BEST METROPOLISES

Best development conditions in European metropolises: Paris, Berlin and Warsaw

Targeted Analysis 2013/2/14

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Scientific Report

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1. Methodology

The primary objective of the Best Metropolises Project is to identify factors that determine specific development of three metropolitan areas: Paris, Berlin and Warsaw. An integral component of the methodological outline is the evidence-based identification of factors and forces that operate in the three metropolitan areas, which differ in terms of development history, economic and social characteristics, as well as development conditions. The aim of the comprehensive diagnosis was: i) to provide a set of data and information that enables identification of trends of metropolitan development being of European-wide character, as well as those in particular concerning the three metropolises; ii) to serve as a base for assessment of policy measures used to guide development processes.

The Project addresses policies concerning the following three themes: living conditions and factors that influence the choice of habitual residence in metropolitan areas; trends and reasons of intra-metropolitan mobility and mobility between the metropolitan region and adjacent municipalities; governance of the metropolitan area. Special attention was paid to the evolution of demographic and social structures in the light of intra-metropolitan migrations and the continuing process of suburbanisation. The outcomes of the Project allowed for an elaboration of a toolbox holding a set of recommendations.

The Project methodology combines both quantitative and qualitative research methods. The quantitative analyses were based on comparative statistical data (if possible) and were aimed at providing knowledge on similarities and differences between the three metropolises and their functional areas. Due to specific histories, various key milestones in the development (chapter 1), formal and technical reasons (i.e. different census dates, accessibility of data disaggregated into different spatial units), the analysed periods of spatial evolution and their scope differ to some extent in the three cities. In a few chapters, comparable indicators were calculated (especially in the chapter dedicated to transport and mobility issues and intra-metropolitan migration), in other parts, more qualitative measures had to be used, mainly due to data gaps (i.e. typology of living conditions). In addition, the typologies of demographic structures and their change were elaborated in each metropolis on the basis of quantitative data which enabled to outline the main trends in the demographic evolution. The thematic maps of the project synthesize the major trends in the development of the metropolitan areas and allow comparing specific phenomena between the three metropolises (i.e. structure and directions of commuting flows or residential mobility / migrations). The maps also elucidate the relationships between the phenomena and processes studied (i.e. urbanisation growth and development of residential functions in the suburban area). What is more, the different kind of interdependencies between adopted policies, on-going processes and current status of development were summarized on several synthesizing schemes (i.e. on housing affordability, housing policies and job accessibility and mobility).

Four chapters (4, 5, 6 and 8) were also completed with illustrative examples deriving from the three metropolises, aimed at pointing out good practices in dealing with particular problems (e.g. housing affordability, renewal of deteriorated and marginalized areas, public transport arrangements), or positive aspects of adopted approaches (e.g. social participation in governance).

The spatial unit for the analyses has been primarily the Functional Urban Area (FUA), however with a possibility to adjust it depending on the theme and, spatially, on the available data. In such a case, it has been preferably altered to the administratively

delineated borders of the metropolitan areas. For a more detailed analysis of specific activities, FUAs have been broken down into smaller spatial units (LAU1, LAU2). This allows to carry out Pan-European comparisons and to provide stakeholders from the three cities with useful and updated information on development processes in areas they are especially interested in. The definition and geographical range of FUAs in the project are based on previous ESPON projects (especially ESPON 1.1.1 and 1.4.3).

Desk research activities performed have focused on the identification of key issues concerning specific development circumstances and the evolution of the studied metropolitan areas. The qualitative analysis of strategic documents and long-term development visions of the three metropolises has been carried out together with an analysis of relationships between strategic goals and visions, metropolises' development potentials, and implemented development policies. The results of this analysis constituted one of the elements for formulation of recommendations for strategic development visions for the three metropolises.

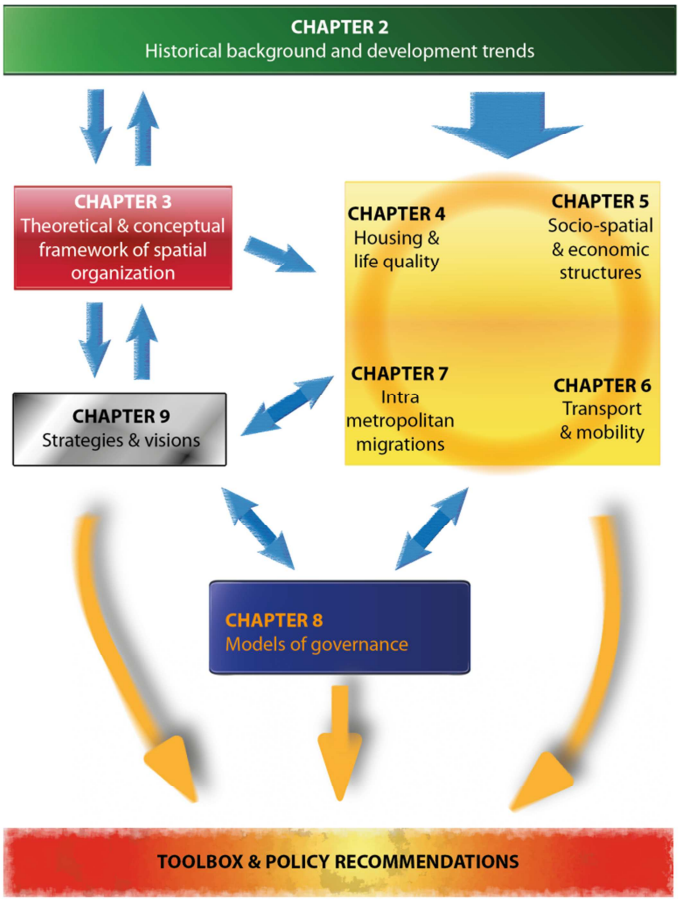
The contextualization of development patterns of the three analysed metropolitan areas within a broader European context has been completed. The identified development trends and drivers constituted theoretical grounds of development processes at the Pan-European level. For the Draft Final Report, the quantitative methods were complemented by a qualitative approach based particularly on interviews conducted with selected representatives of the three cities (including policy-makers) in order to diagnose the main assets and potentials, as well as key problems and weaknesses that the metropolitan areas are to tackle in the upcoming years. For the purpose of interviews a standardized scenario was elaborated. The scenario contained an agreed set of common questions (for all three cities), as well as questions that addressed specific situations in the respective metropolis.

Moreover, a workshop on was organized concerning Transport, accessibility of working places and daily mobility in Warsaw in the light of implementation of development policies (mechanisms and instruments). This event gathered representatives of various departments from the Warsaw City Hall, responsible for elaboration of transport policies. The workshop tackled three thematic issues: the diagnosis of the transportation system and accessibility via private transport; the diagnosis of public transport; cooperation between municipalities in the creation of intra-metropolitan transportation system. The outcomes of the workshop were crucial for the process of deepening the analysis of transportation management. An additional workshop focused on housing and migration was organised in Berlin (September 2012).

The results of the project are presented in the Scientific Report in eight thematic chapters (2-9) which serve as pivotal components of the research structure. The cross-thematic approach was adopted to address the main research questions and to provide information on dependencies and relations between various themes concerning the three metropolitan areas (Figure A1.1). Special attention is paid to the direct and indirect relations between four main topics: housing conditions, socio-economic structures, migrations, transport and job accessibility (chapters 4, 5, 6 and 7), which differ in the metropolises as a result of their historical background (chapter 2) and their particular development (chapter 3). In addition, these four fields are directly influenced by the form of governance (chapter 8), as well as by development policies adopted (chapter 9). The benchmarking, presented in chapter 10, covered five criteria divided into 12 dimensions and had a doubled objective: (1) to assess the performance of the three metropolises and (2) to assess the efficiency of the policies undertaken in achieving sustainable goals. In order to evaluate the

extent to which the criteria were met by the three metropolises a qualitative system of benchmarking was further elaborated. This was necessary because the historical and geographic context of development of the three metropolises, as well as their size and the roles they play in their national and supra-national settlement systems, make quantitative evaluation very difficult or even impossible. The benchmarking exercise enabled the positioning of the three metropolises with regard to each other and the highlighting of pointing the specific fields that required improvement through the implementation of adequate policy options. In the last stage, the research results were utilized in order to work out a toolbox with policy recommendations addressing strategic development problems of metropolitan areas (chapter 11).

Figure A1.1. Methodological scheme



2. Urban development trends of Paris, Berlin and Warsaw from historical and comparative perspectives

2.1. Introduction

Paris, Berlin and Warsaw, three European capitals have treaded on different paths along their history which left distinct marks on their development and present appearance. Through centuries the cities have changed political, economic and cultural positions, the scope of territories, national and international importance. The historic developments have brought conflicts, competition as well as neighbourly cooperation which was 'crowned' by the accomplishment of European integration. The aim of this report is to identify the most important factors and historical turning points in the urban development of the three studied capital metropolises.

The history of ties and linkages between the cities is diversified and complex. In the late 1700s Paris, for example, had become an important cultural and political centre of Polish émigré, since the political partition of the Polish-Lithuanian Commonwealth by Russia, Prussia and Austria. This had lasted all through the nineteenth century to the regaining of independence after World War I. In Berlin, it was the French émigré (Huguenots) after 1685 who contributed substantially to the urban development of the city which had become in 1709 the capital of Prussia. Also, in the nineteenth century Berlin, in the economic and political sense, was the "capital" for Polish migrants from the Prussian parts of the territory of the mentioned former Polish-Lithuanian Commonwealth. The Polish migration has in many ways contributed to the development of Berlin. The immigration of German artisans, tradesmen and settlers to Warsaw had influenced the modernization processes of Poland and its capital in particular.

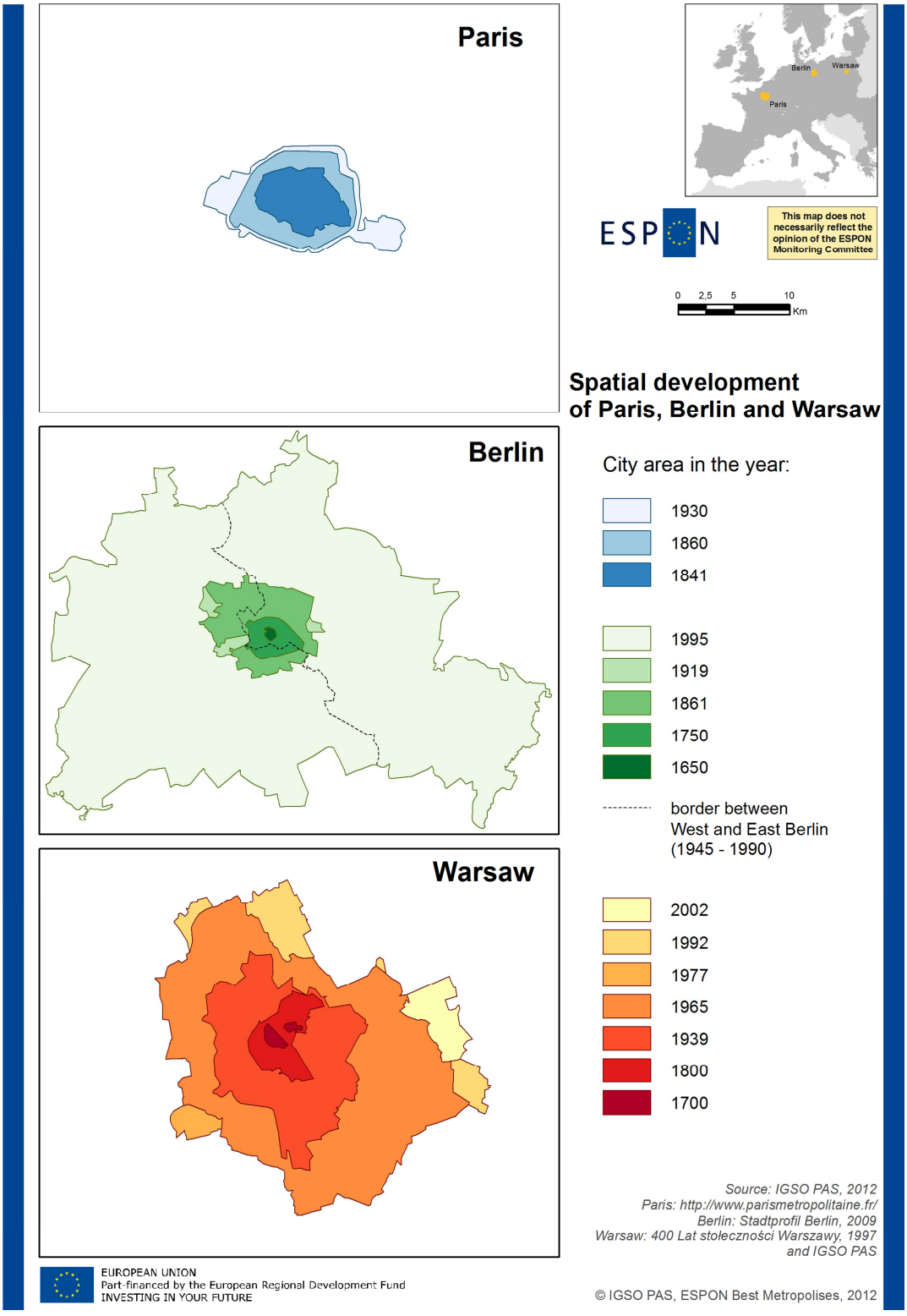
The role of the three cities as national capitals had also changed throughout the history: with Paris as the primate city and dominant capital of centralized France; Berlin as a provincial capital of Prussia, a 'world city' before World War II, later a divided entity, the western part of which was an isolated outpost of Western Germany and the eastern part, the capital of an artificial new German state under communist rule, and finally today, the capital of a unified German state; Warsaw, a capital of a state which had gone through numerous divisions, changes of borders and revivals, the latest after the 1990 fall of the communist regime in Europe.

The current performance of Paris, Berlin and Warsaw in the European urban system and the state of development of their metropolitan functions are dynamic processes, however showing some distinct trends embedded in the changing history of the cities. Although the historical roots of Berlin and Warsaw are nearly one millennium younger than those of Paris (which are Gallo - Roman), their current different population size, economic and political position have been determined and shaped much later i.e. mostly in the last decades of the 20th century, and are under constant pressure of contemporary globalization and European integration.

The different development paths find reflection in the contemporary performance of Paris, Berlin and Warsaw, the state and potential of their metropolitan functions, as well as their position in the European urban system. The existing city rankings and typologies show that the three cities fall into different categories. For example, according to the results of the typology provided by the ESPON 1.11. and 1.4.3 project (ESPON 2004, 2007), the analysed cities represent different levels - Warsaw was classified at forth hierarchical level of the potential MEGA's, Berlin was attributed to the second level and Paris to the first.

When comparing (in the same scale) the spatial development of Paris, Berlin and Warsaw it is striking to realize the tremendous spatial concentration of all activities in case of Paris, and a much lower concentration in case of Berlin and Warsaw (Map A2.1).

Map. A2.1.The scale of territorial expansion of Paris, Berlin and Warsaw



2.2. Urban development of Paris

Paris has the “longest history” among the three metropolises. Its origin goes back to the Gallo-Roman town named Lutetia, which reached up to 8000 inhabitants under the Roman rule. In 987 Paris became the capital of the kingdom, turning out to be an important defensive town and education centre in the following centuries. The establishment of a university in the 12th century initiated an international reputation for the city.

In 1328 the Paris reached 200 000 inhabitants. In spite of its turbulent history (wars, plague, revolutions), the city’s image was associated with art and literature, as well as urban development, as it introduced its first urban-planning regulation (laid by Sully) reaching 630 000 inhabitants, due several years before the French Revolution (1792).

The first census of 1801 accounted for 546 856 inhabitants, which resulted mostly from immigration to the city. The large concentration of poor, proletarian population has led to the revolutions of 1830 and 1848, and prompted radical improvements in the urban infrastructure. These improvements according to the concept of G.-E. Haussmann (the prefect of Paris) were implemented by creating new straight and large avenues, and territorial annexation of the surrounding municipalities in 1860. However, the further expansion of Paris’ intellectual, artistic and economic influence was limited by the 1870 war against Prussia and the revolutionary time of *Paris Commune* of 1871 (which for two months had governed the city).

At the turn of the 19th and 20th century the French capital had begun to grow with new impetus, which brought enlargement of the central area, as well as the suburbs and an improvement of living conditions in the city. In the inter-war period, the urban landscape of Paris was changed by the creation of the public social housing sector under the concept of *Habitations à Loyer Modéré* together with a substantial extension of the 19th century railway network to the suburbs. As much negative consequences as the two World Wars had on Paris’ development, the scale of physical destruction was much smaller than in Warsaw or Berlin. The post-war modernization of the region of Paris lasted until 1974, when hindered by the first energy crisis. The global boom triggered the processes, leading them in the direction of a globalized economy, however with drawbacks: shaken by recurrent crises, declining growth rates, as well as social and urban problems. Not only has the economy changed: at the same time devolution altered the political landscape. In different circumstances, with the globalization of the economy Paris had regained its position as a world city. The 21th century opens an uncertain repositioning in the international scene disrupted by a new world order. Major changes should be required in the current development model, and in the public policies inspired to conciliate competitiveness and sustainable development.

A favourable geographical position offers both France and Paris Region a key geopolitical role in the North-Western Europe. Paris is demographically, politically, economically and culturally the primate city in France; but at the same time, since the 1980s a metropolis of European and global importance. Next to London, it is the leading European city, which attracts headquarters of firms, high qualified executives, researchers and artists, however also poor immigrants. Due to a large suburban sprawl (concerning places of residence and work), peripheral centres emerged, which were often economically successful. This included the development of new urban areas, such as the business centres of La Défense and Roissy airport, but, moreover, five “new cities” (Cergy-Pontoise, Marne-la-Vallée, Saint-Quentin-en-Yveline, Evry, Melun-Sénart) and universities, research laboratories and economic

zones. This phenomenon had political support during the 1960's and 1970's, and was supposed to relieve the overcrowded metropolitan centre. The metropolitan scale has been changed by the growth period between 1945 and 1974. In general the so called "thirty glorious" years (*les trente glorieuses*) had brought a strong metropolitan modernization and expansion and introduced a wave of large and uniform social housing settlements which contributed to the dislocation of the social and urban metropolitan structure. Nevertheless, the challenge of organization of polycentric structures with strong core areas still remains open. The regional debate from 1994 onwards initiated a new period of regional planning, which resulted in the start of the Grand Paris debate with the central government in 2008. A metropolitan economic reorganization implies a new geography in accordance with modern economic criteria (centres located in inner and outer suburbs versus strong core area). However, the capital's economic power keeps it as an overshadowing node. The current structure of Paris (and its region) makes disparities visible, like in every 'global city'. The discrepancy between higher status population and excluded social categories is expressed by the city's territorial segregation. As a result, social frustration and anger are occasionally bursting in the form of riots (ex. in 2007) with black economy and violence becoming unbearable in poorer areas. This structural trend remains one of the most important challenges that contemporary urban planning ought to face. It encompasses also the problems of housing, employment, and migration policies. In the case of Paris metropolitan region young people are particularly affected, especially those from the second generation of immigrants. This phenomenon has resulted in social unrest and civic disaffiliation, electoral abstention or extremist electoral behaviours, and contributes substantially to social and territorial crisis. The limitation of such spatial segregation and social disparities is the most important challenge for future metropolitan competitiveness.

In the regional scale, the main structural problem, which evoked durable attention and inspired a national planning debate for several decades, was called: "Paris and the French desert" (Gravier 1947).

The French economy has been leaning upon a strong central government since World War II. The French Government has set up competitiveness centres for big international firms (whose research centres are located mainly in the Paris Region), and the Grand Paris Project aims at fostering establishment of business and research clusters. This strongly polarized model, which includes nine clusters of the so called "new economy" (knowledge-based firms, green economy), is now confronted with a more flexible and networked economic scheme. It intends to boost the development of very flexible and modern small and middle sized businesses. In this sense, the metropolis of Paris, with its magnificent historical heritage and the last decades' development trends, has been occupying one the most important positions in the settlement system of Europe, challenging London as a global city and – in political and economic terms, as an important player in the unified Europe.

The current performance of Paris derives from its past development in which particular events and processes have brought turning points, while others were decisive in setting down most important challenges in the history of the city.

2.3. The historical turning points and challenges of Paris

The historical turning points and challenges of Paris

Due to the industrial development in the 19th and 20th century (chemical factory Javel, textile factories replaced by clothing factories, etc.) the capital city of France became one of the most important industrial centres in Europe. In that time, important

migration inflow from poor rural areas has resulted in the growth of the number of population in Paris. It was just in the 19th century when Paris began to struggle with a doubled role: first as a central city in the urban system of France and second, as a part of the European system of world capital cities. The position of Paris in the French urban system was then reinforced in the 1840s along with the development of railway network in the radial shape with the capital city in the centre. Apart from positive aspects of economic growth and connectivity improvement, it was a starting point for growing social disparities and social segregation in Paris in the following years, caused by the concentration of poor newcomers (mostly unskilled workers).

Embellishment of Paris: urban renovation by George-Eugène Haussmann

Due to the rapid growth of population, high rate of migrations, insufficient number of dwellings and growing share of deteriorated, unhealthy dwellings and two epidemics of cholera, the scope and intensity of poverty in Paris has attained an unacceptable level. Hence, Napoleon nominated G.E. Haussmann as the prefect of the department *de la Seine* (Paris) in order to introduce a modernisation program in Paris. The program prepared by Haussmann had focused on three key issues: road network, urban green areas and technical infrastructure. Numerous deteriorated buildings were destroyed in order to ensure large and vast alleys possible to use for military purposes as well as to improve the circulation. Urban squares (inspired by English style), urban parks (Montsouris, Buttes-Chaumont) and suburban parks were also established (Boulogne forest, Vincennes forest). The capacity of water-pipes network and sewage system was four times improved and the length of the former one was doubled. As a consequence, over a period of 20 years (1853-1870), medieval Paris became a modern city which, set up as an example for other European cities. However, this period has contributed to the escalation of socio-spatial segregation in the city, both in the east-west and centre-periphery directions.

Concerning spatial development of the city it should be stressed that in 1860 Paris was enlarged from 33,7 sq. km to 78 sq. km. The former suburban areas (till Thiers walls) were incorporated, resulting in the new division of the capital city into 20 districts (the last enlargement had taken place in 1930 but it covered only two forests: Boulogne forest, Vincennes forest and a part of Issy-les-Moulineaux).

The challenge of suburban development at the dawn of the 19th century

The suburban area of Paris underwent important changes at the turn of the 19th and 20th century, due to rather chaotic development of industrial and residential functions. At the time predating the changes the suburban areas were set up in two types of localisations – in already inhabited sites, as a belt in the municipalities surrounding Paris (fr. *ceinture rouge*) and along valleys. These terrains were deserved by the railways network and supplied with water which constituted basic resources indispensable for industry. However, the development of the suburban area was not supplemented with any other investments, especially those of social infrastructure (i.e. absence of hospitals, commerce, theatres). What is more, the underground network opened in 1900 in Paris, was also limited to the city borders whereas the extension for suburban areas was strongly needed. In addition, the entire infrastructure which was not welcomed within the city limits was pushed towards the suburbs (such as prison, water tanks, and barracks). As a consequence, the suburban area served as an economic supply area (hinterland) for the city of Paris.

The housing crisis which appeared after World War I has particularly affected population living in Paris, especially poor workers. The main objective of housing policy was to facilitate the access of blue-collars to become owner-occupiers of

single-family houses (preferable loans and small plots for construction). Nevertheless, once again the lack of plans and insufficient social infrastructure contributed to the creation of defective housing estates around Paris (approx. 200 000 houses constructed between 1920 and 1930, inhabited by around 700 000 persons). Besides, the association for cheap housing construction (HBM) was launched in order to ensure housing for working population. The HBM had constructed housing estates around Paris (near the peripheral ring road) and in 15 garden-neighbourhoods (fr. *cités-jardins*) in the suburban area.

Deindustrialisation, large housing estates and polycentric development of Ile-de-France region

The fear of the "big city" and its congestion (*Paris et le désert français*, JF. Gravier, 1947 – PADOG 1960) and sometimes a desire for conquest and expansion (SDAU 1965, Grand Paris project 2008), were two alternative trends with regard to the capital region, which in today's conditions could be met with both innovative skills and sustainability challenge.

