Urban Re-/Development of Cities in a German-American context

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A Brief Analysis of Two Shrinking Cities’ Policy Implementations and the Possibility of a Return to Urban Qualities Via the Knowledge Industry

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About IPS

The department International Planning Systems (IPS) puts its main focus on international trends of spatial and urban development such as shrinking cities and regions, the comparison of spatial planning in Europe and how international trends affect spatial development and planning strategies on national and regional levels. Various methods are utilized to compare planning systems and underlying frame conditions which leads to an exchange of experiences concerning challenges and possible solutions. Exchange of experiences is also being fostered by an international network of research and practice.

Imprint

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The online journal „PlanIt!“, which was designed by Prof. Pallagst, publishes selected student theses carried out at the Department of IPS (Diploma, Bachelor, Master) in the form of articles on specific topics. The students thus get the opportunity to make their thesis accessible to a broad audience and to create their first publication, usually in English on 10 pages per article. The third issue of the journal PlanIt! appeared as a special issue in May 2015 entitled „Urban Re-/Development of Cities in a German-American context“.

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Introduction – drivers and trajectories of shrinkage: some evidence from the EU project PlanShrinking

Globalisation does not only influence the world in economic ways like free trade or the free movement of capital and labour but it also stimulates the dissemination of new ideas and concepts for social, environmental and structural development. Therefore, new trends in urban planning and development spread across the globe in short time, being adapted to local specifics and needs and implemented as concepts and plans tailored to the respective institutional setting and legal framework.

Urban shrinkage, describing the loss of population and economic power in cities, has been identified as one of the major challenges for urban planning and development in most industrialized countries. This global phenomenon of shrinkage, with its different national or local characteristics, creates the need for a shift in paradigms of planning and generates new methods to deal with the ongoing changes in urban development. However, the way this phenomenon affects not only the urban structure and social networks of cities, and the political and administrative capacity to act but also how it has influenced the way of thinking, decision making and communication has been investigated by the EU funded research project PlanShrinking. The project was finalized in October 2014; its objective was to explore the change of planning culture in German and US cities by the example of shrinking cities and.

Since urban shrinkage is partly caused by globalisation and the growing interconnectedness in almost all areas of life, there needs to be an understanding about how to facilitate the changes in economic, social and environmental developments, induced by these trends. Differing cultural, legal and institutional settings have led to spatial planning systems with comparable objectives and goals but different trajectories for development. Therefore the demand for an international perspective on urban and regional planning is needed. However, planning cultures is
not (yet) an established research topic in the sphere of spatial planning. PlanShrinking has developed an analytical framework to link the theoretical discourse on planning cultures with evidence based research on urban shrinkage.

The growing awareness on urban shrinkage as a problem for cities in Europe and parts of the US has led to a number of studies and research projects on why these cities are losing population and how to deal with this. Despite the significant differences in the extent and spatial distributions of population decrease between Europe and the US, shrinkage can usually be attributed to post-industrial transformation processes due to the decline of the manufacturing industry. In Germany the effects of declining birth rates and the German reunification are additional factors for urban shrinkage. PlanShrinking takes advantage of the phenomenon of shrinking cities and the resulting changes in urban development patterns, to study the ways planning systems adapt to the challenges urban shrinkage imposes on the existing planning cultures.

The project aims at identifying paradigm shifts and possible changes in planning systems and planning cultures in shrinking cities in Germany and the USA. Furthermore, its intention was to develop a toolset to evaluate planning strategies for shrinking cities. To achieve these goals the project makes use of an embedded case study approach with research on Zwickau and Kaiserslautern in Germany and Flint and Youngstown in the US.

As a result, the case study research has indicated indeed a shift in planning cultures in those cities with severe losses of population and economic downturns. The reasons for this shift however, are not totally clear, yet the research gives some insight to possible causes. The question regarding how officials deal with shrinkage largely depends on the underlying perception of the problem. This perception of political and administrative actors was identified as the main factor on whether or not new ways to deal with shrinkage were adopted in the cities strategies towards shrinkage.

Another important factor with an influence towards the way on how to deal with shrinkage were the institutional and financial support from outside the cities either by government bodies or, as more common in the U.S., by private investors and foundations or public organisations. The research identified the following connection: The stronger this support from outside the city’s government the faster the change of methods in planning and development took place. But it is undeniable that even with the collective efforts of the scientific community and the government bodies, including the availability of large funds for restructuring and redevelopment, it took almost a decade for cities in East Germany to accept the new development trajectories apart from growth to stabilisation or even shrinkage. In the U.S. this process of acceptance took more than one generation because of early mistakes in project funding (urban renewal). The legacy of these
negative experiences and the general attitude towards central planning in the U.S. prolonged the adaptation process.

After decades of failed attempts to induce new growth, both case study cities in the US have turned their planning efforts away from new growth. The new approach is a more sustainable development with a higher quality of life for the remaining citizens, to stop the downward spiral of outmigration and the abandonment of services and rebuild a functional core of the city. The planning process of these rather radical ideas has been accompanied by a broad discourse with the public in both cities Youngstown, OH and Flint, MI. While in Youngstown the University introduced new ideas for an inner city campus and new inner city developments, in Flint these efforts were carried by the private Charles Mott Foundation who has been a major actor in the city’s urban development for years. The master plans required for these new development concepts were co-financed also by the U.S. Department for Housing and Urban development (HUD). This shows the need for support not only from local actors but also from the national government to induce changes to the previous approaches for redevelopment.

One of the most criticized aspects of the new development concepts in Flint and Youngstown is the use of federal funds to demolish vacant or abandoned houses, to even give up entire neighbourhoods which have no perspective of being “saved” or rebuilt in the foreseeable future. With these measures, the cities try to accomplish multiple objectives like the improvement of quality of life in and safety these neighbourhoods. Additionally it is an effort to stabilize the real estate markets in these areas and to prevent further downgrading of houses still in use. Another interesting aspect of the US case studies is the focus on public involvement and community participation. During the drafting of the master plans the citizens of both cities were strongly involved in all phases of the process. This aspect had several advantages. After the long period of time and the large number of failed plans and concepts it was necessary to convince the people of the requirements of a new plan and of new trajectories in urban development. Additionally the planners could get valuable input from the local people on what problems are most imminent and what solutions would be acceptable. Of course the efforts for public involvement in the draft process might also be part of the general trend towards more governance and participation in western planning. But taking into account that these efforts usually include rather organised groups and officials from various institutions relevant for the project instead of the broader public, the public involvement of individuals and lay persons in Flint and Youngstown most certainly derived from the local need to “get the people on board” for the implementation of the plan.

In Germany the problem was basically ignored by the federal state for a long time as well. Cities in Germany were struggling with similar problems of the economy’s structural change like cities in the U.S. or for that matter other cities in Europe. Only after the problem became much more
obvious after the East German reunification, federal funding and new concepts were applied. In 2000, only ten years after the reunification the Federal Ministry for Transportation, Building and Urban Development identified the need for a broad demolition programme in East German cities to solve the structural problems of vacant housing and inefficient infrastructure. The programme started in 2002 and required from cities to draft a comprehensive development concept in order to receive funding. By then many cities had shifted their development perspectives away from growth to managing decline and to improving the quality of life.

In Zwickau, an East German city and one of the case studies of PlanShrinking, the development of comprehensive concepts started even before it was required in order to secure federal funding. In 1997 the first development concept was completed but failed to achieve its goals due to a lack of detail for urban development. After this, following concepts were elaborated in more detail. However, the new concept drafted in 2006 still had a strong focus on growth in both economic and demographic terms. Although the concept planned for demolishing vacant housing, especially the pre-fabricated concrete buildings on the edge of Zwickau, it did not deal with the fact of a continuous shrinking population. Only the in 2011 updated version of the concept has adopted a new perception of shrinkage and it is accepting the effects of demographic change. This illustrates even more how the change of perception and planning concepts evolves over time under the building pressure of structural changes.

The demolition programme along with measures to improve the quality of life in other, ‘healthier’ areas of the city and the efforts to redevelop the inner city neighbourhoods has improved the situation on the real estate market and has stimulated new investments in these areas, like shopping arcades or health care facilities. One problem of this kind of publicly funded demolition is the effect on public housing in these cities. Because most private owners do not comply with the request for demolition it is usually public owned property that is demolished. The private properties just remain until either real estate prices stabilize or the surrounding area becomes subject to new development. On the other hand there is a shortage of affordable housing for those who have low income. In this way public authorities pay threefold: First for the costs of the demolition itself, second for the loss of publicly owned property and third for the costs of creating new affordable housing possibilities in other locations.

The importance of how city officials and other relevant stakeholders perceive shrinkage is furthermore illustrated by the last case study city: Kaiserslautern. The city itself has, despite the effects of economic changes in the manufacturing sector, no severe problems with population losses like Flint, Youngstown or Zwickau. Therefore, the inevitable consequences of demographic change are not perceived as a direct threat. Due to the German welfare system, which supports families even without a regular work income, there never was a high level of outmigration although
the manufacturing sector in Kaiserslautern has laid off high numbers of employees due to structural changes. This explains partly why Kaiserslautern’s population remained stable even after some of the major manufacturers closed their plants in the city.

This, however, demonstrates why there is no need to plan for a city with less people. All planning efforts concentrate on single projects aimed to increase the attractiveness of Kaiserslautern. A strong incubator for these efforts is the University of Kaiserslautern, which was founded in 1970 and since then has led to a number of new developments in the high tech and science sector e.g. establishing various research institutions and spin-offs, either in Kaiserslautern or in close by municipalities. The most recent developments involve the construction of an inner city mall, the extension of existing commercial areas on the edge of the city, and the conversion of a former industrial area close to the inner city. All these projects are neither innovative nor are they part of an overall development concept. The only exception could be the conversion of the inner city brownfield area, which was subject to the EUROPAN architectural competition in 2014, and holds some promising potential for the inner city development. But in general urban development is at this point to a larger extent investment driven and project oriented than part of a long term development process.

In conclusion, the project PlanShrinking shows that the change in planning cultures and in the perception of shrinkage is more obvious in those cities that are most affected by the problems of outmigration and demographic change. What became also obvious is that without external push and pull factors and the support of higher government levels, a new planning approach is hard to realise. This can be observed with the case studies in the U.S. where new ways of dealing with shrinkage were only developed after the scientific community increased the awareness of the problem and brought shrinkage on the public agenda. Also without sufficient funding from external sources the affected cities would not have the financial power to break the vicious circle of urban and financial decline.

The articles in this issue of PlanIt! are dealing with the current and future trends of urban development, demonstrated on an international spectrum of specific case studies from Germany and the U.S..

The first article in this issue of PlanIt! by Gina v. Gebhardi presents an analysis of the policy implementation in two shrinking cities and the possibility to improve urban qualities by promoting knowledge industries. By analysing the population development and the (unofficial) concepts for the development of educational and scientific potentials within the city, the attempt to improve the quality of life in Kaiserslautern and Flint are assessed.

In her article named ‘ ’, Claudia Deubig presents the international trend for waterfront developments and the reuse of old harbours areas within the city. By comparing two examples, San
Francisco (South of Market) and Hamburg (HafenCity), the cause for the initial idea is presented and the sustainability of these developments are analysed.

The efforts for sustainable land use planning in the San Francisco Bay Area are the focus of Elena Gilcher’s article on New Urbanism and its design principles. It presents a comparative analysis of two cities within the Bay Area, Hercules and San José, with the same projection on future population development but different total numbers of inhabitants.

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Elena Gilcher

Sustainable Cities through the Design Principles of New Urbanism?

A Comparative Analysis in the San Francisco Bay Area

Abstract

Changes in the area of spatial planning are the reason why sustainability and sustainable development are getting in the focus of attention. The trend of suburbanization – the growth of areas on the fringes of cities – is the main reason for requiring more sustainable land use planning. In the US, suburbanization received its own term – urban sprawl. In the 1990s architects and planners realized that the current trend of urban planning in the US is not sustainable and thus they started an informal anti-sprawl-movement. One perspective of this movement is New Urbanism, which promotes walkable neighborhoods containing a range of housing and land use types. It encompasses various such design principles. For several years, sustainable land use planning has also become more important in the San Francisco Bay Area. In this paper, the New Urbanist design principles applied for attaining sustainable land use planning are reviewed and their implementation in two exemplary cities located in the San Francisco Bay Area is analyzed.

