climate change also includes the development of integrated open space and environmental planning concepts, such as the recently conceived "Spokes and Rays Concept" (in German: Speichen und Strahlen-Konzept), linking the inner city to the surrounding Green Belt by fresh air corridors, green connections, alternative mobility (especially cycling) and more social space development.

Preventive Ground Water Protection

Due to settlements and traffic related constructions with negative impacts on ground water, industrial contamination, agriculture related pollution and sewerage, the Environment Department highlights a very relevant challenge in the relationship as well as the potential conflicts between economic development and water protection. Therefore, based on national rules and legislation, the department applies the following measures for preventive ground water protection: groundwater monitoring of chemical composition, water table, and flow direction; preservation of soil functions; and definition of water protection zones around the water wells.

Fechenheimer Mainbogen Project

Based on a European Union framework directive for better ecological conditions for rivers, the Fechenheimer Mainbogen Project represents an example of such measures aiming at anti-flood water retention (in this case of the River Main) as an adaptation to climate change, a re-creation of extensive water-related biotopes as well as the development of areas for recreation. This



Green Belt with Spokes and Rays Concept

© Umweltamt Stadt Frankfurt am Main, Stadtvermessungsamt, 2011

long running project will be implemented continuously, step by step, during the next decades, being started in 2012 and having a conceived midterm in 2025.

Discussion Points with the Environment Department

The Environment Department and all other departments of the city administration in Frankfurt are not policy-makers by themselves. Besides their role as implementers of national and local laws and instructions, they act as advisors, providing information, monitoring and analysis to the politically responsible stakeholders. Reciprocal communication channels between the city council and the city departments are essential for the formulation of effective city policies and the efficient and effective implementation of urban development or environmental protection projects.

The municipal departments of Frankfurt am Main organize their responsibilities, roles and tasks in accordance with work plans and time schedules, agreed on for 3 to 4 years on a department related municipal level.

"The municipal departments give counsel to the policy makers to ensure the consistency of development throughout the changing politics of the successive administrations. This is also important to ensure that they make informed decisions and lead urban policies in accordance with the vision of the city."

The departments are free to define their inter-departmental and inter-institutional co-operations as these seem the most suitable. There is an established practice of inter-departmental cooperation, based on transparency, common discussions and involvement, as well as concluding compromises.

Trans-sectoral planning relies on a culture of information sharing and partnerships. Decisions on urbanization on greenfields, brownfields or even protected land are inter-departmental processes.

© Umweltamt, Kartengrundlage Stadtvermessungsamt Frankfurt am Main, 2017

Fechenheimer Mainbogen Project

One of the environmental challenges of the city of Frankfurt is finding a balance between urban growth, densification and the provision of open spaces. Inside the city, the areas along the riverbank provide recreation spaces. The provision of public green and open spaces is a requirement for the redevelopment or further densification of inner city areas – including in the past e.g projects such as the new European Central Bank, the Western Harbour and the Deutschherrnufer redevelopments.

The Preparatory Regional Land Use Plan regulates the general urban development in Frankfurt and the surrounding region for the next 10 to 15 years. This includes urban and rural areas and also the allowed uses in open spaces. As property owners are aware of the allowed uses of their land, participation of the people in the protection of the Green Belt is easier because of the regulations. However, the major problem in the Green Belt is the construction of illegal weekend houses. It is the Environment Department's task to control of such constructions in the Green Belt.

Education is crucial for a more sustainable future. Therefore, the participation of the population is important, which also is an instrument for monitoring and control, as people are interested in having recreational and green spaces for leisure activities. An example of such participation is the complaints the Environment Department regularly gets from citizens about waste, illegal tree cutting, car/motorbike disturbances, construction of swimming pools, and others.

"The Planning Department is in charge of urban development plans. However, for making decisions regarding the implementation of projects, the Planning Department needs to consider several aspects such as environmental protection, water regeneration and urban climate requirements. The department, therefore, needs to reach an agreement with the relevant departments."

© Ayres, 2016

View of Frankfurt's Television Tower from the Green Belt

Frankfurt East Station with View of ECB Tower
© Reichhardt, 2016

OPEN SPACE DEVELOPMENTS IN THE OSTEND DISTRICT AND THE EUROPEAN CENTRAL BANK

Guided by Dr. Thomas Hartmanshenn,
Environment Department

Since 1987, the Ostend District, a former industrial and workers' neighborhood to the east of the city center, has been subject to comprehensive urban renewal efforts, in order to react to shortcomings in the building structures, in the urban design as well as environmental degradation. The measures included modernization of the existing housing stock and construction of new housing on empty properties, strengthening of residential, working, recreational and cultural facilities, improvement of public spaces within the district and along the river Main, and, lastly, providing a space for the construction of the new headquarters of the European Central Bank (ECB) in the area.

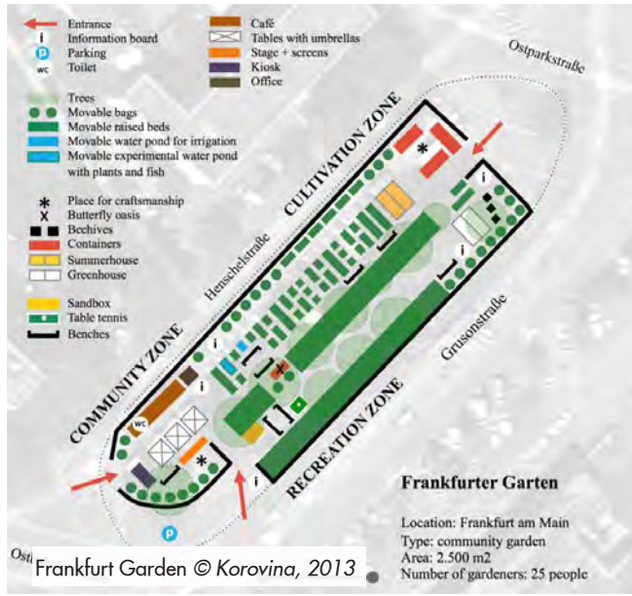
Frankfurt Garden

The project of Frankfurt Garden (in German: Frankfurter Garten) is the most relevant example of urban community gardening in the city of Frankfurt. This project of urban agriculture was launched in 2013. It covers a total area of 2,500 m^2, on a traffic island between several large main streets. The land belongs to the city, with a temporary contract for a free land rental that is renewed periodically, at the moment until the end of 2017.

The territory of Frankfurt Garden has three main zones: the cultivation zone, which is characterised by lines of movable raised beds in which gardeners cultivate various edible, medicinal, and ornamental plants, a greenhouse for growing seedlings and an open summer house with plants and books for recreation and reading; the recreation zone with sandboxes for children, benches and possibilities of playing table tennis, boules, and cooking barbecue, an area also used for markets, festivals, and private events; the community zone with a summer café in the form of a container with a usable rooftop and a kiosk for selling products. Every Wednesday from 12 pm until 20 pm, there is an open market for people who want to buy fresh products directly from the producers.

Frankfurt Garden *© Peterek, 2015*

Frankfurt Garden *© Peterek, 2017*



Frankfurt Garden *© Korovina, 2013*


Frankfurt Garden *© Peterek, 2015*


Harbor Park © *Sterr, 2016*


Harbor Park © *Peterek, 2015*


European Central Bank © *Peterek, 2015*


Harbor Park © *Sterr, 2016*

Harbor Park

The Harbor Park is a recently developed large open space located near the river and next to the European Central Bank. Located at the crossroads of the Frankfurt Green Belt and the river Main, the Harbor Park has a size of about four hectares and an important recreational function not only for the nearby densely populated Ostend District but also for the city as a whole. Its leisure and open space facilities include a skating and BMX complex, two basketball fields, two multifunctional playing fields, extended green lawns, and a wide promenade along the riverfront. The whole area with attractive views of the Frankfurt skyline and the European Central Bank is well accessible by public transport, such as underground, buses and tram.

European Central Bank

The decision of the European Central Bank to relocate its headquarters to the area of the Ostend District and specifically the site of the former wholesale market further stimulated the urban development in this part of the city. With the construction of the new high-rise tower of the bank in this place, also the listed building of Frankfurt's former wholesale market and landmark of the modern architecture of the 1920ties, was given a new function and use. The final project was the result of an international architectural competition, which was won by the architects Coop Himmelb(l)au from Vienna in 2004, and opened in 2015.


Harbor Park © *Ayres, 2016*


European Central Bank © *Sterr, 2016*

European Central Bank © *Peterek, 2015*


Extension of the Riverside Main Park © *Peterek, 2005*


The Agricultural Site of Oberrad © *Sterr, 2016*


Extension of the Riverside Main Park © *Peterek, 2015*

Extension of the Riverside Park

One important urban planning requirement linked to the location of the ECB close to the river Main was, in parallel, the extension of the public Riverside Park (in German: Mainuferpark) in-between the bank and the river, with a width of a least 50 metres and the listed industrial cranes and a café at the top of the embankment as part of the makeover.

The Agricultural Site of Oberrad

On the other side of the river Main, opposite to the Ostend District and the related Eastern Harbour, is located the urban district of Oberrad. On this neighborhood, there is an urban agriculture site occupying half of the total area of the district. The site is occupied until today by twelve agricultural farms, which cultivate the seven herbs used to make the famous Frankfurt "Green Sauce" and other vegetables. The nearby Green Sauce Monument represents the centuries-old tradition of cultivation of these herbs. As these fields are located within the urban area, the farmers are concerned by the contamination of the site by dogs' stool, which is the reasons for signs to remind citizens that the agricultural site is not a place to walk dogs. Furthermore, vandalism on the greenhouses is also at times a problem.