As the rapid development of Paris brought housing shortages and other negative effects, the State decided to reinforce the coordination of future industrial investments (special accord of the State was needed to construct industrial buildings of more than 500 sq. m). This policy was then adopted in the 1960s as well as new instruments were proposed (i.e. high fees for industrial construction in the region of Paris, premiums to recompense destruction of factories) which discouraged industrial enterprises to localise their activities in the direct proximity of Paris and the inner suburbs.

Simultaneously, the housing crisis in Paris and its surroundings had still continued after World War II. Another attempt was made to tackle the problem of the insufficient number of dwellings. The rapid construction of large housing estates between 1950 and 1970 had partially satisfied the housing needs. However, the growing depreciation of these estates due to the concentration of disfavoured households (poverty, unemployment, etc.) has, in the following years, contributed to their stigmatisation.

In the same period, two important policies were introduced. The first one was the polycentric policy adopted by the State. It proposed the creation of new towns (fr. *villes nouvelles*) in the fringes of the agglomeration. In the case of Paris, it aimed at decentralisation and more reasonable development of the whole area, since decades dominated by the city of Paris. Thus, five new towns were established in Paris agglomeration and gathered residential districts, industrial and activity zones, infrastructure and urban green areas. The new network of rapid railways (RER) was also created in order to link new towns with the heart of agglomeration.

The second important action concerned the revision of housing policy in the 1970s which changed the previous types of housing supports towards a more personalised set of measures in order to once again facilitate the possibility to become a home-owner. This new housing policy triggered to some extent periurbanisation and urbanisation of rural areas in Paris agglomeration, which were also reinforced by a diffusion and popularisation of cars and by changing patterns of life-styles.

New challenges of metropolisation

Since the beginning of the 21st century, Paris metropolis faces the problem of cohesive development of its territory in order to keep its position of a global city. The

urban and social cohesion is indicated as the main feature of successful metropolisation. According to D. Perben (2008), the possible breaks for metropolisation are constituted by the capacity of exchange and of transport infrastructure within the metropolitan area. Hence, those metropolises are considered attractive which possess a multiple infrastructure network where different networks are connected so that rapid accessibility to other French and foreign metropolises is ensured.

Notwithstanding the fact that the idea of Grand Paris has been raised since the beginning of the 20th century, the main discourse was launched in the last few years, with several projects and proposals concerning metropolitan governance. Different objectives are pointed as crucial for sustainable development of Paris metropolis, i.e.: reduction of social and spatial disparities, improvement of attractiveness and impact of metropolis, as well as ameliorated efficiency of different policies (in terms of transportation, housing, economy).

In 2008, the report concerning the project of Metropolis Paris-Ile-de-France was published. It presented 10 ways to ensure:

- cooperation between local authorities in order to launch an ambitious project for the heart of the agglomeration and the overall territory of Ile-de-France region,
- reforms allowing to implement this project and to increase tenfold the potentials of the metropolis and region,
- efforts for modernisation aimed at fighting financial and fiscal archaism which limits the capacities for development.

The project of Grand Paris was elaborated in 2008 and the law on Grand Paris was promulgated on the 5th of June, 2010. Through the implementation of the new transport network which unites the most attractive areas of Paris and of Ile-de-France region, it was decided to concentrate the economic and urban development around strategic territories and projects defined together by the State and local authorities. Territorial development contracts (fr. *Contrats de Développement Territorial*, CDT) were also introduced as a new instrument to ensure the cooperation between the State and the local communities which are to undergo territorial development through the realisation of stations within the Grand Paris network. The contracts support the goal of 70 000 dwellings built per year according to the existing needs in the Ile-de-France region.

2.4. Urban development of Berlin

Berlin was founded in 1237 at the narrowest crossing point of the river Spree as a commercial settlement on the trade route from east to west. Several city extensions took place in the 18th century. The first was the district (*Stadtviertel*) of Dorotheenstadt, founded in 1673. It was built in well-ordered rectangular patterns, west from the core town. The inhabitants were mainly migrants, especially religious refugees. South of Dorotheenstadt, the Friedrichstadt was founded in 1695, named after the King Friedrich I. It was also structured in small rectangular, very schematic blocks and has filled up the space within the tariff wall by the year of 1734. In this area, most of the inhabitants were civil servants and tradesmen.

In the middle of the 19th century, the number of inhabitants quadrupled, growing up to 460,000, and reaching over a million by the end of this century (Pape 1995b: 19). One central driving force for this development was the post-1800 industralisation of

Berlin. This happened without a significant extension of the settlement area, but yet led to a densification of the city. Consequently, the Hobrecht-Plan was developed to adapt urban and transport planning for Berlin and its surroundings to the new challenges (see also Chapter 9: Development visions and strategies). Berlin became the capital of the German Kaiserreich in 1871, thus giving further impetus to industrial development, which was mostly linked to railway construction (locomotives). Factories were located next to Oranienburger Tor in the north part of the city, next to the river Spree in the east part, and outside the town in the west (ibid.).

In the nineteenth century, housing planning was based on a concentric settlement structure with medium density in the historical core and very high density in the so-called tenements houses ('Mietskaserne') located around the circular railway (constructed 1871-77 on green fields) and partially beyond it. Several small cities had developed in the surroundings of Berlin, along the arterial roads, and were growing as fast as the main city. The space outside the tariff wall was used for agriculture, cemeteries – which were put outside the town for hygienic reasons – and military uses like caserns, parade-grounds and shooting ranges (ibid.). Berlin also impressed by technologically advanced transportation modes: electric trams, under and over-ground railway, as well as railway lines connecting the 'suburbs' with the city. Since the middle of the 19th century, Berlin had developed as a scientific centre, and with the beginning of the 20th century had become the cultural capital of the German speaking countries – with enormous drawing power (attractiveness) reaching East-Central Europe and Scandinavia (compare: Erbe 1999).

In the early 20th century, Berlin, with over two million inhabitants, was a leading industrial centre in Europe, as well as in the world. The engines of this development were: Siemens in electronic industries, Borsig and AEG (founded by Rathenau) in mechanical industries. Berlin also gained importance in the textile industries, and developed journalism and the culture sector. Directly after World War I, the formation of the "Groß-Berlin-Gesetz" brought an important turning point in Berlin's development. It involved the incorporation of 7 cities, 59 rural municipalities and 27 rural districts; the number of inhabitants doubled, totalizing 3.8 million, and the occupied space became thirteen times bigger than of the previous city delimitation (Pape 1995c: 20). In the Weimar Republic, reform housing – a term used prior to social housing - was the responsibility of the non-profit sector and municipal housing companies, housing cooperatives and industrial actors, which was obliged to provide acceptable housing conditions at affordable rates. Especially industrial actors provided housing for their workers, for example in the Siemensstadt in Berlin. The objective was explicitly to provide housing for the growing segments such as key workers and lower middle class families.

A few overlaying patterns of the city structure could be identified. Firstly, the number of floors of housing buildings decreased continuously beyond the ring, as well as the density of population in general. The second pattern was a radial structure, following the railways out of town. They made the early suburbanisation process possible with fast connections, a dense network of stops and low prices. For this pattern, the infrastructure came first and guided the suburbanisation process. A third pattern was visible in terms of the socio-economic structure. Along the circuit railway from north along the east to the south, an almost closed belt of working class districts could be identified. This was contrasted in the west by upper class and upper-middle class representative buildings which characterized areas like Charlottenburg. In the suburban '*Villenkolonien*' this trend continued. On the top of these, there were polycentric structures, which were based on the history of independent cities with sometimes more than 100.000 inhabitants (ibid.). This concerns for example the case

of Potsdam. All these patterns persisted until the end of World War II (ibid.) and are visible even today.

The city has traditionally successfully performed at various stages of its history. The railroad construction for example was seen as the engine of economic and industrial development; post-1830 Berlin became the most important location of German locomotive and railway wagon construction; the strong position of biological, chemical and medical research already characterized the pre-German Reich Berlin, but reached its peak in the 'golden years' of Berlin's development in the beginning of the 20th century.

At the end of the World War II almost every house in the historical centre of Berlin was damaged, as well as in the areas close to the core of the city. The city population of 4.3 million inhabitants in 1939 was reduced to only 2.8 million after the war; about 30 per cent of the flats were destroyed and the technical infrastructure had been severely injured (Pape and Pirch 1995b). However, some highly valuable infrastructure, especially underground supply pipes and traffic infrastructure remained in place. Before the western Allies' arrival in Berlin in July 1945, the Soviets demounted an estimate of 75 per cent of the industrial capacity in the western sectors of the city and about 50 per cent in the Soviet sectors. For the sake of comparison, it is worth noting that the war destroyed about 20-25 per cent of the city's industrial capacity (ibid.). The demounting of the old industrial equipment facilitated the instalments of more modern and efficient industrial equipment in the western part (supported by the Marshal Plan aid). The division of Berlin in an eastern part controlled by the Soviet and a western part with a French, British and American sector led to profound changes in the development of the two parts. The division was cemented by the Berlin Wall, built on 13 August 1961.

Furthermore, the separation severely influenced the economic situation of Western Berlin. As an island of the western world within the borders of the socialistic GDR (German Democratic Republic), most of the industries were moved to other parts of West Germany (e.g. the headquarters of Siemens and AEG). Concerning the city development, different models and foci were observed in the east and west. The separation led to the development of two diverse housing policies in the Western and Eastern parts of Germany. Within the German Democratic Republic (GDR) and its state-controlled housing supply policy, private social housing provision became impossible. The state's economic plan foresaw "mass housing" estates in the rather peripheral areas of Berlin (Droste and Knorr-Siedow 2007: 90). Another example was the transportation system. In the east, roads were built in a radial system in which public transport focused on tram and S-Bahn systems. In West Berlin it was focused on the U-Bahn (subway) and on the inner city highway in the shape of a (half) ring. With the official reunification on the 3rd of October 1990, Berlin had again become the capital of the united Germany, were different administrative and planning structures required to be combined. Thus, it requires a long period to integrate the different developments which occurred in the four decades of the city's division (Röhl 1995).

The current development of Berlin is to a great extent embedded in the idea of German federalism, a political system manifested in 1949 in the German constitution. It is a three-layer system, consisting of a national level, a federal states' level, as well as the level of local communities. The federal level is composed of the 16 *Länder* (which include the five *Länder* added after the reunification). Together with Hamburg and Bremen, Berlin is a city-state which means that the city holds legal powers as of a federal state (the city has sub-divisions in various districts). In 2006 a federalism reform had given more clearly defined competences to the federal entities (e.g. regarding education policy, environmental protection and social policy). The

distribution of competences between the levels is highly complex also depending on the different policy areas. In general, the federal level serves as co-financer while the precise allocation and implementation remains mainly on the subnational level.

The performance of Berlin in the European urban system, the state of development of its metropolitan functions, as well as the strive of the city for a 'world city' status – which appeared at various stages of its complicated history – are dynamic processes, however showing some distinct trends embedded in the past and presence of the German capital.

The current position of Berlin as a 'fourth level' MEGA in the hierarchical scheme of European metropolitan areas, next to four other leading German urban centers: Rhein-Main, Munich-Augsburg, Hamburg and Stuttgart (compare: ESPON 2004, 2007) on the one hand indicates a good European performance of the city, on the other hand, shows the historically shaped lack of political, cultural or economic dominance of Berlin within the system of German cities. Neither the Holy Roman Empire of the German Nation, nor the Deutsche Bund have developed a 'primate city' in its actual meaning. The tradition were smaller and larger centres of political, economic, scientific and cultural importance – this fact will have played a role in the future both with respect to the 'choice' of the capital city after the unification of the German states (1848-71), as with regard to the 'capital city question' (Hauptstadtfrage), connected with the return of capital city functions to Berlin after the fall of the Berlin Wall in 1989 and the unification of Germany in 1990.

Despite the early-1990s projections which had seen Berlin among the leading and most interconnected 'world cities', as late as 2002 it became clear that Berlin with its newly established capital city position, has only partly succeeded to regain or win new advanced economic functions (Korcelli-Olejniczak 2011). This is mostly derived from the fact that the extreme losses in the manufacturing sector were not compensated by growth in the advanced services sector (Kujath 2005). Berlin's economic connectivity measured by the insertion of the city in the office networks of globalized service firms is slightly lower when compared to Warsaw (Derudder *et al*. 2010), this owing to the low intra-national competition for the latter and the high connectivity levels of Hamburg, Frankfurt, Düsseldorf and Munich in Germany. Notwithstanding these indicators Berlin has managed to develop its own regional specialization in Europe, based on transportation, medical and biological technologies, as well as cultural production (Kujath 2005).

The current position of Berlin stems from the diversified processes and states imbedded in the past of the city, as well as - and in particular - in their continuity and discontinuity. Among the developments, some can be identified as those, which strongly shaped the economic, social, spiritual, cultural and spatial map of the city. These are the four main turning points in the history of the city which find their reflection in today's Berlin.

2.5. The historical turning points and challenges for Berlin

Towards the German capital and European 'world city'

The first important stage was the strive of Berlin, as the capital of the unified German states (1871) for its role as a 'world city' (*Weltstadt*). To aspire to the position of one of the most important metropolises on the globe was in particular possible due to Berlin's earlier importance as royal residence and economic node of Prussia – which at that time played the role of one of leading powers in Europe. The end of the 19th century had witnessed Berlin evolving into a world city, often compared with London,

Paris or even New York. The German capital was not only the foci of political decision-making, but the location of modern industry and the headquarters of leading banks, press agencies and publishing companies. The Berlin-Dresden-Prague-Wien axis was, next to the Rhein trajectory, the cultural heart of Central Europe.

Groß-Berlin was also impressive in size – this not necessarily with respect to the city's population (2,2 million in 1912) – it developed a 'chaplet' of adjacent cities of Charlottenburg, Wilmersdorf, Schöneberg, Neukölln, Lichtenberg and Spandau which together with smaller cities amounted to 2 mill inhabitants and 900 sq km of territory. Altogether by 1942, the agglomeration was populated by approx. 4.4 mill inhabitants.

'Stifled bloom'

The positive development, especially in the cultural and scientific fields, was incrementally suppressed after 1933 by the rules of the NSDAP – to a great extent due to political and ethnical repressions and recruitments. What remained of the highly positioned city was its political and economic role of the capital of the German Reich; this however had led to the disaster and destruction of World War II, and subsequently, to the division of Germany.

The ruptured city

The establishment of the two German states and the division of Berlin had led to a double isolation. The physical separation of West Berlin from the Western Länder had, despite the political role of the city as an island of freedom in the East, had left the city as peripheral and rather provincial with respect to culture and social life, and with a highly subsidised economy. With transfer of most company headquarters to other West German cities, and the political, i.e. capital city functions to Bonn, West Berlin had lost the chances to sustain its position as a major industrial centre. Eastern Berlin, on the contrary, had been cut off from the influences of the western world and had developed its cultural profile on the basis of a small-city model. The construction of the Berlin Wall had cemented the physical and mental separation of the city pushing it into a two-tier, contradictory development – of an East German capital and a West German island.

The division of the city had a severe effect on economic and spatial development bringing stagnation and the disruption of the existing urban planning on the city and regional scale. The pre-war districts of Berlin have lost their previous character; East Berlin had constructed its new centre around Alexanderplatz, with typical modernist architecture, being a manifestation of the pseudo-communist doctrine, as well as new residential districts surrounding the centre, formed by monotonous blocks of flats constructed of prefabricated units. West Berlin founded its 'city' along the historical Kurfürstendamm. Although a million-inhabitant city it had lost most of its cosmopolitan character.

Mending the urbanity

As a result, the post-Wall Berlin was left with a doubled city centre and a curtailed transportation system, as well as a heritage of cultural institutions hardly financially manageable for the united city. This is when the fourth key turning point in Berlin's history takes place. The city became a focus in the middle of transformation processes taking place within Europe and Germany, a field of restoration, construction and reconstruction – the largest construction site in Europe. The decision to relocate the capital of unified Germany to Berlin has allowed the city to re-establish an important position in the German urban system. Moreover, there were

decisions of political governance taken which had considerably influenced the city's current development. Those were for example: the revitalisation of the main lines of S-Bahn-System connecting Berlin with neighbouring Brandenburg areas, massive investment in the redesign of the railroad system within Berlin, the development of the BBI central airport in Schönefeld, the development of new inner-city commercial and business centers (Potsdamer Platz, Leipziger Platz and and Friedrichstraße), the development of the Federal Government district, the still ongoing process of (re)developing the Museumsinsel and the former Stadtschloss / Marx-Engels-Forum / Humboldt-Forum area etc.

As the Federal government had retreated from subsidizing West Berlin's economy and Berlin's former economic base broke down after the German reunification, the city ran into a massive fiscal crisis at the end of the last century. Berlin's government reacted upon the fiscal crises by introducing many financial and investment restrictions, ex. reducing the number of jobs in the public sector by approximately 20%, complete stop of the promotion of social housing and refurbishment, privatization of several important municipal public service companies, selling of municipal real estates, liquidation of the Bankgesellschaft Berlin.

In consequence, economically Berlin has so far failed to develop many highly specialized functions of international range. With respect to its ethnic diversity, quality of cultural institutions and venues however, the city constitutes a global centre and a melting pot of cultural influences.

The 'metropolitan' discourse

Originally the discussion over the establishment of metropolitan regions in Germany had a political character and concerned the field of spatial planning. In 1995, the Conference of Ministers had introduced this structure as a spatial unit of functional character, which, contrary to an 'agglomeration' constitutes a large territory around the central core including subregional centres and rural areas functionally connected with each other. In the case of Berlin the metropolitan region encompasses the capital city, as well as the land of Brandenburg. The central place system in the region consists of three levels: the Berlin metropolis, the higher ranking centres and the lower ranking centres. In spite of the failure to integrate Berlin and Brandenburg as one political – administrative unit – cooperation between the two proceeds quite effectively. There is a joint spatial planning unit located in Potsdam, a place where strategic planning issues for the broad metropolitan region are tackled.

2.6. Urban development of Warsaw

The city of Warsaw was originated over 700 years ago, however it was founded later than the previous capitals of the Polish kingdom (Gniezno, Poznań and Kraków), making Warsaw the "youngest" of Polish capitals. Warsaw became the capital in 1596 when the royal court was moved from Kraków. After acquiring such an administrative central role, the city began to expand, attracting new inhabitants and functions. By the end of the 18th century the population had reached 120 thousand permanent inhabitants.

In the partition of Poland carried out from 1794 onwards by Austria, Prussia and Russia, Warsaw was the main town of the Russian part (the latter called "The Kingdom of Poland"). In this period the city experienced a substantial decrease of population, economic activities and political significance. In spite of that, during the whole period of partition, Warsaw remained a major centre of economic and cultural life of the nation. Economic and political stagnation lasted until the middle of the

nineteenth century. The population increased more rapidly in the second half of the century, after the construction of the first railway track in the period of 1844-1845.

Both population increase and the first wave of industrialization were connected with the development of the railway system. More lines were inaugurated in addition to the one to Vienna: in 1862 the Warsaw-St. Petersburg, and in 1867 Warsaw-Terespol and Warsaw- Lublin. Finally, in 1877 the construction of the Vistula railway bridge linked west and east bank railway lines, causing a shift in the allocation of industrial activities in urban space. Industrial areas situated along the Vistula valley and dependent on river transport moved to the new western industrial district of Wola, thus forming a large working class area. A similar process occurred on the eastern side of the river, in the Praga district (Grime and Węcławowicz 1981).

In 1913 the population of Warsaw reached 884 thousand inhabitants, despite the restriction imposed on the spatial expansion to the limit of the nineteenth century fortifications. This lasted up to 1916, when the city boundaries were extended, bringing over 100 thousand new inhabitants The rebirth of the Polish state in 1918 brought back the capital status to Warsaw and gave new impulse for development. The city experienced a high level of migration, rapid increase of its outer zone and the formation of the Warsaw agglomeration. The improvement of the railways initiated before World War I was expanded with new suburban stations and construction of narrow gauge networks, which in Western cities served as the basis for building metro networks. Consequently, since 1931, the spread of high density areas outside of Warsaw and the agglomeration creation occurred in the form of suburbanisation belts along the railway network. The development of the city until 1939 was shaped and accompanied by: continuous industrialisation, quick population growth, rebirth of Polish Statehood and recovery of capital functions by Warsaw, as well as a low level of economic development of the whole country (Grime and Węcławowicz 1981).

The interwar period however had brought the first attempt of physical planning. As early as 1916 the “Circle of Architects” guided by Towiński, Jawornicki and Jankowski proposed a modernization of the city. The most innovative elements concerned the cross-city railway line under one of the city centre’s major east-west thoroughfares – Aleje Jerozolimskie, two new bridges across the Vistula and two river ports in addition to many new road improvements. Some elements of this plan were finally introduced in the 1931 plan which received ministerial approval. This plan had proposed definite zones within the city centre, appropriated for commerce, banking and offices, as well as a suggested plot ratio and building highs for 10 zones throughout the whole city. This plan however had little chance for implementation, as the city owned only 20% of the land. Another problem was the constant disagreement between the local and central authorities. However, some housing developments, especially those in Żoliborz, parts of Mokotów and Saska Kępa districts represented new spatial departure from the east-west trends of the city by the alignment of the railway in the nineteenth century. In case of Saska Kępa, the development was made possible by the construction of the new Poniatowski bridge which opened space on the east bank of the Vistula for relatively low density housing development. A housing project, very innovative for that period, was completed by the Warsaw Housing Cooperative in Żoliborz and had served as a model for other housing estates in Warsaw and other large Polish cities, also in the post-war period. The most innovative planning concept, which had an immense impact on later urban, metropolitan and regional planning, both before and after World War II, was the concept of “Functional Warsaw” by J. Chmielewski and S. Syrkus (1934). This was the first urban plan, which included the development of Warsaw in relation to its surrounding region.

In 1939, Warsaw housed approx. 1 300 000 people within its administrative borders, but in 1945, just after World War II, the number dropped to as little as 162 000 people. Warsaw had to be rebuilt after the war devastation, since 72 per cent of housing and 90 per cent of industrial buildings were damaged beyond repair. It is worth mentioning that many European cities suffered wartime devastation and many have been subsequently redeveloped, but none on such a scale as Warsaw. The destruction of Warsaw during World War II occurred in three main phases: the first was due to the military operation at the beginning of the German invasion (1939); the second concerns the "Ghetto Uprising" (1943) and the destruction of the west-central part of the city; and the third was the one of the "Warsaw Uprising" (1944), particularly after its collapse, when the occupants performed planned and systematic destructions.

The extermination, expulsion of Warsaw' inhabitants and the destruction of housing infrastructure had for several decades caused an increase of population density in the suburban zones. It overlapped in the 1960s and 1970s with the administrative restriction to the inflow of new inhabitants and with a deglomeration policy. On the whole, the destruction caused by the World War II allied with the introduction of communism in 1945, have had decisive consequences for the formation of Warsaw' spatial structure. It involved the transformation of social and economic structures, the physical fabric of the city, the political position and administrative function.

A substantial role was played by the Decree on Communalization of 1945, which abolished private ownership of land within the city limits. The city council was empowered to direct families without accommodations to live in privately owned houses which were under-occupied, and the rents were fixed at the 1939 level. This, even after 1989, remains one of the main obstacles of urban development in the central part of Warsaw. Up to now the lack of re-privatization legislation constrains more harmonious urban development and modernization.

The first post-war national plan of reconstruction, in spite of over concentration of industrial investment (due to industrialization doctrine of the communism), tolerated the substantial public investments in new housing and reconstruction only in Upper Silesia and Warsaw. However, since 1949 private and cooperative investment had been limited, and for the period of 1949-1955 new housing was provided mainly by the state and associated mainly with the new industrial enterprises. This policy together with the post-war "baby boom" and intensive migration to Warsaw caused that the demand for housing outstripped the supply. In addition, the forced introduction of the new doctrine of Socialist Realism has radically changed the urban landscape. The centre of the city has been dominated by the enormous "Palace of Culture and Science", while new housing estates like MDM (Marszałkowska Housing District) and Plac Lenskiego (now Plac Hallera) in Praga district became the best examples of the newly introduced architecture. Due to the political changes in the communist regime, since 1958 the housing cooperative organizations were given official encouragements, soon becoming the main housing provider in all urbanized areas, however in Warsaw the state was the dominant provider until 1965.