About the author:

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Introduction

Nowadays, the foremost guiding principles of almost every country in the world – except developing countries and newly industrialized countries – are sustainability and sustainable development. The Brundtland report Our Common Future represents the beginning of this worldwide debate. It also laid the groundwork for the Rio Declaration, a short document created by the United Nations Conference on Environment and Development (UNCED) in 1992. Developments in the area of land use planning also contributed towards sustainability getting in the focus of attention. In the United States (US), especially the trend of urban sprawl after World War II implied many economic, ecological and socio-cultural consequences. As a result, the settlement structure of many countries is nowadays characterized by separation of functions and by a sprawling growth (Tachieva 2010).

Globally, it was commonly agreed, that the wasteful use of water, energy and land should be curbed and thus urban sprawl should be combated. Therefore, in the USA the urban design movement New Urbanism was initiated. Based on the principles of the Congress for the New Urbanism (CNU), various structural approaches and types of settlements were developed to counteract urban sprawl and its consequences. In a second step, design principles like traditional neighborhood design (TND), transit-oriented development (TOD) and mixed-use development (MXD), were entrenched based on walkability, connectivity, mixed-use diversity, mixed housing, and traditional neighborhood structures (New Urbanism 2014).

During the last years, sustainability also became more important in the San Francisco Bay Area. Until 2040, the region expects a population growth of over two million people, thus the population will increase from seven to nine million citizens. To protect the Bay Area’s air, water and life quality and to create a more sustainable future, the One Bay Area initiative was started. One key aspect of it is Plan Bay Area, a long-range integrated transportation and land use/housing strategy for the next thirty years. The plan is oriented towards the principles of New Urbanism to fight against urban sprawl and to maintain quality of life for the population. For attaining the targets, the design principles of TOD as well as MXD should mainly be applied, where both can have special traits specific to different cities (ABAG & MTC 2013).

In this paper, the application of the New Urbanist design principles will be reviewed by their implementation in exemplary cities of the San Francisco Bay Area. Furthermore, it is analyzed if more sustainable cities can be reached with these design principles. On the basis of a literature research, the general emergence of sustainability as well as the current forms of land use and their consequences are described to reveal the importance of sustainable land use planning. Additionally, the development and design principles of New Urbanism are described. Afterwards,
the development of a sustainable land use planning in the San Francisco Bay Area is discussed and the application of the New Urbanist design principles is investigated on the basis of two exemplary cities – Hercules and San José. Basis for this part is an Internet research as well as interviews conducted with stakeholders involved in the planning of the projects. At the end of the paper recommendations for prospective sustainable land-use planning are given.

Development of sustainable land use planning

History of sustainability and sustainable development process

In the 20th century, sustainability and sustainable development became worldwide principles and found their way into political discussions. The first of thus far three Earth Summits, held in Rio de Janeiro in 1992, was the largest environmental conference held yet and constituted a milestone in the development of sustainable land use planning. The major outcome of it was Agenda 21, a plan for achieving a sustainable development in the 21st century. It addresses all relevant policy and action measures and promotes sustained ecological, economic and social development. In the area of sustainable land use planning, the UN targets to provide the land requirements of human settlement development through environmentally sound physical planning and land use. The UN issued various guidelines for meeting these objectives. These are, e.g., the development of national land resource management plans to guide the land-resource development and utilization (UN Division for Sustainable Development 1992).

Urban development in the US – Trends and their causes

In the 20th and 21st century, land use development of the US was dominated by urban growth and it had almost no boundaries. Based on the false impression that developable land is available in unlimited quantities, urbanization claims about 1 million acres of agricultural land per year. This enormous use of land started after World War II. The population grew rapidly, almost every household owned a car, and people desired larger homes with more bedrooms and bigger yards. These developments led citizens to move to the edges of the cities. Suburbs with single-family homes on large lots were built. The so-called residential suburbanization was followed by suburbanization of industry and service, which had the same causes as the residential suburbanization. As a result, additional building types like single level “big box’ retail stores were added to the building stock of single family homes” (Pallagst 2007: 11).

Suburbanization in the US was more distinct than suburbanization in Europe. Between 1950 and 1990, approx. 110 million people migrated to US metropolitan areas, expanding the population there by 128% (Squires and Kubrin 2005). The settlement structure of many countries
is characterized by a separation of uses and by sprawling growth. However, the suburbanization in the US received its own term – Urban Sprawl. There is no general definition of urban sprawl, but there is a consensus that sprawl is characterized by outward expansion, low-density housing and commercial development auto-dependent transport, an abundance of congested highways, strip mall shopping centers, office parks and gated cul-de-sac subdivisions, as well as segregated land use patterns (Tachieva 2010; Squires and Kubrin 2005). According to this characterization, urban sprawl has been a feature of city development since the beginning of urban history. As cities “have become economically mature and prosperous, they have tended to spread outward at decreasing densities” (Bruegmann 2006: 18). Since the postwar boom years, urban sprawl certainly became a mass phenomenon. The prodigious baby boom was one reason for this aspect. Thus, some cities experienced a huge population increase (Bruegmann 2006). Municipalities’ subsidies for infrastructure costs in underdeveloped areas are an additional condition encouraging urban sprawl. This incentive promotes the creation of communities outside of the city centers. Further, the market orientation of the population led to urban sprawl becoming a mass phenomenon. Individual’s decisions are embedded in economic competitiveness and thus driven by market forces. Many Americans wish to own a house and real estate property was becoming more valuable due to more expensive land prices (Bruegmann 2005; Razin 1998; Stegman 1995).

Another trend of the US urban development is shrinking cities. This trend runs parallel to the growth of cities. While suburbs still register a population increase, city centers are substantially shrinking due to ongoing urban sprawl. This results in problems like run-down neighborhoods, vacancies and abandoned urban quarters as well as in social consequences like segregation, poverty and homelessness. In addition, economic transformations lead to an out-migration of the working population. In 2008, the crisis in the banking industry in the US as well as the international economic crisis worsened the situation. The US unemployment rate rose from 4% in 2000 to 10% in 2009 (Trading Economics 2013). Mostly affected are cities located in the Rustbelt Area – the states Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York and New Jersey (Chicago Tribune 1985).

**Consequences of the current form of land use – Motivation for sustainable land use planning**

**Social Consequences**

On the social level, traffic congestions lead to health problems, that arise from increased air pollution, psychical stress and the widespread obesity led to an auto-dependence (Tachieva 2010).
The predictability of sprawl also leads to a lack of diversity. Thus, metropolitan areas are characterized by racial disparities between suburbs and cities as well as racial segregation. The typical White resident of the suburbs lives in a neighborhood with 80% residents of White descent, 7% of African-American descent, 8% of Hispanic descent and 4% of Asian descent. This type of suburbs is called traditional suburb, as it is predominantly white. However, since several years, predominantly non-white suburbs, i.e., with more than 60% non-white residents, and diverse suburbs, i.e., 20% to 60% of non-white residents, border central cities. As a result, the number of people living in traditional suburbs decreased to 28% of metropolitan residents (47 million people) in 2010. In recent years, barriers between cities and suburbs have broken down and Black-White segregation decreased. Nevertheless, racial segregation is still a prominent characteristic of the metropolitan areas in the US and results in the concentration of poverty, growing economic inequality and increasing isolation of poor minority households (Squires and Kubrin 2005).

**Ecological Consequences**

The expansion of auto-oriented, low-density development is creating a wasteful use of water, land, energy and time spent in traffic. The ecological consequences are soil sealing through the infrastructural needs implied by low-density, the loss of agricultural land, open space and natural habitat as well as pollution of water and air (Tachieva 2010). Air pollution is generated by long commutes and congestions, as the people drive to work and to retail shops that are far away from the customers (Pallagst 2007). Cars produce numerous air pollutants like carbon monoxide, carbon dioxide, methane, and particulate matter. Per day, 600 million cars are on the road somewhere on the planet and they cause an enormous amount of permanent environmental damage. Among it are toxic air, acid rain, climate change and global warming (New Urbanism 2013). Summing up, the quality of life, urban and suburban, is affected by urban sprawl in a negative way.

**Economical consequences**

On the level of economics, there is an overload of transportation infrastructure generated by the need of those residents living in the suburbs. They commute between home and work, use the car for running errands, driving children to school, etc. Coincident, this overload causes an expansion of the road system resulting in an exponential increase of infrastructure costs. Every day, the US government spends $200 million for construction, repair, maintenance, and improvement of roads. Furthermore, the economical capability of central cities decreases with people moving to the edges. In parallel, the per capita costs for providing and maintaining public services increase based on underutilization of infrastructure. The social infrastructure is particularly affected. Fewer students attend schools in the cities, while suburban schools are overcrowded and need to be
expanded by temporary structure classrooms. Maintenance and extension of schools often poses a challenge to a community’s financial resources. Schools in the cities also have to close due to a lower grade of occupancy (Pallagst 2007).

**New Urbanism and its principles**

In the 1990s, architects and planners realized that the current trend of urban planning in the US is not sustainable and thus they started an informal anti-sprawl-movement. One perspective of this movement is New Urbanism, which promotes walkable neighborhoods containing a range of housing and job types. New Urbanism is strongly influenced by urban design standards that were prominent until the rise of the automobile in the mid-20th century. It encompasses various such design principles.

*Transit-oriented development (TOD)* seeks to design areas with a mix of residential and commercial uses to maximize access to public transport. It often incorporates measures to encourage citizens to take public transportation. A neighborhood planned with TOD principles in mind typically has a center with a transit connection like a train station, metro station, tram stop or bus stop. It is surrounded by relatively high-density development with progressively lower-density development outward from the center (Calthorpe Associates 2014; Caltrans 2002).

*Traditional neighborhood development (TND)* includes a variety of housing types and land uses in a defined area. The variety of uses permits educational facilities, civic buildings and commercial establishments to be located within walking distance of private homes. A TND consists of a network of streets and lanes suitable for pedestrians as well as vehicles. In this way, the residents can walk, bike or drive to places within their neighborhood (The Town Paper 2014; Schönig and Bodenschatz 2004).

*Mixed-use development (MXD)* focuses on combining two or more different types of land uses, such as residential, commercial, cultural, institutional or industrial uses, in close proximity. The mix of uses can either be comprised within a single building (horizontally or vertically) or spread over multiple buildings within a distinct development site (ABAG 2014; Schwanke 2003).

**Sustainable land use planning in the San Francisco Bay Area**

The San Francisco Bay Area – commonly known as Bay Area – is a highly populated region in Northern California. It surrounds the San Francisco and San Pablo estuaries. Major cities and metropolitan areas are San Francisco, Oakland and San José, as well as the high-technology center.
of Silicon Valley and Northern California’s wine country. The Bay Area embraces nine counties (see figure 1) and 101 towns and cities (ABAG-MTC-BCDC-BAAQMD 2014).

For several years, sustainability and sustainable development has become more important in the San Francisco Bay Area. Over the next three decades the region will face a population growth of over two million people and a job growth of more than one million workplaces. Four regional government agencies initiated the One Bay Area initiative to prevent further urban sprawl and to protect the Bay Area’s air, water and life quality. In this way, it pursues to create a more sustainable future. Several key initiatives were developed under the One Bay Area umbrella. Plan Bay Area is the initiative in the area of land use planning and transportation. It is the region’s first long-range integrated transportation and land use/housing strategy. It is covering the development of the next thirty years. For attaining the targets, the variety of New Urbanist design principles should mainly be used. Plan Bay Area provides a strategy for meeting 80% of the region’s future housing needs in Priority Development Areas (PDAs). These are neighborhoods within walking distance of frequent transit services and with a diversity of densities and community identities within an infill development area. They shall offer a wide variety of housing options and featuring amenities like grocery stores, community centers and restaurants.

**Application of New Urbanism design principles in the San Francisco Bay Area**

**Hercules**

Hercules is a medium-sized coastal city in western Contra Costa County, California. It is...
located along the coast of the San Pablo Bay in the eastern region of the San Francisco Bay Area, about 10 miles north of Berkeley. In 2012, 24,660 people lived in the city of Hercules, 600 residents more than in 2010 (+2.4%) (US Census Bureau 2014a). ABAG projects that Hercules will grow to a population of 34,900 people until the year 2035. This represents an 45% increase over a 25-year period (City of Hercules 2013).

For several years now, Hercules pursues a sustainable land use planning to prevent further urban sprawl and to protect natural resources as well as open space. The design principles of New Urbanism are applied to achieve this target. Hercules seeks to strengthen its town center and to design a pedestrian friendly and transit-oriented community by realizing New Urbanist projects.