The Agricultural Site of Oberrad © *Reichhardt, 2016*


Extension of the Riverside Main Park © *Peterek, 2015*


The Agricultural Site of Oberrad © *Reichhardt, 2016*

Preservation Area at Bonames © *Reichhardt, 2016*

TOUR OF THE RECREATIONAL SITE OF THE FORMER HELICOPTER AIRPORT FRANKFURT-BONAMES

Guided by Dr. Thomas Hartmanshenn,
Environment Department

The former Helicopter Base Frankfurt-Bonames (in German: Alter Flugplatz) of the U.S. Army had not been used since the year 1992. In 2002, the Frankfurt Green Belt project and the Studio for Landscape Architecture GTL Landscape Architects started to redevelop the abandoned site into a park for recreation and environmental education purposes. The area became part of the network of green infrastructure and the Green Belt of the city, offering spaces for a diversity of leisure and recreational activities, but also including some landmarks and art sculptures commissioned by the city.

The intervention preserved intact one-third of the 4.5 hectares of asphalted runway, which offer a perfect setting for bicycle riding, roller skating and skateboarding. The tower was converted into a public café. The remaining two-thirds of the runway were gradually dismantled in a sequential operation, intensifying with distance from the buildings. The hard surface was divided into zones and broken up into irregular pieces of a specific size in each zone. Not removed, but left on the ground, these pieces of concrete and asphalt form an uneven surface that plants and animals are progressively re-colonising, allowing nature to reclaim the site again. Other parts of the nearby area have been protected as nature conservation zones.

All these approaches are linked to a variety of educational programs that are hosted in the "green classroom" and funded by the municipal Environment Department for the benefit of schools and students.

Former Runway at Bonames © *Reichhardt, 2016*

Bonames © *Peterek, 2016*

Bonames © *Reichhardt, 2016*

Recreational Area at Bonames © *Peterek, 2016*

CITY PLANNING DEPARTMENT OF FRANKFURT AM MAIN

Presentation by Prof. Peter Kreisl, Head of Overall City Issues Division

In order to understand the role of the City Planning Department of Frankfurt am Main, it is important to shed the light on the administrative structure of the institution, to present the major issues, activities, tools and procedures of city planning and urban development in the city as well as to show an example of the steps and measures taken to turn development plans and visions into reality in the city.

The Administrative Structure of the Department

The City Planning Department is part of the larger Directorate IV for Planning and Housing of the City of Frankfurt (in German: Dezernat IV: Planung und Wohnen), which includes also the Department for Land Survey and Land Management, the Housing Department, the Department for Building Control, and the Department for Monument Preservation.

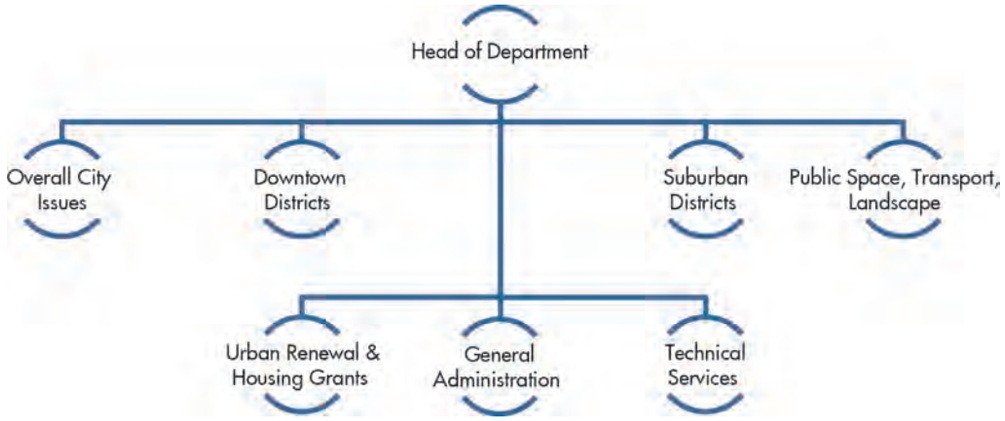
The City Planning Department (in German: Stadtplanungsamt), which is directly concerned with all the urban development issues in the city, is structured in seven divisions: these include the Overall City Planning Issues, Downtown Districts, Suburban Districts, Public Space, Transport & Landscape, Urban Renewal & Housing Grants, General Administration and Technical Services. Overall, about 160 people work in the City Planning Department, 90 of these full-time.

The Key Functions of the Department

In addition to the preparation and issuance of the development plans directing, regulating and monitoring the current as well as the future urban development of the city, the department is also responsible for granting the permits demanded for building new structures or intervening in already-built ones. This includes the permits needed for

© Restrepo Rico, 2016

Presentation at the City Planning Department



Structure of the Urban Planning Department of Frankfurt am Main. Source: Kreisl, 2016

construction products, facilities, equipment, as well as for plots of land.

A Brief Overview of the Planning System in Germany

Having a look at the spatial planning system in Germany from the bottom upwards leads to introduce first the municipal level of spatial planning, where final planning forms and goals are conducted in compliance with the specifications of the upper levels. Regional planning comes next to constitute the vital links between the state perspectives on urban development and the specific local decisions concerning urban land-use planning. The state level then gives a more state-related, concrete form of the federal principles of spatial planning for each state. And on the top, the federal level of spatial planning shapes the general policies for the country as a whole. Here, spatial planning is essentially limited to the development of guiding principles, which also provide the legal basis for state spatial planning and superordinate specifications for sectoral planning.

© Ayres, 2016

Presentation at the City Planning Department

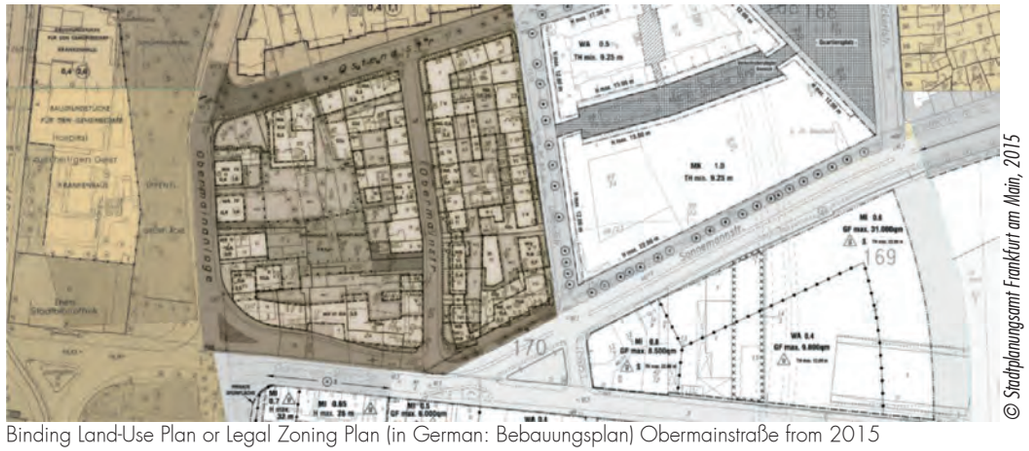
© Regionalverband FrankfurtRheinMain, 2015

Section Showing Frankfurt's Downtown in the 2010 Regional Preparatory Land-Use Plan

On the municipal level of Frankfurt, two types of land-use plans are essential to the procedures of city planning and urban development in the city: the preparatory land-use plan, which in this case is prepared at the regional level by the Regional Authority (in German: Regionalverband FrankfurtRheinMain) in cooperation with the involved municipalities, and the legally binding land-use plans, which are prepared at the municipal level by the City Planning Department.

The preparatory land-use plan controls the type of use to which all land in the entire municipal (or regional) area will be put. It provides, therefore, a strategic base for decision making on land uses and on the allocation of resources. It specifies the technical and social infrastructure, green and open spaces, land-use restrictions, natural and man-made disaster prevention and nature and climate protection. The scale of such a plan is usually 1:10,000/1:25,000. However, when the plan is prepared at the regional level, as in the case of Frankfurt, the scale is 1:50,000.