In general, the policy of heavy industrialization in Warsaw was the most important factor that had an impact on the creation of city space. Against original post-war plans the new industrial districts were created in Żerań, Praga Pn., and Służewiec Przemysłowy (in 1951 a new car factory in Żerań was constructed, in 1952 the steelworks in Bielany). Such development, however, had introduced pressure on the housing demand, as well as commuting to work from the suburban zone. The increase of this imbalance (between place of work, number of labour force and housing stock) resulted in the formation of the concept of deglomeration which had

become the basis for the first comprehensive plan for the whole of Warsaw region (agglomeration) in 1968.

The re-emergence of territorial self-government in Poland after 1990, had changed the administrative structures and territorial subdivisions of Warsaw. New spatial planning regulations (introduced in 1994 and 2003) and systemic conditions for economic development have had a decisive impact on the development paths of Warsaw metropolis today.

Similarly as in the case of Paris and Berlin, some events and processes in the history of Warsaw were of particular importance in shaping the presence of the Polish capital.

2.7. The historical turning points and challenges of Warsaw

The regaining of national independence

The liquidation of the fortress after World War I, together with the regaining of national independence and allocation of the central administrative and political function in the city has speeded up urban development. The administrative boundary of the city was extended. The post-1918 high level of migration occurred in the conditions of a low level of infrastructure and housing. As a result, the population of the outer zone increased by 80% while of the city only by 25.8% in the period of 1921-1931 (between two national censuses), and this was the beginning of the formation of Warsaw agglomeration and the future base for Warsaw metropolitan area.

"Functional Warsaw"

The development of Warsaw between World War I and II was dominated by uncontrolled population growth, rapid industrialisation, and booming development of central functions. The result of the chaotic development was the increase of social segregation and the intermingle of housing and industrial functions.

In spite of the early (1916) spatial planning attempt made by the Circle of Architects, the introduction of innovative and modern urban and regional planning was launched in 1930' under the concept of "Functional Warsaw" and its followers. More comprehensive introduction of this concept had been limited due to the economic situation of the country and was interrupted by World War II.

The World War II destruction of Warsaw and its rebuilding

The post-war period and the new political situation had faced conflicting visions concerning the rebuilding of the city, influenced by nationalization (communalization of land and housing) and ideological priorities. The process of making of the socialist city in Warsaw had shaped the urban landscape in a way that space was dominated at first by social realist style and then, gradually, by modernist, low quality mass housing. The rebuilding of Warsaw was not just a technical question for urban planners, architects and engineers. This process had a very important political context. Rebuilding of Warsaw was supposed to prove that despite enormous damages Poles are brave and capable to recreate the city. The slogan "the whole of Poland rebuilds its capital city" reflects the approach which was so vital at that time: rebuilding of Warsaw was a question of pride and duty of all Poles. The new political system introduced in Poland had also great impact on city space. The Palace of Culture and Science constructed in the very middle of the city, where the busy

downtown was located before the war, was a symbol of new times approaching. Warsaw was also supposed to change its social characteristics and become an industrial city with a dominance of the workers' class. In order to reach this goal new factories were located in the city and industry was treated as a driving force for the city development. Other visions of post-war Warsaw had no chance for implementation since politics prevailed.

Additionally, communalization of land and housing in Warsaw was introduced just after the war, which empowered public authorities, giving them unlimited power to decide about types of functions and their location in the city space. Thus, ideological priorities predominated over the needs and priorities of inhabitants, as well as over development conditions and rules governing over the development of the city space. Warsaw experienced a break of continuity of its development due to physical destruction and introduction of new rules for development under communist rule.

The formation of "the socialist city"

The urbanisation process under communism, as well as the urban development of particular cities was decisively shaped by the state. In general, the cities, and particularly Warsaw as a capital, were absolutely dependent on the central government in almost all crucial elements of everyday life. The management of the city was "organizationally divided" due to the fact that the decisions concerning the city were split and had come from different government departments to the local authorities of particular cities. The mayor represented the interests of the state against citizens, rather than the interest of citizens (Węcławowicz 1996).

For the ruling communist group forced industrialization of the country in case of Warsaw and other Polish cities was the mean of increase of the share of working class (proletariat) categories in the social structure of the capital. In addition, the egalitarian principle and class homogeneity of socialist ideology resulted in relatively low levels of economic differentiation in urban space. This phenomenon was strengthened by the central allocation of inhabitants to particular dwellings. Housing policy was subordinated to the political aims at distributing the housing stock among different social groups due to the social value of the labour force (Węcławowicz 1988, 1996). The dwellers were then often forced to live in undesirable social surroundings, reducing the chances of creating local communities. The evolving housing policy from egalitarian tendency to more selective ones by granting privileges to certain social and professional groups, had gradually differentiated the city. In addition, the attempt to control, by administrative means, the inflow of the people to the city was only partly effective.

The urban landscape, except that which had survived war destruction and was treated as historic and cultural heritage , was dominated by reconstructed elements, at the beginning by social realist style and then gradually by the low quality mass housing. The uniformity of architecture and urban landscape created a higher proportion of waste land and led to a deterioration of old quarters of the city (except the cultural heritage part of the old town). The construction of blocks of apartments was imposed in the first place, which delayed the development of service facilities: shops, restaurants, schools or post offices. As a result, huge homogeneous estates emerged in Warsaw, usually, deprived of adequate service facilities. There were also ideological attempts at redistribution or elimination from the space of the city of any visible non-communist symbols (Węcławowicz 2007).

Abandonment of communism and the formation of the post- socialist city

The political, economic and social transformation of 1989/1990, had generated substantial changes in the urbanisation processes even before the formal collapse of the communist system. An example was the abandonment of central planning in favour of the assumption that market mechanisms should replace the central planner or urban planning. In case of Warsaw, like in other former socialist cities, the following general processes are considered to be the most important in reshaping urban and metropolitan space (Węcławowicz 1996: 79):

- "the return of the importance of land rent and the increased number of actors competing for space;
- the return of self-government, the shift of absolute control over space from central to local;
- the increase of social and spatial differentiation and the changing rules of spatial allocation of peoples from political to economic criteria;
- the transformation of employment structure from domination of industry to domination of the service sector;
- the substantial transformation of the urban landscape and architecture;
- the transformation of values and symbols, mostly by replacing many manifestations of politically symbolic space by other functions and symbols".

The urban and metropolitan governance

The return of democracy and introduction of self-government has had positive consequences for Warsaw. However, the radical increase of actors with its interests competing for urban space, has complicated the management particular coordination. One of the negative consequences for urban development was the division of Warsaw (1989) into independent communes with inadequate co-ordination and legal instruments in the whole city scale, which existed until the 2002 reform of administrative division bringing the liquidation of independent communes. However, the coordination of the metropolitan development, in spite of later legislations and introduction of modern spatial and strategic planning policy initiatives remained unsolved in a way, which is understood as satisfactory. One of the barriers is the persistence of an anti-Warsaw (anti-metropolitan) attitude in the parliament, and the policy of over-taxation of Warsaw and the whole region (mazowieckie voivodeship). The Polish law does not currently provide a legal basis for the formation of a metropolitan governance system in any form. Despite some initiatives that bring together Warsaw and its neighbouring municipalities, there is no systemic approach to the development of Warsaw – not only as a capital city, but the centre of a metropolitan area.

The last decades' impact of planning and evolving urban policy on the metropolitan structure

The political post-1989 transformation resulted in a rapid shift of control over urban space from the central to local level. This allocation of power served as revitalisation of local initiative and immense improvement in the maintenance of communal infrastructure and housing stock, as well as in the creation of more pleasant urban landscape. Since 1990, the Local Government Act has delegated some basic responsibilities to the lower level - the *gmina* (current NTS 5). Since 1994, the new Spatial Development Act has equipped the local authorities with two legal planning tools: local spatial plans and strategic plans. In country scale the new local government has not been prepared to deal with the emergence of numerous new actors, mostly from private sector competing for urban space. This concerns in smaller scale Warsaw metropolitan areas. Between 1994 and 2002 Warsaw was a

municipal association of 11 boroughs (*gminas*) with the largest central borough (Warszawa-Centrum). The city overlapped its pre-war boundaries and accommodated a million inhabitants. Such a structure created a lot of coordination problems between the local and the whole city interest and day-by- day management. Each *gmina* had a different status, objectives, and interests causing the overlapping and colliding of competences. Since October 2002, Warsaw had again become one administrative unit with the legislative status of the county. The single power of the Council and president of the city deals with the general issues and the coordination of work of 18 districts. The city currently has a singular status, integrated budget and management as a base for more rapid and harmonious development; however the coordination of metropolitan development of the nearest surrounding region beyond the Warsaw administrative boundary are issues to be tackled in the future.

The Warsaw case indicates that fragmented administration of the metropolitan areas or the entire urban entities still remains unsolved problems. The historically determined predomination of local interests and short terms' political objectives block the formation of spatial alliance of local authorities (defined for example in scale of metropolitan region) and partnership. It is only possible to achieve a minimum coordination of strategic planning at the local, regional and national level (and not always in a correct way). The governance of the Polish urban areas and metropolitan regions are still far from the OECD's Principle of Metropolitan Governance. This issue is also focused on in the latest evaluation of the Polish urban policy prepared by the OECD (OECD Urban Policy Reviews POLAND 2011). The OECD recommendation for all metropolises of Poland and particularly for Warsaw metropolitan area concerns first of all the need for metropolitan growth management. The problem raised as leading is: "… the lack of co-ordination on spatial planning between core cities and surrounding municipalities" which "has resulted in uncontrolled metropolitan growth, urban sprawl and inter-municipal competition, which can hurt regional competitiveness." (OECD 2011: 134).

The second assessment concerns historically rooted autonomy in spatial planning at the local level which "… resulted in the development of housing in suburban municipalities designed to attract residents of larger cities, without regard to regional transportation connections or linkages between employment centres and residential developments. Because of the increase in land prices, (….), the surrounding municipalities tend to speculate on land rather than developed a strategic long-term vision on its best use" (OECD 2011: 134). The most important recommendation coming from OECD Urban Policy Review and history of urban development is the statement: "Warsaw merits a specific treatment in a national urban policy, given the challenges and opportunities inherent in managing the growth of the city. (…) Warsaw's competitiveness risks being undermined by urban fragmentation." (OECD 2011: 136). Since the beginning of political transformation after 1989 the processes of metropolisation of Polish urban system have undergone significant acceleration particularly intensive since European integration of Poland in May 2004. At the beginning of 1990s, the unquestionable dominant position of Warsaw (in all fields of human activity) has been challenged by Kraków (on the grounds of its cultural, historical and national heritage), by Gdańsk (on the basis of political power, having its roots in the Solidarity movement), and by Poznań (on the economic ground, as a leader of economic transformation, due to the well-established trade connections with the countries of Western Europe, and the gate of innovation). The "initial" decrease of importance of Warsaw on the national scale results from the fact that the Polish capital is geographically located in one of the less developed regions of Poland – Mazovia. This, still existing economic imbalance between the city and its surrounding region, remains one of the most important challenges for the future of Warsaw

metropolis. Warsaw and its metropolitan area, however, as a great economic centre and capital city, still constitutes a type of a gateway city for the whole of Poland and peripheral countries of Eastern Europe (Korcelli-Olejniczak 2007), particularly, a substantial diffusion point of the modernisation process for the eastern part of the country. This influence has been substantially increased by the rapid development of the private sector; however, the spatial concentration of economic activities also contributes to an increase of regional disparities. The place of Warsaw metropolitan area in the national urban system was described and conceptualized under the planning idea of the "nodal-belt urbanisation concept" (Leszczycki *et al.* 1971), which was based on belts of intensive concentration of population and economic activity stretched along main corridors connecting principal cities. It then evolved into the concept of "moderate polycentric concentration plan" (1974, Plan Przestrzennego Zagospodarowania kraju do roku 1990), which assumed concentration of principal economic and other social activities particularly in several largest cities, and several medium-sized cities. The progress of the integration of Polish cities with European ones, however, unveiled the weakness of single cities, even the largest one in Poland.

After transformation, the process of the growing dominance of Warsaw (after an initial decline) has been confronted with the policy planning concept of "balancing spatial development" which aimed at dispersing or equalizing economic prosperity into twelve largest urban centres in Poland (National Concept of Spatial Development Policies 2001). The Update of the National Spatial Development Policy Concept from 2005 has introduced a correction, however this concept has not been approved by the government. In the approved (2011) National Spatial Development Concept the idea of an integrated national network metropolis has been launched, which, in economic and political terms could potentially become a much more important element of the EU urban network than the individual Polish metropolitan areas on their own (Korcelli *et al*. 2010).

2.8. Conclusions

The historical roots of present structural conditions of Paris, Berlin and Warsaw share challenges and problems. The structural difficulties of growth concern above all the size and position of the respective city within the national and global settlement system. The studied cities present different scales and stages of development and growth, different administrative and governance structures, different roots of housing problems. Moreover, the current policy of the European Union to a certain extent contributes to a growing uniformity of urban patterns, the trend that is also supported in modernist planning and architecture throughout the twentieth century.

The main historical challenges faced by Berlin concern the establishment of the capital of united Germany in the nineteenth century; the consequences of the national-socialist regime; the World War II destruction and resulting political division of the city; the reunification in 1990 and the attempts at sustaining its position in the European and global hierarchy.

In case of Paris, despite a quite stable international position in European and World scale, what become most crucial are the internal contradictions. The main challenge for Paris of today is the problem of maintaining its political and economic position of a global city, while keeping one of the world's highest ranking in the cultural domain.

Paris has a tradition of long-term and continuing power of a capital city, without basic destructions neither major disaster concerning its metropolitan area or country in which territory it lies. This is both a chance (a strong leadership) and a problem to

deal with (slow emergence of metropolitan polycentrism and balanced structure). In addition, the French tradition of planning and technical infrastructure organization has allowed a continuous development in a turbulent political landscape (along with a strong administrative centralism and diverging social interests of more and more specialized metropolitan territories). The Paris city enclosure is a unique feature among the largest capital cities, which explains the recent cooperative attitude towards the suburbs (and a long term behaviour of dominance) which has been established only in the 2000s. A common problem, only partly connected with the increase of the ethnic differentiation, concerns new social inequities imposed by the economic competition in the global scale.

For Warsaw, the key challenges concern the completion of modernization and the establishment of a higher position within Central European cities as a “gateway to the East”. The historical roots of these challenges are the reestablishment of Warsaw as the capital of reunited Poland in 1918, the World War II destruction, the city reconstruction under the rules of the communist regime, and the post-1989 transformation. The key development problems for Warsaw metropolis are to a large extent the key problems of all Polish cities: relatively low competitiveness in the EU scale, mostly due to the lack of proper transport and functional links in the country and the international scale; a considerable housing shortage in general and, specifically, the shortage of affordable housing together with the increasing modernization gap of the housing stock; an increase of social disparities and widening of the poverty stratum. A considerable problem exists within the modernization issue of technical and communal infrastructure, or, with reference to governance practices, as well as the poor involvement of inhabitants in urban and local matters.

With respect to Warsaw and Berlin, the historical consequences of the totalitarian systems (national socialism and state-socialism for Berlin and state-socialism for Warsaw) are still visible; while Paris has experienced continuous democratic and free market economic development, which was, however, marked by its internal evolution.

Notwithstanding the prevailing differences, some common problems are observed, those, however, being of different importance in the examined cities. Predominantly, such problems concern the future demographic development, suburbanisation and urban sprawl, the increase of intra-metropolitan, social and economic disparities, as well as the affordability of housing. Furthermore, the development of sustainable metropolitan governance structures and strategic urban planning remain important challenges to be faced in the future.

3. Positioning Paris, Berlin and Warsaw in the context of 'metropolisation in Europe': Theoretical and empirical perspectives

3.1. Introduction

In the current phase of globalisation it is easy to detect a view which argues for the growing appeal of 'metropolitan areas' as key places for economic growth, different kinds of infrastructures and breeding places for innovation (OECD 2006). In many countries we can observe a gradual re-hierarchisation of the national urban systems followed by a growing dominance and spatial extension of the capital regions. At the same time prosperous second-tier city regions develop, while numerous towns and cities loose importance. Consequently a number of the former areas (from now labelled as metropolitan areas) are being considered as important drivers for international territorial competitiveness and the socio-economic well-being across Europe (Scott 2001, Jonas and Ward 2007). However, such developments are not inconsequential if the EU-wide consented normative concept of 'territorial cohesion' is taken seriously.

The above sketched processes challenge local, regional and state-level institutions as well as other public and private stakeholders, to develop new modes of territorial governance (Gualini 2006, Knapp and Schmitt 2003), to define new mechanisms to allocate resources, to conceal territorial competiveness and social cohesion at the national and regional level, and finally, to identify robust strategies to make their metropolitan regions attractive for investors and inhabitants (Ache *et al*. 2008; see chapter 5). The resurgence of debates on territorial governance and strategic spatial planning, in particular considering metropolitan 'regions' as being key assets of nation states (see chapter 8), therefore, must be understood in relation to the ongoing process of economic globalization and political re-territorialisation through which the frameworks of social life are being reconfigured (Brenner 2003, 2004).

Against this background, the aim of this chapter is at first to reflect some key strands of the current debate around the coining of the functional and morphological characteristics of metropolitan areas (i.e. 'metropolisation'). Secondly, the three metropolitan areas at hand here, Paris, Berlin and Warsaw, are explored in a European perspective by taking into account a number of current studies. This shall help to position the three and to carve out their major differences and similarities.

In doing so, at first, we need to characterize on a rather pragmatic base what we mean with the one or other key term used throughout this chapter and elsewhere in this report:

- The term 'city' is used here to describe 'urban places' in general, i.e. without referring specifically to their functional position within (inter)national urban systems. City-regions are used to emphasise that also the functionally related hinterland is meant, without, however, clarifying on what kind of exact criteria and even quantitative thresholds this is based upon. The term is rather to be used to emphasise that the spatial entity at hand is larger than what we might associate when using the term 'city'.
- The term 'metropolitan' is increasingly used in the European context (cf. Wiechmann 2009). It has been established to assign those cities that can be considered as being of particular national or even 'European' significance due to their distinguished functional profile and/or their specific morphological

shape/urban form, which also constitutes our approach to explore the three metropolitan areas at hand. Due to the growing importance of the global networking economy, in recent years the functional aspects of such specific cities have been very much in the centre of interest in urban research. This has led to concepts such as the 'global' or 'world' city, which will be further described below.

- Since the associated spatial entities are normally of relatively large scope, the word 'area' or 'region' is added. For the sake of clarity, we use the word 'area' when referring to a more analytical understanding of what we consider as being 'metropolitan'. The word 'region' is used to emphasise the political-normative dimension, i.e. to refer to the coordinative, strategic and institutional characteristics within spatial planning (cf. chapter 8 on governance).
- In this vein, the term 'metropolisation' is consequently used to describe a process towards further coining of the specific characteristics (be it in a functional or in a morphological sense) of a metropolitan area.

However, these clarifications are far away from delivering robust and distinct definitions. To do this in a scientifically sound and internationally comparative way demands a research project on its own in particular due to the various associated analytical and normative implications (cf. the discussion by Rodrígues-Pose 2008). Therefore, the project consortium has agreed on such rather pragmatic although non-ambiguous characteristics (compare: Glossary).

3.2. 'Metropolisation' - theoretical and normative perspectives to approach a multi-faceted concept

Economic transformation processes, the rise of knowledge economy and the application of new technologies have each played important roles in the changed focus on cities in both policy terms and in spatial research over the last three decades. Specifically, a more economic-functional figure of thought suggests that some cities play a critical role in the global network economy, often labelled as 'global cities' or 'world cities', or, on a somewhat lower level, in the European discourse as 'metropolitan areas' or 'metropolitan regions'. Linked to this, is the revitalised interest in larger cities (or city-regions respectively) as constituting central elements in light of the prevalent strive for more sustainability and resource-efficiency. Here, in particular, the concrete physical urban form and its relation to major functional nodes/networks within the urban fabric (such as transport, business centres) has been a vital question in the last two decades or so. Based on these two 'promises' that larger cities/city-regions may deliver, namely economic growth and a high level of territorial competitiveness on the one hand and being major contributors to sustainable development and/or to more resource efficiency on the other, it is hardly surprising that they have been assigned a key role in trans(national) and city-regional strategic spatial planning in recent years (cf. for instance OECD 2006, CEC 2009, Ministers responsible for Spatial Planning and Territorial Development of the European Union 2011 as well as the analysis provided in chapter 9).

A functional-economic perspective

Globalization has entailed a territorial reorganisation of the urbanisation process on the global, national and city-regional scales (see for example, Friedmann 1986, 1995; Sassen 1991; Taylor *et al*. 2010). Cities are embedded in transnational flows of capital, commodities, knowledge and labour-power (see Castells 2002; Taylor 2004)

and as such decreasingly to be conceived as sub-national components of self-enclosed and nationally scaled regimes of accumulation (Brown *et al*. 2010). In this vein, a number of cities (or city-regions respectively) are players of critical meaning in the global network economy. They are conceptualised as being central nodes in the space of multifarious flows since they offer (apparently) the appropriate functional profile to take part in transnational flows of capital, commodities, knowledge, labour, tourists and cultural symbols than other 'cities' at a lower level of the urban hierarchy. Their function as important 'hubs' for the interaction of 'talents' and 'their tacit knowledge', as control centres for financial assets or as the major points of origin for the generation and diffusion of different kinds of innovations (i.e. social, cultural organisational, process-related and material innovations). Consequently, they are increasingly part of the scientific, but also political discourse. Critical in this respect is their functional profile, i.e. their ability to provide and perform so-called 'global-city, metropolitan or urban functions', which can be seen as central competitive assets for sustaining the metropolitan areas' socio-economic performance in such a functional-economic perspective (ESPON FOCI, ESPON 1.1.1., ESPON 1.4.3, Blotevogel and Danielczyk 2009, Korcelli-Olejniczak 2007). These functions are not limited to metropolitan areas alone, however, when they are combined and concentrated in a certain way, they can cross-fertilize and can thus become characteristic features of metropolitan areas (and specifically of their metropolitan cores) (cf. Schmitt and Dubois 2008: 39).

Nonetheless, as stressed above, 'metropolitan areas' are increasingly conceptualised as being 'central' nodes in the spaces of flows. Hence, the related policy discourse is targeted at the extent to which a given city (or city-region) can be considered as providing the competitive assets to sustain (or even improve) its socio-economic performance in a globalising world. As a response to such developments, the city-regional level has gained importance as an arena for a new wave of policy experimentation and institutional reform since the 1980s (Brenner 2004). 'Metropolitan governance' is increasingly being viewed as a keystone for enhancing territorial competitiveness, as well as for the co-ordination and integration of different kinds of territorial relevant policies within an urban agglomeration. Thus, the 'competitive performance' of such urban agglomerations which normally consist of a number of different political administrative territories is not dependent only on the locational 'competitive assets' but also on the 'governance' of social interactions between actors and institutions within metropolitan regions.

Morphological perspectives

A second perspective that should be addressed here is the re-composition of the urban form. The monocentric model in which central city locations are considered as the sole functional focal point for all types of social and economic activity can be no longer seen as the norm in the context of evolving spatial patterns across Europe (but also in North America and increasingly in Asia). This re-structuring process is not necessarily characterized only by an extension of the urban fabric, but also represented by a wider array of economic functions and qualified jobs which lead to a broad variety of new centralities, peripheries and intermediate zones. This spatial fragmentation challenges different aspects of spatial planning such as maintaining mobility, provision of services of general interest, responding to different kinds of housing needs in general and the political vision to strive for more sustainable urban development in particular. Against the background that metropolitan areas play a key role in climate change mitigation strategies, a vital question is, for instance, the urban form's impact on the resources needed for heating, cooling and in particular transportation at the city-regional scale (cf. CEC 2009; SUME 2011).

Metropolitan 'regions' as a re-newed normative phenomena

With the Lisbon and Gothenburg strategy, and, in more recent years the Europe 2020 strategy, the European Council has adopted measures to increase the European competitiveness and capacity for innovation and to follow-up on cohesion polices and sustainable development. Within these strategies it appears that the 'urban dimension' gains more and more weight as cities in general and metropolitan areas in particular are perceived as focal points for a number of related policies (cf. CEC 2009, 2011; Ministers responsible for Spatial Planning and Territorial Development of the European Union 2011; EESC 2011).