**Hercules Waterfront District**

The Waterfront District is a huge project of the Central Hercules Plan. It is a transit-oriented, traditional neighborhood development, located at the edge of San Pablo Bay. According to the Central Hercules Plan, a new traditional neighborhood should be built on the former brownfields. Hercules’ residents desired to combine a commercial and a residential development. Complying with the resident’s wish, a master plan was designed using many basic New Urbanist features. In the summer of 2006, two residential neighborhoods have been completed along with the Railroad Avenue live/work units (Hercules Bayfront, LLC 2007). The Waterfront District consists of three areas (see figure 2).

The plans for **Crescent Heights** integrate the existing historic factory Clubhouse and Administration Building with new structures (residential units, office and flex space). The lower Crescent Heights area is designed with walking streets linking the neighborhood and a bayfront park for the residents to enjoy (City of Hercules 2014c; Hercules Bayfront, LLC, 2014a). **The Village** is planned as the future location for higher density housing helping to support the transit station and surrounding commercial uses (office, retail and flex space). Its planning efforts are focused on pedestrian-oriented values (City of Hercules 2014d; Hercules Bayfront, LLC 2014b). **Bayfront Boulevard** will have the character of a traditional town center street with diagonal parking on both sides and lined with shopfronts, galleries, cafes and arcades. Residential units, office, retail and flex space will be built. The promenade will serve as the Bay Trail, leading from the Waterfront to a Multi-Modal Transit Station and providing walkers and bikers a connection to the regional train system. The planned **Multi-Modal Transit Station** will support regional transportation connecting passengers with the whole Bay Area. The construction of a new Amtrak platform will provide a connection to regional rail service. It should also offer a linkage to San Francisco via a proposed ferry terminal. It is pioneering transportation, as it will be the only facility in California efficiently combining Water Ferry, Train and Bus services in one conveniently situated center. Yet, according
to Ethan Sischo – representative of the Hercules Bayfront, LLC, and contact person for the project Hercules Bayfront – the initial modes will be the train and bus service and ferry service is a possibility. Once the Multi-Modal Transit Station is completed, it should include a ferry, train and bus connection and will hopefully be the largest TOD in California (Sischo 2014).

The Central Quarter/Sycamore Downtown/Town Centrale

The Central Quarter is another major project of the Central Hercules Plan. It was supposed to be the future heart of the town. A mixture of residences, offices, retailers and public gathering spaces should have been its basic elements. Today, some parcels are developed. A walkable neighborhood with buildings facing a network of tree-lined streets was built. But according to aerial photographs, the area rather consists of separate residential buildings than of a mixed-use neighborhood with a block structure. Information about the reasons for erecting a residential neighborhood instead of a mixed-use neighborhood is not publicly available.

The remaining areas of the Central Quarter belong to the mixed-use infill project “Sycamore Downtown”. The project is divided into the two sub-projects Sycamore North and Sycamore Crossing, which sits in the parcel directly to the south of Sycamore North. Sycamore North is planned to consist of three distinct components: a for-sale residential component, a rental residential component, and a retail component. The elements are contained within two connected buildings, which are joined at the center of the site by a plaza and a tower. Retail will be situated at the

Figure 2: Master Plan of Hercules Waterfront District

Source: Hercules Bayfront, LLC; own design; retrieved from: URL, accessed on 03/03/2014.
ground floor and the residential uses on the 2nd to 4th floor (City of Hercules 2014a). Sycamore Crossing is an approx. 12-acre site and was being master planned to include a mix of retail, office and residential uses. New Urbanist ideas are implemented with a pedestrian-oriented network of walkable streets, appropriately scaled mixed-use buildings and further landscape improvements (City of Hercules 2014b).

However, both of these sub-projects could not be realized in the way they were planned. During the financial crisis in 2008, the economy in northern California had taken a downturn – especially in Contra Costa County (Tagashira 2014). Hercules could not bear the costs of this city-owned mixed-use project by itself. The properties of the project Sycamore North have been sold to a new sponsor who renamed the project to Town Centrale. The sponsor will not increase the existing building, whose construction is to 50% complete. Two changes will take place within the existing building: Approximately 70% of the existing ground floor retail space will be converted to residential use and to common areas. Furthermore, a majority of the three-bedroom units will be turned into one-bedroom units by dividing them in half. In total, the project will consist of 147 residential units and approx. 10,000 sq ft of retail space. Compared to the former Sycamore North project, more residential units, no affordable housing for lower and median income households and less retail square footage will be built. The total square footage, footprint, parking and height of the building stay unchanged. Town Centrale also aims to create a sense of place for the Hercules community, which includes providing a gathering place. After the city approved the project, the re-mobilization and re-start of the construction is expected to take 3-6 months. It will approx. take 9-12 months until the project is completed (see figure 3) (Town Centrale 2014).

Sycamore Crossing is not part of the project Town Centrale. For this site, Hercules is pursuing a project including a Safeway market along with other retail space. The city has a pending agreement to sell the property to Property Development Centers (PDC), a wholly-owned subsidiary of Safeway. According to Dennis Tagashira – Planning Manager in the city of Hercules –, this project is currently proposed for commercial uses only, with acres of asphalt parking and without re-

**Figure 3: Town Centrale – Front Elevation**

![Town Centrale Front Elevation](source: Town Centrale, retrieved from: URL, accessed on 03/07/2014.)
sidential uses. An auto-oriented, regional commercial shopping center attracting customers from outside the city limits will be constructed. Thus, the Sycamore Crossing project is not designed to be a walkable pleasant experience (Tagashira 2014).

San José

San José is the county seat of Santa Clara County, California. During the last decades, San José’s population growth was very intense. Between 1960 and 2010, the number of residents grew from 204,196 (1960) to 945,942 (2010), i.e., the population almost quintupled. The US Census estimated that 982,765 people lived in San José in 2012, which equates a population growth of 3.9% compared to 2010. Until 2035, approx. 1,380,900 people will live in the city of San José (+45%) (City of San José 2014a; US Census Bureau 2014b).

For several years now, San José also pursues a sustainable land use planning to prevent further urban sprawl and to protect natural resources as well as open space. The design principles of New Urbanism are applied to achieve this target. The population and job growth should also take place within the city limits.

Urban Villages

The vision of the San José 2040 General Plan is the achievement of fiscal sustainability as well as the enhancement of San José’s job-to-housing balance. Thus, nearly all new development is to concentrate in 70 designated “Urban Villages”. These are strategic locations, which can accommodate a growth in jobs and housing capacity. Urban Villages are expected to be active, walkable, bicycle-friendly, transit-oriented and mixed-use urban settings (see figure 4). Furthermore, they are supposed to attract an innovative workforce and to be consistent with the plan’s environmental goals. Urban Villages are situated along present regional and local transit lines or in locations identified by their potential for redevelopment or improvement (Arieff 2012).

In November 2013, four Urban Villages plans were approved by the City Council. Currently, six additional Urban Village plans are under development. According to Michael Brilliot – Senior Planner in the Department of Planning, Building and Code Enforcement – not all of the proposed 70 Urban Villages will be realized. The city’s goal is to develop and strengthen Downtown and thus they focus on the Urban Villages in and around this part of San José (Brilliot 2014).

Diridon Station

Diridon Station is the central passenger rail depot of San José. It also serves as a transit hub for Santa Clara County and Silicon Valley. The pending arrival of High Speed Rail and BART (Bay
Area Rapid Transit) as well as the much anticipated possibility of a new Major League baseball park, give Diridon Station the chance to transform to a dynamic downtown destination. In the coming years, the urban character will change due to the development of these important facilities and extensive commercial and residential infill. Therefore, the city of San José, in coordination with local and regional agencies, developed a plan for a half-mile radius around Diridon Station with approx. 500 acres of land. The city and agencies wanted to provide a vision and framework for higher intensity/TOD in the area. The plan will guide for the destination with a mixture of transit-supportive uses. Furthermore, the plan predicts pedestrian, bicycle, open space and street connections from downtown and surrounding neighborhoods (City of San José 2014b).

The updated Diridon Station Area Plan from December 2013 plans a mixture of vibrant uses and districts. Employment, retail and entertainment uses are concentrated at the Diridon Station to foster transit activity and promote the area as a region-wide destination. Residential and commercial uses are situated in the urban neighborhood section and are within an easy walk to the Station core. The neighborhood components are located strategically in order to reduce impacts from transportation infrastructure and to reinforce established neighborhoods (City of San José 2013a: 2-1). The EIR (Environmental Impact Report) draft for the Diridon Station Area Plan was available for public review until February 13, 2014. However, San José is a fiscally poor city and does not have the funding to build the project by itself. The realization of the project also relies on private development. Therefore, it will possibly take decades until Diridon Station will be completed (Brilliot 2014).
One South Market

One South Market is a mixed-use redevelopment project located in the heart of Downtown San José, at the southwest corner of East Santa Clara and Market Streets. Once it is realized, the 23-story tower will house 312 residential units and 6,000 sq ft of commercial space on approx. 1 acre. The project is within the Downtown Growth Area identified in the Envision San José 2040 General Plan. After a couple of years of apartment building everywhere but downtown, developers as well as investors are starting to shift their attention to this area. It is the first time in five years that a new skyscraper will be built in San José reshaping its skyline forever. Essex Property Trust, KT Properties and Spring Capital Group are the developers of the project (American City Business Journals 2014a; City of San José 2014c; KT Properties Inc. 2014).

The building is adjacent to the San Pedro Square dining and entertainment district and will have a variety of amenities. These include a plaza deck with a spa, a lap pool and a fitness center. The project is situated on a prime location, as bus and lightrail access is just one block away (KT Properties Inc. 2014). Since June 2013, the construction of the $145 million project is under way. Its completion is expected to be after about 20 months (see figure 5) (American City Business Journals 2014b).

Figure 5: Rendering of One South Market

Source: American City Business Journal, retrieved from: URL, accessed on 03/05/2014.
Similarities and differences in the implementation of New Urbanism

New Urbanist design principles can be designed as new developments or implemented incrementally in existing neighborhoods. This is the distinguishing factor in the implementation of those principles in Hercules and San José.

In Hercules, the design principles are designed as new developments. The projects include the creation of new neighborhoods as well as of a single mixed-use building on vacant land in the town center. Neighborhoods are supposed to be mixed-use, pedestrian-friendly and transit-oriented. Furthermore, a MXD will be realized when erecting a mixed-use, four-story building.

In contrast to Hercules, most projects in the city of San José are redevelopments that will be located in existent neighborhoods. These infill developments are, e.g., the construction of a new mixed-use, 23-story tower in Downtown San José. Additionally, San José’s infill developments include forming Urban Villages to retain and amplify the existing mixture of uses in present neighborhoods.

The implementation of New Urbanist features usually requires changes to street design standards and to zoning laws in order to allow higher densities and mixed land use. Therefore, a new approach to building codes, called “form-based codes”, is an important tool for implementing New Urbanist development. Form-based codes provide guidelines and building requirements that define a particular type of development preferred in a particular area. These can be low- or medium-density residential, or mixed-use urban villages. Both the city of Hercules and San José avail such form-based codes. In Hercules, a “Regulating Code for the Central Hercules Plan” was adopted on July 16, 2001. It contains, e.g., a series of desired development plans, widths of street types, land use tables, maximum block sizes, and parking requirements (Tagashira 2014). One major strategy of the Envision 2040 San José General Plan is the so-called “Form Based Plan”. The city prepared urban design guidelines for each neighborhood and each corridor in the identified growth areas. Different areas and corridors require different types of design guidelines in order to address deficiencies and build on assets. Guidelines for, e.g., Downtown, North San José and Diridon Station were established regulating building height and massing, building orientation, materials, open space etc.

In Hercules, the implementation for New Urbanism was also achieved through the participation of the inhabitants. The Planning Commission’s and City Council’s adoption of the New Urbanist principles was agreed upon at a series of community-wide charrettes conducted in 2000 (Tagashira 2014). The first major strategy of the Envision San José 2040 General Plan is “Community Based Planning”. Thus, the citizens of San José were also able to take part in the planning process. They could have participated through community workshops, task force meetings, outreach
events as well as online community outreach.

**Recommendations for action**

The New Urbanist projects planned in the exemplary cities are not realized yet, but some recommendations for action can be derived from the stakeholders’ experience.