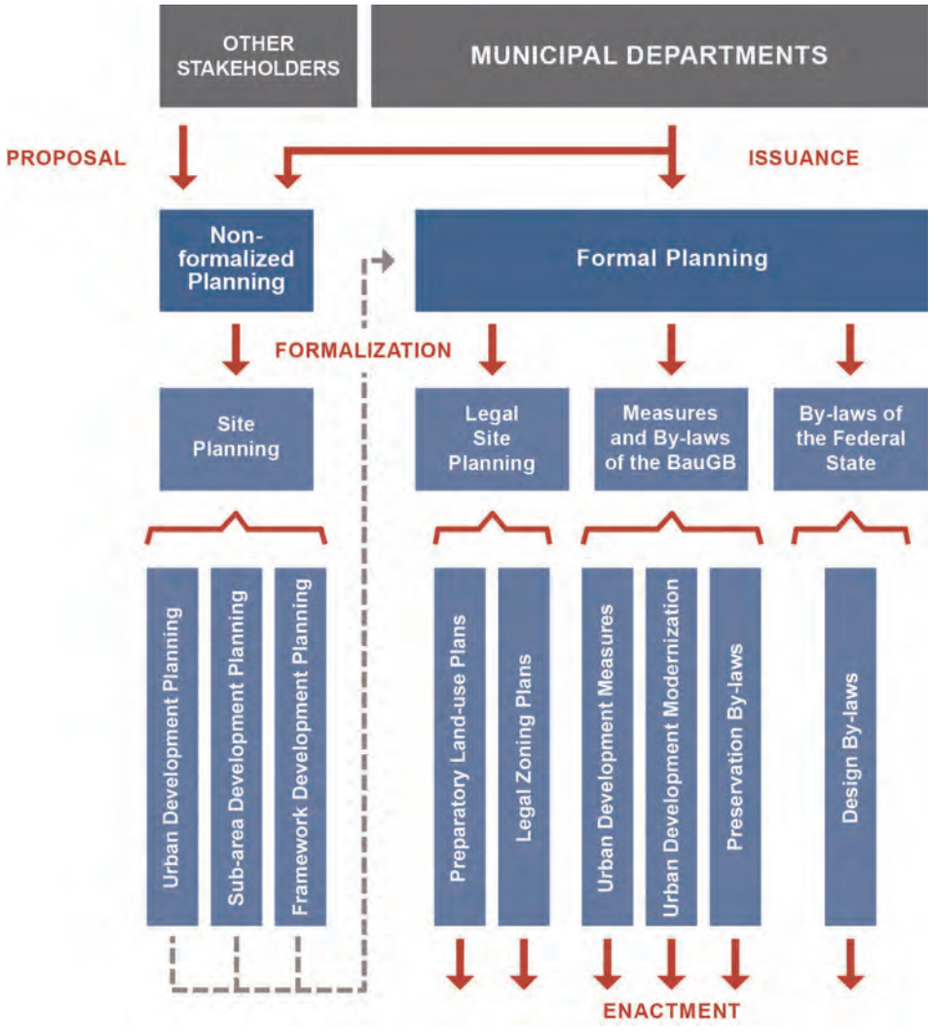
The binding land-use plans, on a scale of 1:500 / 1:1,000, are detailed plans that create legally binding rights and specifications steering and controlling urban development structures and the use of land for building as well as other purposes. Binding land-use plans specify the types of land uses, intensity of uses, lot coverage, public & private green, positioning of physical structures, land for transportation needs and land for social infrastructure. They are usually accompanied with an environmental impact study and statement. Binding land-use plans, however, do not cover the whole city, and the municipality is not obliged to compile such plans for the entire city. Issuing a binding land-use plan needs legally based reasons. The process then has to go through major steps including a political resolution by the City Council to secure planning approval, timely involvement of the public and related authorities, publication of the documents for the public inspection and further involvement of the related authorities, finally another political resolution of the planning statute and enactment of the resulted plan.



© Stadtplanungsamt Frankfurt am Main, 2015

Binding Land-Use Plan or Legal Zoning Plan (in German: Bebauungsplan) Obermainstraße from 2015

City planning and urban development in Frankfurt have to be aligned with the general guidelines and principles set at the upper levels of spatial planning. Here, the regional development plan and the state development plan are relevant. The regional development plan, usually on a scale of 1:100,000, indicates the central places (regional centers), settlement areas/urban land, industrial zones, regional infrastructure (e.g. transportation), greenery, water, forest and nature and climate protection. The state development plan, usually on a scale of 1:200,000, sets the general guidelines of development as it organizes the spatial categories (e.g. rural area, urban agglomeration), center place systems, axes,



© FRAUAS Rapid Planning Team, 2017

A Review of the Spatial Planning System at the Municipal Level in Germany

main spatial functions, guideline values, regulatory areas, structurally weak areas and major infrastructure.

In order to assist and complement the function of legal site planning (the preparatory and binding land-use plans) as well as to facilitate and control their implementation, the planning authority has a set of legal measures or by-laws that could be enacted in certain cases and upon the approval of the City Council. These measures are either regulated by the Federal Building Code (in German: Baugesetzbuch) such as the Urban Development Measures (in German: Städtebauliche Entwicklungsmaßnahme), Urban Development Modernisation Measures (in German: Städtebauliche Sanierungsmaßnahmen) and the Preservation By-laws (in German: Erhaltungssatzungen) or by the state such as the Design By-laws (in German: Gestaltungsatzungen).

In addition to all forms of formal planning articulated so far, the German planning system keeps the door open for non-formalized planning procedures to play a part in planning the city if needed. These are all planning procedures that are not regulated by the planning law. The law, however, can articulate their formalization process once they are approved. Non-formalized plans could be initiated by municipal institutions, private developers or by interested stakeholders. They are seen as means to deal with a wide and shifting spectrum of urban themes since they have the advantage of being more flexible and problem-focused. They can address multiple challenges in the urban planning's tasks brought by the changing dynamics of progressing urban societies. Often non-formalized plans are used to give concrete forms to land-use plans or to prepare planning alternatives.

Major Challenges of Planning and Urban Development in Frankfurt

Since 2012, the city's population has been increasing rapidly, approximately with about +15,000 inhabitants per year, a development, which is due to an increase of the job offers and a related growing attractiveness of the city. In response, the City Planning Department has to address the resulting tensions and urban challenges facing the urban development in Frankfurt, especially with regard to maintaining the quality of life as well as preserving the green profile of the city. Here, some of the key topics and challenges to be considered include: strengthening the attractiveness of the city and the competitiveness of the overall region; dealing with the gap between a growing population and decreasing housing offers; caring for social cohesion in view of an increasing cost of living and structural changes in the social and economic systems; caring for a sufficient future infrastructure provision in a growing city; caring for an adequate and environmental friendly

GROWTH

VS

GREEN

© Peterek, 2010/ 2005

© Stadt Frankfurt am Main, 2016

Phases of the Integrated Urban Development Concept Frankfurt 2030

mobility, both at the municipal and the regional level; dealing with the challenges of climate change and securing environmental quality.

From a Multitude of Initiatives to a Common Vision towards the Future: Frankfurt 2030

To handle the addressed challenges, many sectoral policies initiated by municipal institutions have taken place in recent times, such as the Master Plan for Industrial Development, the development of new priority housing areas, the Spokes and Rays Concept as an extension of the Green Belt, the Mobility Strategy, the Master Plan 100% Climate Protection, and the Schools Development Plan.

These policies, in addition to Frankfurt's wide involvement in environmental development, provided a platform for cooperation and communication between the different municipal actors, related stakeholders and the people. The necessity, therefore, to formulate a wider common vision towards a future that integrates all efforts and assures the coherence, consistency and complete accordance with the spatial references became apparent. The City Council has accordingly instructed the City Magistrate to prepare an Integrated City Development Concept to envisage an urban vision for the city in 2030: Frankfurt 2030, as an integrated urban development vision, is foreseen to focus on increasing synergies and reducing conflicts between urban development drivers in order to improve the city's location as an attractive place for living, working and leisure. Urban spaces, in that sense, are to be co-produced by a strong partnership between policies and municipal authorities, private-market actors and citizens and civic organizations in the city.

In its preparation, four phases have been suggested to reach out for the final concept for Frankfurt 2030. The first two are analytical phases as they first address the current urban state of the city and then integrate, analyze and evaluate the situation. As a result of these two phases, status-quo plans have been developed to address the city's points of strengths and weaknesses regarding (1) settlements structures and land reserves, (2) free-time, culture and sports, (3) landscape and open spaces, (4) environment, city climate and health, (5) energy and climate protection and (6) mobility and transportation. The second two phases are

© HA Stadtentwicklungsgesellschaft mbH, 2003

Riedberg Development Overview

planned to be more conceptual as they will draw possible development scenarios and formulate the final vision, strategy and agenda for 2030. To enhance participation, the city has planned a series of public events under the program "Frankfurt Your City" (in German: Frankfurt Deine Stadt) that include expert and public presentation and discussion sessions in addition to a wide variety of communication channels such as exhibitions, brain-storming rounds, newspapers and magazines and campaigns.

Riedberg: Example of an Urban Development Measure

The recent development process of the newly constructed district of Riedberg offers an example of the steps and measures taken to turn development plans and visions into reality in the city. The binding land-use plan guiding the development was developed by the City Planning Department. Public participation was an integral step in the development as it is, in all cases, a necessary step prior to the validation of plans. The significant public demand for a large volume of housing provided the municipal authorities in Frankfurt with the legal basis needed to implement an Urban Development Measure (in German: Städtebauliche Entwicklungsmaßnahme), which is a special statute/by-law regulated by the Federal Building Code and applicable for such cases of an extraordinarily high housing demand.

Such a development measure allows the acquisition of the land, which is needed for


© Stadtplanungsamt Frankfurt am Main, 2015

Binding Land-Use Plan or Legal Zoning Plan (in German: Bebauungsplan) Riedberg from 2015


© Peterek, 2012

Riedberg Development Green Spaces

development, by the municipality and makes it available for residential buildings, workplaces, and communal facilities. The development measure also allows the financing of municipal development costs through the utilization of the increased value of land due to the development, a financing mechanism that is explained in more detail below.