At the national scale, the impact and character of a policy for metropolitan regions in Europe is very diverse (cf. for instance Schmitt 2010). In respect of the three countries at hand here, various initiatives have been set in motion in the last 10 to 15 years. The debate is framed by normative filled concepts such as 'appel à coopération métropolitaine' and 'projets métropolitains' in France, 'Europäische Metropolregionen' in Germany as well as 'obszar metropolitany' and '(potencjalne) europole' in Poland (cf. Wiechmann 2009: 122-123). Nonetheless, these different national starting points – combined with data and methodical problems to capture trends and challenges have thus far complicated scientific and political efforts to achieve a consensual picture of European metropolitan regions. In addition, one can note that the political debate around metropolitan areas across Europe has also been fuelled by the relatively positively connotation to the term 'metropolitan', as it can be seen as an expression of a revitalised desire for urbanity and post-modern lifestyle. Thus its suggestive impact is very appealing for policy initiatives and marketing campaigns (Petrin and Knieling 2009), although issues such as the specific added-value of those as well as the conflicting potential in terms of social and territorial cohesion ought to be reflected with cautiousness.

3.3. Paris, Berlin and Warsaw as Metropolitan Areas – empirical findings in a European perspective

The aim of this chapter, however, is not to detail the process of metropolisation as such, rather to position the three metropolitan areas of Berlin, Paris and Warsaw in a European perspective. Due to the lack of fully comparable studies, we had to slightly modify this task. Also we do not want to open the discussion what distinguishes an urban area from a metropolitan area (cf. for instance Blotevogel and Schulze 2009), nor do we want to raise the thorny issue here how to demarcate their spatial scope in the most meaningful way, since this has been done in many earlier studies (e.g. within ESPON 1.1.1).

In order to contextualize the development patterns of the three metropolitan areas of this project (Warsaw, Berlin and Paris) within a European perspective, a literature review has been carried out. In doing so, the following 'three dimensions as regards metropolitan development in Europe' have been considered: economic performance, population trends and urban form, and classification of metropolitan areas based on their international functions. Regarding the third point, a key study has been carried out by the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) in 2011. It provides up-to-date policy-relevant information on functional profiles of metropolitan areas in Europe elaborated in consultation with DG Regio, Eurostat, a panel of experts and a panel of representatives from all EU countries. Another key reference is the 'Second State of European Cities Report' commissioned by the European Commission (DG Regio) and elaborated by a consortium constituted by all four institutions (cf. RWI *et al*. 2010). The report uses data from the Urban Audit and integrates a comparison between 320 cities in the

European Union and 36 non-EU cities. The Urban Audit provides city data on different spatial levels: core cities, larger urban zones (LUZ), sub-city districts and offers national averages. Metropolitan areas have also been studied by many ESPON projects such as 'Polycentricity' (ESPON 1.1.1), 'Zoom In' (ESPON 2.4.2), 'Urban functions' (1.4.3) (all ESPON 2006 projects) and 'ESPON FOCI' (an ESPON 2013 project). The latter has tackled in particular the issue of economic, transport and scientific linkages between cities on different spatial scales.

Spatial dynamics: economic performance

The most commonly used measure of spatial economic dynamic is the regional GDP per capita in Purchasing Power Standards (PPS). In the second State of European Cities Report (cf. RWI *et al*. 2010) it is argued that in terms of national averages of GDP per head in PPS, a clear gap can be seen between most of the capital cities and some other larger cities (here Type A) on the one hand and smaller cities such as Type B, C, and D on the other (cf. Figure F1 in Annexes). In eight European capitals, the GDP per head is more than double, compared to the national average which applies to London and Paris, but also to Warsaw, Bratislava, Sofia, Bucharest, Prague, Budapest, Riga and Tallinn (cf. Figure F3 in Annexes). Germany is, however, an exception, since Berlin shows a comparatively low performance (under national average) in this respect, which is in sharp contrast to Paris where the city is literally outperforming the other French cities. Almost the same can be declared for Warsaw, even though to a lesser extent in regards to the distance to the second best performing Polish city.

Figure F3 shows also that in most European countries there is an above average agglomeration of 'wealth' (i.e. economic prosperity, measured in GDP per head) in cities in general and an exceptional agglomeration in the capital city in particular. In so-called 'principal metropolitan areas' (city Type A), the concentration of wealth is above the national average. In 'Regional Centres' (Type B) one can observe a more balanced distribution of above- and below-average urban GDP per head. In almost all 'Smaller Centres' (Type C) and in 'Lagging Regions' (Type D), the economic output per resident is below the national average.

Spatial dynamics: urban form

The image of urban growth or decline in Europe is highly diverse and it is very difficult to classify common trends for all cities. A long-term study of urbanisation phases and regional characteristics has been performed in the ESPON FOCI project, which has identified the following main features:

- The largest urban land expansion in Europe started in the 1950s.
- The past history was reflected in high diversity of city attributes at the beginning of this period.
- Rapid changes during the last 50 years resulted from combined effects of increasing affluence, mass motorisation for the transport of persons and goods, the introduction of air transportation and the shift from manufacturing to services in urban economies caused a much more dispersed, fragmented and low density urban development. This development did affect existing functions and structures of many cities, in particular less attractive neighbourhoods and obsolete industrial and port areas had suffered. Many cities experienced population loss."

Against the background of these general patterns of development Figure F4 in Annexes to Scientific Report gives a clearer view about the total population change between 1991 and 2004 in the three capital cities in question, here compared to other European Capitals as well as to the respective cities within their countries. We can easily see that Paris, as well as Berlin (the latter more dramatically), has lost population in this period (here at the municipal level).

This loss at the municipal level is however being compensated (at least to some extent) by a slight growth in their neighbouring areas as highlighted for the period 2000-2006 (cf. Map F1 in Annexes). Warsaw municipality has seen a slight growth in this period between 1991-2004 even though not to that extent as some other Polish cities, which has been accompanied by a relatively strong suburbanisation in their neighbouring areas between 2000-2006. Among the Eastern European capital cities, Warsaw is the only one with an increase within this period (1991-2004), whereas Paris and particular Berlin are one of the rare examples of Western European capital cities that show a negative trend between 1991 and 2004.

According to the ESPON FOCI study we can assume a somewhat stable population development (with slight increase) for the larger Warsaw metropolitan area and a little stronger increase for the larger Paris metropolitan area between 2005 and 2030 (here in each case at NUTS 2-level). The metropolitan area of Berlin is surrounded by a larger area that will see a comparatively strong loss of population between 2005 and 2030. Apparently the closer a municipality is located to the municipality of Berlin the less it will be jeopardised by population shrinkage. For the Eastern part of the city a somewhat stable development is forecasted. In this light Paris is rather following the trend to be expected as well in other Western and Northern major metropolitan areas (such as Amsterdam, Stockholm or Helsinki), whereas the larger metropolitan area of Berlin can be rather grouped to those that will see one of the most extreme shrinkages in Europe (such as the Baltic Capitals and Bucharest). The larger Warsaw metropolitan area seems to maintain its position as one of the very few metropolitan areas of the New Member States that will see a rather stable population development (as Prague too for instance) (cf. Map F2 in Annexes).

The above mentioned trends have naturally impacts on the changes in land consumption in general and the urban form, which are, however, influenced in particular by planning and building traditions (e.g. high versus low densification), the specific city's topography etc.). This is, at least partially, reflected in Figure F5 in Annexes to Scientific Report the mean soil sealing in European capitals (here demarcated as Urban Morphological Zones, UMZ, based on CORINE land cover data by the European Environmental Agency). In particular the figures of soil sealing in m2 per capita are of interest here, which are around '100' both in the Berlin and Paris UMZ, but almost 150 in the case of Warsaw. The latter can be seen as comparatively high compared to other European capitals, but rather normal in relation to other eastern European UMZs, since almost the same figures have been calculated for instance for Prague, Bratislava, and Ljubljana (but also for western European cities such as Copenhagen and Brussels for instance). The figures for the Berlin and Paris UMZ are just below the average of European capitals, alike cities such as London or Stockholm. The most compact European capitals in this sense are Madrid, Sarajevo, Rome, and in particular Tirana.

Classification of metropolitan areas based on their functions

Another European study (cf. BBSR 2011) considers metropolitan areas in a strict functional context by exploring the variety and performance of metropolitan functions. The study identifies metropolitan areas on the basis of the distribution of metropolitan

functions across Europe where 8,480 locations are investigated on the basis of 38 indicators (BBSR 2011: 8). The aim has been to compare the spatial distribution of metropolitan functions in the overall area both between individual locations and between metropolitan areas themselves regarding five 'functional areas' (politics, economy, science, transport and culture), whereby each has been assessed by between two and five indicator groups that have been evenly weighted (cf. Figure F2 in Annexes).

Although the composition of the aggregated indices regarding the metropolitan functions – politics, economy, science, transport and culture shows the expectable variations between the various metropolitan areas, the following basic tendency can be observed: Most of the metropolitan areas with a high overall aggregated index value have a great (but balanced) variety of metropolitan functions. An exception is Berlin where the governmental function dominates followed by the increasing significance of cultural facilities and activities. Metropolitan areas with low aggregate index values, however, often show a stronger specialization but some of these areas also have a balanced variety of functions (cf. Map F4 in Annexes). What became also clear is that depending on the national settlement structure, the impact and character of a 'policy for metropolitan regions' in Europe is very different. In such an aggregated perspective, one can say that the metropolitan areas of London and Paris maintain a leading position in terms of such metropolitan functions. They also have much higher values than the other metropolitan areas in terms of economic performance. They are followed by the Randstad, Brussels, Rhine-Ruhr, Moscow, Vienna-Bratislava, Rhine-Main, Rome and Berlin which are the ten other leading metropolitan areas in this respect. Their relative significance is however revealed by a regionalization concept, i.e. an aggregation of a number of neighbouring cities (in particular in the case of the Randstad, Rhine-ruhr and Rhine-Main). Warsaw is finally ranked as 24th among the 125 European metropolitan areas that have been identified and assessed in this study (cf. BBSR 2011: 126-127).

In this study it is also argued that the value of the aggregated index together with the variety of metropolitan functions and their ratio are important criteria to assess the significance of metropolitan areas. Consequently four different types of metropolitan areas across Europe have been identified (Paris and Berlin are grouped in the first one and Warsaw in the third) (cf. Map F3 in Annexes).

> "1) A metropolitan area has a great variety of functions if at least four out of five functional areas have above-average index values. The classification is based on the average values of all 125 metropolitan areas in each functional area.
> 2) Metropolitan areas that have above average index values for two or three functional areas, still have a considerable variety of functions but also reveal functional focuses.
> 3) Metropolitan areas with a limited variety of functions are those which have above-average index values in only one or no functional area.
> 4) There are also metropolitan areas with one specific functional area having a share of more than 50% in the aggregate index. If this is the case, these are metropolitan areas with a limited variety of functions and a large degree of specialization". (BBSR 2011: 99-100)

The spatial distribution of the functional areas 'economy', 'science' and 'transport' (as well as in an aggregated version) show quite impressively that (except for the functional area 'science') Berlin and Warsaw show almost similar overall index values. In addition, the outstanding performance of Paris becomes evident as one of

the leading European metropolitan areas as regards the extent and diversity of its functional profile.

Findings from the work of the Globalization and World Cities (GaWC) Research Network

An interesting although debated approach to explore international scope and relations of cities in a rather economic perspective has been developed within the Globalization and World Cities (GaWC) Research Network (cf. e.g. Taylor 2004, Taylor *et al*. 2010). Here intra-firm office networks' of Advanced Producer Service firms are considered in order to anticipate 'service flows' between cities. Since a direct measurement of the myriad of such flows is hardly possible (cf. the discussion by Derudder 2008) this method can be used as a surrogate regarding the analysis of the intensity of knowledge-based flows between office locations and, more generally, between cities in the world economy. The resulting interlocking network model of inter-city relations thus helps to interpret Advanced Producer Service firms as key actors in world-city network formation.

Based on the observation that many such Advanced Producer Service firms have created global networks of offices provide a seamless service to their corporate customers, one can consider each office network the outcome of a firm's specific locational strategy. Hence, through flows of information, ideas, people and their tacit knowledge etc., such firms build linkages between their offices and, in this sense also, between the cities where these offices are sited. The following table illustrates some of the most recent findings that have been produced by the key scholars within the Globalization and World Cities (GaWC) Research Network with a specific focus on Paris, Berlin and Warsaw (cf. Taylor *et al*. 2011). It should be noted that the data calculated in the table is based upon the 175 most important global service firms in total (cf. for further details on the selection process Taylor *et al*. 2010: 7-8). The roster of cities for this survey included some 525 cities in total. These are thus the centres where the Advanced Producer Service firms have installed (for strategic reasons) offices to service their clients.

We can easily see, also compared to older studies (cf. Derudder *et al*. 2010 for a comparison of 2000 and 2008 data) that Paris has one of the highest GNC (Global Network Connectivity) in the world (rank 4) when considering a wide range of different Advanced Producer Service firms. We can also recognise a somewhat huge gap to Warsaw, which ranks 37 in the same database established in 2010, whereas it was ranked 20 in the one from 2008 for instance (cf. Taylor 2010 and Taylor *et al*. 2011). This gap to the GNC of Paris is even more drastically compared to Berlin (rank 56) according to the database from 2010. This is insofar not surprising since in many of such studies Paris is assigned to be a 'real' World or Global City, whereas the other two are rather of European significance. In addition, one should emphasise that such rankings reflect the strategic mental map of key decision makers of such specific huge APS firms, namely 'where' to place 'what kind of' office, since the GNC is calculated on the base of a) indications of the size/importance of a presence in a city (e.g. number of employees working in an office), and b) indications of whether the office carries out extra-local functions for the firm (e.g. management, research) (Taylor *et al*. 2010: 412-425). Here historical, geo-political and geo-economic development paths do play a role (cf. Hoyler 2010, Pain and Ardinat 2010 and Bańczyk 2010 as well as the discussion by Korcelli-Olejniczak 2012 regarding Berlin and Warsaw).

Table A3.1. GaWC 2011 Ranking of Global Cities

rank	country	city	GNC	relative GNC
1	United Kingdom	London	116605	100
2	U.S.	New York	110020	94,35
3	China	Hongkong	85080	72,96
4	***France***	***Paris***	***79624***	***68,29***
5	Singapore	Singapore	78670	67,47
6	Japan	Tokyo	74336	63,75
7	China	Shanghai	73121	62,71
8	U.S.	Chicago	71838	61,61
9	UAE	Dubai	71550	61,36
10	Australia	Sydney	71203	61,06
:	:	:	:	:
30	Ireland	Dublin	52937	45,40
31	Australia	Melbourne	52867	45,34
32	Switzerland	Zurich	51946	44,55
33	India	New Delhi	51760	44,39
34	Germany	Munich	50957	43,70
35	Turkey	Istanbul	50607	43,40
36	U.S.	Boston	50438	43,26
37	***Poland***	***Warsaw***	***50141***	***43,00***
38	U.S.	Dallas	50094	42,96
39	Austria	Vienna	49569	42,51
:	:	:	:	:
50	Czech Republic	Prague	44896	38,50
51	Canada	Montreal	44471	38,14
52	Italy	Rome	44438	38,11
53	Germany	Hamburg	43498	37,30
54	Philippines	Manila	43381	37,20
55	U.S.	Houston	43346	37,17
56	***Germany***	***Berlin***	***42951***	***36,83***
57	Greece	Athens	42882	36,78
58	Israel	Tel Aviv	42670	36,59
59	India	Bangalore	42664	36,59

Source: Taylor et al. 2011, amended

Taylor (2010) offers also a deeper insight regarding different sub-sectors within the set of analysed Advanced Producer Service firms in the database from 2008:

- regarding the 'global financial network connectivity' Paris ranked 6, Warsaw 28 and Berlin is not to be found among the listed Top 50;
- regarding the 'global law network connectivity' Paris is ranked on 3 and Warsaw on 18, whereas Berlin is not ranked among the listed Top 25;
- regarding the 'global advertising network connectivity' Paris is ranked on 3, Warsaw on 9, whereas Berlin is not ranked among the listed Top 25;
- regarding the 'global accountancy network connectivity' Paris is ranked on 7 and Berlin on 25, whereas Warsaw is not ranked among the listed Top 25;

- regarding the 'global management consulting network connectivity' Paris is ranked on 3 and neither Warsaw nor Berlin are ranked among the listed Top 25.

Such results do illustrate impressively Paris' position as a leading 'world city'. The further national analysis of the data also demonstrates the well-known monocentric structure of the French national urban system, due to the significance gap to the second or third national city (Lyon and Marseille) as well as other cities (such as Strasbourg, Nantes, Bordeaux and Lille, which have a relative strong concentration of connections within France) (cf. Pain and Ardinat 2010). Among the German cities, Berlin ranks only second after Frankfurt (rank 32 on the global list, so just before Warsaw) in the 2008 database. One needs also to note here that this global study reflects as well the polycentric national urban system in Germany, since the gap to Frankfurt is rather small and a number of other cities do show almost similar GNCs as Berlin (such as Munich, Hamburg and Düsseldorf). Looking at the data from 2010, Berlin ranks even behind the aforementioned three German cities as well as Frankfurt, in addition to the aforementioned historical, geo-economic and geo-political reasons which have certainly shaped this picture. On the other hand Berlin is in terms of critical mass (population, jobs, market size) by far the biggest 'city' compared to the other four mentioned here. However, in particular in the case of Frankfurt and Düsseldorf, one should also note that they are both embedded within larger polycentric urban configurations (namely Rhine-Ruhr and Rhine-Main), whose critical mass in this respect is much higher than that of Berlin (cf. also Lüthi *et al*. 2011). According to the empirical data provided regarding the Polish national urban system a more or less similar degree of monocentricity can be recognised as that of France, due to the significant gap to the second, third and fourth national city (here Kraków, Poznań and Wrocław). In this respect, the relative monocentricty of the national urban system is, however, even more obvious in other (although smaller) Central and Eastern European Countries such as Hungary, Bulgaria or Romania. What is maybe most noteworthy here is that considering the GNC Warsaw is the number one among the Central and Eastern European cities in the 2008 and 2010 database, followed closely by Prague and Budapest. This can be traced back, at least to some extent, to the unprecedented economic growth powered for the most part by foreign investors, both in the city-region of Warsaw, but also in Poland as such (Bańczyk 2010). In addition, Warsaw shows among the eastern European cities the strongest relative concentration of connections to the traditional world cities New York and London as well as to the 'Chinese cities triad' constituted by Beijing, Hong Kong and Shanghai (Bańczyk 2010).

3.4. Concluding remarks

The investigations presented above show the context sensitivity when comparing the three European metropolitan areas Berlin, Paris and Warsaw as regards their respective spatial dynamics and characteristics. It needs to be emphasised again that the above sketched picture is a result of geo-political and geo-economic changes, specific historical urban and regional development paths and different starting points in particular in view of the national political environment and the spatial position within a larger macro-regional context.

Paris and Berlin do show a rather stable overall economic and demographic development, whereas in the case of Warsaw we can note a comparable dynamic one. With regards to the specific territorial context, the maps used in this chapter underline that the three investigated metropolitan areas do belong to different types of European metropolitan macro-regions and thus confirm, at least to some extent, the categorisation elaborated in the ESPON FOCI project (cf. Map F7 in Annexes).

Nonetheless, as regards Paris we need to emphasise its position as one of Europe's few factual World Cities (together with London in particular), since it shows a diverse functional-economic profile of highest international significance. Berlin's position is that of a partly specialised metropolitan area in the European context (here in particular politics and culture) and rather weakly developed international connections regarding Advance Producer Service firms. The same goes for Warsaw to some extent, although its global connectivity regarding in this respect (here in particular finance, law and advertising firms) is higher than that of Berlin's, which underlines in particular its nodal function for Central and Eastern Europe in this particular respect. Korcelli-Olejniczak (2012: 528), concludes that although both cities had similar initial positions they have developed markedly different functional profiles in the last two decades. In this light, they have strengthened their position in the European urban system in recent years, although their regional specialisation shows some signs of stability. The latter is as well evident with regard to Paris, yet in its role as a European leading world city, which has not lost of its global significance in recent years despite of the emergence of other fast globalising cities, in particular in the BRIC-countries (Brasilia, Russia, India and China).

4. Housing conditions and life quality

4.1. Introduction

Owing to historical and current development differences, housing conditions in the metropolises of Paris, Berlin and Warsaw vary heavily. One of the main concerns of today's metropolises is to ensure affordability of housing and, more generally, to offer attractive space for living and working which affects overall life quality. Thus, in the context of housing policies the affordability of housing is a principle issue. It is directly influenced by factors such as the availability of land, dwelling ownership structures, land prices, access to housing for low-income tenants and middle-income first time buyers and to housing-related public policies (Bramley 1994). Depending on the extent of land availability restrictions and the level of land prices and rents in relation to income, the affordability of housing differs with respect to segments of the population.

Along with the decision to focus the analysis on the affordability of housing, the challenge was faced to define the notion of 'housing affordability' , i.e. describe its actual meaning, as no definition exists which would be commonly agreed upon. First of all, the difference between 'affordability of housing' and 'affordable housing' should be distinguished, with the latter focussing on the provision of housing for low income families. Regarding affordability of housing, usually the ratio between economic indicators such as housing costs and the income per household is considered (Czischke 2011:3). Nevertheless, the concept of affordability is context sensitive. The definition by Eurostat defines the "Housing cost overburden rate" as follows:

"This indicator is defined as the share of the population living in a household where the total housing costs[1] (net of housing allowances) represent more than 40% of the total disposable household income[2] (net of housing allowances)" (Eurostat 2012).

Nevertheless, there is also criticism regarding the proportion approach: "Even taking point-in-time comparisons at face value, critics of this approach argue that 30 per cent of a low income may be less 'affordable' than 40 per cent of a high income because 60 per cent out of a high income still leaves a household much more disposable income." (Paris 2007: 2) In addition, also other approaches are used depending on different countries' background (see e.g. Pittini 2012: 2). One other measurement possibility exists with the comparison of purchasing power parity income after tax and housing costs. Such an approach, despite implying a more complex perspective, focuses on housing costs less directly than other mentioned measurements.

Apart from these definition problems, the issue of the affordability of housing is not only relevant for the metropolitan areas considered in this project but also for other European metropolitan areas. This holds the more, as the factors influencing housing have a great impact on the specificity and complexity of metropolitan development. In this sense, the EU2020 Strategy lists housing costs and the Flagship initiative "European platform against poverty" as measures to reduce the population at risk of poverty. Such measures intend to improve access to essential services, including

[1] Housing costs include mortgage or housing loans interest payments for owners and rent payments for tenants. Utilities and any costs related to regular maintenance and structural insurance are likewise included" (Pittini 2012: 2)

[2] Disposable household income includes: all income from work (employee wages and self-employment earnings); private income from investment and property; transfers between households; all social transfers received in cash including old-age pensions

housing. Furthermore, with regard to territorial development this issue is relevant in the context of the second priority of the TA2020: “Encouraging integrated development in cities, rural and specific regions”. The TA2020 states that it is crucial to “support all the efforts, which help to make cities motors of smart, sustainable and inclusive development and attractive places to live, work, visit and invest in” (TA2020: 7). Especially the focus on attractive places to live and work is related to the issue of affordable housing and life quality.

Urban attractiveness and housing issues, thus, have high policy relevance and have been considered by other ESPON projects. In the first place, two projects should be mentioned, namely ATTREG (Attractiveness of European Regions and Cities for Residents and Visitors) of the current ESPON programme and the ESPON project 1.4.2 of the ESPON 2006 Programme (Preparatory Study on Social Aspects of EU Territorial Development). ATTREG analyses the attractiveness of different types of territories including metropolitan areas and takes a consumer side perspective with special focus on service and goods availability. The ESPON project 1.4.2 has examined four thematic fields concerning for example access to social services, housing, employment and education. The project has studied the diversity of housing within four aspects: growth in real house prices, dwellings completed per 1,000 inhabitants, home ownership, housing quality and suggested some indicators for measuring disparities in housing supply and housing quality, as well as the inequalities of housing access e.g. with regard to the affordability of housing. Many of these indicators have been also used by the Best Metropolises project in order to provide knowledge about the housing sector and living conditions in the metropolitan regions of Paris, Berlin and Warsaw.