Both exemplary cities are spread out, have a low density and primary consist of residential uses. Driving by car to get to work, to the grocery store or to activities is required. The cities do not have the financial possibilities to develop their neighborhoods into transit-oriented and mixed-use communities. However, already small actions can help to repress the automobile and emphasize other modes of transportation like taking the bus, walking or cycling. An easy and convenient access to public transit or constructing bike lanes and pedestrian path systems can encourage residents to walk or bike. The availability of activities and commercial uses in the neighborhoods can also persuade residents to stay in the city and walk or bike to their desired destinations. As a result, VMT (Vehicle Miles Traveled) and GHG (Green House Gas) emissions can be reduced and cities can be transformed into more sustainable ones.

Nowadays, residents still think high-density, mixed-use neighborhoods threaten their suburban life-style and thus they think negatively of them. Resident participation during the planning process can help to eliminate this issue. Citizens understand the plans and design principles and can discuss about the benefits of New Urbanism with others. In this way, the population can be convinced that living in a high-density, mixed-use neighborhood has more advantages than living in a low-density residential neighborhood.

Government action is the key to create sustainable cities. Public policy must identify and encourage reduction of GHG emissions, waste, VMT and soil sealing while maintaining economic growth and quality of life. Governments must also provide money to the organizations that promote the principles of sustainable land use planning. Further, the government must set rules that encourage those sustainability practices. In this way, private investors realizing projects will turn to New Urbanist ones more quickly.

**Conclusion**

It will take small steps and thus a long time until suburban cities with a low density and primary residential uses will turn into urban high-density, mixed-use cities. The design principles of New Urbanism can help to create the latter, more sustainable type of cities. By applying New Urbanist design principles, one creates walkable cities containing a mix of uses, a variety
of housing and job types and multiple choices of transportation. Compared to established city structures, sustainable cities have lower overall transportation costs, reduce air pollution and decrease infrastructure costs. Furthermore they preserve sensitive lands, save people time in traffic and meet market demand for different housing types at different price points. Implementing the New Urbanist design principles will look different in each place, depending on the city’s character and needs. The projects of the exemplary cities illustrate that already small actions following New Urbanist principles – like building bike lanes and pedestrian path systems – can help to create sustainable cities. Thus, there’s no excuse for not starting to create a sustainable future today.
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Redevelopment of Old Harbor Areas as a New Chance for Urban Development

Examples from Hamburg and San Francisco

Abstract

Waste land (disused military or industrial land in the inner cities) provides high potential for inner city developments. Its reuse is becoming more important to counter the ever-increasing land use in the outskirt areas of a city and is intensively discussed and of international significance (Scholich 2005, p. 308-309).

Reasons for the growing importance of revitalizing these mostly derelict inner-city areas are the increasing trend of reurbanization, as well as the aspect of sustainable urban development, which tries to prevent the development of new settlement areas.

Port cities are representative of a special group. Due to technological, structural and economic transformations in transportation and port industries, such as containerization and the deindustrialization, there is an increasing number of brownfields in downtown areas (Priebs 2004, p.1).

The „HafenCity“ in Hamburg is one of the largest urban development projects in Europe and has gained international attention. As an international example for comparison, the area „South of Market“ in San Francisco will be examined. This is also a revitalization of a former port area.

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Introduction

Revitalization refers to the conversion or reclamation of derelict areas for living, working and recreational purposes. A brownfield site is a normal occurrence of urban development and under normal conditions there is a quick reuse (Schubert 2002, p.11). The sustainable land management policy in Germany provides the legal framework for revitalization. To implement this policy urban land-use planning and sectoral planning is necessary. For the purpose of brownfield redevelopment German politics have coined the term “Flächenrecycling” to describe an essential policy for inner city development which implements the goals of sustainability at all three levels:

a) Environmental dimension: reassignment prevents additional claim of surface
b) Economic dimension: promoting the resettlement of investors in attractive downtown areas with low development costs
c) Social dimension: creation of new jobs (Scholich 2005, p.211-213)

Further, the revitalization of inner-city brownfields strengthens the so called soft locational factors and can improve the quality of urban life and thus are also of economic importance. For this reason German planners have a wide toolset to plan for urban redevelopment and the revitalization of brownfields (see Tomerius 2005, S. 983; Priebs und Wegner 2009, S. 257).

Development and goals of harbor revitalization

The development of the port city as well as the harbor can be, according to Hoyle, divided into five phases:

In the first phase, from the Middle Ages to the 19th century (pre-industrial phase), the ports had been stacking and trading centers for high-quality goods in international trade. The city was spatially and functionally intertwined with the handling, storage, trade and other related services of the port. The port was, by then, a simple city port (Haass 2005, p. 17).

During industrialization (mid-19th century to the early 20th century), the city ports expanded. Often, new ports or new storage and transshipment points had to be created outside of cities because of the size of the ships (Haass 2005, p. 17-18).

Until the mid-20th century, during the industrialization, port expansion plans and new municipal settlement plans were implemented. The harbor was converted into an industrial seaport (Haass 2005, p. 18).
The development of the container and the deindustrialization in the early 1960s to the 1980s led to the retreat of the harbor from the city in many places. Due to the growing demand for space, ports could no longer remain within the cities. Subsequently, there is a revitalization of these derelict port areas on the edge of the inner city since the 1980s worldwide (Haass 2005, p. 18).

The objectives to be achieved with harbor revitalization are:

1. Strengthen the urban economy by creating new jobs
2. Spatial reorganization
   - Option to reintegrate the town center, harbor and water into the existing downtown
   - By filling the narrow finger piers, valuable land can be created in an optimal location
3. Revival of port and shore areas by improving the accessibility
4. Practicing new planning cultures by using new integrative and participatory planning
5. New uses of shore areas that are not necessarily connected to the port
6. Return to maritime heritage (Schubert 2002, p. 23)

Therefore, the purpose of revitalization is to steer the demand for settlement areas and thus reverse the urban sprawl and focus on urban potential. Brownfields in the inner cities could be avoided. This corresponds to the urban model of mixed urban development, which is characterized by a compact settlement pattern, mixed uses, accessibility of utilities, services, leisure and recreational activities within walking distance of nearby housing, workstations and schools. The objectives prepared by Schubert can be used to monitor a successful harbor revitalization. However, the category of ecology/sustainability is missing within these objectives. Because of this, they should be extended by two further points. The objectives formulated for harbor revitalization would then be:

7. Reduction of the demand for land-use outside the cities (inner city development/brownfield redevelopment)
8. Sustainable urban development through forward-looking and resource-conserving actions
Now a harbor revitalization project can also be checked for sustainability. Taking into account the current land use and attributing to the goal of reducing this by the national sustainability strategy (Homepage REFINA 2012), a harbor revitalization can be seen as a new opportunity for urban development. Also, the increased demand for waterfront developments is met by such measures. Due to the transport-related changes in port operations harbor revitalizations are only taking place since the 1960s, which thus constitutes a relatively new area of responsibility for urban development.

**International development of harbor revitalization**

The concept of harbor revitalization has its origin in the United States and has been adopted worldwide by now. Since the 1960s, disused harbor land use was oriented towards leisure and tourism and was combined with residential, office and retail uses. At central marketplaces, festivals and events were held. Within these areas there are now often marinas, aquariums, maritime museums and historic, maritime fragments (Schubert 2002, p.319). As a result of the worldwide similar developments and processes in port industries harbor revitalization projects can be found in all countries. Some examples of international importance are Rotterdam, Shanghai, Copenhagen, New York, London, Sydney and San Francisco.

**Harbor revitalization in Germany**

Old, peri-urban port areas have become urban development priorities in many German cities, in which there have been complex and individual transformation processes for several decades (Priebs 2004, p. 1). A few decades ago, „port areas without vessels, empty storage buildings, derelict warehouses, unused quay walls and deserted districts“ coined the image of the port cities (translated by author, Schubert 2002, p. 15). Due to the new port infrastructure, which is often originated outside the city, central areas became abandoned. For many cities, theses areas opened up a great opportunity for restructuring. From an urban planning point of view, this mostly means a change towards services, tourism, leisure and residential uses.

The reorientation of the city to its waterfront is either linked to historic structures or is giving the city a completely new image based on the waterfront use.

During the 1980s, however, the central derelict port areas moved more and more into the focus of urban development. By reviving the economy and increasing reurbanization tendencies, the rental prices in the city center rose and the site's value increased. As a result, the first revitalization project in a German port city began in the late 1980s. These revitalization projects were
Based on the model of the harbor revitalization of the United States, which has been explained previously (Haass 2005, p. 13).

**San Francisco „South of Market“**

In San Francisco, the former harbor area, „South of Market“, has been in the process of being redeveloped since the late 1970s. Before that time, „South of Market“ constituted mostly of warehouses and port plants as well as industrial plants. From the 1990s on, cultural facilities and modern apartments have been developed in the district. With its strategic location, many of the so-called „dot-com-companies“ such as Twitter and Sega America, as well as artists and other creative industries, settled down in South of Market (Homepage Twitter Inc., https://about.twitter.com/company). However, there have also been investments in education and health care infrastructure as well as in parks and recreation areas, which previously hadn´t been present in this highly industrialized area. An important example of educational infrastructure is the expansion of San Francisco State University from downtown to South of Market (Homepage San Francisco State University 2012). The revitalization is still in progress and the development will be completed in 2020 (San Francisco Redevelopment Agency 2005, p. 30).

The revitalization area extends over more than two square kilometers and has a total population of 10,490 inhabitants at a population density of 5,063/ km².

**Objectives**

In order to construct new uses for the old port areas and due to a citizens´ initiative, a land use plan was developed by the Port Authority. The citizens´ initiative for the land use plan coincided with the 1989 earthquake, „Loma Prieta“. The freeway, which separated the city center from the water edge, was demolished due to the strong destruction and the citizens of San Francisco, together with the city council, were able to achieve the freeway was not being rebuilt, which allowed access to the water and the revitalization of the old port area (Schubert 2002, p.366).

The objectives of the plan, which was later incorporated into the General Plan for the port area of San Francisco, are:

1. The city will be reconnected to the water
2. Enough land should be reserved for water-bound uses
3. The old port area will be revitalized in order to create jobs, revenue, public facilities and benefits for the port, the city and the state of California
4. A variety of activities which the citizens and visitors can enjoy are to be developed
5. A new appreciation of the bay by creation of parks, open spaces and the access to the water and riverside paths should be supported
6. The historical character of the area should be respected while new opportunities are created
7. The new projects are to be aesthetically appealing
8. Economic opportunities should be created for everybody, regardless of their gender, ethnic or cultural affiliation to reflect the diversity of San Francisco (Schubert 2002, p.367)

Since four of the seven goals of the plan contained urban design elements an accompanying report for urban design was drafted. The functions that should be performed by this plan were to provide a variety of activities on the water, to plan the creation of parks, green spaces and riverside paths, to identify historical buildings/ facilities and to develop guidelines for their preservation, and develop design guidelines for future buildings and facilities. The plan includes statements to parks, open spaces, access to water, boardwalks, viewing directions, view corridors, historic buildings, districts, facilities and protective brownfields, urban design patterns, adjacent neighborhoods, a road network as well as guidelines on how to protect these elements (Schubert 2002 p. 373).

**Measures and monitoring success**

The revitalization of the area is run by the San Francisco Redevelopment Agency. It financed the expansion of Sixth Street with new, widened sidewalks, new trees and street lights. Moreover, houseowners are supported with renovating the facade of their house since 2002. The Authority also promotes the volunteers who work in South of Market. They are an important part of the cultural identity of the region (Homepage San Francisco Redevelopment Agency 2011). To promote living in South of Market, the project „Affordable Housing” was performed. The South of Market Area Plan states that the existing buildings are to be retained as apartments for low incomes and especially for the people who lost their homes due to the earthquake (San Francisco Redevelopment Agency 2005, p. 4-5).

The South of Market Area Plan indicates that there is a need to create a better and more intensive mix of job opportunities in the district. Furthermore, sufficient training places are to be created for the citizens of South of Market (San Francisco Redevelopment Agency 2005, p. 5). Overall, it can be said that the district provides a good basis for attracting new population due to small, attractive and affordable commercial and industrial spaces that can be assigned to other
uses. These warehouses are often used by creative industries as studios or exhibition premises with integrated residential use.

Also, the promotion of walking and cycling as modes of transport in the area is a sustainable approach. Basically, whatever the concept, reusing a disused inner city area is sustainable.