Discussion Points with the City Planning Department

Planning Authority at the Local Level

One could argue that planning authority at a local (municipal) level is a key to better direct, regulate and monitor the actual state of urban development in any given urban setting. It seems important to keep the process of decision making as close to the development challenges on the ground as possible. In this sense, Frankfurt, similar to all cities in Germany, has good chances to face its own development challenges thanks to a long history of decentralized planning procedures and largely autonomous local planning competencies, which is even guaranteed by the German Constitution. This feature of the spatial planning system in Germany allows solving the issues of urban development at the lowest administrative level possible, which secures in return more responsiveness and adaptability of the urban development and planning measures taken.

Financing the City's Operations

Cities in Germany have the authority to manage their own municipal revenues and resources. Frankfurt, in this case, finances itself from different sources, such as the municipal share of income taxes, commercial taxes from all the businesses located in the city, in addition to a range of fees charged to the residents.

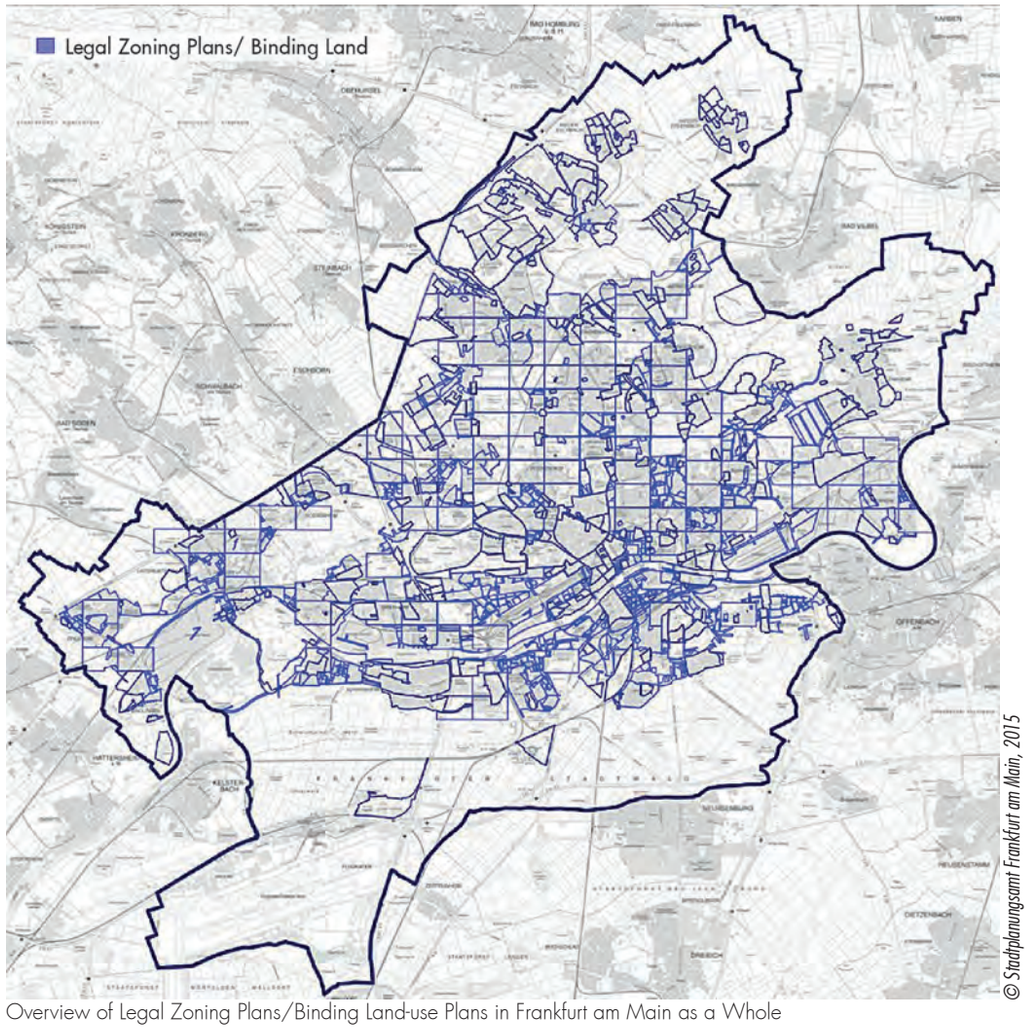
As an interesting way of financing urban development, it can be added that in particular cases the Federal Building Code regulating spatial planning in Germany allows a utilization of the increased value of properties after development as a possible source to finance specific demands of urban development. In such cases, as the mentioned example of Riedberg, where there was a definite need for development due to the pressing housing demands, the city can deploy an Urban Development Measure, regulated by the Federal Building Code, for the area in need for a limited period of time. If the City Council approves the suggested measure, it allows the city to utilize the increased value of the properties to finance the intended

development in the area, specifically covering the necessary costs for the construction of public facilities, infrastructure and open spaces. If there is excess money left after the development is accomplished, the regulatory laws oblige the city to distribute it among the property owners of the development area.

Additionally, the city can further attempt to reduce the public spending by allocating the responsibilities for the provision of some public facilities onto the developers. The planning regulations allow for such terms to be considered specifically in the binding land-use plan that usually guides the development.

Providing Adequate City Planning

As mentioned, the spatial planning system in Germany adopts a strong tendency towards localized municipal planning operations. It leaves, however, the higher administrative levels of the state and the nation with the right to provide the general guidelines, planning principles and regulating laws as well as common development tendencies. In comparison with other countries where city planning is performed by central governments, it could be said that the higher administrative levels in Germany provide much less binding details to guide urban development at the local level.



© Stadtplanungsamt Frankfurt am Main, 2015

Overview of Legal Zoning Plans/Binding Land-use Plans in Frankfurt am Main as a Whole

The land-use plans dictating and detailing urban development on the ground are provided locally on the municipal level. The City Planning Department in Frankfurt is not obliged to produce a detailed master plan that covers the whole city in the traditional sense of master and physical planning. Rather, the department provides a set of relatively small-scale, but detailed binding land-use plans to cover certain areas of the city where necessary. Such plans demand detailed and localized technical as well as environmental specifications, which otherwise would be not necessary and time-consuming especially on a city-wide scale. A binding land-use plan can be demanded either by a municipal institution, development policy, public interest or by a private initiative. In all cases, it is the competence of the City Council to decide whether the plan should be developed or not. Once a binding land-use plan is enacted, it becomes a legally binding document for the public as well as private stakeholders, owners and developers.

Nevertheless, the guidelines and goals of planning and urban development of the city as a whole are represented and regulated by the preparatory land-use plan, which is developed by the Regional Authority in the case of Frankfurt and its neighboring region. Here, the City Planning Department cooperates and produces information for the preparation of the plan and the political decision-making, and acts as a coordination body for the inter-departmental and inter-municipal collaboration.

Keeping in mind the possibility to initiate a non-formalized planning procedure to handle a certain challenge or a definite area, in addition to the mentioned instruments of legal land-use planning, the municipal authority in Frankfurt seems to be enabled to provide adequate urban planning. Even if all municipal plans should be aligned with the general development goals addressed at the higher planning levels, local authorities have the autonomy to develop their own plans and provide feedback to the higher levels. This mechanism of the top-down provision of general development guidelines, local interpretation as well as preparation of the development plans and bottom-up provision of feedback could be described as counter-streaming. Frankfurt, in this sense, can be seen as an example of how bottom-up and top-down approaches can find a common ground.

"The counter-stream principle makes the planning system in Frankfurt dynamic and adaptable to the specific needs of the time given.

It is a living system that allows plans to be modified by the influence of both: the public authorities and the market."

Public Participation

Public participation is granted through the legal procedures of urban planning itself and the Federal Building Code. The city regularly invites its residents to open discussions regarding the proposed development plans. Although public participation schemes in Frankfurt seem to be time-consuming and thus may decelerate the planning process, they are a key to provide development plans that better suit the emerging demands of the city. Public participation, especially at the early stages of a development, also helps to build a better reception as well as acceptance by the people. In comparison to other cases of rapid urbanization, Frankfurt could possibly afford to invest more time in public participation due to the comparatively lower speed of its population growth.

Riedberg District © *Peterek, 2011*

TOUR OF THE RIEDBERG URBAN EXTENSION DISTRICT

Guided by Mr. Ingo Weiskopf,
City Planning Department

In order to meet the increasing housing demand of its population, in the early nineteen-nineties, the city council decided for a large new urban extension in the northwest of Frankfurt, comprising a total area of 267 hectares and making it one of the largest urban development projects in Germany at that time. The Riedberg district is about 8 kilometers distant from the city center, connected by an efficient public transport in form of an urban light rail train and additional buses.

Based on the concept not to create just a mono-functional housing neighbourhood, but a mixed-use urban district for multifunctional purposes, the area is made up of 89 hectares net of building land, 94 hectares of parks, stretches of greenery and integrated landscaping, 17 hectares of building land for social welfare and sports facilities, 45 hectares set aside for transport infrastructure and public space, and 22 hectares committed to the Goethe University, which has a strong presence with its Natural Sciences Faculty, a range of related research institutes and approximately 8,000 to 10,000 students and 3,000 employees. On final completion, expected for the year 2018, the Riedberg district will offer housing in approximately 6,500 dwelling units for about 15,000 people, a diversity of commercial facilities, schools, kindergartens and other public amenities, parks, sport areas, transport infrastructure and public spaces in order to provide a high quality of urban life as well as social diversity and integration.