The following sections aim to analyse the affordability of housing in these three selected metropolitan regions. For this purpose, the current housing state and trends are compared by means of statistical indicators, qualitative assessments and an analysis of principal policy actions. The variety of considered measures refers to housing costs, income, household structure and size, flat dimensions and ownership structures. This is complemented by a review of the main relevant policies affecting the affordability of housing in the three metropolises. The results are based on three principal comparisons, namely on the housing market characteristics, the influences on the affordability of housing and the applied policies.

In order to take broader account of the aspect of life quality the analysis considers the aspect in a twofold manner: firstly with respect to differences in housing conditions and, secondly, by developing a typology on living conditions and attractiveness, which not only draws on housing conditions but includes other socio-economic and infrastructure influences. The chapter concludes with a summarising review of the main comparative findings.

4.2. Methodological and data issues

Since the spatial delimitation of the metropolitan regions according to their functional urban areas (FUAs) differs from the administrative city delimitation – the latter being crucial for the implementation of local housing policies – the below analysis concentrates on the metropolises and only includes the surrounding areas (FUAs, extended FUAs) when reasonable and possible.

In order to tackle the topic of ‘housing affordability’ a broad variety of indicators and qualitative measures can be considered. Apart from housing costs and income indicators, in our analyses we include indicators concerning household structures

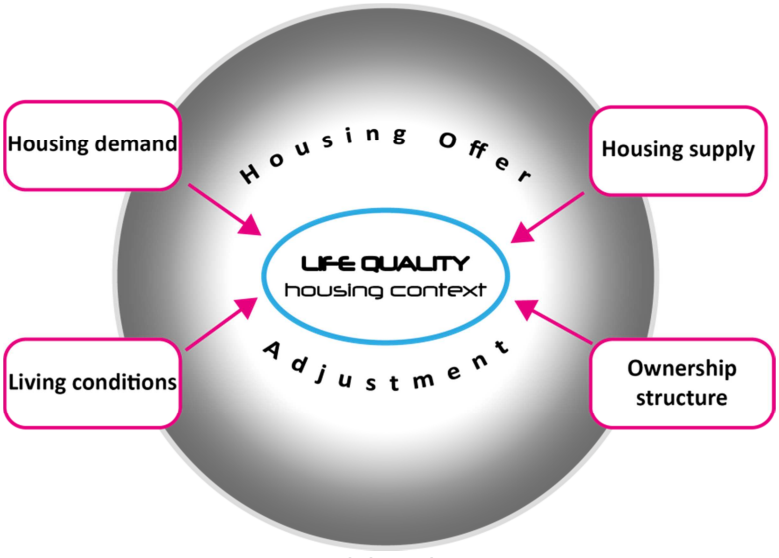
and sizes, flat sizes and ownership structures. The resulting principal data gaps can be summarized as follows:

- For some indicators little or no data at all is available. Examples are purchase prices for flats and numbers of social housing units or households waiting for social housing.
- Few indicators are available at inner-city district level or below. This heavily limits the comparative analysis especially on low territorial levels. Partially this also applies to the FUA's spaces.
- For many indicators the data refers to different years for the three metropolises. This further hampers the comparability (see annex G3).

Regarding the qualitative evaluation, guideline-based interviews have been conducted with housing experts in Berlin and in Brandenburg in order to take into account the specificities of the FUA. The results are included in the comparisons of this chapter.

Due to a lack of comparable data, life quality is principally measured in relation to housing conditions and only considered in a more comprehensive approach with regard to the typology development in chapter 4.8. To this end, the project focuses on four major axes: housing supply, changes in the ownership structure and living conditions, as well as housing demand (Figure A4.1). This approach conceptualises quality of life as a result of adjusting the housing offer to the population needs. The comparison of life quality in the three metropolitan regions is elaborated using those four dimensions, and partial conclusions are drawn on each thematic scope.

Figure A4.1 Components of life quality



Source: own elaboration.

4.3. Principal housing structures in Paris, Berlin and Warsaw

Paris

Population growth has been the highest in the outer suburbs[3] of the metropolitan region of Paris over the past decade and the lowest in the city of Paris (about 4 per cent). The high population density and the constraints of supplying additional housing within the narrow borders of the city of Paris (about 2.2 million inhabitants) put continuous pressure on housing markets not only in the city of Paris but also in the metropolitan suburban structure. Rent and land/flat prices are affected by the fairly even distribution of rental and self-owned housing. Average rent levels have increased more strongly than income over the past decade in Paris, thereby making it increasingly difficult for medium income households to afford housing within the city of Paris, despite the relatively high income level in Paris and the Île-de-France as compared to the remainder of the country. Despite the overall high rent level in the city of Paris and its surrounding suburbs, rent levels differ considerably between the districts. Generally, the further away from the city centre the less costly is housing, although there are exceptions such as the outer suburbs located southwest of Paris. Moreover, there is a southwest-northeast diagonal division of the metropolitan region (see also chapter 4).

Berlin

The population of the city of Berlin has grown 2.3 per cent over the first decade of this century (currently about 3.46 million inhabitants); which is partially a result of migration. The city's housing market has some distinctive characteristics: it is dominated by rental housing; marked by a continued reduction of household sizes, a persisting increase in the demand for housing units, a reduction of vacant flats and increasing rent and land price levels since 2008. However, there are considerable status quo and trend differences among the districts of the metropolis, which are reflected, for instance in the level of rents (IBB 2012). The average rent load is close to 25 per cent of the household income, varying between 10 and 40 per cent depending on the household income level (IBB 2011).

The metropolitan suburbs constituting the FUA of Berlin have also experienced population growth. This has been the highest in some municipalities close to the city of Berlin, while the municipalities especially at the outer bounds of the FUA are experiencing decreasing population. The housing market in the suburbs surrounding the city of Berlin is nearly equally distributed between rental and self-owned flats. Land prices generally decrease towards the outer bounds of the FUA, while rent levels are more dispersed.

Warsaw

Over the last decade, the population in the FUA of Warsaw has grown strongly, about 12 per cent, especially in the south-western suburbs (the increase amounts to approximately 2 per cent in Warsaw, totalizing 1.74 million inhabitants in 2009). However, precise figures are not available due to a large number of unregistered inhabitants (who are assumed to account for 200,000 persons). An increasing pressure on the housing market in the whole FUA is exerted by the population growth and the historical housing shortage, which is continuing despite the growing supply of

[3] The term outer suburbs refers to the four départements forming a second ring around Paris, namely Val d'Oise, Seine-et-Marne, Essonne and Yvelines. The first ring of suburbs is constituted by the so-called inner suburbs, namely the départements Hauts-de-Seine, Seine-Saint-Denis and Val-de-Marne.

dwellings since the 1990s. Currently, a slight increase of vacant recently built dwellings is observed. However, the construction and accessibility of social housing remains very low, whereas the demand for social housing increases. Ownership problems arose as a consequence of abolishing private land ownership in 1945 within the pre-war city boundaries. The reprivatisation of buildings since the 1990s introduced conflicts between new owners and tenants, who have been allocated to these dwellings during socialism. Although house prices fell during the last two years of the economic crises, there is still a lack of financial resources to consolidate the city's housing market. This leads to a considerable need for new dwelling developments. Rough calculations for the metropolis of Warsaw indicate a mere quantitative need of roughly 100 to 150 thousand additional housing units affordable for citizens who neither qualify for social housing nor for receiving mortgage loans.[4]

4.4. Principal housing policies in Paris, Berlin and Warsaw

Paris

In 1894 social housing provision developed in France (*Habitations à Bon Marché,* HBM) to address the demand of the employed population who could not afford buying a dwelling. After World War II, the social housing sector in France (which was renamed in 1950 to *Habitation à Loyer Modéré*, HLM) developed rapidly to satisfy the growing demand. It was designed especially for poor and homeless people and since the 1960s, also for middle-class families (Driant 2009, Stébé 2009).

There are currently about 800 HLM institutions in France of two kinds which differ with regard to their legal status: (a) public agencies, financed by local authorities and (b) social enterprises for housing, private and non-profit social developers (Levy-Vroelant and Tutin 2007). The former institutions deliver dwellings for the poorest population (also standard dwellings) whereas the latter more often focus on upper categories of social dwellings. The public agencies[5] (*Offices publics de l'habitat*) are usually associated either to a local community (operating on the territory of one municipality or a group of municipalities), or to a public institution for inter-communal cooperation (EPCI); whereas social enterprises are created usually by private companies (the majority are *Entreprises sociales pour l'habitat*[6], ESH) and financial institutions (Saïd-Guerain 2009). The provision of social housing varies throughout geographical zones[7] and includes financing the construction and acquisition, fixing rent limits, and allocating housing on the basis of social criteria (e.g. income and number of household's members).

The management and funding of social housing in France has undergone important changes in 1977, when a contracting system between the state and social developers was introduced giving access to special subsidies and loans of the public bank (*Caisse des Dépôts et Consignations*). The laws on decentralisation of the 1980s and 2004 introduced subsequent modifications. Currently, three rent levels are

[4] Compare calculations in Annex G2.

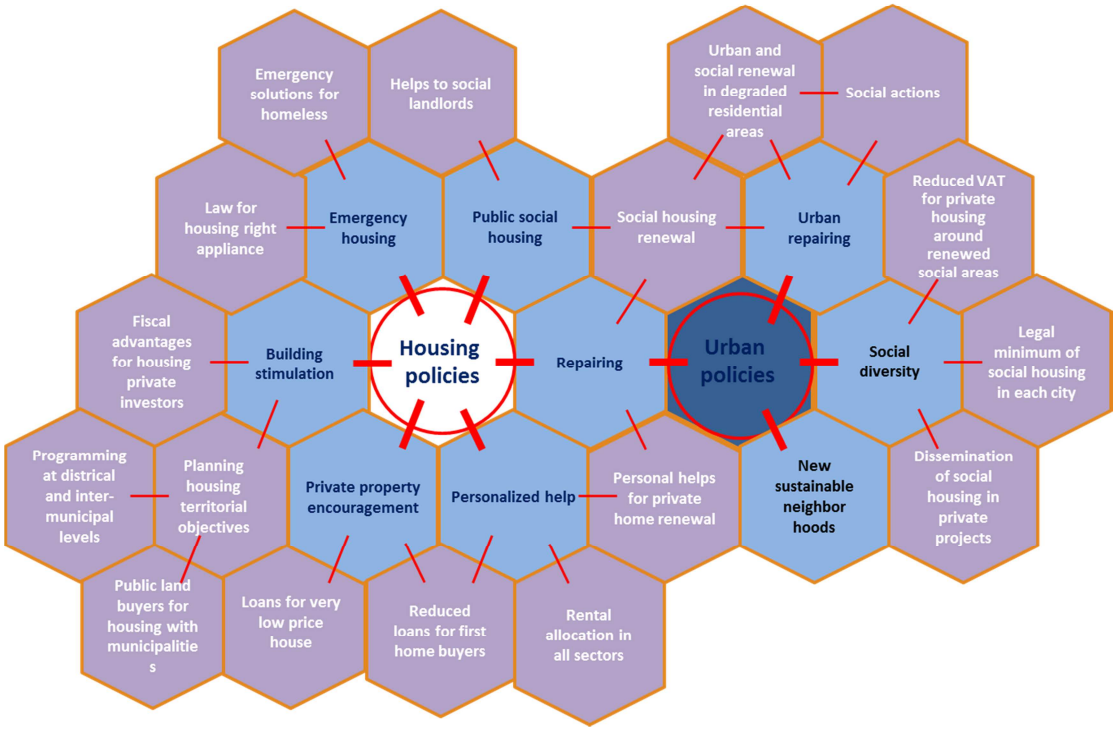
[5] Representatives of the local community constitute the majority in the administrative council of the institution.

[6] Société Anonyme – it corresponds to a public limited company. Representatives of local communities as well as tenants constitute less than one third (+ one vote) in the ESH.

[7] There are four zones: I bis (Paris and neighbouring municipalities), I (the remaining part of Paris agglomeration and "villes nouvelles" in the IDF region), II (the remaining part of IDF region, agglomerations and municipalities with more than 100,000 inhab., other "villes nouvelles") and III (the remaining part of France).

defined for social housing corresponding to different loans' attributes: PLUS for standard social housing (*Prêt locatif à usage social*), PLAI for lower social housing (*Prêt locatif aidé d'intégration*) and PLS[8] for upper social housing (*Prêt locatif social*)[9]. Thus, the eligibility for social housing is strongly linked to income. Nevertheless, the income limits allow eligibility for social housing to 70 per cent of the Parisian population (Prandi *et al*. 2006). The growing role of local authorities in social housing (supervising social housing institutions, co-financing social housing programs and controlling local planning) was reinforced by the 2004 decentralisation law that allowed groups of local authorities to distribute social housing state grants (Levy-Vroelant and Tutin 2007).

Figure A4.2 Housing Policies in Paris

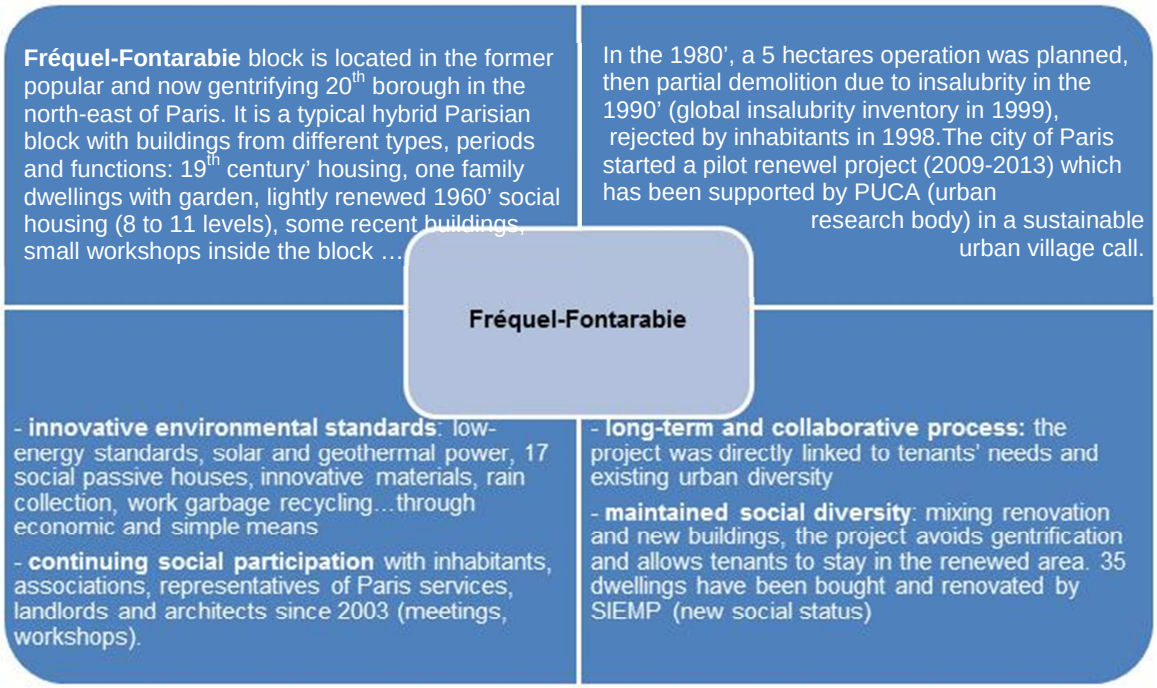


Next to direct social housing programmes and policies the urban development policies contribute to the attractiveness and affordability of areas within the metropolis. Especially social aspects of planning are highlighted through a focus on ensuring social diversity - a minimum of 20% share of social housing should be reached in the municipalities with more than 1,500 inhabitants (SRU law) - and sustainable development of neighbourhoods. Also incentives are provided for fostering those objectives – for example a reduced VAT for middle income home-buyers in the area of an urban renewal zone.

[8] PLS was designed for households whose income constitutes no more than 1,3 times the income set for PLUS categories.

[9] As an illustration, the income thresholds in Paris in 2012 for 2-persons households were: 20,028 € for PLAI, 33,378 € for PLUS and 43,391 € for PLS.

Illustrative Example 1 Upgrading of Fréquel-Fontarabie



The renewal and upgrading of housing is supported through loans to social landlords as well as assistance to private households for renewal efforts. Furthermore social participation is fostered by supporting local stakeholders like residential associations – one example for a participative approach is Fréquel-Fontarabie (see Illustrative Example 1). By implementing those policies the stigmatisation and isolation of social housing dwellings should be counterbalanced or even avoided from the beginning.

Table A4.1 Selected Housing Programmes Paris

	Main policies	Objectives	Main instruments	Efficiency
Housing policies	Building stimulation	To enforce global production To diversify the housing offer according toresources (poor and middle class people, around 70% being eligible), new needs and ways of life To enlarge the rental sector and help mobility	**Planning housing territorial (district, intercommunalities) objectives** through regional planning document (SDRIF**)** Grand Paris project: higher objectives, densification around metro stations **Public land buyers** for housing with municipalities (regional EPF and 3 districtal) **Housing programs** at district and intermunicipal level (PLH, mainly social housing),	To reduce the regional housing crisis, building 60 000 (SDRIF) or 70 000 (Grand Paris) dwellings per year, objectives per departments and strategic spots (higher densification areas) (40 000 new dwellings in 2011)
			Fiscal advantages for rental housing investors (strong tax depreciation), 6 devices since 1984 and, from 2006, Scellier'-, Robien'-, Borloo laws **Fiscal advantages** for investors in private assisted	Strong effect on investment but no real adaptation to needs. Represents low social effects and a heavy public charge

			living residences (students, seniors, elderly dependent individuals, tourists, business tourists), Perissol law 1996	Low local regulation
	Private property encourage-ment	To develop personal property	**0% loans** for first time home buyers (under revenue conditions), PZT for old and new housing, PZT+ 2012 only on new housing	Successful in France, less in IDF(land prices too high, mainly used on second hand housing), reduced in 2012 because too heavy on public budget and local inflationary effects
			100,000 euros houses (out of land), Borloo 2005	Unsuccessful (a few projects – 1 in IDF -, many physical building defects)
	Personalized help	To ensure the accessibility of housing for everyone under a certain resources level	**Personalized helps** for rental housing (private or social housing) : APL, AFL, ALS	Main help for poorer families, young and old people (replaced financial help to building in 1970)
	Public social housing	To ensure the accessibility on a decent housing for anyone under a certain resources level	**National subsidies** to social landlords through Departments or Inter-communalities (Social housing plans) **CDC loans** for social landlords (PLUS, PLA-I, PLS, PLI) **Fiscal deductions for social landlords** (no land tax, reduced VAT - 5,5 % - on building) **Helps to private landlords** (renewed housing with low rent) **Helps from territorial authorities** to social public sector	Social housing is the fittest way to maintain poor and low middle class in the dense city The regional housing crisis hardly hits the social housing stock with a very weak turnover (no alternative in the private market) and a growing specialization on poorest families The land price is often too high for social landlords out of territorial helps.
	Building repairing	To renew degraded social housing To treat insalubrious housing	**Social housing renewal through CDC loans** (Palulos) to social landlords to renew housing	With the new device ANRU, settlements to be repaired must be partly destroyed to be renewed.
			Personal helps for private house renewal (ANAH) (national agency in charge of housing) financial helps for individuals for their housework (resources conditions)	

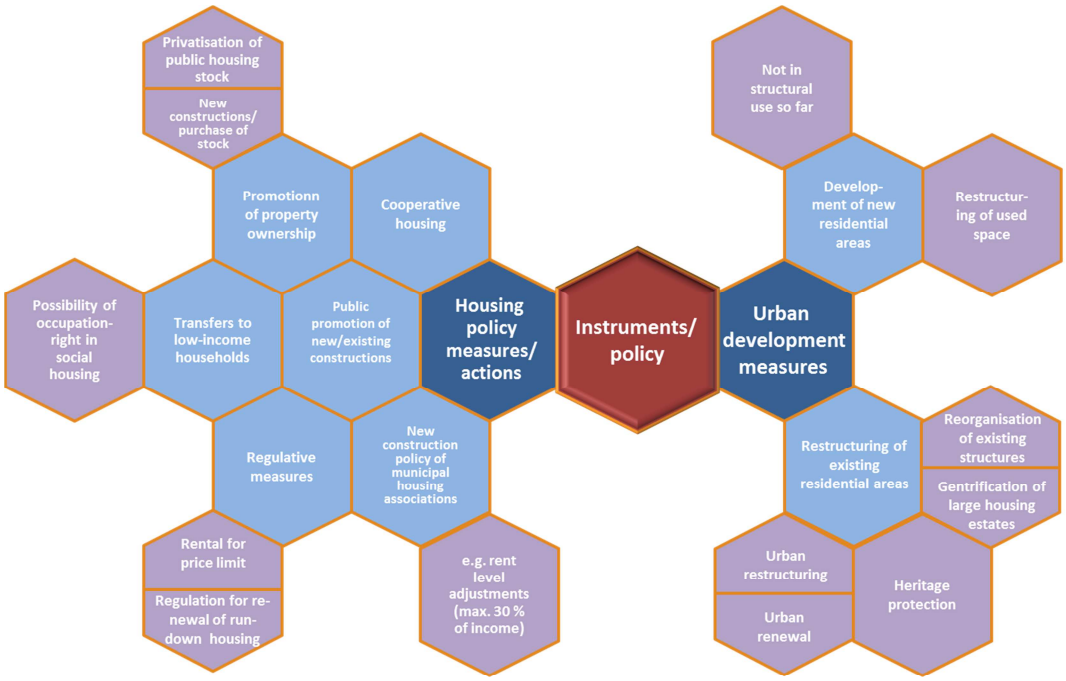
	Emergency housing	To ensure temporary housing for those who cannot afford a dwelling in the regular stock or are homeless To procure a right of claim to homeless or inhabitants in insalubrious conditions	**National tools against homelessness and inadequate housing :** regional and departmental plans for reception, housing and insertion (hostels, hotels, etc.) since 2009, system for reception and orientation since 2010, humanization program for emergency housing structures **Huge territorial effort** from Paris and inner suburb departments, in addition to national competency **DALO law (2007)** Appeal in court for individuals who can claim for a decent flat/house	Big issue for Paris metropolis, which concerns mainly Paris city and East near suburban departments , along with growing poverty and unemployment and irregular immigration
Urban policies	Urban renewal	To renew degraded social housing To ensure urban renewal in disadvantaged areas	**ANRU** (national agency in charge of urban renewal), financial helps for dedicated projects in disadvantaged areas**:** zoning of disadvantaged areas since 1979 **Social actions**: support to local associations, mobile teams, etc., in social residential settlements (national and territorial support).	
	Social diversity	To fight social specialization and social disparities To introduce diversity in social settlements To counteract social disparities and share the social effort supporting poor families	**SRU law** (2000) compelling municipalities (more than 1,500 inhabitants in Paris metropolis) to reach 20% of social housing **Reduced VAT, 7%**: fiscal advantage for middle income home-buyers in a 500-m area around a urban renewal zone. **2009 Boutin law** "mobilisation for housing" opening the VEFA device (purchasing on plan)of private landlords to social landlords	Quite low impact (no deterrent level of fines, could be increased) In IDF, the SDRIF suggests 30% of social housing in the dense area Successful national program for 30,000 social VEFA (22,000 rental, 8,000 to buy), no regional result
	New sustainable neighborhoods	To promote "green housing"	**NQU programs: regional** calls for new urban neighborhoods headed by the region in 2009, 10 and 11 **Sustainable neighborhoods**: national calls for ecologic neighborhoods headed by the State in 2009	27 winners among 80 projects in IDF 9 winners in IDF

Berlin

Berlin's urban development in the 20th century has been characterized by the destructions of World War II as well as the implementation of two urban planning systems after the German separation. As a consequence of the increased demand for housing after World War II, the FRG (Federal Republic of Germany) supported the massive construction of affordable housing as well as the obtainment of private property. The planning system of the GDR (German Democratic Republic) was focused on publicly-provided mass housing in opposition to individual, privately-owned housing (Häußermann and Siebel 1996). Therefore, in Berlin both planning systems led to the provision of mass housing which in the former Eastern part was mainly focused on the rather peripheral areas of the city. An example of a large housing estate is the Märkische Viertel in Western Berlin – a mass-housing project realised in the 1960s providing approximately 35,000 inhabitants with modern housing. After the German reunification the planning system of the FRG took the leading role, which led to privatization efforts in the housing market and to an increased role of private housing companies in Berlin.