**Hamburg HafenCity**

The harbor revitalization project, „HafenCity“ in Hamburg is the largest inner-city development project in Europe. Covering an area of 157 hectares, the downtown of Hamburg will be extended by 40% until 2025 and be characterised by a “fine-grained mix of uses” like housing, work, culture, retail and education (Ehlers, Barbara, Interview, 07.02.2012). The former harbor area is located south of downtown Hamburg on the Elbe, east of the St. Pauli Landungsbrücken.

Back in 1999, an urban design competition for the HafenCity area was taking place (Ehlers, Barbara, Interview, 07.02.2012) and the master plan was drawn up in 2000. The winner of the competition was the Dutch-German team, „Hamburg Plan“. Their winning concept is promoting an “opening of the HafenCity to the Speicherstadt (the old warehouse area), an impressive variety of urban typologies, a smart partitioning of the districts and a flexibility/ adaptability of concepts” (translated by author, Homepage HafenCity 2012).

**History**

Since the use of containers in international cargo transport became the dominating factor for the port industry in the 1960s, the the area of todays HafenCity became to small. Now large open spaces were needed. These spaces could be found outside the city, south of the Elbe, where one of the world’s most advanced container terminals “Altenwerder” is in operation since 2003. Thus, over 150 ha of port area near the city center were not used anymore, and are to be revived by the HafenCity project.

Overall, you can say that the HafenCity area has always been a strong and much used location, significant for Hamburg. The HafenCity can be seen as a „nucleus“ for the development and economic success of the city of Hamburg (Homepage HafenCity 2012 [3]).

**Objectives**

The HafenCity Hamburg GmbH describes the objectives of the HafenCity development as follows: The downtown of Hamburg is to be reconected with the Elbe river and expanded through the construction of the HafenCity by 40%. This will create housing for 12,000 residents and working places for 45,000 people. Furthermore, the HafenCity is distinguished as a fine-grained mix of...
living and working in connection with leisure and education. The project HafenCity will increase
the attractiveness of Hamburg on a regional and international level with new facilities for cultural,
retail, entertainment and tourism activities. For its residents, the HafenCity should be a place of
identity with outstanding quality (Ehlers, Barbara, Interview 07.02.2012).

After Hamburg was appointed Green Capital in 2011, the following goals were added:
- Sustainable use of land resources
- Mixed Urban Development
- A reduction of CO2 emissions
- To set standards for environmentally friendly construction
- Impulses for the future

The Chairman of the Board of HafenCity Hamburg GmbH, Jürgen Bruns-Berentelg, defines
the implementation of the principle of sustainability on four levels. For one, a former industrial
core area is re-used again extensively, thus saving resources. At the same time a sustainable urban
structure with a fine-grained mix of uses is provided (Homepage Umwelthauptstadt Hamburg
2011). The heat energy that is needed within the HafenCity is obtained almost exclusively from re-
newable energy sources. Furthermore, the certification system created by the HafenCity Hamburg
GmbH encourages an intense competition for innovation. This eco-label is awarded to buildings
that are particularly sustainable in their construction.

The HafenCity will be an inner city neighborhood with a maritime character (Schubert
2002, p.99). For this to be successful and for the population to move into the HafenCity and ac-
cept it as a new part of the city center, the following criteria must be met. There has to be a close
connection both to the north (downtown) and south (neighborhoods such as Harburg). Also, the
open spaces have to be designed with high quality to ensure good amenity values. Furthermore,
the new constructions should be of a sophisticated and versatile architectural design.

**Usage structure**

As the HafenCity project is an extension of the inner city, residential use takes up a very
large part of the planned area. Overall, 5,500 flats will be built, accounting for around 1/3 of plan-
ned gross floor space. However, rents in the HafenCity are almost twice as high as the Hamburg
average due to the high costs of construction and the location near the city center. On the other
hand, the HafenCity offers plenty of housing concepts, such as sound-insulated housing for mu-
sicians or units that can be used by an open-style floor plan as an apartment, studio or exhibition
space (HafenCity 2011, p. 27).
One of the goals for the HafenCity was to ensure that there are at least 45,000 newly created jobs. Today, there are about 270 companies in the HafenCity, among which there are many creative and modern services. Unilever, Spiegel, Gruner+Jahr, Greenpeace, SAP or Germanischer Lloyd are only a few of the image-promoting companies. They chose the HafenCity because of the existing urbanity, which is established as an important location factor (Homepage HafenCity 2012 [1]). It can be observed that many companies of the creative and media industry settled in the HafenCity. Axel Priebs attributes this development mainly to soft location factors: the image of the area and the interplay of past and future (Priebs 2004, p. 117).

The educational infrastructure takes up a particularly pronounced role in the HafenCity. Although initially not planned, more and more educational institutions, such as the HafenCity University, the Kuehne University of Logistics, the Int. School of Management, and the Science Center or the St. Catherine’s School settled in the HafenCity (HafenCity 2011, p. 1). Furthermore, cultural institutions such as the Maritime Museum or the Elbe Philharmonic Hall are located within the HafenCity.

Public urban spaces are taking up an important role in the HafenCity. 22% of the area is to be designed as public open spaces (e.g.: Magellan Terrassen or Marco Polo Terrassen). However, the largest open space with a size of 4 ha, which will extend from water edge to water edge, will be the Lohsepark.

The ground in the HafenCity is used very efficiently. The master plan provides for a total of 339,000 m² of build up area with approximately 2.3 million m² above ground floor area. Mainly, buildings with six to seven levels will be built. This results in a floor-space index from 3.0 to 5.5,
which is a relatively high value. The floor-space index is the ratio of floor area to the size of the buildings plot area (HafenCity 2011, p. 48). This high density is, nevertheless, tolerated because of the large water areas. The density provides a fine-grained mix of housing, work, recreation, culture, shopping and knowledge. This mixed use, however, doesn’t only take place within the districts, but within each building as well. With this mix of uses, a „city of short distances“ is possible and the use of public transport, biking or walking as mode of transport becomes more plausible.

**Figure 2: Revised Masterplan of the HafenCity**

Source: hafencity.com 2012

Because the HafenCity is basically an island crossed with old docks, both the traffic connection to the mainland as well as the connection between the docks has to be ensured with bridges. An efficient and widespread network of public transportation was a requirement for the urban and sustainable reuse of the HafenCity. In addition, the area of the HafenCity was not on a flood-safe level of 4 to 5.5 m above sea level and outside the main dike line of Hamburg. Therefore, the streets and buildings had to be raised to a flood-safe level. This was ensured by putting all roads and constructions on 8m above sea level through so-called „Warftsockel“.

With this measure, a future flooding of the HafenCity could be prevented and the water-related uses could be designed accordingly. For example, the promenades remain at a level of 4 to 5.5m above sea level, allowing a direct reference to the water. Raising the buildings on 8m above sea level also gave the opportunity to design the levels below the street as underground parking areas (Ehlers, Barbara, Interview 07.02.2012). This makes it possible to reduce the parking space outside the buildings to a minimum and strengthen the image of the HafenCity as a „pedestrian city“. Another feature of this car-free image of the HafenCity is the closely meshed network of pedestrian and cycle routes.
Within the field of technical infrastructure, special attention was paid to sustainability. A fuel cell for power generation is located on Sandtorpark/Grasbrookhafen as a pilot installation and all buses that are driving within the HafenCity are refueled at the hydrogen fueling station close by. Additionally, there are some „StadtRad“ stations where bicycles can be rented and in located the “Überseequartier”, there is a charging station for electric cars.

The blocks of the HafenCity are based on the structure of the existing city center and simultaneously are oriented the local peculiarity of the water areas. Overall, the aim is to design a high density of buildings with an open architecture at the same time. While the city center has traditional blocks, the buildings in the HafenCity step back from the waters’ edge and enable access to the water (Nachhaltigkeitspavillon, Exkursion 07.02.2012). The diverse architectural designs are visually separating the different districts from each other.

Political and legal framework

To enable the revitalization of the old harbour, the land use plan had to be rewritten and the harbour development law had to be substituted by plans according to the regular planning legislation. Due to the status as a free-port and the validity of the harbour development law, the area of today’s HafenCity was limited in its permitted use and accessibility for more than 100 years. After these changes in legislation, an urban design competition was conducted for the master plan of the HafenCity in 1999. In October 2006, the HafenCity was assigned the status of special urbanistic importance. With the disentanglement of the area and the status as a free harbor, a large portion of former harbor development area could be used for urban development in the City of Hamburg.

The key actors, who were involved in the development and implementation of the HafenCity, include, the Ministry of urban development and environment and the HafenCity Hamburg GmbH. The Ministry of Urban Development and Environment is responsible for the permission of buildings, zoning, public transportation and the maintenance of main roads. The Baudirektion/AG HafenCity, which is also a part of the Ministry of Urban Development and Environment, is responsible for the urban planning concept, the processing of development plans and for the architectural quality.

The HafenCity Hamburg GmbH acts as the trustee of the “City and port” fund and is therefore the owner of property and public buildings.

Another actor is the Hamburg Port Authority, which is responsible for the water surfaces and the maintenance of the quay walls. Furthermore some authorities are responsible for certain sectors. Last, but not least, the citizens of the HafenCity, which actively participate in the develop-
ment and design through organizations such as the „NetworkHafenCity“, are actors as well (Ehlers, Barbara, Interview 07.02.2012).

The sustainable development strategy for the HafenCity is divided into five levels:

a) The reuse of a former industrial area
b) The high density and mixed use of the new planned downtown area and thus an efficient and sustainable land use
c) The concept of sustainable mobility with access to the pre-existing subway system, the bus system with powered by hydrogen and the concept of the HafenCity as a walkable city
d) High efficiency and low CO2 levels accomplished by district and local heating networks and the use of renewable energy
e) The certification of buildings (HafenCity Hamburg 2010, p. 2)

Even, the basic conception of the whole district is characterized by careful use of resources“ (HafenCity 2011 S. 48). The aspect of sustainability in this new urban development was further strengthened by the nomination of Hamburg as “European Green Capital” in 2011.

**Conclusion**

Currently, there is an increasing demand for living in the inner city, especially in Metropolitan Areas like Hamburg, Munich or Berlin. The revitalization of derelict harbor areas close to downtown is one possible way to meet this demand and expand the inner city with qualities like urban density and mixed uses. The modern city of the 21st century is based on the structures of European cities of the late 19th and early 20th century. It is characterized by short distances and a small-scale mix of uses („Mixed Use Development“). Every neighborhood could provide areas for housing, workspaces, shopping, leisure, childcare and education. The high quality of life that came with these mixed use structures made these urban structures so popular.

If these principles are adapted to the redevelopment of former harbor areas these neighborhoods can become vibrant urban areas especially with the ongoing trend of reurbanisation. The positive image of these developments can also affect other neighborhoods in close proximity and have a positive effect on these areas.

Another important factor of revitalization former harbor areas is the reuse of land and the development of inner city areas. This creates the opportunity to reduce the use of former un-used
land on the edge of the city and thus helps to make urban development more sustainable and prevent urban sprawl.

For Hamburg, all the initially set goals are met so far. The city will have been extended by 40% until 2025. Also, there will be nearly 6,000 apartments for 12,000 people and 45,000 jobs. Thereby, the city of Hamburg can satisfy the need of the population for housing in the inner city. On the other hand, there is very little low-cost housing for people with average and low income. However, this was taken into account in the revision of the master plan and will now be realized in the eastern HafenCity (Baakenhafen). This shows that the urban planning department in Hamburg is quickly reacting on criticism of the population, giving alternatives and adjusting plans. The fine-grained mix of uses in the HafenCity will not only be taking place horizontally, but also vertically (inside the buildings). Most of the time housing, retail and office uses are located within one building. Thus, Hamburg achieved the goal of designing the HafenCity as a „City of mixed use developments“.

Hamburg can be seen as a flagship for sustainability. Through pioneering and resource-saving measures/projects, Hamburg ensures its competitiveness with other cities. This leading position is also illustrated by the appointment of Hamburg as European Green Capital 2011.

In San Francisco, a focus was set on the provision of housing for the population with low incomes from the beginning. A review of the success of this goal is not possible because of missing data. However, it can be determined that residential uses are taking up a lot of space within South of Market, therefore, it can be assumed that this goal has at least been partially fulfilled. In addition, the car traffic should be reduced and the focus should be on pedestrians and cyclists. This happened through the Alleyway Improvement Project. A qualitative improvement of the area was provided with the establishment of educational and cultural institutions such as the San Francisco State University or the San Francisco Museum of Modern Art.