Riedberg District Green Spaces © *Peterek, 2012*

Besides the range of different housing options from individual houses, terraced houses, multi-storey flats and apartments for rent as well as owner occupation, cooperative and communal housing, also leading to a diversity of typologies and architectural forms, the district is characterized by some other specific planning features:

- A mandatory district heating for all buildings in the area to provide heat and hot water from a nearby cogeneration plant which burns waste to energy. Nevertheless, if the building is constructed in passive building standard, not requiring any heating at all, it is exempted from the district heating regulation.

- A remarkable amount of green areas, parkland and recreational landscape zones, covering in total more than one-third of the total development area, is provided due to the fact that the Riedberg District plays an important role as a ventilation channel for the city climate, with regard to the cooling winds from the nearby Taunus mountains. The climatic functions of the district needed to be preserved even after development.

Riedberg © *Peterek, 2009*

Riedberg District Commercial Center © *Peterek, 2011*

- All storm water is collected separately from the households' wastewater and conducted not into a central sewage system, but to the green areas and parkland, where it seeps away into the ground or is collected in specific overflow reservoirs in case of heavy rainfall.

REGIONAL AUTHORITY - REGIONALVERBAND FRANKFURTRHEINMAIN

Presentation by Mr. Thomas Horn, Deputy Director of the Regional Authority, Dr. Gabriela Bloem, Area Manager, and Ms. Pinar Bilgic

The FrankfurtRheinMain Region

The region covered by the Regional Authority (in German: Regionalverband FrankfurtRheinMain) has 2.3 million inhabitants in an area of 2,500 sq. km located in the southern part of the State of Hesse in Germany. 28% of the region's surface is built-up with urbanization, industry and transport areas. In the region, in 2012 there were over one million employed persons from which 83% worked in the service sector, giving the region a GDP per capita of € 49,500[1].

This region forms the central part of the larger FrankfurtRheinMain Metropolitan Region, which is one among eleven recognized metropolitan regions in Germany. This wider Metropolitan Region congregates 468 municipalities throughout three federal states, i.e. Hesse, Bavaria, and Rhineland Palatinate, it accommodates 5.5 million inhabitants in an area of 14,800 sq. km, from which 2.1 million are part of the work force, earning an average GDP of € 37,200 per capita in 2010.

The Regional Authority

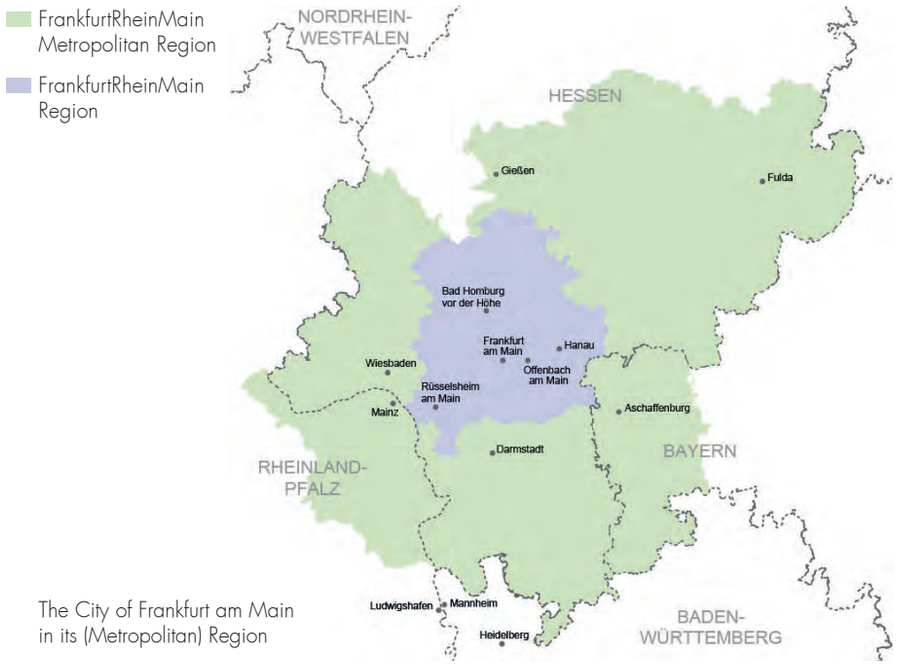
The Regional Authority is an association of 75 municipalities and towns in the Rhine-Main region, including the major centers of Frankfurt am Main, Offenbach am Main, Hanau, Rüsselsheim and Bad Homburg vor der Höhe. Each member municipality sends one delegate to the Regional Council (Regionalkammer), which is in charge of electing the Regional Board composed of a chairman, one or two full-time deputy directors, and honorary councilors. The Regional Board is in charge of appointing eight representatives from the metropolitan area as guests and advisory members. Representatives of each municipality take part in the decision-making processes of regional development, environmental protection and inter-municipal collaboration for sustainable development.

The Regional Authority serves as the place for expressing and negotiating conflicts among the members and it is in charge of the elaboration and update of the Regional Preparatory Land-Use Plan, which provides the guidelines for development in each municipality and in the overall region. The Regional Authority is a platform for the strategic alignment of other regional institutions and the development of a joint identity for the region. The institution is financed through a levy that member municipalities pay to the association. It has approximately 120 staff employees and approximately a € 15 million total budget.

The Regional Preparatory Land-Use Plan

The Regional Preparatory Land-Use Plan is developed on a 1:50,000 scale. It shows simultaneous information on existing and on planned land issues and uses. It contains the guidelines for commercial, industrial and residential development areas, open and green areas, social and cultural infrastructures, regional energy and transport concepts

[1] In comparison, the average GDP in the state of Hesse was € 37,900 and in Germany € 34,200 in 2012.



The City of Frankfurt am Main in its (Metropolitan) Region

and connections. Its key principles are to foment participation and compact inner-city developments, linked to the major transport lines, rather than suburbanization.

Urban Infrastructure in the FrankfurtRheinMain Region

The provision of services in the FrankfurtRheinMain Region is a collaborative effort of several municipalities, public and private actors. The natural resources to meet the demand of the larger municipalities are provided within and outside the urban perimeters, therefore the existence and functions of the Regional Authority are paramount in order to secure the adequate provision of services to all the inhabitants. The following sections describe some features of the provisions of urban infrastructure within the five sectors of Rapid Planning.

Energy Supply System FrankfurtRheinMain

- Qualities: Increasing contribution of renewable and bio-energy, and high provision security standards.

- Operation and Maintenance: Private companies provide delivery under control of Hesse Ministry of Economics, Energy, Transport and Regional Development.

- Actors Involved: Hesse Ministry of Economics, Energy, Transport and Regional Development, for legislation and supervision; the Regional Authority, for planning and urban regulations; and private companies, for investments and delivery.

- Financing: Free market and support programs for renewable energy implementation at the federal level.

The goal of the energy sector is to provide 100% renewable energy, e.g. wind, water, solar, biogas and geothermal energy, for the region in 2050. The Regional Authority cooperates with municipalities and companies to prepare this change to renewable energies. Potential areas of wind power have been planned since 2010, considering zoning and environmental impact.

Solid Waste Management

- Qualities: Debris, electronic and chemical waste management, citizens awareness and contribution, waste separation, transition to a very local system.

- Operation and Maintenance: Private companies are given authorization and are supervised by the Regional Council.

- Actors Involved: Hesse Ministry of Environment, for legislation; the Regional Council, for authorization and supervision; and public-private companies, for service provision.

- Financing: Citizens pay directly to the service companies. The public-private companies can also apply for subsidies and credits to the Development Bank, Federal Ministry, etc.

Water Supply

- Qualities: Abundance of surface and groundwater with high-quality; content measurement and high quality management.

- Operation and Maintenance: Public-private companies provide services under the control and supervision of the Regional Council for groundwater extraction and delivery.

- Actors Involved: Hesse Ministry of Environment, for legislation; the Regional Council, for regulation and monitoring; and public-private companies, for service provision.

- Financing: Citizens pay directly to the company.

Wastewater Management

- Qualities: Efficient wastewater treatment, where 99% of household water is treated.

- Operation and Maintenance: Each municipality has several wastewater treatment plants operated by public companies. They are controlled and supervised by the Regional Council.

- Actors Involved: Hesse Ministry of Economics, Transport, Energy and Regional Development, for legislation; the Regional Council, for regulation and monitoring; and the public company, for wastewater management and treatment process.

- Financing: Citizens pay directly to the company.

Urban Agriculture

- Qualities: Agricultural and farmland use in Frankfurt is 25%. Community gardens have been on the outskirts of the cities for the last one hundred years.

- Operation and Maintenance: Common concerns such as climate change, environmental protection and preventing pollution are the core of the municipal and regional visions of the FrankfurtRheinMain Region.

- Actors Involved: Hesse Ministry of Environment, for legislation; the municipal departments, for regulation and monitoring; Hesse Department of Agricuture (LLH), for consultancy and workshops.

- Financing: Hesse Department of Agricuture (LLH) provides supports, and the EU has financial support on agricultural activities.

Regional Monitoring

The Regional Authority carries out systematic observation of metropolitan, regional and municipal data such as population growth, employment, traffic, public services, land-use and finance. It collects, analyses and compares the data to other German and EU regions.

Comprehensive information about the 75 municipalities is available online. The Regional Authority has influence on the zoning decisions for planning processes because it is responsible for the Regional Preparatory Land-Use Plan (see above).