There are a variety of housing policies and measures at different levels and aiming at different population groups which affect the affordability of housing in Berlin. As regards the affordability of housing the general urban development policies and programmes as well as the (social) housing measures are of importance. German urban development policies are guided by national programmes while the concrete implementation is mainly within the competence of the sixteen federal states and, partly, on an even lower scale (e.g. districts). With the ratification of the legal basis the "Wohnraumförderungsgesetz" in 2002 the main responsibility for the provision of social housing has been shifted to the federal states or even to the municipal level (Heising and Baba 2011: 521).

Figure A4.3 Principal Directions of Housing Policies in Berlin



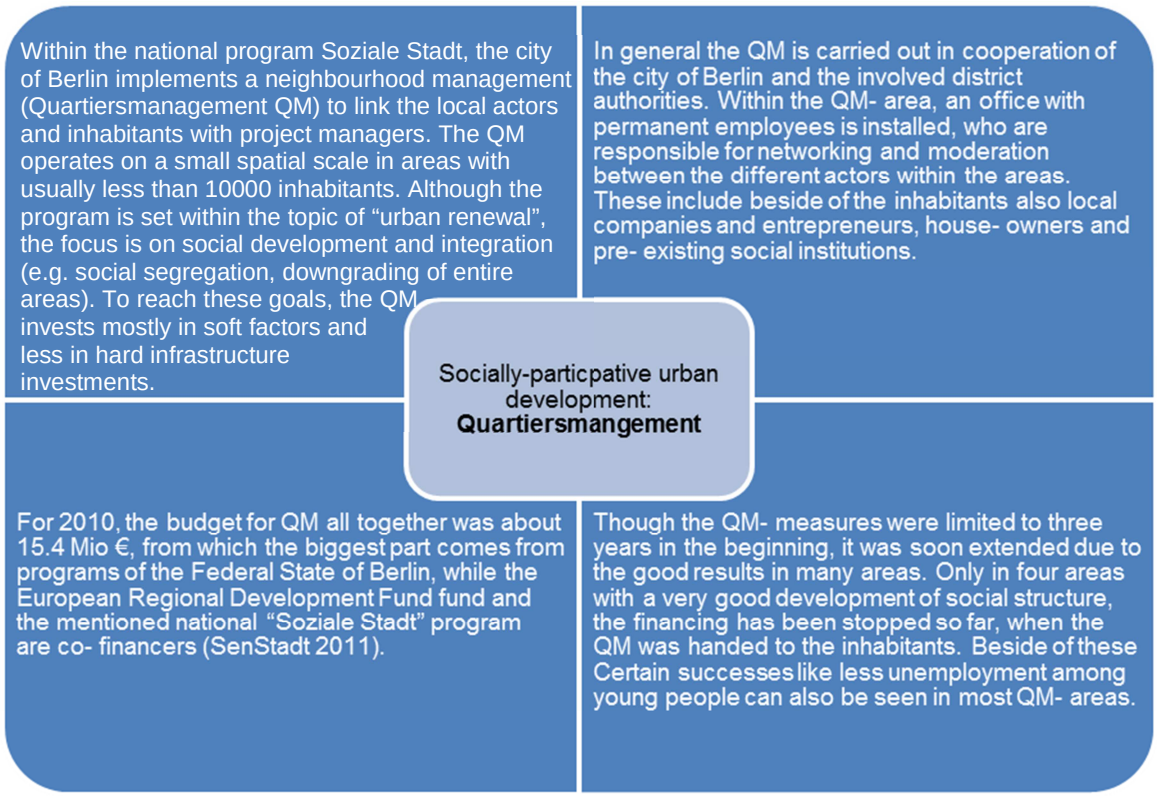
The main actors regarding housing supply in Berlin are six public municipal housing companies[10](with a share of 16 % of the rental housing stock), private housing societies and individuals which can apply for housing grants (Droste and Knorr-Siedow 2007: 90).

The measures taken by the political level with regard to the affordability of housing are object-bound as well as bound to individuals. While historically being focused on a broad segment of the society, social housing measures in Berlin are now focused on those individuals and families that cannot obtain adequate housing on the housing market ("Wohnraumförderungsgesetz"). The instalment of rent levels to renewed or newly-constructed dwellings, as well as the support of self-ownership for disadvantaged individuals and families is backed by the "Gesetz über die soziale Wohnraumförderung". For the period of subvention those dwellings can be allocated to disadvantaged tenants based on income and household structure (Wohnberechtigungsschein). Currently about 150,000 social housing dwellings are reserved for those tenants whose incomes do not surpass certain income limits. Taking the income limits for Berlin, 60% of all households are eligible for social housing (SenStadt 2012). Furthermore, the affordability of housing is supported through person-bound support instruments (e.g. Wohngeld, Wohnkostenübernahme). An important actor for regulating and influencing the affordability of housing are the six municipal housing companies – in recent years municipal housing companies were selling shares of their portfolio to support self-used property in Berlin, on the other hand they played an important role in the provision of new housing with partly fixed rent levels. Furthermore, Berlin's urban development measures affect the affordability of housing as well as living conditions within the city – mainly these programmes tackle the development of new residential areas and the restructuring of existing areas. New developments are mostly supported by the provision of public place investments, which aim at raising incentives for private investments e.g. in housing. Among these restructuring measures are programmes like Soziale Stadt und Quartiersmanagement (for more information see Illustrative Example 2) which aim at improving local infrastructure as well as the social surrounding of areas through social participation of all affected actor groups.

The provision of housing in a European metropolis is directly affected by demographic changes like ageing of the population and different household structures. Berlin also hosts a variety of partly private initiatives dealing with these changes such as multi-generation houses. The example of Living in Urban Units serves as Good Practice for further projects in Berlin (see Illustrative Example 3).

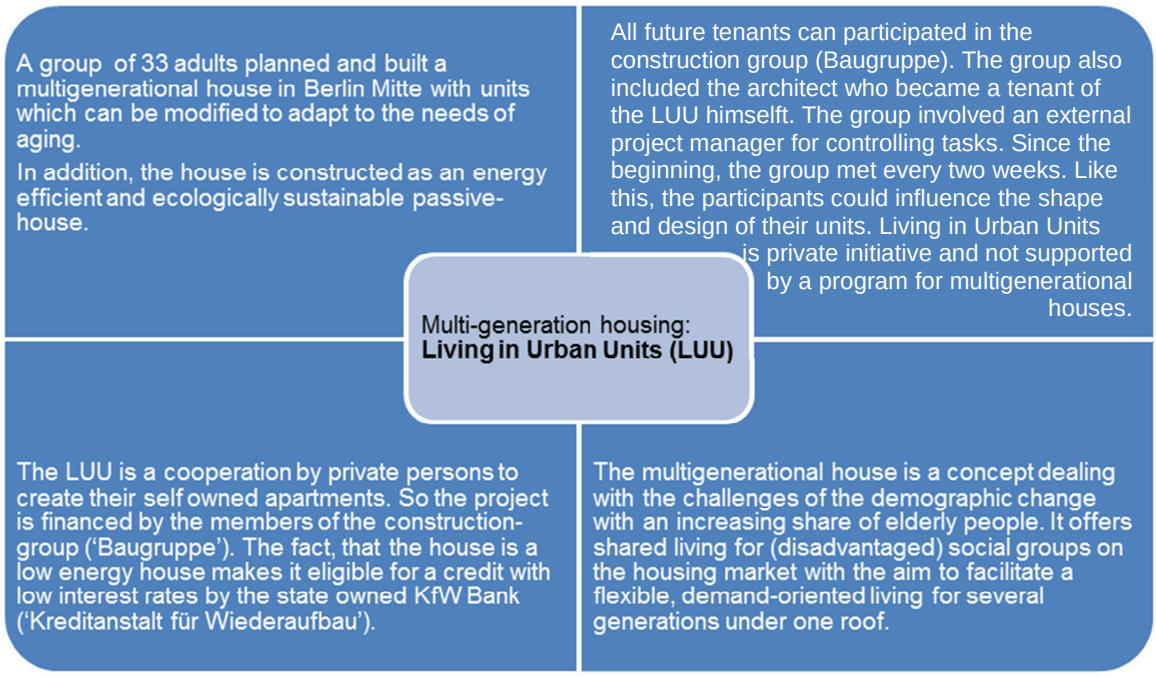
[10] Degewo, Gesobau, WBM, Gewobag, Stadt und Land, Howoge

Illustrative Example 2 Neighbourhood Development "Quartiersmanagement"



Sources: http://www.quartiersmanagement-berlin.de/Programmfinanzierung.2718.0.html; Bundestransferstelle Soziale Stadt (2008): Statusbericht 2008 zum Programm soziale Stadt; http://www.stadtentwicklung.berlin.de/wohnen/quartiersmanagement/de/kosten.shtml

Illustrative Example 3: Multi-Generation House Living in Urban Units (Berlin)



Sources: http://www.luu-berlin.de/; Otten, Dieter; Melsheimer, Nina (2009): Lebensentwürfe „50plus". In: Aus Politik und Zeitgeschichte 41/2009 p. 31-36.

Table A4.2 Selected Housing Programmes Berlin

Joint programmes with federal level	Frame	Berlin
Sanierungs- und Entwicklungsmaßnahmen Ost/West (Urban rehabilitation and development measures East/West)	2012 (total national funding): 16.1/16.1 Mio	This programmes tackle the renovation and renewal of mainly historical city centres, small villages and historical buildings. It is of more relevance to the state of Brandenburg than for Berlin.
Stadtumbau Ost/West (Urban restructuring East/West)	2012 (total national funding): 82.1/ 71.0 Mio	Areas in the Eastern and Western parts of the city have been selected for support through the „Stadtumbau"-program. This support includes renovation, (social) infrastructure investments, economic upgrading, deconstructions. In the Eastern areas the focus lies on large housing estates and inner-city centers.
Denkmal-schutz Ost/West (Protection of urban architectural heritage)	2012 (total national funding): 62.7 + 29.4 Mio	The overall aim of this programme is the renovation of historical city-centers. Especially after the reunification the need for supporting historical areas became eminent.
Soziale Stadt (Social City)	2012 (total national funding): 40 Mio; Set up in 1998 on a national level after recommendations from the URBAN-programme; programme with the aim to overcome segregation within German cities	For fighting social and spatial polarization and segregation the national as well as federal state level developed the program Social City in 1999. The innovation is the inclusion of socially participative approaches in urban planning. One initiative under the social city programme is the Quartiersmanagement in Berlin. The objective of the "Quartiersmanagement" is to work in cooperation with public authorities, local institutions, civil society initiatives, companies as well as the inhabitants on the improvement of the social, economic and infrastructure situation in a selected area. Funded by the programme Soziale Stadt.
Aktive Stadt – und Ortsteil-zentren (Active City Centers)	2012 (total national funding): 93.2 Mio	In Berlin six inner-city centers have been selected for active support through the programme. The objective is to foster the location management in example by tackling the problem of unoccupied spaces. Social participation of the inhabitants is one main instrument.
Berlin programmes		
Monitoring soziale Stadt-entwicklung (Social Urban Development Monitoring)	Since 1998, implemented by the Senate Department for Urban Development and the Environment	Since 1998 this monitoring system is being implemented in order to survey the socio-spatial developments on a sub-district level (447 planning areas in Berlin). Social Urban Development Monitoring is based upon 12 indicators, of which six describe social status and six illustrate social dynamics. (English report for 2010: http://www.stadtentwicklung.berlin.de/planen/basisdaten_stadtentwicklung/monitoring/download/2010/MonitoringSozialeStadtentwicklung2010_Kurzfassung_en.pdf)
Aktionsräume Plus (Action Areas plus)	Since 2010 five "Aktionsräume" exist; these are areas in which the inhabitant (especially children and youth) are disadvantaged regarding living and working conditions in comparison with other districts	Based on the social urban development monitoring in 2008 five areas which show structural and social problems were selected as "Aktionsräume". The Senate Department as well as the districts focus actions in order to improve the socio-spatial and urban development of these areas. The support of the inhabitants through education offers and job assistance is one of the key instruments. This programme is also seen as a networking initiative to bring together all actions undertaken under the before mentioned programmes.

Source: GdW 2012, www.staedtebaufoerderung.info

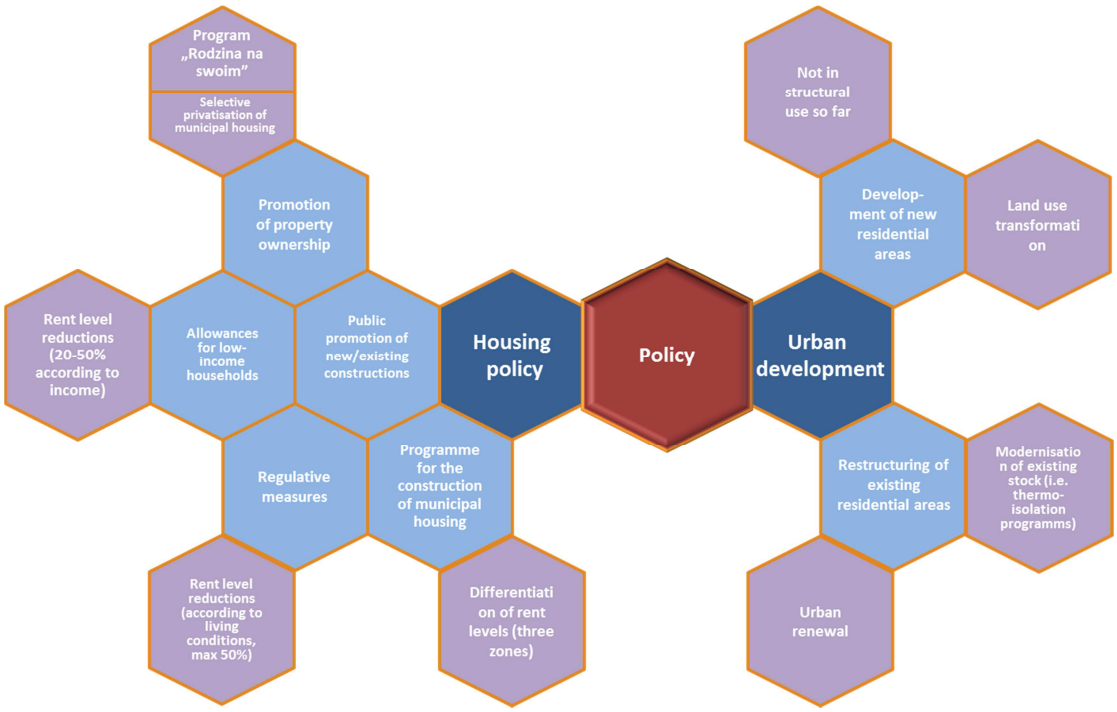
Warsaw

Social housing in Warsaw generally indicates municipal rental housing constructed through public financial support and combined with defined allocation criteria – such as income. Those municipal dwellings account for 10.7 per cent of Warsaw's overall number of apartments (2009) and its share has continuously decreased (25 per cent in 1995; 18 per cent in 2000) as a consequence of the policy of selective sales of municipal dwellings to their tenants at reduced prices. Privatisation of rental stock and demolition of the units in poor technical condition outnumbers the newly constructed municipal dwellings (between 2008 and 2011, 1.205 municipal dwellings were constructed). Narrowly defined, social housing managed by the city constitutes a share of municipal dwellings dedicated to the neediest groups of society and is usually of low technical standard. The long-term program for public housing in Warsaw for 2008-2012, set the objectives of increasing both the number of municipal and social dwellings (social dwellings constituted approximately 2.5 per cent in 2007 of all municipal dwellings in Warsaw and 4.8 per cent in 2011). The second edition of the long-term program for public housing in Warsaw is revised for the following period of 2013-2017. According to the estimations from the Housing Policy Office, the growing supply of municipal dwellings in the coming years should fulfil the housing demand till 2020.

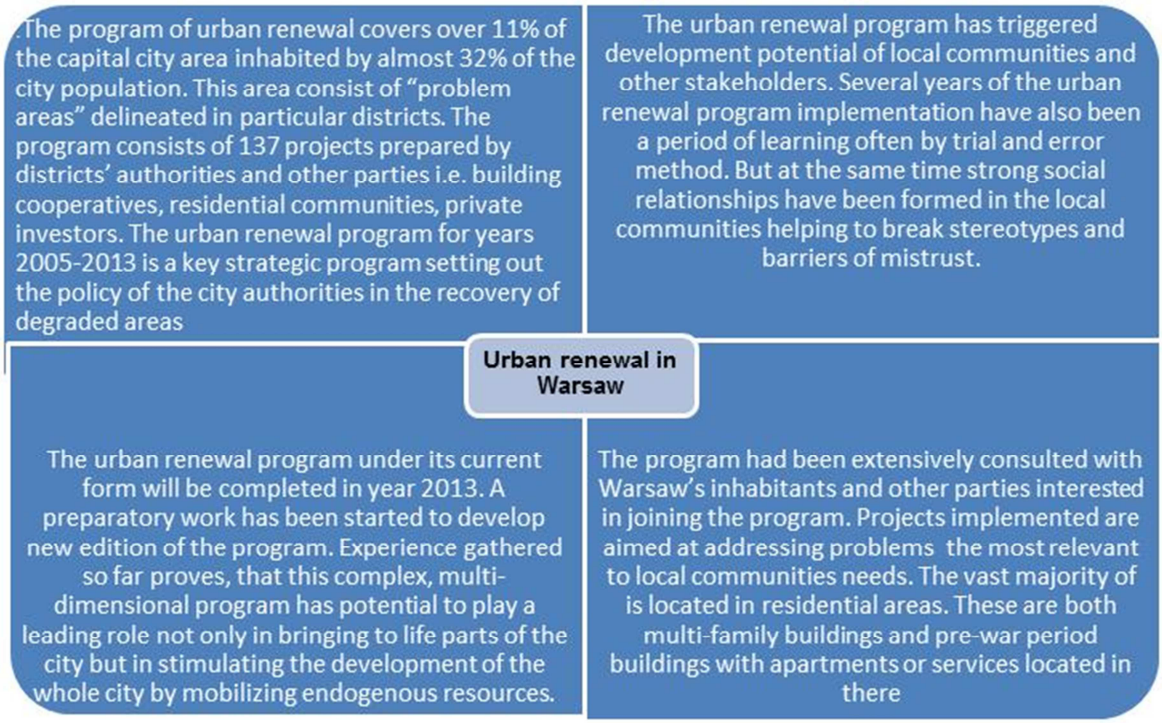
The housing situation and its future perspective according to the students of Warsaw's universities

A questionnaire survey was conducted among students of Warsaw's universities (Warsaw University, Warsaw School of Economics, Warsaw University of Life Sciences; sample size 671 students). More than a half of the students that took part in the survey (58%) were strongly connected to Warsaw (lived in the city or its immediate neighbourhood before starting tertiary education), 40% moved to Warsaw form other parts of the country, while 2% came from abroad. During their tertiary level education, the majority of respondents live in Warsaw (81%), only 16% commute from the Warsaw suburban zone (mostly those who had lived in the suburban zone before becoming students) while 3% commute longer distances. Students originating from the suburban zone tend to remain in their place of origin, only 1% of students moved to Warsaw during their studies period. Of those that live in Warsaw during their period of tertiary education the majority (52%) live with family (either close or extended); others rent a room or flat (28%), live in students hostel (9%) or own their own flat (8%).
Among those students that came to Warsaw from outside of the city or its suburban zone (42%) the majority plan to stay in Warsaw after finishing their education (35.7% decided to stay and 34.6% is rather decided) – one in every tenth student does not know what he/she is going to do after tertiary education. Asked about their status two years after graduation, more than half of the respondents still see themselves living in rented properties (individually with friends or with spouse). Only one respondent in four thinks that they will be able to buy their own flat while 11% will live with their families. Paradoxically, among those that decided to stay in the city, 54.9% evaluate the possibility of them finding their own flat to be either bad or very bad. It can be assumed that behind the decision to stay in the city are hidden such factors such as the perceived attractiveness of the labour market or accessibility to services (especially those of a high level) which encourage them to stay in the city despite the envisaged housing difficulties.
The evaluation of the general situation in respect of Warsaw's housing and labour markets provided by respondents is rather bad (51%) as only 16% of respondents gave it positive marks. The worst evaluations were given by students originating from Warsaw (55%) and those that originate from suburban areas (51.4%). Outsiders' negative evaluation was slightly weaker as only 46.8 % saw the situation in the city's labour and housing markets as very bad.
Despite this negative evaluation of the city's labour and housing markets, a large group of respondents plan to develop their career path in Warsaw. However, the majority of this group aim to utilise rental options (53%) even over the longer term (2 years) rather than purchase their own property (25%).

Figure A4.4 Housing Policies in Warsaw



Illustrative Example 4: Protecting cultural heritage and improving living conditions – urban renewal program in Warsaw



Source: Local Revitalisation Program

From the 1990s to 2008, the management of the municipal housing stock in Warsaw was decentralised, resulting in different rent levels adopted by the local council of each district. Nevertheless, the centralisation of the management of the public housing sector in 2008 has led to the standardization of the allocation processes for

all districts which decide about future investments in public housing sphere. The modernization and renewal of public and social housing constitutes one central policy in Warsaw together with more complex programs of urban renewal undertaken in the capital city since the beginning of the 21th century (see Illustrative example 4). Furthermore, the efforts to privatize dwellings especially in buildings with a low share of municipal dwellings are ongoing. It is also important to highlight that the privatisation of dwellings is possible only in case of older stock (it comprises buildings constructed before 1995).