In comparison the two harbor revitalization projects, HafenCity in Hamburg and South of Market in San Francisco are similar in some aspects e.g. the number of inhabitants and size of the area. The HafenCity has 12,000 inhabitants on an area of 157 hectares. In South of Market, there are 10,490 people living on 210 hectares. The biggest difference, however, is that South of Market, unlike the HafenCity, does not have a direct water reference. The district was executed on landfills, from which the harbour industry operated and which were later filled up due to the lack of space. Thus no additional measures for flood prevention had to be included in the plan for South of Market. The geographical conditions are completely different in Hamburg. The HafenCity has a direct relation to the water with a shoreline of over 10 km. Nevertheless, both projects are formerly used harbors that were converted.

In principle, the underlying conditions in San Francisco are different to the ones in Ham-
burg. Large parts of the city have been destroyed by the Loma Prieta earthquake. One of the areas most affected by this event was South of Market and the freeway which separated the city from the water. Thus, the city had the chance to reconnect to the water by not rebuilding the freeway. In comparison, the “Speicherstadt” (former wareahouse district) in Hamburg can be seen as an urban 2block” separating Hamburg’s inner city from the water and close by neighborhoods. This conflict could by resolved by integrating the “Speicherstadt” into the new HafenCity ad thus opening up the former secluded commercial area to more public uses.

A positive aspect is the planning culture applied in Hamburg. First, the disentanglement of the area for the HafenCity development from the harbor area succeeded without the expected collision of interests between the port authority and city development. On the other hand, the urban and architectural quality was controlled by the HafenCity GmbH, which was created for this purpose. By this the city could influence the developers’ projects ensure the public interests were served. For example, in Sandtorpark/Dalmannkai, each building is distinguished by a unique selling proposition and each district has its own theme. There’s positive feedback from the citizens and the investors for the intense support by the public sector.

Due to this quality management within the planning process and Because of the high standards for sustainability, the costs for the HafenCity are higher than for other waterfront development projects, but it also strengthens the new districts. Through the development of individual neighborhoods within the HavenCity, the identification of the residents to their neighborhood could be strengthened. During the development of the HafenCity, the involvement of its population was very important and reinforced the public acceptance positively. An example is the community initiative, „Network HafenCity“, or the districts independent newspaper.

In San Francisco, the population was included as well and the need for residential use of the district was met.

Both projects are distinguished through the reuse of vacant land, which reduces urban sprawl. Hamburg takes up a leading position for the issue of sustainability. For example, every new building has to meet the sustainability requirements of the certification system of the HafenCity GmbH. Both in the HafenCity as well as in South of Market, walking and cycling is encouraged. Educational infrastructure takes up an important role in both projects. University institutions, primary schools and kindergartens have settled in both district. Also, cultural institutions can be found in the HafenCity (Maritime Museum, Science Center, Elbphilharmonie) as well as in South of Market (San Francisco Museum of Modern Art). Both districts were upgraded by the establishment of these institutions, because education gets increasingly more important within the science economy. In addition, child care and educational infrastructure is an important criteria for housing choices of young families.
As a point of criticism, the relatively high population density of 9450 inhabitants/km² in the HafenCity could be mentioned. Compared to a densely populated metropolis like Barcelona, though, (18,700 inhabitants/km²) this number is rather low. The high density in the HafenCity is yet compatible, because of the diverse range of leisure offers open spaces and water relations. The citizens do not have to escape the city for recreation and relaxation. The population density in South of Market is 5063 inhabitants/km². The value is lower than for the HafenCity, but there are less open spaces and no water relation in South of Market, which could hint to a poorer quality of life and housing.

In the HafenCity, a balanced coexistence of density and openness was reached. Due to the small-scaled mix of uses, there is a constant meeting of citizens, people who walk through it, children and tourists. Thus, the urban character of the new district is encouraged and positively reinforced.

The strong maritime character and the high quality of the water relations are giving the HafenCity an unique flair and a high demand as a residential and work location. The HafenCity characterizes Hamburg in competition with other cities. The concentration on maritime heritage is not as pronounced in South of Market as in the HafenCity. But one has to consider, many historic buildings in South of Market have been destroyed by the earthquake and there is no direct water reference because of the difference of the former harbour layout. Due to this reason, the water cannot be used as an urban planning element as strongly as in the HafenCity. Only the high rents in the HafenCity could be named as a negative aspect.

The proximity and the many footpath connections to the city center create a positive interaction between „old“ and „new“ city in Hamburg. Living in the city is thus extended.

Both projects are showing that a former harbor area can be revitalized. Urban sprawl can be prevented by giving the vacant land a new usage. Therefore, both projects serve as best-practice examples of sustainable urban development. Nevertheless, Hamburg has currently positioned itself as one of the best harbor revitalizing project worldwide through resource-saving technologies and measures for environmental protection.
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Shrinkage – Polarization – Re-Urbanization?

A Brief Analysis of Two Shrinking Cities’ Policy Implementations and the Possibility of a Return to Urban Qualities Via the Knowledge Industry

Abstract

Our cities are facing enormous changes, reshaping their most basic structures. A city can benefit from high turnover rates in employment, resident population and financial capital in one year, but suffer severe decline the next year. Now emerging out of this constantly changing framework are the two phenomena “Shrinking Cities” and “Re-Urbanization”. While the first has become an acknowledged fact in many of the affected regions over the last years, the latter is often still uncertain and – due to its multidimensionality and often diverting definitions – more complex to capture in empiric research. The first part of this paper is devoted to paint a picture of the various shapes re-urbanization can occur in, by examining the case studies Kaiserslautern and Flint. Different approaches are used to investigate whether or not re-urbanization processes can be found there and how they interact with shrinkage. The focus of this article is on the policies implemented by the municipal government and other institutions in charge of urban development. Did they take into account the impact of a shrinking environment? What were their goals and were these goals accomplished?

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Introduction

Our cities are facing enormous changes, reshaping their most basic structures. A city can benefit from high turnover rates in employment, resident population and financial capital in one year, but suffer severe decline the next year. Such a rapidly moving environment requires a far more flexible urban planning than traditional planning instruments and conventional hierarchic structures can provide (cf. Ludwig 2005, 319; Helmholz 2013; Kühn and Liebmann 2009; Othengrafen 2013). Also adding to the complexity is the disposition to think ahead only as far as to the next election, which appears to be as common on local government level as on any other political instance.

Furthermore, polarization between rural and urban environments has led to a dense real-estate market and high pressure to investments in metropolitan regions, while the periphery, beyond the suburban sprawl, is facing a different challenge: Here, declining cultural and social infrastructure offerings, out-migration of employers and therefore sinking tax revenues cause qualified workers (and youth in general) to emigrate to more vibrant, attractive locations, as to be found inside the metropolitan regions (Herfert and Osterhage 2012, 95, 108).

Shrinkage, Structural Change and Polarization of Economic Development in Germany and the U.S.

In Germany as well as the U.S, shrinking population and the inevitable structural changes of local industries in the deindustrialization process can be witnessed in close spatial proximity (Pallagst 2014, 59; Volkmann and Walther 2012; Bundesministerium für Bildung und Forschung, Bürgerdialog 2013, URL 5.11.2013). While the number of employment opportunities in the industrial sector is constantly declining, new jobs are created in the service providing sectors. This has led to an out-migration of skilled workers in most regions with a production-based local economy, which in return lowers the regions attractiveness for innovative or big companies who could trigger more investments – a vicious circle (Weidner 2007, 347), reinforcing constraints in shrinkage-stricken regions and cities. In addition, Germany has to cope with considerable changes in population structure due to the demographic change (Bundesministerium des Innern, Demografiebericht 2011, URL, 24.11.2013; Statistisches Bundesamt, Pressemitteilungen 2014, URL 12.2.2014), whereas the U.S. population is aging at a considerably slower rate and most of the shrinking regions are located in the northeastern part of the country (U.S. Census Bureau 2012, p.7-9, 19 f.).
Nevertheless, tertiary jobs are significantly easier to integrate in the built environment, allowing mixed-use neighborhoods to evolve more frequently within the city centers (Altrock 2012, 181; Steinebach, Feser and Müller 2004, 65). Rising mobility costs and the tendency towards dual-income families, which require a more organized, time-efficient daily structure, are slowly undermining traditional single-family-home suburbs. In Germany, the era of suburbanization has been brought to a hold, if not an end (Herfert and Osterhage 2012, 95). In the U.S., house-ownership and living in the suburbs root deep within housing and living traditions, and so far are only declining in urban metropolitan areas (Birch 2002, 5f.). A survey conducted by the American Realtor Association indicates that willingness of Americans to purchase their own homes has dropped since the economic crisis (National Association of Realtors 2011, URL), but it is far too early to assume a country-wide shift in housing decisions (Graves 2013, URL 13.6.2014; Cox 2012).

Now emerging out of this constantly changing framework are the two phenomena “Shrinking Cities” and “Re-Urbanization”. While the first has become an acknowledged fact in many of the affected regions over the last years, the latter is often still uncertain and – due to its multidimensionality and often diverting definitions – more complex to capture in empiric research.

Hence, the first part of this paper gives a quick introduction to the case studies, followed by a focus on the policies implemented by the municipal government and other institutions in charge of urban development. Subsequently, the various shapes re-urbanization can occur in will be demonstrated. Different approaches are used to investigate whether or not these re-urbanization processes can be found there and how they interact with shrinkage. In conclusion, the general role of knowledge-based industries as a way to cope with shrinkage will be discussed briefly.

The Case Studies: Flint and Kaiserslautern

A main reason for the choice of Kaiserslautern and Flint as case studies is their recent commitment to becoming a “City of Science”. This perspective qualifies as an indicator of how shrinkage interacts with the implementation of planning policies. It also serves as a driving force for the reorientation towards the (inner) city as a main hub for innovation, culture and progress. City planning in Flint and Kaiserslautern has reacted in different ways to the above mentioned general developments. While trying to analyze both cities’ planning strategies (and their outcomes) it is crucial to bear in mind the underlying constraints (cultural and other) and different modes of governance original to their planning system and society.

Both case studies have been examined in the PlanShrinking research project and were identified as Shrinking Cities (project PlanShrinking, URL 19.7.2014). The Shrinking Cities Research Network (SCiRN) defines a shrinking city in accordance with Wiechmann as “a densely populated
urban area with a minimum population of ten thousand residents that has faced population losses in large parts for more than two years and is undergoing economic transformations with some symptoms of a structural crisis” (Wiechmann 2008). To evaluate to what extent the return to urban qualities that can be witnessed in the metropolitan areas throughout Germany and the U.S. is also visible in Kaiserslautern and Flint, both cities have been examined regarding population development, real estate market and vacant properties, education and local economy.

**Shrinkage in Flint**

Flint, home of General Motors and known as “Vehicle City”, is representative of an American rust belt-city, single-industry based and having lost almost 50% of its inhabitants since its prime (cf. project PlanShrinking, URL, 15.6.2014). Among Michigan’s 20 biggest cities, Flint occupies a sad second rank in population decline between 2000 and 2010, overcome only by Detroit (Barnes 2011, URL 19.7.2014). While the City of Flint has lost about 16% of its population in the years 2003 – 2012, the surrounding Genesee County only declined by 4.8%, indicating the continuous preference of rural and suburban housing (Fig. 1). Nine out of 38 residential census tracts in Flint City have gained population between 2000 and 2012, six have lost population in each single year. The remaining 23 tracts have had years of growth and years of decline but an overall negative population development (U.S. Census Bureau 2014, Census 2000 und American Community Survey 5-year estimates 2005 – 2012, URL 8.9.2014).

By taking into account the localization of growth and shrinkage inside the city, we see a

**Figure 1: Population development in Flint City and Genesee County**

![Graph showing population development in Flint City and Genesee County](source: Own figure, cf. US Census Bureau 2014, URL, 21.2.2014; Genesee County et al. 2010.)
rather heterogenous picture, although the most problematic streets can evidently be located in the northern parts of the city. Today’s arrangement depicts the evolution of Flints housing market, which resulted in downtown being commonly seen as home only to those, who couldn’t afford to move out. Although this image seems to have evolved (as will be discussed below) population data included in this research merely shows a slightly positive development in three downtown-adjacent census tracts and a foreseeable stabilization in downtown.