Discussion Points with the Regional Authority

The FrankfurtRheinMain Region is a polycentric settlement structure with a hierarchy of centers: higher order centers such as Frankfurt, Offenbach, and Hanau; middle centers, minor centers, and rural areas. Such polycentric structure promotes competitiveness and requires cooperation between the centers. Ten years ago, the population projection for Frankfurt for the year 2020 was 685,000 inhabitants, but already now (in 2016) the city accommodates 724,000 inhabitants. This population growth of Frankfurt, but also of the overall region, has led to very high costs of rent and at the same time forced the evolution of policies in the past years, now refocusing on the production of both affordable housing and environmental protection. Thus, the target of the region is promoting social diversity by regulating the production of housing, where 30 to 40% of the total housing offer should be within affordable ranges, i.e. about 20 to 30% below the average price.

The challenges concerning the Rapid Planning sectors in the FrankfurtRheinMain Region seem to be more in the management strategies than in the technical issues or capacities. Technologies are easy to establish or transfer, but management is depending on the actors and, sometimes, their long-lasting habits and behaviors, which could create hindrances.

In the infrastructure sectors, private companies play a central role in operation and maintenance, but what is important is their public control.

Regional infrastructure systems should be developed "as small as possible and as large as necessary".

© Stern, 2016

Visit at the Regional Authority FrankfurtRheinMain

Regional Park RheinMain © *Ayres, 2016*

THE REGIONAL PARK RHEINMAIN AND THE WEILBACHER GRAVEL PITS

Guided by Ms. Doris Tyson, Regional Park RheinMain and Weilbacher Gravel Pits

The Regional Park RheinMain is a network of natural and green areas, along with a system of green routes, which comport a total length of about 550 kilometers in the Metropolitan Region FrankfurtRheinMain. The regional park was created to safeguard the open spaces, green areas, agricultural land as well as the woodlands between the cities and settlements of the conurbation, to provide recreational facilities for in total 5,5 million inhabitants and to protect the regional fauna, flora and climate. The regional park is a communal project of the towns and municipal authorities in the region, with some financial support by the Federal State of Hesse as well as the Regional Authority. It is also an important contribution to a common regional identity. Until today, it includes and connects more than 200 single projects of landscape safeguarding, viewpoints, landmarks and lookout towers, historical sites, places of social and educational purposes, partnering with regional agriculture, and others.

The Regional Park Gateway is located at the Weilbacher Gravel Pits (in German: Weilbacher Kiesgruben), which is a popular destination for leisure activities. On this site, there is a visitors center facility composed by a restaurant, an extensive playground area and the 41 meters high Regional Park Tower, where it is possible to observe a wide metropolitan landscape, including the former gravel pit landscape, the nature protected area, the skyline of Frankfurt and the Taunus mountains. Visitors can also participate in different leisure activities and environmental education opportunities.

Regional Park Portal and Weilbacher Gravel Pits © *unit-design | Bernd Hilpert*

The Regional Park Gateway was established in 2011 in a re-cultivated gravel pit landscape, in previous times used as a wild waste disposal site. In order to eliminate this damage, in the nineteen-nineties, the nearby municipality of Flörsheim, the administration of the Main-Taunus District and other organizations started to recover the area by converting it into a protected nature area of fauna and flora, where also "geological windows" with glimpses of the layers of gravel mining can be explored. Wild donkeys, stallions and cashmere goats, which are used as natural landscape maintenance, can be observed from five wooden towers.

In this way, the Regional Park RheinMain contributes to the development of natural landscape preserving green areas and woodlands surrounding the city of Frankfurt and connecting open spaces in its regional conurbation.

Weilbacher Gravel Pits © *Peterek, 2016*

Regional Park RheinMain © *Ayres, 2016*

VISIT TO THE MUNICIPAL ADMINISTRATION OF HEIDELBERG

Presentation of the Office for Environmental Protection by Ms. Sabine Lachenicht, Head of Department of Environmental Protection, Trade Supervision and Energy

City of Heidelberg

The city of Heidelberg accommodates a population of 150,000 inhabitants with 17% foreigners and 25% students. The city is an important touristic and academic center in the region, thus 80% of its economic activities are coming from the service sector. The city considers public participation an important part of sustainable development, as well as the education of the residents in sustainable consumption issues and support for a diversity of projects on environmental awareness. The sustainability vision extends to housing, businesses, and administrative practices within the municipal departments.

The Office for Environmental Protection

Heidelberg is part of the Global Climate Protection City Network since 1994, which has resulted in an environmental focus and sustainable development policies. The municipality promotes sustainable practices such as cycling, renewable energies, subsidies for the implementation of water management treatments and green roofs, and even transforming the municipal buildings into passive houses. Through the integration of climate protection into the city development plan, the purpose is to reduce the CO_2 emissions by 90% in 2050 and promote a more efficient use of energy from renewable resources.

© Peterek, 2016

Heidelberg Castle

© Stert, 2016

Presentation of the Office for Environmental Protection by Ms. Sabine Lachenicht

The city focuses on the development and implementation of new technologies, i.e. thermal, solar and cogeneration power plants, in order to reduce the burden on the environment and make the transition to sustainable energies.

Presentation of Dialogical Planning Processes for Conversion Areas by Ms. Elke Bayer, Coordination Unit Citizens' Participation, Department of Urban Development and Statistics

Development of Guidelines for Citizens' Participation

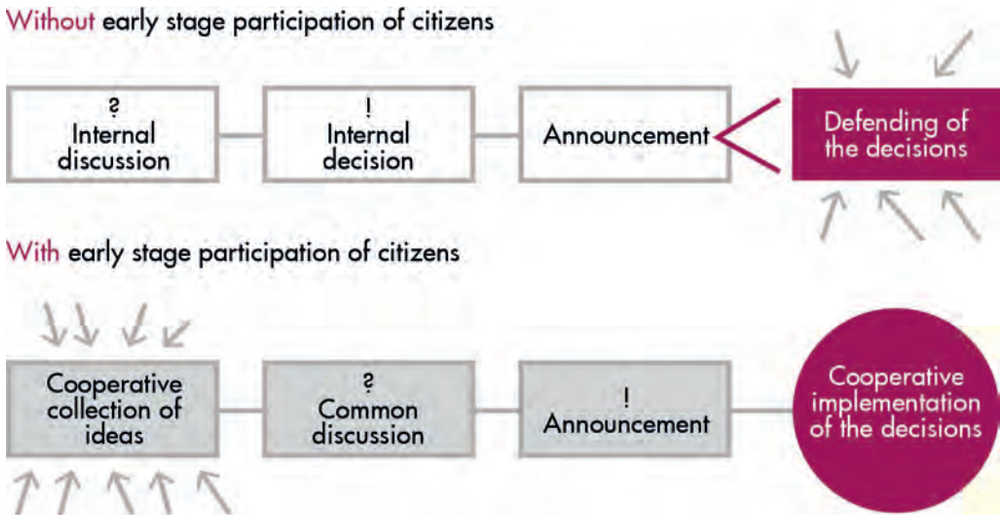
The establishment of the guidelines for citizens' participation started in February 2011 by the Mayor of Heidelberg and the Heidelberg City Council. In addition to the working group meetings, the council invited the public to open discussions. The goal was to develop a draft of the sought guidelines. The working group on citizens' participation was based on a dialogue between the citizens, the City Council and the administration, supported by a scientific guidance and external mediation. In 2012, the citizens were involved in a public discussion about the draft, and the evaluation process took place in 2013 and 2014. In March 2015, the first update of the guidelines was published.

Co-Design Oriented Participatory Involvement

Citizens' participation is now mandatory within initiatives, plans and projects of the Heidelberg municipality. The early stage information is formed by a list of potential projects, consisting of plans presented by the municipal departments. The City Council is responsible for the decision about the components on the list. The potential projects are related to the specific interests of the citizens and linked to the citizens' participation procedures. Citizens are informed at least three months before the beginning of the discussions on the committee level.

The participatory involvement of citizens has thus the following characteristics:

- Early stage information
- Citizens' participation initiates from both sides, citizens or administration



Public Participation Process in Heidelberg. Source: Mrs. Elke Bayer, 2016

- Cooperative planning of the participation concept
- Citizens' participation process occurs throughout all the phases of the project
- Evaluation of the participatory process leads to an improvement of the guidelines
- Establishment of a comprehensive picture of public opinions by communicating the results

Dialogical Planning Process for Heidelberg Patton Barracks

The Patton Barracks comprise an area of 200 hectares, which is more than double of the traditional Heidelberg city center, and were occupied by 8,000 people from the US-Army. After they had left, the decision making about the future site conversion was established by a planning process based on the development of a conversion guideline, including the following phases:


© Mrs. Elke Bayer, 2016
Patton Barracks Heidelberg


© Stert, 2016
Patton Barracks Heidelberg

- First phase, in 2011: Formulation of qualities and strategic approaches for a utilization concept considering the interactions with existing structures and superordinate guidelines of Heidelberg municipality; definition of targets
- Second Phase, starting in 2012: Specific planning statements on the level of the different locations and elaboration of development concepts and planning regulations
- Third Phase, starting in 2014: Implementation of plans and beginning of the execution.

The resulting programme for the area includes the development of an Innovation Park Heidelberg as a modern, urban economic space, including companies with major activities in the field of media, film production, IT, computer games, knowledge based industries, health care economy, life sciences, medical technologies, as well as the use of parts of the area for the construction of a sports arena for up to 3,000 spectators.