Table A4.3 Selected Housing Programmes in Warsaw

Principal policies	Objectives	Main instruments
Program of Municipal Building Management 2008-2012 Wieloletni Program Gospodarowania Zasobem Mieszkaniowym m.st. Warszawy na lata 2008-2012	To improve the satisfaction from housing needs, To improve the physical state of municipal housing (planned rehabilitation and refurbishment policies), To introduce an overall rental policy within municipal housing in all the districts, To continue the privatisation of dwellings in buildings which have already had a mixed ownership structure To provide new municipal dwellings	New constructions, other ways to improve the number of municipal dwellings (reconstruction of existing stock), to buy, exchange or acquire buildings through communalisation or transferred by enterprises; Direct transfers from the budget of the city to the budgets of districts to cover the costs of reparations and modernizations within municipal stock (in case of mixed ownership structure in a building, direct transfer to condominiums); Privatisation of dwellings in buildings constructed before 1995 and especially in those buildings which have less than 20% of municipal dwellings; Rents in municipal houses correspond to three zones; central, urban and peripheral which are designed by each district (in relation to the accessibility to public transport and to public services) but the overall rent values are fixed by the City; Rent reductions: according to living conditions and to income;
Program of Municipal Building Construction 2008-2012 Program Komunalnego Budownictwa Mieszkaniowego na lata 2008-2012	Criteria for localisation of new municipal housing; 70% of newly constructed dwellings are designed to fulfil needs of district's inhabitants while 30% for other districts	Additional resources in districts' budgets
Local Revitalization Programme 2005-2013 Lokalny Program Rewitalizacji m. st. Warszawy na lata 2005-2013	Redevelopment of districts' parts that have lost their previous social and economic functions. The programme also intends to solve the problem of deteriorated urban fabric (particularly tenant houses from the nineteenth and the beginning of twentieth century)	Projects co-financed from public budget and from the EU

Planning policy	Defining functions and land use structure	Local/masters plans: determining possible functions of areas and introducing measures concerning newly constructed buildings
Central level		
Law on financial support for families acquiring property ownership (Ustawa z dn. 08 września 2006 r. o finansowym wsparciu rodzin w nabywaniu własnego mieszkania (Dz. U. No 183, poz. 1354 ze zm., nowelizacja 2 stycznia 2009 r.)		Program "Family's own home" („Rodzina na swoim") aimed to support families in paying a part of credit's interests
Act of 11 March 2004 on Value Added Tax (Dz. U. No 54, item 535 as amended)	Support towards new constructions and renovation of existing stock	Lowered 7% VAT rate for construction and installation works and renovation works (available as of 01.05.2004)
Act of 29 August 2005 on the refund of some expenditures relating to residential housing to natural persons (Dz. U. No. 177, item 1468 as amended).	Support towards new constructions and renovation of existing stock	Refund of part of the VAT paid by natural persons in connection with construction materials for construction or renovation of a house
Act of 30 November 1995 on State support for the re-payment of some types of housing loans, granting guarantee bonuses and refunds to banks for paid guarantee bonuses (Dz.U. of 2003 No 119 item 1115 as amended)		Support to loans repayment and guarantee bonus
Act of 8 December 2006 on financial support to the creation of social premises, sheltered dwellings, common lodging-houses and shelters for the homeless (Dz. U. No 251, item 1844, as amended).		Government programme on providing support to social housing (co-financing of a part of the costs of construction or renovation of social premises, sheltered dwellings, common lodging-houses and shelters for the homeless)
Act of 19 March 2009 on support for thermomodernisation and renovations (Dz. U. No. 223 , item. 1459), which replaced the previous Act on		Thermomodernisation, renovation and compensation bonus (available as of 19.03.2009); Thermomodernisation and renovation Fund (instead of previously functioning Thermomodernisation Fund)

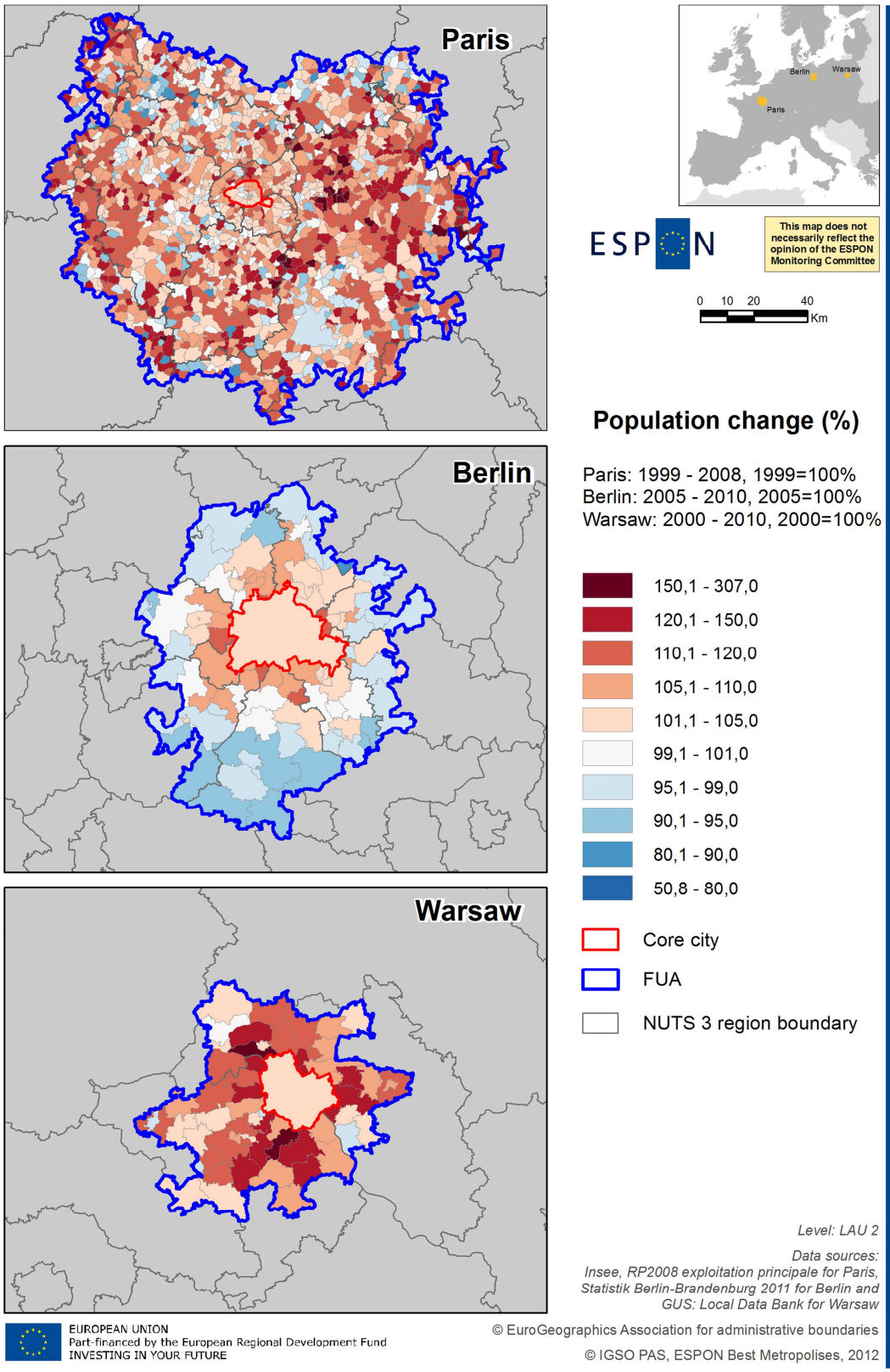
support for thermomodernisation undertakings.		

4.5. Comparison 1: Insufficient supply of affordable housing and its origins

The three metropolises experience or expect in the future different degrees of insufficient supply of housing affordable for all population groups. However, the dimensions and causes of this shortcoming vary. While in the city of Paris hardly any flats are offered for rent or sale, there is still a considerable supply of flats in Berlin, though with a continuously decreasing mobility reserve (IBB 2012: 57). Among others, the varying extent of population growth over the last decade has contributed to the differences between the cities (Map A4.1). The following comparison highlights similarities and differences of housing supply in the three metropolitan regions.

Common trends in the three metropolises involve a shift of housing planning competences towards the local level, a need for modernisation (especially regarding energy-efficiency) and "upgrading" of social housing's image and demographic development. The specificity of modernization and upgrading differ between cities. At the same time, modernization does not only imply improved housing standards but often negatively affects the affordability of housing , e.g. if rents increase as a result of the modernization and cannot be compensated by corresponding savings in heating or other costs. Thus, there is a trade-off between housing standards and the affordability of housing, which in turn affects the local population's housing choices, segregation etc. (see chapter 4 and 6). In order to mitigate these effects, CECODHAS for example suggests using grant models and the Structural Funds for financing energy efficiency of housing. Selection criteria for project support could maximise social impacts by "targeting investments which reduce energy poverty" (CECODHAS Housing Europe 2010: 9).

Map A4.1 Population development



However, the housing markets of the three metropolises differ in several aspects. One of them is their size (displayed in Table A4.4). The metropolitan region of Paris is several times bigger than the metropolitan region of Warsaw in terms of the number of inhabitants. The metropolises also differ strongly in terms of the city's size as compared to their surrounding area (Table A4.4).

Table A4.4 Comparison of population and housing units in the three metropolitan areas

Region	Population 2009	No. housing units 2009
Berlin city	3,442,675	1,894,600
FUA Berlin (without city)	1,145,460	548,505
Paris city	2,234,105	1,159,552***
FUA Paris (without city)	9,559,000*	3,748,000**
Warsaw city	1,714,446	818,874
FUA Warsaw (without city)	1,212,500	446,599

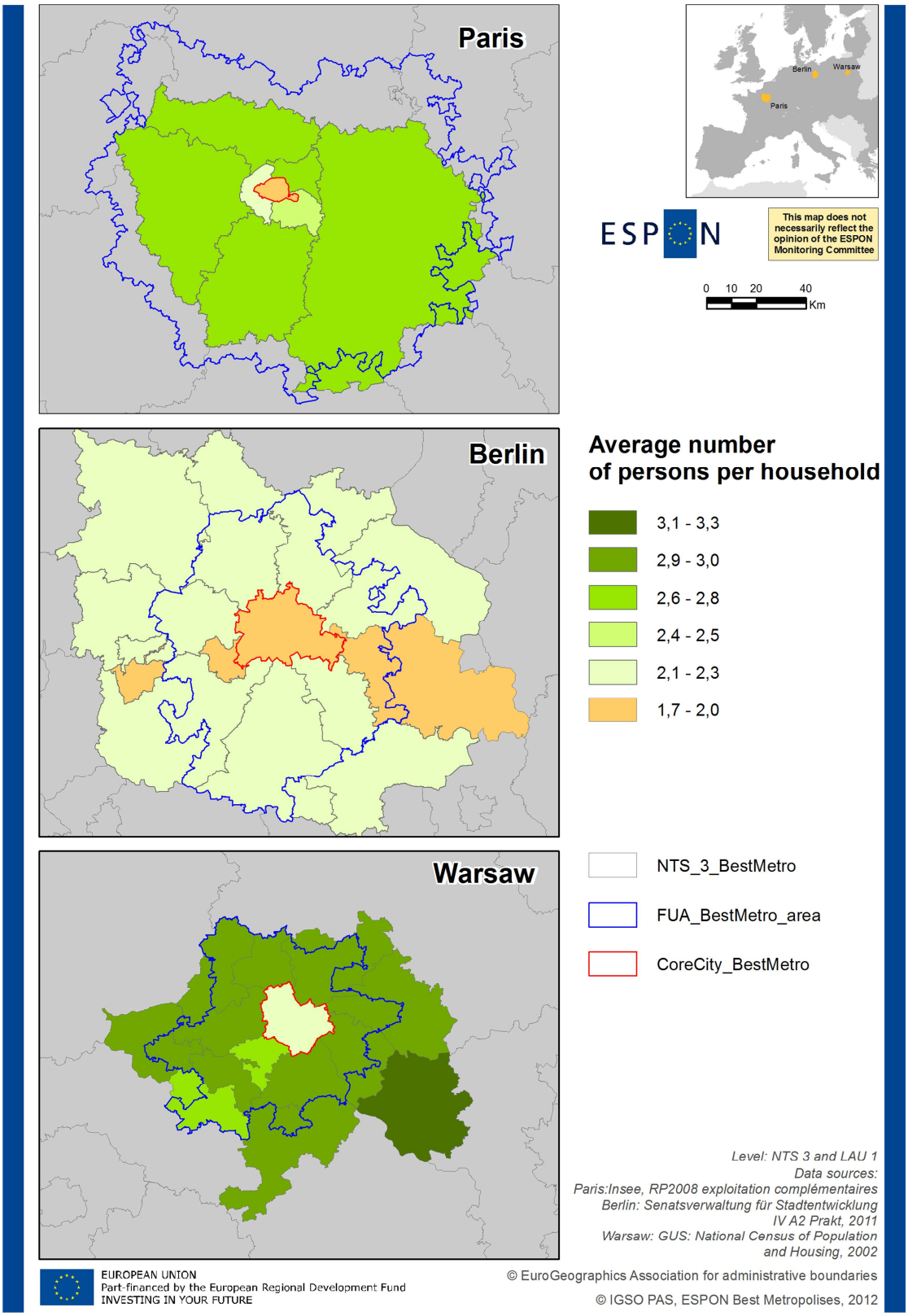
* 2008, ** 2006, *** only ‚residences principales'
Source: Datenerhebung SenStadt Abt. IV A 1; IBB Wohnungsmarktbericht ; Statistische Ämter des Bundes und der Länder 2011INSEE, Enquête logement 2006; INSEE, dénombrements - 1999 et 2008, exploitations principales - Omphale 2010, recensements de la population, 2006-2007; Główny Urząd Statystyczny

Furthermore, the age of housing units varies considerably, and higher needs for renovation, rebuilding etc. are observed in the city of Paris as compared to the other cities. In Paris, the share of housing units built before 1950 (respectively before World War II) is much higher than in the other two cities. More housing units were destroyed during the war in Berlin and Warsaw. The comparison of the three cities' average floor space in square-meters per person shows the largest space of housing units in Berlin (nearly 39 m^2 in average) and the lowest in the city of Warsaw (28 m^2), the average space in Paris ranges in between (32 m^2).[11] In the cases of Paris and Warsaw the need for additional affordable housing is also apparent in the number of households waiting for a flat under a social housing scheme[12]. In the city of Paris this share accounts for about 10 per cent of households (IAO 2011) and has been increasing over the last couple of years. Similarly, there is a high unsatisfied social housing demand in the suburbs of the Paris metropolitan region. In Warsaw, almost 5,000 applications for municipal dwelling were filed in 2011.

[11] Compare Główny Urząd Statystyczny 1995-2010; INSEE, Enquête logement 2006; Senatsverwaltung für Stadtentwicklung IV A2 Prakt.; Statistische Ämter des Bundes und der Länder 2011.

[12] Between 2006 and 2011, only 29 per cent of demands for municipal dwellings in Warsaw were fulfilled.

Map A4.2. Average no. of persons per household in Berlin, Paris and Warsaw



Social and demographic trends in Europe and their consequences for the housing market structure account for common characteristics in the three analysed cities. Firstly, average household sizes are lower in the city areas as compared to the rest of the FUA (Map A4.2). This goes along with a high share of one-person households

in the metropolises – especially in Berlin and Paris, where they account for more than half of all households (Map F8 in Annex). The development in the city of Warsaw also follows this tendency with 38 per cent of one-person households in 2002. This stands in vivid contrast to the rest of the FUA, were the households are the largest of all investigated areas. It can be assumed that Warsaw and its surrounding will continue to follow the development path of the other two cities, therefore its demand for small and medium-size dwellings will increase.

In spite of common trends, the comparison of the magnitude and structure of the population growth in the three metropolitan regions reveals that Paris and Warsaw require a more complex provision of housing affordable for all population groups, while the needs of Berlin are more focused on low income inhabitants. The latter results from a considerable increase of the average rent level and real estate prices for offered flats and houses, of over 5 per cent in 2009 and 2010 (IBB 2012: 9) as well as an increase of the overall rent level of about 2.5 per cent per year. This increase is at least partly connected with the low level of housing construction during the last ten years – which is contrasting to Warsaw, where the number of new housing units has been increasing more rapidly (Fig. F4 in the Annex).

Possible solutions for improving the affordability of housing on the supply side need to take into account the different ownership structures: (1) In the city of Berlin rental housing dominates, whereas in Paris the ratio between rental and self-owned housing is much less uneven. For Warsaw it is difficult to precisely estimate the ratios between the rental and self-owned sectors due the lack of data referring to dwellings rented on the private market (Figure F3 in the Annex). (2) Similarly, financial sources of ownership differ considerably as a result of the varying history and organisation of the housing markets. Despite the comparability limitations, Figure F5 in the Annex illustrates the dominance of privately owned housing units in Paris and Berlin as compared to Warsaw, where a larger share of housing units is still owned by housing cooperatives (35 per cent in 2009). This difference is further enhanced by the fact that the internal occupational structure within this cooperative housing stock in Warsaw is also extremely complicated. Apart from these differences it needs to be pointed out that the ownership as such does not necessarily coincide with public restrictions on rents. For instance in Berlin, about one third of the rental housing stock is under some form of public or cooperative influence, even if partly privately owned.

4.6. Comparison 2: Influences on the affordability of housing

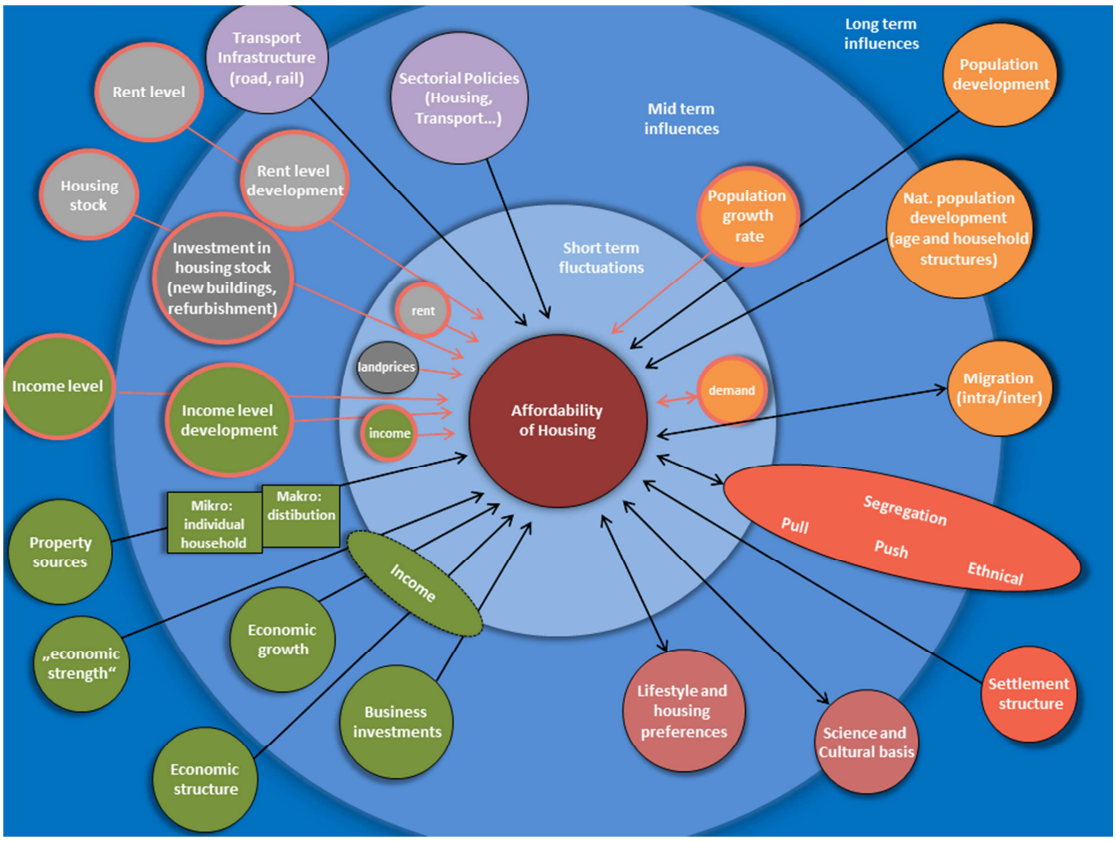
Deriving from the problems and solutions discussed so far, the complexity of providing housing affordable for all population groups becomes obvious. This section provides a schematic overview of influences in relation to the affordability of housing developed in a mind mapping process. The identified influences on the affordability of housing as well as the indicators influenced by affordability of housing can be categorised along several dimensions:

- Type of influence:
    - economic structure: rent, income, growth, business investment (green)
    - cultural structure: segregation, science and cultural basis, lifestyle and housing preferences (pink)
    - infrastructure: housing stock (grey), transport infrastructure (violet)
    - social structure: population development (orange)
- Time: short-term, mid-term, long-term influences on the affordability of housing (visualised as three circles)

- Direction: influencing affordability/influenced by affordability (highlighted by the direction of the arrows)
- Intensity: high, normal or low influence on the affordability of housing (highlighted by the size of the arrows; orange arrows have immediate and direct influence on affordability of housing or *vice versa)*
- Value: positive or negative influence on the affordability of housing (can be highlighted through + and – symbols in city specific schemes)

On the basis of the general scheme (see Figure A4.5) each metropolis developed a normative weighing of the influences illustrated by plus and minus symbols. In this chapter only the main specificities of the three metropolises will be described, the individual schemes can be found in Annex G.

Figure A4.5 Factors Influencing the Affordability of Housing



Source: own elaboration.

On a long-term basis, the affordability of housing in metropolises is determined by historic infrastructures as well as social, political and economic developments still influencing the current situation. Central indicators are the housing stock and settlement structures which directly affect the characteristics of the housing market and therefore the supply of dwellings as well as their infrastructure. Apart from urban planning, "soft" factors such as the image of districts and city areas are influenced by historical developments. Additionally, the housing market is influenced by transport infrastructure, which still affects the accessibility and, consequently, the attractiveness of areas. Along with mid-term effects of sector policies (social policies, housing policies, urban development policies, transport policies etc.) and general investments in urban development and the housing stock – both public and private – those initial infrastructures influence the current housing supply as well as the rent level and land prices. The long-term economic frame manifested by the economic

structure and core strengths of metropolises affects the regional labour market and therefore the income level development. Through economic growth and business policies and investments those initial developments determine on a mid-term and short-term basis the income level. Both, income and rent level, have a strong direct and immediate influence on the affordability of housing (see introduction to this chapter). Therefore, the central indicators leading to the current income and rent levels within the metropolises are highlighted with orange circles and arrows.

Also among the central indicator sets is the development of the population. Affected by long-term historical structures the population development, along with effects of demographic change (family structures, age structures) and migration within the metropolis as well as to the metropolis, influence the demand for housing. Those factors determine the demand for housing articulated by the metropolitan population. Next to the obvious indicators influencing the demand for housing, social and cultural factors can influence the affordability of housing and *vice versa*. In the case of a diversified urban structure and a sufficient overall living standard, lifestyle and housing preferences affect the spatial structure of the demand for housing. One key word in this discussion is the social segregation within metropolises, which in extreme cases contributes to the creation of enclaves of “wealth” and “poverty”. Those “soft factors” have a tremendous influence on the image and up- or downgrading of districts or even smaller areas within the cities. Nevertheless, two-sided arrows have been attributed to this indicator as the existence resp. non-existence of affordable housing may lead to social “stigmatisation” or segregation. In certain districts or areas, where low-cost housing is sufficiently available low income households tend to be concentrated and are “pulled” to these areas. In contrast, where a lack of low-cost housing prevails, segregation is the result of a “push”-out effect of low income households.

In comparison to the situation in Berlin, the relatively high housing cost burden in Warsaw is being perceived as a challenge with respect to the issue of housing affordability. This accounts for a long-term rent development as well as for mid- and short-term rent fluctuations. The rising income level as well as the short-term income development in Warsaw positively influence the affordability of housing in the metropolis, whereas in Berlin a positive effect is correlated only to short-term basis income. Furthermore - related to the indicator of income – differences occur regarding the long-term economic strength and structure and its influence on the affordability of housing. Economic growth and rising incomes as long-term variables of economic development are perceived as a positive impact on the affordability of housing in Warsaw, whereas in Berlin the economic disadvantage of the city during the German separation is perceived as a long term challenge – also for the development of the income level.

Furthermore, in comparison to Berlin, the overall long-term positive population balance is seen as a challenge to the affordability of housing in Warsaw, while in Berlin this has only become an issue on a mid- to short-term basis. Regarding social influences such as cultural attractiveness or lifestyle preferences it becomes obvious that this set of indicators is more relevant in Berlin than in Warsaw. This may partly be due to the historically developed strongly differentiated images and conditions in Berlin’s districts.

Nevertheless, it is interesting to note that on a short-term basis the rising rent as well as land price levels are seen as a challenge for the affordability of housing in both cities. Furthermore, population increase leads to a rising demand for housing. Meanwhile the positive income development partly counterbalances the threats concerning the affordability of housing in both metropolitan regions.

4.7. Comparison 3: Political strategies on how to tackle insufficient supply

All three metropolises are affected by environmental and societal trends, including demographic change with an ageing population and changing family constellations, as well as climate change which also affect the definition of affordable and attractive living.

Provision of Housing

The three cities are currently developing or implementing planning strategies for tackling the lack of housing and the often insufficient equipment of the existing stock. In Warsaw, the "Program of Municipal Building Construction 2008-2012" foresees an increase of approximately 4,700 units in the number of municipal dwellings due to construction and rehabilitation, especially in the peripheral districts of the city. Furthermore, the plan includes the demolition of buildings with the lowest living standards. Housing policy for the Paris metropolis is object to the Grand Paris project as well as to the SDRIF (cf. chapter 9). Both plans foresee higher construction rates (the former 70,000, the latter 60,000) than the present annual rate of 31,000 dwellings (2002-2006). Furthermore, social housing construction policy is highly influenced by the SRU (*Solidarité et Renouvellement Urbain*), a law on urban planning and housing in France that enforces each community to commit a minimum of 20 per cent of its housing stock to social housing until 2020. Financial sanctions apply to those which do not fulfil the regulation, although due to low significance are not compelling. In 2001 only 13.44 per cent of housing in Paris was fulfilling the requirements of the SRU, 2011 the rate had increased to 17.16 per cent and it is foreseen to reach the 20 per cent goal in 2014 (City of Paris 2011). In Berlin, it is planned to implement, in the upcoming years, several instruments to tackle the increasing insufficient supply of low-cost housing. However, this may be influenced by the recent elections in September 2011. The relevant guidelines for urban planning are described in the election's coalition agreement. These foresaw the construction of 30,000 new apartments in Berlin until 2016 with an emphasis on the inner city area in order to counterbalance the rising rent level in certain sub-districts. The role of municipal housing companies, as well as building cooperatives in providing affordable living space is planned to be fostered – especially public housing companies are encouraged to increase their stock. Incentives for affordable housing are preferentially set through the allocation of public property. The concrete implementation of these political agreements will be subject to the new Urban Development Housing Plan, which is currently under development.