The real estate market in Flint was hit hard by the economic crisis of 2007 – 2009. As stated in the Housing Market Conditions Report (Center for Community Progress, 2013), the median selling price in the city amounts to 21.835 USD, which is more than 40,000 USD lower than the county’s (63,000 USD in 2011). Low house values in the inner city of Flint result partly from a vicious circle launched by the Michigan foreclosure legislature, which was in place until 1999. Houses often stayed vacant even after being auctioned off in the foreclosure process, since the new owners were more often investors than homebuyers. But a vacant home in Flint loses value quickly. As Heidi Phaneuf, Community Resource Planner at the Genesee County Landbank Authority (GCLBA) confirms, houses sitting visibly empty are frequently subject to depredation, resulting in augmented restoration costs for any future home owner. The GCLBA was installed in 2004 and has since become primarily responsible for urban development in Flint.

The employment market in Flint has been dominated by manufacturing and the automobile industry for over a century. At 25.7%, Flints unemployment rate in 2011 was 56% higher than the unemployment rate in Genesee County. Especially Flints youth (20–24 years: 46% unemployed) and men (almost 33%) suffer from unemployment (City of Flint 2013, 18). Local businesses have difficulties hiring and remunerating full-time staff (Phaneuf 2014) and the once so powerful manufacturing sector only provided 8% of jobs in 2012 (City of Flint 2013, 199). Nevertheless, 2012 has been the first year of a modest economic growth in the region and sectors such as Health Care and Social Assistance or Food and Hospitality are predicted to grow enormously in the next 25 years (+67.5% and +51.9%; City of Flint 2013, 200).

Shrinkage in Kaiserslautern

Kaiserslautern, in terms of population, merely began to shrink in the late 1990’s, but it’s industrial and economic bases have been in decline for a longer time. Adam Opel AG still ranges amongst the biggest employers here, but other once important companies, such as Eisenwerke Kaiserslautern, Kammgarn Spinnerei, and most importantly, Pfaff factory for sewing machines, have (almost) disappeared. Besides the impact structural change has had on population development in the Kaiserslautern region, demographic change is the next most powerful factor. In
Rhineland-Palatinate, there has been a mortality surplus since the year of 1972; since 2007, people aged 65 and over outnumber those aged 20 and under (cf. Statistisches Landesamt Rheinland-Pfalz 2012a, URL 8.9.2014, p.9). Interestingly, urban municipalities within the state differ from the predominantly rural counties in a lower median age, less rapidly overall aging and greater number of people at employable age (cf. Statistisches Landesamt Rheinland-Pfalz, URL 8.9.2014, p.9-10). Within the city of Kaiserslautern, the distinction between the “Core City”, the more widely spread “Inner City” and the town “as a whole”, used in this investigation, is reflected by population development in a surprisingly distinct manner (see Fig. 2a – 2c). While the four most centrally located statistical tracts only lost 2.3% of their population between 2004 and 2013, tracts four to nine (town districts) declined by 4.3% and statistical tracts ten to 18 (adjacent suburban districts) declined by 7.7% (Kaiserslautern 2010, 15; 2011, 15; 2012,15, 2014,15; Statistisches Landesamt Rheinland-Pfalz 2005a, 2005 – 2013). More importantly, statistical data indicates a tipping point in 2009 (outside the obvious change due to a new taxation law). Since 2010, the Core City has a slightly growing resident population. This corresponds with a surplus in internal migration (within the state Rhineland-Palatinate) from which Kaiserslautern is benefitting since 2005, whereas the county had a negative balance ever since 2008 (Statistisches Landesamt Rheinland-Pfalz 2005a, 2005 – 2013). However, there are exceptions to this trend. Certain districts, most importantly Hohenecken, although only adjacent to the city, register an increased popularity especially in the higher quality residential segment.

In other parts of Kaiserslautern, sinking prices, low turnover- and high vacancy rates on

Figure 2: Population of Core City, Inner City and suburban districts in Kaiserslautern

the real-estate market may act as indicators of shrinkage while they also reinforce the existing situation. Although residential vacancy rates are low in most parts of the town, vacant shops shape many streets in central mixed-use neighborhoods. Local overall economic development is closely intertwined with development on regional and supraregional education and employment markets. Unemployment in Kaiserslautern has been significantly higher than in both Rhineland-Palatinate and Germany for over 20 years but seems to stabilize around 5-6% (in relation to population at working age, Wirtschaftsförderungsgesellschaft Stadt und Landkreis Kaiserslautern 2013; 15; Agentur für Arbeit 2014).

Six out of the ten major employers in Kaiserslautern come from the automotive industry, even today, when the town is much more likely to be known for its universities and research facilities than for its factories. This leads to the next, and probably most important development of the local economy: Starting with the foundation of Kaiserslautern University in 1970, the city transformed its local economy from second sector-based with an emphasis on manufacturing jobs, to third sector- and predominantly technology-based, attracting research facilities such as Fraunhofer or Max-Planck institute. Therefore, it also maintained a certain attractiveness for big industrial companies to stay in town, and many plants have been partially converted from production to design and development sites.

Deindustrialization has left both Flint and Kaiserslautern with large brownfield areas. These areas, and even more so the former military bases in Kaiserslautern, have been most successfully turned into modern office and research parcs:

“Not directly in a metropolitan center, but yet very central through excellent road and rail access. with numerous facilities for work and recreation, from service center to entertainment center, a technology park has been developed based on the concept of a campus, with state-of-the-art communications technology. For the settlement of growing companies in particular, our flexible building management plays an important role: There is potential for expanding the premises, and such expansion can be realized without complications.” (PRE GmbH, URL, 19.7.2014)

While this practice is coherent with the “City of Sciences”-strategy that will be elucidated further on, the cited self-description of PRE-Park, the biggest technology hub and most successful brownfield revitalization project in Kaiserslautern, reveals some questionable traits regarding the city’s urban development. PRE-Park doesn’t need to be integrated within the built city, and so there is little interaction between the two.

The following paragraphs are meant to investigate how the institutions that are in charge of urban development have reacted to shrinkage and structural change. The efforts of both cities
to establish a knowledge-intensive industry will in this case be used as indicators to evaluate their approach on urban planning.

“Imagine Flint” - The Masterplan

Flint has seen a wide range of planning strategies and concepts on neighborhood level over the last 20 years. Not necessarily linked, these concepts represent a great diversity of contents from maintenance of historical building stock or instruments against drug abuse as well as redevelopment of abandoned houses and abatement of blight (cf. City of Flint, URL, 19.7.2014). Nevertheless, centerpiece of urban development in Flint is the “Imagine Flint Masterplan”, adopted by the City of Flint in October 2013 (City of Flint 2013, URL 19.7.2014). The first comprehensive planning strategy since 1960 contains analysis and policy recommendations in all areas of urban development. The 2013 Land-Use-Plan differs from the established zoning especially in its openness towards new and uncategorized uses acquiring urban spaces within the built environment. Vast areas, in which housing is the only allowed land use, will no longer be found at the city’s outskirts but only in the areas designated as “Traditional Neighborhoods”, who have already proven to be stable in terms of population density, security and construction standard. The fact that abandoning parts of the city is considered as an option in the long run demonstrates, although not as radically as in Detroit (cf. URL 19.7.2014) or Youngstown (cf. Citylab, URL 19.7.2014), that city planning officials have accepted the finite nature of the growth paradigm.

Due to the close proximity of the city’s most important institutions in the so-called “Ed’s & Med’s” sectors, hopes are high for the creation of great synergies and new cooperation initiatives. It is intended to “increase residential density in the urban core, shift institutional procurement and employee spending to local businesses, and increase urban vitality” (City of Flint 2013, 221). The location of the medical campus in the middle of downtown plays an important role in meeting the many expectations raised on behalf of this project. Thus, surrounding cafes and restaurants, but also retail, healthcare providers and others are expected to benefit as they are within walking distance of the newly added employees and students from the campus.

Kaiserslautern: A City surrounded by Sciences

In 2004, Kaiserslautern began it’s strive towards becoming a “City of Sciences”. A study was conducted to analyze various aspects of the city’s infrastructure and to evaluate it’s potential (cf. Steinebach, Feser and Müller 2004). The results pointed out that Kaiserslautern, with its diversified supply of education opportunities and optimal accouterment of innovative infrastructure
had high potential as a City of Sciences. But the authors also stated an acute need for action in order to keep the high qualified workers in town. The name which Kaiserslautern was given in this report is an allusion to the still ongoing dispersion of knowledge infrastructure in separate poles: “StadtTechnopole Kaiserslautern”. Ten years later, the different poles of knowledge within the city still haven’t merged.

In fact, there have not yet been any comprehensive planning approaches regarding this goal. While population is concentrating in the urban center, university facilities, research institutes and most of the knowledge-based industry is gathered in land-use areas with the specific function of research and teaching or in commercial zones at the city’s edges. The biggest and most significant of those areas are the commercial zone accommodating PRE Park in the east and the University campus and adjacent “research and teaching” zone in the south-west of Kaiserslautern – both very easily to reach from the freeway and including many lunch and other shopping facilities. In Combination with the before-mentioned lack of high-quality housing supply in the inner city, PRE Park and University PRE Park provide fertile grounds for the continuation of the traditional suburban housing model in Kaiserslautern County.

Return of Urban Qualities in Flint and Kaiserslautern

The research process conducted for this paper took into account many different concepts and approaches used to define the comeback of urban life(style) over the past decades. Brake (2012) defines re-urbanization as a process which enhances the importance of a city’s inner neighborhoods through the creation of a more vibrant, animated residential environment. This could be measured through quantitative methods by mapping e.g. the demand for downtown real estate or the success of commercial and cultural amenities in the inner city compared to other locations. However, to capture the aspect of “importance” in its very subjective value, it is indispensable to rely on both quantitative and qualitative methods and be sensitive throughout the whole research process to relevant information, even when it appears outside the pre-set frame of methodology. As Kantor and Savitch state, “Since concepts enable us to filter out, magnify or exclude information, we need to be cautious about their use and about ethnocentric selection or interpretation” (Kantor and Savitch 2005, 138). Thus, the case studies were tested for a broad variety of possible shapes in which re-urbanization can occur. The following passages only reproduce those concepts which seem to have significant impact on either Kaiserslautern or Flint.
Revitalization & Retrieving Flint’s „Urbanity“

Urbanity as “a specific quality only urban environments can provide” - and which is retrieved in the process of re-urbanization as German architect Wortmann defined it in 1963 – is one of the first sentiments associated with the re-urbanization process in planning discourse (Brake and Urbanczyk 2012, 36, quoted after Wortmann 1963, 83). In Flint, demand for such a purely “urban” environment of housing and working space is mainly concentrated in downtown, since the surrounding districts are either dominated by industrial use and architecture or by classic detached single-family houses. The struggle to define urban qualities is omnipresent in today’s planning literature and many definitions have been debated controversially. For Flint, the newly created Place Types, implemented through the Land Use Plan included in the 2013 Imagine Flint Masterplan (City of Flint, 2013), bear the potential of creating a new, specific kind of urbanity, rooting in the city of Flint itself. Some of the Place Types encourage the melting of formerly strictly separated land uses and construction types, and could therefore serve to reinforce the creation of an ambiance very unique to a certain neighborhood. Also, the acknowledgement of public urban space as a common good is often thought of as essential to the creation of functioning urban neighborhoods.

What is so special about the Masterplan, says Heidi Phaneuf, is how much of the input given by the community members has actually found its way in the final plan. Citizen participation has played an important role in the development process of the Masterplan, as it is providing a breeding ground for a stronger identification with the entire neighborhood, including public spaces and the (social) community. According to Phaneuf (Phaneuf 2014), that is what increases the chances to a successful implementation. Since the gap between downtown as a thriving urban center and the majority of still structurally challenged residential neighborhoods remains visible, the Masterplan focuses its efforts in the latter on stabilizing them as functioning, more independent districts with an adequate supply system, preferably in walkable distance. Under the paradigm of revitalization, the GCLBA has made many efforts to improve not only Downtown but also the blight-stricken residential districts located most notably in the north of Flint. “Abandonment, vacancy, blight and other challenges such as crime work in a cycle. Our neighborhood revitalization efforts are meant to counter that cycle.” (GCLBA, Planning and Neighborhood Revitalization, URL 19.7.2014). Hence, revitalization seems to be a rather holistic approach on re-urbanization, aiming at the amelioration of life in general and in each neighborhood without losing perspective on the city as a whole. From that point of view, the revitalization aspect in Flint’s re-urbanization process is a work in progress, and will remain so for some time. So far, the evaluation has shown noticeable progress through the work of the GCLBA. Many programs such as the “Green and Clean” initiative
(URL 10.7.2014), the renovation and sale of vacant homes with help of the Neighborhood Stabilization Program (NSP homes, URL 19.7.2014) or the Available-Lot options (URL 19.7.2014) have had a positive impact on neighborhoods, states Phaneuf (2014).