© Stert, 2016
Visit to the Patton Barracks Heidelberg

Bahnstadt District © *Peterek, 2016*

TOUR OF HEIDELBERG-BAHNSTADT

Guided by Mr. Ralph Bermich, Head of Energy and Climate Protection Division

Heidelberg-Bahnstadt is a former freight transportation area that has been converted into a mixed-use area with academic, commercial and residential activities. The area has been under construction since 2009 and once completed will host 5,000 residents and 7,000 jobs, with large open areas of green spaces and excellent connection to the public transport system. In total, the area will be the largest passive buildings project in the world, and the neighborhood will use 100% renewable resources to meet its energy demand.

In terms of energy, the Bahnstadt uses cogeneration for the provision of electricity and heating. The district has a centralized biomass (wood-chip fired) cogeneration plant. The city also provides guidance for developers and investors regarding the regulations of passive buildings and new clean energy technologies. Bahnstadt includes a large rainwater retention and infiltration system, minimizing discharging into the sewage drain.

The transport concept for Heidelberg-Bahnstadt is based on mass public transport with trams to mobilize 25,000 commuters, and non-motorised transport modes in the neighborhoods, promoting and supporting the use of bicycles, low-speed zones and facilitating the connection of the area with the existing pedestrian and cycling networks of Heidelberg. The combination of the state-of-the-art technologies with non-motorised transport modes could save up to 30% of the energy currently consumed for transport and considerable reductions in CO_2.

Bahnstadt District © *Sterr, 2016*

Bahnstadt District © *Ayres, 2016*

Bahnstadt District © *Ayres, 2016*

Open Spaces and Rainwater Retention in Bahnstadt © *Peterek, 2016*

REFLECTIONS ON URBAN CHALLENGES, TRANS-SECTORAL PLANNING, CAPACITY DEVELOPMENT AND SOME LESSONS LEARNT FROM THE WORKSHOP

First Results of the Research on Frankfurt am Main

The preliminary results of the Rapid Planning Project on urban development and city planning aspects in Frankfurt am Main, as the German reference city, include an analysis of the city's administrative structure, its regulative system of spatial planning, urban dynamics, trends and tensions as well as urban development goals and visions for the future. This also considers the stakeholders, organizations, and experiences that are related to the generation, provision, distribution or collection of energy, water, wastewater, solid waste and urban agriculture within the borders of the city, with the objective to examine the nature and patterns of trans-sectoral planning or implementation within the municipal operations.

Concerning the spatial planning system, besides the very relevant instruments of formal planning (such as the preparatory land-use plan and the legally binding zoning plans), the means of non-formalized planning in Frankfurt were identified as an efficient way to deal with a wide and shifting spectrum of urban themes.

"Non-formalized plans have the advantage of being flexible and problem-focused. These qualities can help to cope with all sorts of changes in the tasks and challenges of urban planning, which are usually brought by the dynamics of progressing urban societies."

Such non-formalized plans range in scale and focus from urban, spatial or sectoral development plans on a large scale, to sub-area development plans on the district or neighborhood level and finally small-scale framework development plans to handle specific urban, environmental or infrastructural aspects or problems. They are neither regulated by law nor are there any formal procedures for their preparation, but they are often used to develop possible alternatives at an early stage of planning or to give tangible form to the more abstract land-use plans. The results of non-formalized plans may then be integrated into the legally binding formal plans.

Concerning the city's urban features and challenges, Frankfurt has a dynamic and international population with a high percentage of young people. The economy is mostly driven by transportation, logistics, financial services, as well as research and technology development. Based on an attractive offer of jobs, the population of Frankfurt has increased in the last years by an average of 15,000 people per year. Since this population growth is foreseen to continue as a trend, the municipality is challenged by a pressing demand for affordable housing to accommodate the growth and, at the same time, to respond well to the ecological and climatic requirements in order to preserve the limited open and green spaces.

© Erasa Mercado, 2016

Integrated City Development Concept: Public Meeting

"The conflict between the preservation of open spaces and the requirement of new development areas is probably the most pressing challenge of the growing city of Frankfurt today."

Nowadays, this tension between green and growth in Frankfurt drives the urban development debates in the city. With many energy, climate and environmental protection related projects and policies implemented in the last two decades including the Energy and Climate Protection Concept, the Master Plan 100% Climate Protection as well as the Frankfurt Green City Platform, the city developed a strong image as a "Green City". By raising public awareness, optimizing consumption patterns, and encouraging the use of renewable energies, these projects improved the environmental conditions of the city and helped to reduce CO_2 emissions. The goal to maintain this green profile, preserving the greeneries of the city as well as providing an adequate amount of open spaces, is potentially in conflict with the demands of the city's growing population and economy.

The limited space available for new urban developments makes the redevelopment of under-used sites such as former industries, military camps as well as harbor and railway brownfields a major political issue and objective to provide the needed development areas within the city. At the same time, the growth of the city also implies the necessity of an improved and extended (public) transportation, both regarding connections within the city and with the neighboring cities and municipalities in the metropolitan region.

The apparent need for integrating a wider spectrum of municipal departments, relevant stakeholders and the people of the city to address the needed balance between urban development and environmental preservation pushed the city to initiate a wide-scale "Integrated City Development Concept" to conceive an outline for the city's development until 2030.

Some of the main topics to be covered by this long-term development concept include residential life, work, retailing, transport

"With the initiative of the Integrated City Development Concept – Frankfurt 2030, the city aims at a common vision and policy framework that is shared by all administrative offices.

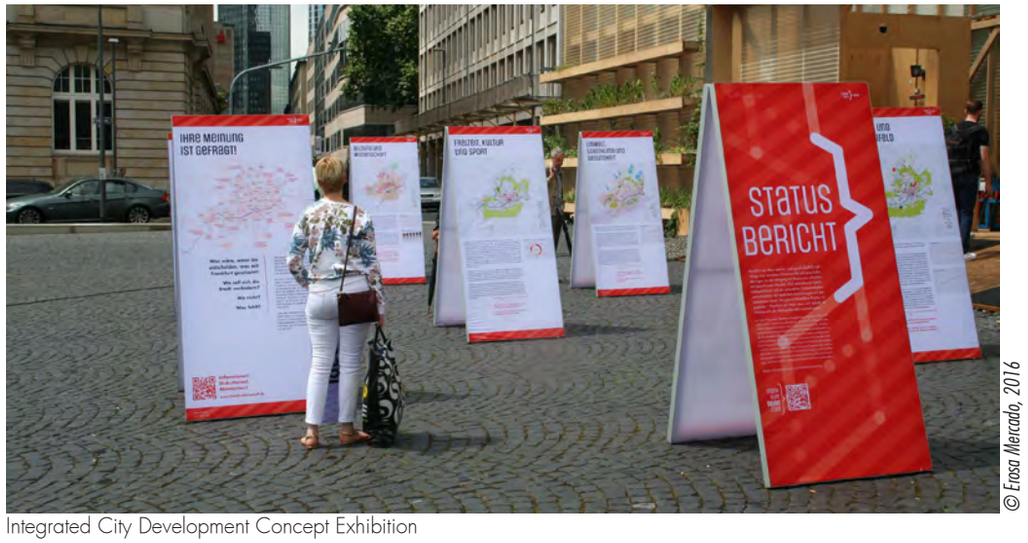
This is essential to the establishment of a concrete development strategy for future actions."

"Patterns of trans-sectoral cooperation and inter-departmental coordination in Frankfurt are strongly present in the policy making processes.

In implementation, however, sectorial efforts tend to dominate the scene."

and mobility, open space and green areas, environmental and climate protection, settlement and building structures, infrastructure provision as well as land use.

With regards to the forms and the degree of trans-sectoral planning applied in Frankfurt today, an investigation of the city of Frankfurt's projects, policies and experiences that are related to the five sectors of Rapid Planning, allowed the research study to draw some distinctions and to characterise the patterns of trans-sectoral planning and implementation in terms of the number of partners involved and the type of different sectors covered. First results show that city organizations in Frankfurt, in most of the cases, tend to collaborate with each other to deliver sector-oriented projects in the frameworks of higher trans-sectoral policies – or in other words:



© Erosa Mercado, 2016

Integrated City Development Concept Exhibition

Urban Challenges of the Case Cities and Some Conclusions from the Workshop

In the final session, some major development challenges were discussed with regard to the case cities, presented projects and experiences as well as to the organized visits in Frankfurt and Heidelberg. Derived from these discussions, some conclusions were drawn to be taken home.

City of Kigali

Kigali is the capital city of Rwanda, its largest city and the dominant center for employment and services of the country. With over one million people today, it represents a large proportion of the country's population and is one of Africa's fastest-growing cities. This leads to a pressing need to provide housing and infrastructure to the increasing population, especially the low-income

© Peterek, 2016

Kigali, Rwanda

groups that form the majority of the population. Today, about three of four of Kigali's inhabitants live in unplanned areas. The city's topographic situation on hills, ridges and valleys, with some slopes up to 50 per cent gradient and two rainy seasons, brings up additional challenges related to erosion, flooding and deficient accessibility of large parts of the urban area.

Although the city has a master plan approved in 2013, which regulates land uses and guides urban expansion, the major part of urban expansion happening today lacks a building permit for construction. The challenge is to integrate these areas and developments into an overall coordinated approach, including the pressing need to provide services and infrastructure to all districts and neighborhoods. Most of the investors, formal and informal ones, do not conform to the rigid master plan but decide by themselves where they want to build, often on technically not suitable and environmentally critical land. Therefore, the master plan needs to be more flexible, revised and transformed into urban development guidelines, which are open to modifications.

The awareness that the overall urban development in Frankfurt is not based on a prescribing formal and city-wide master plan, but rather on a set of smaller scale binding land-use plans is a relevant experience to take away from the workshop. Another lesson to be shared is the possibility to deploy non-formalized planning approaches to deal with certain cases upon necessity. It is also interesting to learn that such approaches, as a conclusive step, can indeed be legally formalized and transferred into binding land-use plans regulating the targeted areas.

This also applies to the participatory approach in urban and environmental development issues practiced in Frankfurt, which is regarded as an important tool to sensitize and involve the population, but would need to be adapted to the specific context of Kigali, with regards to the question of what could be the right and feasible level of public participation in the local planning process. This includes also the possibilities and ways of cooperation and exchange of concepts and ideas between the municipal institutions, the public, the professional and the academic sectors.

Another issue to be taken away is the high priority reserved in Frankfurt to the development, preservation and management of the city's open and green spaces, including the protected Green Belt, and the role which is attributed to such areas despite the growth and the pressing needs for new housing in this city, too. It shows a highly integrative approach to urban, environmental and open space planning.

© Peterek, 2016

Da Nang, Vietnam

City of Da Nang

Da Nang is the largest city in central Vietnam and one of the country's most important ports. With about one million inhabitants in 2013, it is subject to rapid urban expansion, a fast population growth, dynamic economic development and an increase of touristic facilities along the coast. All this has led to severe challenges concerning the rapid and often uncontrolled change in land uses from green to urban, environmental pollution and degradation with regards to water, waste, air and noise as well as coastal erosion along the beaches and regular flooding not only in peri-urban but also central city areas.

A first master plan for the city's development from the year 2002 has been updated in 2014, aiming at a more sustainable city and a better steering of future developments. This includes the control of land-uses and land conversion, redevelopment and densification in central areas, the control and relocation of polluting industries, creation of protected areas and generally an improvement of environmental management in the fields of solid waste, water supply and wastewater as well as landscape management along the coastline and the river. However, many developments are not really guided by the regulations of the master plan. Rather, they are developer-driven processes strongly influenced by high land prices and speculation, e.g. the current boom in hotel and condominium developments.

Compared to the city of Frankfurt, Da Nang shares several similarities and challenges in its spatial and functional structure. This includes the river as a central element of the cityscape, the relevance of high-rise developments in urban development policies, the airport situated in a central location within the urban boundaries, and generally potential conflicts between economic and urban development vs. environmental issues and requirements.

Based on these parallels between the two cities, the workshop allowed gaining some important experiences on different issues. The development of the Riverside Park along both sides of the river Main in central Frankfurt shows a successful way of combining both environmental concerns (green spaces, urban ventilation channel, retention areas in case of flooding) with leisure and recreational purposes, creating an attractive and unique public space for everybody in the middle of the city. Similar issues apply to the Green Belt, the city's green lungs, as another successful example of integrating environmental, open space and urban development. Both, the Riverside Park and the Green Belt, can be regarded as examples where a balance between development requirements and open space conservation, between economic expectations and citizen's quality of life could be found.

© Peterek, 2016

Da Nang´s High-rise Coastal Developments

Concerning the high-rise development control, which is a major issue in Da Nang, the experience of the Frankfurt High-rise Development Plan can give some suggestions on how to regulate functional, infrastructural and economic aspects of such projects in an urban and inner-city context and within a coordinate overall planning approach.

The discussions about the airport's impact on the city (environmental and noise issues, including health risks for some parts of the population living close to the take-off and landing routes) displayed the controversial debate and insoluble dilemma between the benefits of such an airport as an economic engine for the overall region and the coincident life quality restrictions for a considerable part of the urban and regional population.

The visit to the Regional Authority, but also the meeting at the City Planning Department, disclosed similar regional challenges compared to Da Nang, as both cities have limited territories, but are closely interlinked to a growing city-region, not only in urban expansion issues but also in terms of supply and disposal infrastructure systems, such as energy, water, waste and wastewater. Necessarily, these should be approached in a city-regional linkage. In this context, the experience of Frankfurt has shown a pro-active attitude in developing regional perspectives, shaping a possible approach at which Da Nang could also aim.

City of Assiut

Assiut is the largest town in Upper Egypt and lies about 375 km south of Cairo, bordered to the east by the river Nile and to the west by Mount Assiut West. With about half a million inhabitants, the City of Assiut is the capital of the larger Governorate of Assiut and an important commercial and educational center, hosting the third largest university in Egypt.

On the local level, urban development and land-use planning are guided by two instruments: the Strategic Plan, developed and supervised by the General Organization for Physical Planning (GOPP), and the Detailed Plans, prepared by the planning department of the Governorate, which, however, are expected to strictly adhere to the regulations provided by the corresponding Strategic Plan.

Like the other case cities, Assiut faces a rapid population growth but has limited expansion potentials. The available lands for further expansion along the Nile are scarce, restricted and too valuable for agriculture. The access to affordable housing, therefore, is a crucial issue. Another challenge is the provision of adequate urban services, specifically in the informal settlements occupying more than 25% of the city and accommodating half of the population. The delivery of urban services has many shortcomings in water, sanitation, solid waste management and energy provision. These shortcomings, besides the environmental pollution, have severely affected the well-being of the residents of the city.

Participating in the workshop in Frankfurt initiated reflections on different issues, which could give some suggestions and inputs to future development and planning procedures in Assiut. A notable experience of the workshop was the substantial role that the Environment Department and environmental planning played in the city. This includes the importance given in urban planning to open spaces, public spaces and green development, such as e.g. the Green Belt and the Riverside Park, but also the will and a series of efforts to reduce automobile usage, for instance by encouraging cycling or increasing the attractiveness of public transport.

Beyond the legally binding formal plans and procedures, the instruments of non-formalized planning in Frankfurt were seen as an interesting means to address urban challenges in a more flexible way. In the Assiut context, such approach could potentially lead to a higher degree of variety in land division and regulation, land use and land management, beyond the control of large areas by just big private corporations, and thus promoting more urban, social and functional diversity. In conjunction with an expansion of public participation, this can also help to create stronger and more responsible communities.

An additional message from Frankfurt to Assiut was the separation of the political issues and the final political decision-making from the technical aspects, elaborations and proposals in urban planning, which should avoid a direct politicization of the municipal administrations and agencies charged and dealing with urban development. The instrument of the legally binding zoning plan, as presented by the case study of the Frankfurt City Planning Department, demonstrated the interlinks between the different roles of the various stakeholders involved in the development of a new plan: the municipal administration preparing the plan, the general public informed and involved at different stages during elaboration, and the politically elected members of the City Council finally deciding and approving the plan as a binding local law.

© Hebbo, 2016

Assiut, Egypt

© Reichhardt, 2016

Final Wrap-up Session

Final Wrap-up and Suggestions for Further Workshops

At the end of the workshop, all participants stressed out the importance of capacity development in city planning and urban management in general. Activities, such as this workshop, promote the international exchange and enhance the capacities of the participating cities. The week spent together increased not only the individual knowledge of the participants about the administrative and planning systems as well as the relevant projects and experiences of Frankfurt, as a reference city, but also led to building a deeper understanding of the challenges, problems, approaches and legal planning instruments of the other case cities. This is not to forget the added value of the workshop, which is given by the opportunity to discuss such issues, concepts and ideas in a direct international and intercultural exchange with colleagues coming from different urban development contexts.

Such cooperation between the case cities should be continued. Therefore, the participants expressed the wish and proposed to have further capacity development workshops within Rapid Planning, both in Frankfurt in 2018 and also on-site in the case cities in the future. The vision would be to have teams from the involved cities visiting together the different locations to discuss relevant challenges and jointly develop Rapid Planning related solutions.

By all participants, capacity development was seen as the central key to implement trans-sectoral approaches, tools and methodologies in urban, environmental and infrastructural planning and management, as envisaged by the Rapid Planning Project.

The representatives from all the case cities emphasized the importance of organizing future capacity development activities and training workshops in the case cities to be closer to the problems that Rapid Planning is trying to address. They also expressed their will to be part of the organization process. Such activities should focus on the further integration of participants from the different planning, management and service administration as well as service implementation, from both public and private sectors, and other relevant public institutions. If the output of Rapid Planning wants to make an effective and transferable contribution, it should also involve the political stakeholders as well as the general public in the wider efforts to promote capacity development. This would help achieve a more sustainable and trans-sectoral urban, environmental and infrastructure management in the cities of the future.

© Stern, 2016

Final Certificates for Participants from Kigali

© Stern, 2016

Final Certificates for Participants from Da Nang

© Stern, 2016

Final Certificates for Participants from Assiut

IMPRINT

Published by © Rapid Planning Research Team,
Frankfurt University of Applied Sciences 2017

CONTACT

Rapid Planning Research Team
Frankfurt University of Applied Sciences:

Nibelungenplatz 1
D-60318 Frankfurt am Main,Germany

Tel. +49 69 1533 3617
Tel. +49 69 1533 3694

www.frankfurt-university.de/fachbereiche/fb1/forschung/rapid-planning.html