### Infill development

According to Altrock (2012), infill development constitutes a necessary means to attract new residents, since high density housing is better marketable in new buildings than in old. The new paradigm of Smart Growth under which many U.S.-Cities market their construction programs, in fact resembles the traditional European Town concept, based on dense multi-story apartment buildings, transit access, pedestrian streets and a small scale supply system (cf. EPA 2012; Leinberger 2012). The new generation of urbanites in the U.S. has thus re-discovered the urban flair of the “old world”. Infill development in the sense of strengthening the residential function of inner districts reflects demand of young professionals in Germany as well as in the U.S. Interestingly, the preference to live in an urban environment seems much more likely to be fulfilled in a shrinking city than in a metropolitan region defined by economic success and growth: Rising demand for housing in the inner cities is driven by a population that is well-disposed to an urban lifestyle and specifically asks for an urban housing environment in order to realize this lifestyle while optimizing their cost-benefit-relation. Thus, they give priority to the benefits of living in the city (central location, short distances to amenities and social contacts) over the disadvantages (noise, pollution, lack of green open space) – and due to financial restrictions, these preferences can rather be realized in an environment with housing surplus and low real estate values, which is a shrinking city. Still under the impression of the economic crisis, most young professionals could not afford this urban lifestyle in a metropolitan center.

Besides those more qualitatively than quantitatively relevant forms of re-urbanization, there are also concepts focusing on growth in absolute numbers of employees, inhabitants or tax revenue. In these concepts, re-urbanization can be defined at the level of the town as a whole as a process of relative or absolute population gain of the central city compared to surrounding areas. (cf. Kabisch et al. 2012). Kaiserslautern has achieved a quantitative population gain in its inner districts, which is met by an increasing number of new apartment buildings in the Core City. Especially in the Core City, many new apartment buildings were constructed between older Wilhelminian Style townhomes. These construction activities on the (private) market saw the tendency towards urban living coming and reacted. (Public) city planning meanwhile contributed to the amelioration of housing environment in some inner city neighborhoods through the participation in the federal aid programs “Soziale Stadt” and “Aktive Ortszentren”. A more detailed
research would have to be conducted to tell which types of households are the new habitants, but a fair share of owner occupied condominiums within the new buildings indicate a long-term and stable development. In addition, the smaller of the two PRE Park-projects, called “PRE Uni-Park”, has established a number of small-scaled single-family homes in close proximity to the university and manageable distance to the inner city. Thomas Fischer, member of research staff at the department of spatial planning at the Kaiserslautern University and co-founder of the urban activist group “raumpiraten”, notes that the still persisting lack of high quality housing within the Core City might endanger the persistence of this growth. Whoever is willing and able to pay for high-quality housing will probably still find a more adequate home in the suburbs, if investments in the Core City continue at today’s slow rate, he argues (Fischer 2014).

Former industrial cities have to see to large brownfield sites as well as a struggling inner city, a double-task difficult to manage. PRE Park Kaiserslautern is an interesting example in this regard: Planned as a self-sufficient neighborhood, PRE Park is located on a brownfield area at the city’s borders. Although it wasn’t a Greenfield development, PRE-Park has many similar qualities to it: The use that has been employed on the site before has never been in strong relations to the surrounding or adjacent neighborhoods. Thus, establishing a vital and well-connected urban district would have required at least as much effort as a Greenfield development, if not more. Today, PRE-Park counts as the most successful brownfield revitalization in Kaiserslautern and is a functioning center of high-technology and research facilities. However, it remains another “pole”, marginaling the city of Kaiserslautern instead of reviving it.

For the case study of Flint, we can observe a rising demand for rental housing in particular in Downtown (Center for Community Progress 2013, 19). Projects like Berridge Place and the renovation of the Durant Hotel, two of Flint’s most famous structures (City of Flint 2013, 14) and both located centrally in the City of Flint, have helped to re-install Downtown as an attractive residential area, especially for the students of Flint’s universities and colleges. „The [Durant Hotel] project included an extensive historic rehabilitation resulting in 93 residential units and approximately 20,000 square feet of commercial space. As of October 2013, both have residential vacancy rates at or near 0%“ (City of Flint 2013, 94). But this development has to be watched cautiously, as was stated not only by the GCLBA (Phaneuf, 2014) but also in the Center for Community Resources Flint Housing Report 2013:

„However important and desirable – as well as feasible – the revitalization of Flint’s downtown core may be, those embarking on it should have no illusions that success in the core will somehow naturally spread to the city’s residential neighborhoods, particularly its lower income neighborhoods, and benefit their residents. On the contrary, the experience in many cities that have seen significant
downtown revitalization over many years is that it does not have such effects. Distinct and separate strategies must be pursued if other parts of the city are to thrive as well” (Center for Community Progress 2013, 20).

“Urban Regeneration”, Back to the City

The last approach to re-urbanization to be presented in the context of Flint is “Urban Regeneration”, a term primarily used to describe the deliberate choice of planning officials to focus their urban development on the proliferation of so-called “urban qualities” within all of their town’s districts (Kühn and Liebmann 2009). Although the American planning system does at first not seem to intend such a comprehensive strategy, the Imagine Flint Masterplan promotes various steps proposing exactly this sort of holistic approach. At multiple occasions, the Masterplan alludes to instruments which have been successfully implemented in Detroit. E.g. cooperations between the city and local employers are mentioned, incenting these companies to invest in the local housing market in order to provide adequate housing opportunities for their workers, many of which are living in the suburbs and commute into town every day. The goal here is to create a better communication between all stakeholders affected by Flint’s well-being, and more specific to this case, to lower the rate of commuters while at the same time raising the demand for local supply and recreation amenities. The great number of measures promoted in the Master Plan based on citizen participation is also in line with the Urban Regeneration approach, as this automatically takes into account not only traditional urban planning concerns, but allows citizens to target their specific neighborhood problems such as social distortions, infrastructure provision or security issues.

One of the phenomena found in Kaiserslautern is the “Back to the city-movement”, which, according to Neil Smith, results from the new generation of young professionals and their priorities when choosing where to live and at which standard of living. Smith’s thesis, formulated in 1979, sounds astonishingly up to date: He focuses on the return of capital to certain areas of the inner city, preceding the following middle-class inhabitants, but also states that it is consumer preferences instead of traditional ideas of family life determining young professionals’ housing choices, even when starting a family (Smith 1979). This is certainly true for many German cities, but even more for Kaiserslautern as a shrinking city in the middle of a region which is shrinking even more. Choosing to live outside the urban center, implies a huge dependency on automobilities for families, as they have to drive into town for work, supply/shopping/education and often also cultural or leisure activities.
Conclusions

The previous parts in this article show different possibilities how the rather vague concept of “re-urbanization” could be operationalized, and to display the case studies’ approaches on urban development in the face of shrinkage.

Both cities envision to establish the knowledge economy as their foundation for future urban and economic development (For Kaiserslautern: see Steinebach, Feser and Müller 2004; For Flint: see City of Flint 2013). By revitalizing the inner city and integrating new projects in the built environment, an attempt is made to prohibit further sprawl and to create walkable, vital urban environments which attract students and high qualified workers as new residents. On the other hand, rising attractiveness often comes with rising prices and a risk to displace all those, who cannot afford high-quality housing and the new, consume-oriented leisure amenities such as restaurants, art galleries or high-quality shops (Lees 2003). But as Altrock (2012) points out, there is a more complex correlation between the en vogue image of a vibrant urban center and the social distortions coming with it: small housing units, stores and social amenities in walkable distances as well as (free) leisure activities need to be concentrated in close proximity. To achieve this, mixed use is the preferred and perhaps only possibility. In order to provide affordable housing in the upper floors however, the stores located beneath have to counter-finance the housing – a task difficult to master if not through high-quality commodities, since small space stores in inner cities cannot build their revenue upon large-scale sales as can those in shopping malls or commercial zones outside the city. Hence, a critical mass of high earners has to be reached as customers, again reinforcing the incentive to develop high-quality housing rather than attract a socially mixed population. To avoid the common aftermath of revitalizing efforts in core city districts (that is: gentrification) an intervention of state or City through financial aid is almost inevitable (Altrock 2012, 184).

Flint

Some important steps towards a more vital and urban city center have been taken in Flint, nevertheless the main question in this paper, asking Re-Urbanization in one shape or another can be detected, cannot be answered yet. The predominant occurrence of a strategic re-valuation of urban qualities however, has mainly been put in place by the GCLBA and could lead to the city’s participation in the nation-wide trend towards a more “urban” lifestyle. It is to be seen to what extent this top-down development can be prolonged into a self-supporting way of life in Flint. An exception may be found in downtown. Rising property values and especially a growing demand for housing and other amenities in downtown appear to have sprung from market mechanism
only, with very little contribution of City planning. This is too small a change to be declared a shift in society as a whole; Flint wasn’t able to turn the numbers and is still shrinking at a faster rate than its suburban surroundings; suburban housing is still very deeply embedded in U.S.-American culture. Thus, we are witnesses of a rise in urbanity, rooting in downtown, which has proven to be of importance only to residents with higher incomes.

Developing the Image Flint Masterplan would not have been possible without the participation of Flint’s citizens, and no successful implementation can be expected without their further involvement. The great impact of community issues in the Masterplan reflects the flexibility given to municipal planning in the American planning system. Although this flexibility can hinder comprehensive planning when it is taken advantage of, the case of Flint has proven how it also allows for innovative approaches. The Imagine Flint Masterplan reflects the complexity of an urban system and covers a wide range of topics. It does in no way seem inferior to comprehensive development strategies known in many German cities.

Kaiserslautern

In Kaiserslautern, investments going into sciences, research and development only seem to benefit two or three encircled locations, none of which are located in the inner city. Despite the comprehensive nature of the German planning system, Urban Regeneration could not be traced in Kaiserslautern. Instead, a quantitative “resurgence” of the Core City seems to take place. One of the undoubtedly positive outcomes of the City of Sciences-campaign is a sensible self-perception of some parts of the city inhabitants as a City of Sciences, although all those inhabitants who are not in any way affiliated with a university or research might have difficulties participating in that self-image. Urban life in general does not necessarily convey a close intertwining on the economic level, and the lack of integration between science-related activities and quotidian life is especially regrettable where integration could produce the most significant improvement: the many vacant shops, which could serve as (temporary) offices, learning or teaching spaces.

The partly varying amount of information on the two case studies may suggest a lower planning effort on the side of Kaiserslautern. Although this impression cannot be refuted, factors such as a restrictive information policy of the municipal government in Kaiserslautern and the lack of easy-to-grasp overall strategies contributed to this result, so that a more thorough empirical investigation could be useful to allow a comprehensive and more accurate comparison.

Kaiserslautern has well succeeded in establishing its reputation as a city, where a good quality of high education, research and high-technology development is available. On the other hand, the revitalization of the core city proves to be a challenging task, especially because of high
vacancy rates in the retail and service sector. Since knowledge based industries, like the service sector, are not in conflict with other office uses or housing, they are easily integrated in the built environment. Teaching, information and communication technology and many research uses need little space and are low-emission uses. Their integration in the underused Core City buildings would certainly not go unobstructed, but bears the potential of a win-win situation for universities, economy and the city as a whole.

**Perspectives/Comparative thoughts**

It seems that higher education, research and development can be seen as potentially positive factors in the struggle of a shrinking city for the regain of its economic strength and urban qualities. Traditional planning instruments however seem to fail in this regard; informal instruments, based on communication and participation, can ultimately make a bigger impact. Cooperation with local companies – in our case, knowledge-based and research companies – can help finding a way to suit the demand, while community involvement must prevent a solely market-oriented outcome. As for the case studies, Kaiserslautern has installed a functioning local economy based on research and development, but still struggles with the task of making the inner city an attractive place to live for the high qualified employees in these sectors in comparison Flint experienced a rather severe shrinkage. The now adopted Masterplan gives the city the chance to establish a new, socially and spatially integrated urban landscape, and to prevent the mistakes of the past.
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