Social Upgrading

Along with the efforts in the provision of new housing, especially Berlin and Paris are highly involved in improving the living conditions and attractiveness of problematic areas (e.g. high unemployment, social segregation) of the city – in this case Berlin focuses especially on "soft" measures by a socially participative approach, which aims at improving the living and working environment of selected areas – for example through the Social City program and the Quartiersmanagement (see Illustrative Examples). It is expected, that such participative measures will become ever more important for the future.

In Paris fighting social segregation and stigmatization of areas is tackled by the legal regulation of having a minimum share of social housing in the municipalities of the metropolitan region. A case an upgraded living area is presented in the Illustrative Example 1. Furthermore, fiscal incentives are provided to private households moving to urban renewal areas.

In Warsaw the focus seems to be put on upgrading the infrastructure of city areas (e.g. deteriorated urban fabric). The "Local Revitalization Programme 2005-2013" was set up to integrate various policies in the redevelopment of districts' parts that have lost their previous social and economic functions. All three cities offer programs for energy-efficient renovations and modernizations mainly with subsidies bound to individual objects.

Summing up, after temporary stagnations in the construction of housing affordable for all population groups during the last decades, the three metropolises have formulated and currently implement strategies and concepts on how to increase their housing stock at affordable price/rent levels. Nevertheless, strategies vary in their dimension and approaches – while Paris seems to follow the ambitious goal of dedicating 20 per cent of its housing stock to social housing until 2014, the planned share of affordable housing in Berlin's new constructions remains rather vague. Yet, Warsaw and Berlin intend to increase the stock of the municipal housing companies during the next years.

4.8. Typology: local living conditions and attractiveness

In order to assess the current state of metropolitan structures from a perspective which includes housing, socio-spatial structures, transport and migration it is useful to develop a typology which describes metropolitan living conditions. Living conditions cover various aspects of daily life and are not easily measured. The variety of factors affecting living conditions includes for instance different housing conditions, housing environment including social and population structures, environmental quality, accessibility of services, facilities etc. Therefore, any attempt to measure living conditions needs to be multidimensional and can only be depicted in parts. It is not possible to provide a comprehensive and all-inclusive picture of living conditions at any location. This holds the more as living conditions are also subject to individual assessments, i.e. the same objective living conditions lead to different individual location decisions etc. depending on individual preferences.

Largely based on the EU-SILC survey (EU-Statistics on Income and Living Conditions) the set of nine indicators, presented in the box below covers all principal aspects of living conditions and is suitable for describing living conditions in different parts of the metropolitan regions.

Indicators suitable for a comprehensive description of living conditions:

- Average level of available **household income**
- **Housing cost burden** – share of housing costs in relation to available income
- **Usable floor space** in m^2 per person
- **Unemployment** rate
- **Migration balance**
- (Public) **transport** connectivity
- Quality of the predominant **dwelling infrastructure**
- Level of **environmental quality**
- **Service and social infrastructure** availability

Due to comparability and data limitations, these indicators could not be completely included in the development of living conditions' typologies. Despite the principal availability of the EU-SILC survey, the data is not sufficient for an inter-city comparison below city level – neither for the cities nor for the surrounding FUA. For each of the cities and their surrounding suburbs as many indicators have been

included as possible, sometimes they have been substituted, while in neither case the typology includes all of the listed indicators. This finding indicates the need for further improvements regarding data collection and quality for comparing living conditions of European metropolitan regions at a territorial level lower than NUTS 2 or NUTS 3. The main obstacle still is to gather raw data on the lowest spatial level possible (i.e. at statistical enumeration units for the core cities and at LAU 2 level for FUA) in order to grasp the internal differentiation within metropolitan areas. The described data needs become more apparent when comparing the different metropolitan regions' typologies.

The aim of this typology was to provide a synthesised picture of internal differentiation of the metropolitan regions in terms of living conditions and their attractiveness for the inhabitants. The delimitation of areas that possess high or low living conditions is based on statistics concerning housing stock, whereas the attractiveness criteria refer to social and economic features of inhabitants. Relatively high income enables a more independent choice of the place of living and might be treated as a possible proxy to indicate which areas are preferred by those inhabitants whose residential choices are not restrained. Thus, the assumption made claims that the areas of concentration of upper social categories (i.e. with higher income and / or employed as directors, managers and specialists) represents the higher status areas and might be regarded as the most attractive. On the other hand, the concentration of underprivileged persons (described as those with the lowest income, households receiving social assistance, unemployed and / or working as unskilled manual workers, etc.) represents lower status areas. The members of this group have limited housing opportunities (mostly because of their income level) and can often choose only between a relatively small number of areas (or their residential choice might even be restrained to one localisation).

In addition, the attractiveness of metropolitan areas is also assessed through the level of their connectivity. In case of the core cities of Paris and Berlin, this indicator received high values with respect to the whole territory and for this reason was omitted on the maps. In the case of Warsaw, some areas are served at a lower degree and it is crucial to mark the areas with a particularly low connectivity and to show where it could be improved in the future.

It was attempted to prepare a possibly similar typology for the three metropolises. However, due to different paths of development and differing data availability as indicated above, additional, specific variables for each metropolitan area had to be considered. In Warsaw, the concentration of newly built dwellings has been an important factor of change in the quality of living conditions in certain areas, whereas in Berlin and in Paris, the scope of urban renewal schemes could be regarded as a more powerful factor in terms of change in living conditions.

The proposed approach does not cover all the aspects of attractiveness and living conditions, nevertheless it provides a general picture of the three metropolitan regions, indicating spatial patterns of attractiveness. Additional criteria of attractiveness should be included in the future research, for instance: the quality of environment as well as the provision of services and social infrastructure (see above box for suitable indicators) which would improve the typology, providing more precise information and combining data of qualitative character.

Due to lack of (or insufficient) data sources to present each criteria in a detailed manner, the typology is based on somewhat different sets of variables in each metropolitan region which corresponds in the best manner to the proposed approach (tables A4.5 to A4.6).

The assessment of the status of the areas in the city of Berlin is based on an existing typology compiled in the Social Urban Development Monitoring.[13] The development indexes used in the typology for depicting the most attractive and unattractive areas are the result of a combination of different static and dynamic variables as listed in table A4.5.

Table A4.5. Components of development index for the typology of the city of Berlin

Status indicators	Dynamic indicators
1. Unemployed (German Social Code SGB II and III) in % of 15-65-year-olds 2. Unemployed under 25 (SGB II and III) in % of 15-25-year-olds 3. Unemployed with a reference period of over a year (long-term unemployed) (SGB II and III) in % of 15-65-year-olds 4. Non-unemployed recipients of basic welfare benefits in % of inhabitants (those not registered unemployed receiving basic welfare benefits in accordance with SGB II and fit for work, recipients of basic welfare benefits in accordance with SGB II and not fit for work, and recipients of benefit under SGB XII) 5. Recipients of basic welfare benefits and not fit for work in % of inhabitants under 15 years (recipients of basic welfare benefits in accordance with SGB II and not fit for work) 6. Children and young people under 18 years with a migration background in % of inhabitants under 18	1. Immigration volumes in % of inhabitants 2. Balance of migration in % of inhabitants 3. Balance of migration of children under 6 years in % of inhabitants under 6 4. Change in proportion of German recipients of basic welfare benefits in accordance with SGB II, III and XII compared with the previous year in % points (change in the total of status 1 and 4 without status 5, Germans only) 5. Change in the proportion of non-German recipients of basic welfare benefits in accordance with SGB II, III and XII compared with the previous year in % points (change in the total of status 1 and 4 without status 5, non-Germans only) 6. Change in the proportion of recipients of basic welfare benefits in accordance with SGB II under 15 years not fit for work compared with the previous year in % points (change in status 5)

Source: Häussermann *et.al*. 2010

[13] Häussermann, H. et. al. (2010).

Table A4.6. Living conditions and attractiveness indicators for Paris metropolitan region's typology

Type / class	Paris (core city)	Paris FUA
Higher status areas	Average income superior to 2400 € (2008)	Average income superior to 2400 €
Lower status areas	Average income inferior to 1650 € (2008)	Average income inferior to 1650 € (2008)
Higher quality of housing conditions	----------	----------
Lower quality of housing conditions	Uncomfortable dwellings (without bath and shower), > 7,5% of the stock; Substandard privately rented housing stock, >10% of privately owned dwellings	Uncomfortable dwellings (without bath and shower), > 7,5% of the stock; Substandard privately rented housing stock, >10% of privately owned dwellings
High share of new dwellings	----------	----------
Urban renewal	Concentration of quarters classified as ZUS, ZRU and ZFU (2007)	Concentration of quarters classified as ZUS, ZRU and ZFU (2007)
Low accessibility	The whole core city was considered as having good connectivity	Public transport (railway, underground) accessible at the greater distance than 5 km

Table A4.7. Living conditions and attractiveness indicators for Berlin metropolitan region's typology

Type / class	Berlin (core city)	Berlin FUA
Higher status areas	Very high development index (combination of static and dynamic index) (2010)	Average income per month superior to 2850 €***;
Lower status areas	Very low or low development index (combination of static and dynamic index) (2010)*	Average income per household inferior to 1915 €***;
Higher quality of housing conditions	dwellings with the surface > 40 m^2 per person (2009)** and rent level 25% (and more) higher than median	dwellings with the surface > 42 m^2 per person***;
Lower quality of housing conditions	dwellings with the surface < 36m^2 per person (2009)** and rent level 20% (and more) lower than median	dwellings with the surface < 36 m^2 per person***
High share of new dwellings	----------	Share of new dwellings (more than 3 % between 2008-2010)***
Urban renewal	Project finalised and in progress	----------
Low accessibility	The whole core city was considered as having good connectivity	Railway transport accessible at the greater distance than 5 km away

*Häussermann H., Werwatz A., Förste D., Hausmann P. 2010, Social Urban Development Monitoring 2010, updated for the period 2008-2009, Senate Department for Urban Development, Unit I A.
** Berlin – wohnenswerte Stadt, Herausgeber Senatsverwaltung für Stadtentwicklung Kommunikation, www.stadtentwicklung.berlin.de, Jörg Niendorf, Berlin, Mai 2011.
***https://www.regionalstatistik.de/genesis/online;jsessionid=456E1B7FCE9E28B5C06A999E57CB9E7B?operation=previous&levelindex=1&levelid=1350471505294&step=1

Table A4.8. Living conditions and attractiveness indicators for Warsaw metropolitan region's typology

Type / class	Warsaw (core city)	Warsaw FUA
Higher status areas	Positively correlated variables: persons with higher education level, persons employed as directors, managers and specialists (sum of ranks 5-13) and negatively correlated variables: persons with primary and vocational education level, unemployed, persons employed as unskilled manual workers, workers, farmers (sum of ranks 40-50)	Salary superior to national average;
Lower status areas		Positively correlated variables: unemployment higher than average; higher than average rate of persons receiving social assistance
Higher quality of housing conditions	Positively correlated variables: new dwellings, dwellings with the surface > 30m^2 per person	Positively correlated variables: dwellings equipped with technical infrastructure (bathroom, central heating); dwellings with the surface > 30 m^2 per person
Lower quality of housing conditions	Positively correlated variables: dwellings with the surface < 10m^2 per person, dwellings inhabited by 2 or more households;	Positively correlated variables: dwellings badly equipped (without bathroom and central heating); dwellings with the surface > 10 m^2 per person
High share of new dwellings	----------	Share of new dwellings > 30 %
Good accessibility	Low accessibility to public transport (underground, railway and tramway stops beyond walking distance)	Public transport (railway) at the greater distance than 5 km

Main obstacles of the typology development

Paris metropolitan region

The category describing "higher quality of housing conditions" has not been established because of lacking data concerning the average surface of dwellings per person. The available data only allowed for indicating the areas with less than average living conditions because of the lower level of dwellings' equipment in sanitary infrastructure and existing sub-standard dwellings within privately owned multi-family buildings for rent.

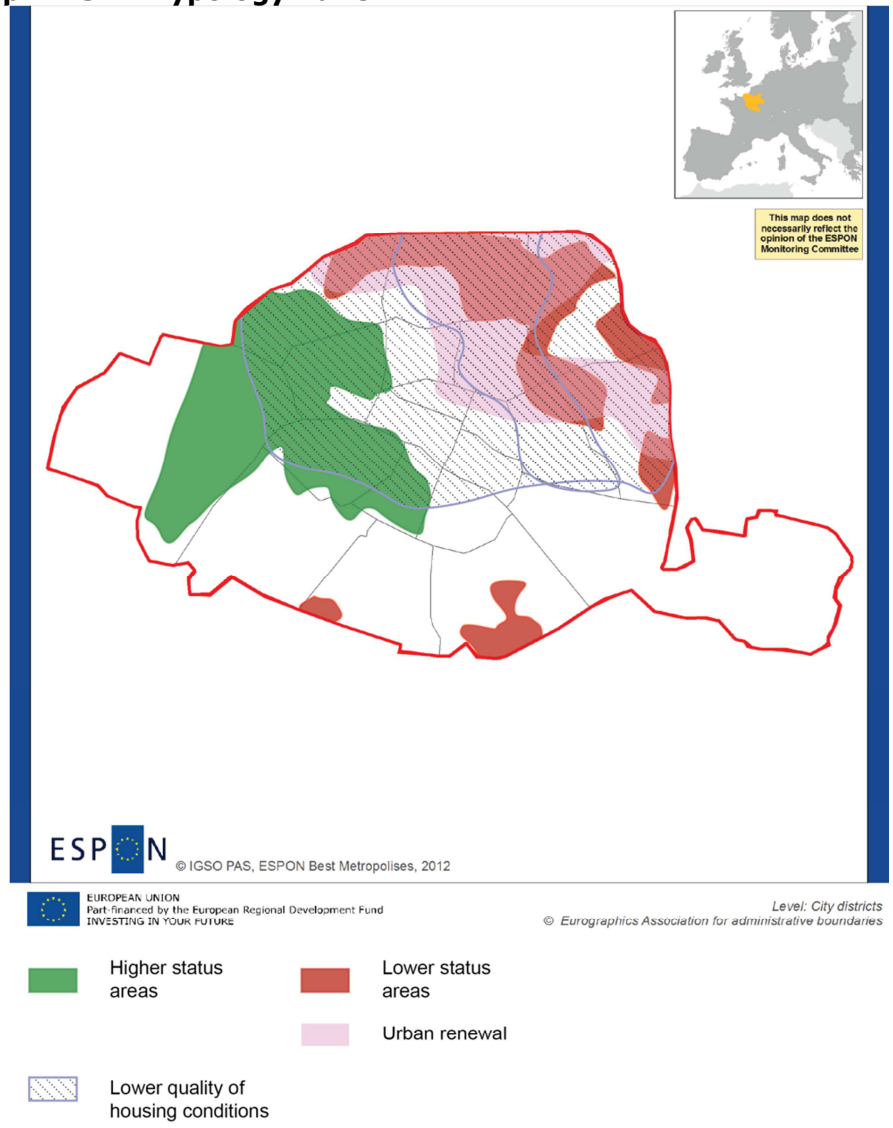
Berlin metropolitan region

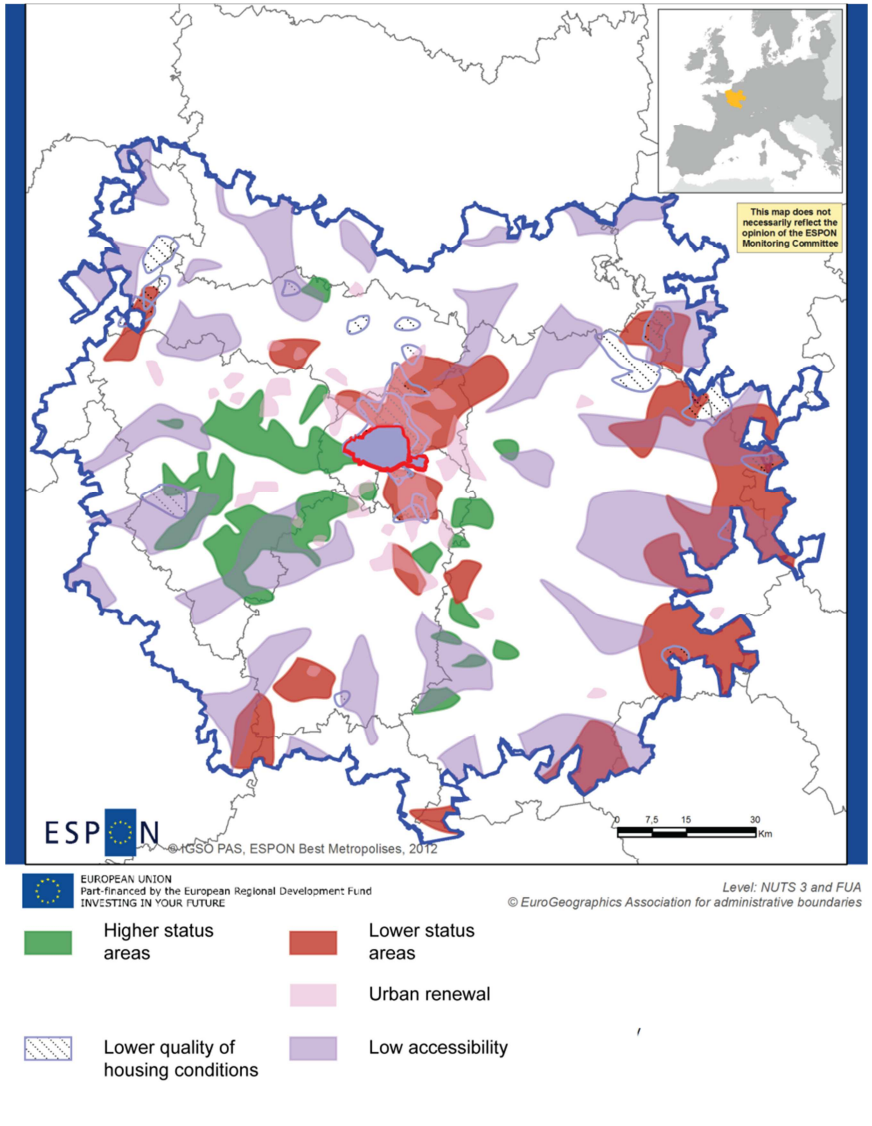
For the city of Berlin, the data describing average dwelling space is limited to the district level, whereas the other used indicators refer to lower statistical units and are thus much more differentiated than the dwelling size indicator (i.e. rent level).

Warsaw metropolitan region

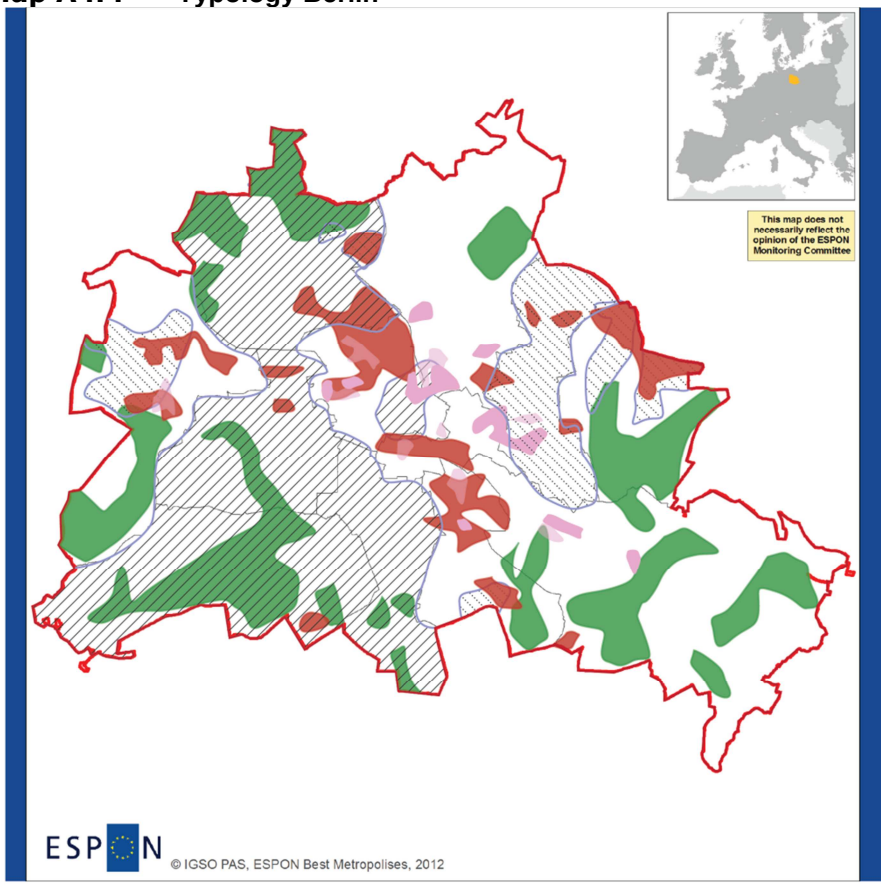
The major obstacle encountered during the preparation of the typology for the city of Warsaw is the lack of data on income. This is the reason why a combination of other social variables is used for assessing the areas in terms of their attractiveness.

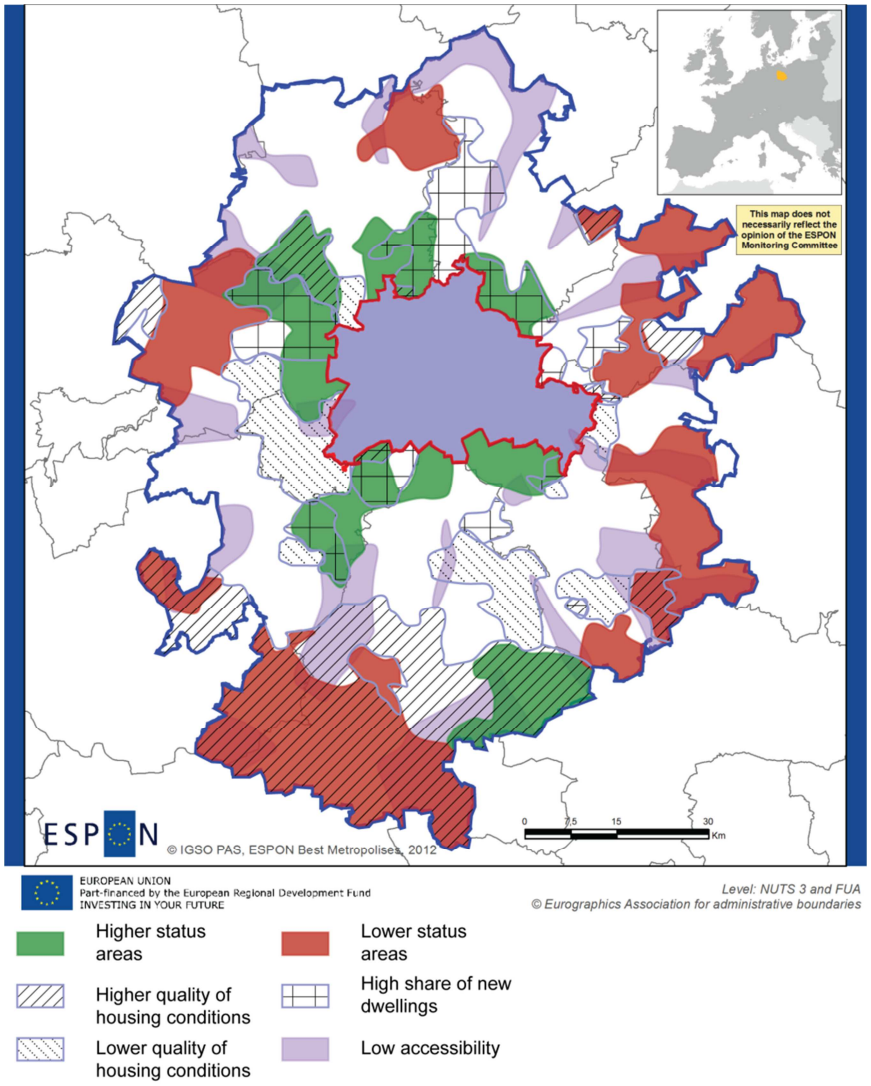
Map A4.3. Typology Paris



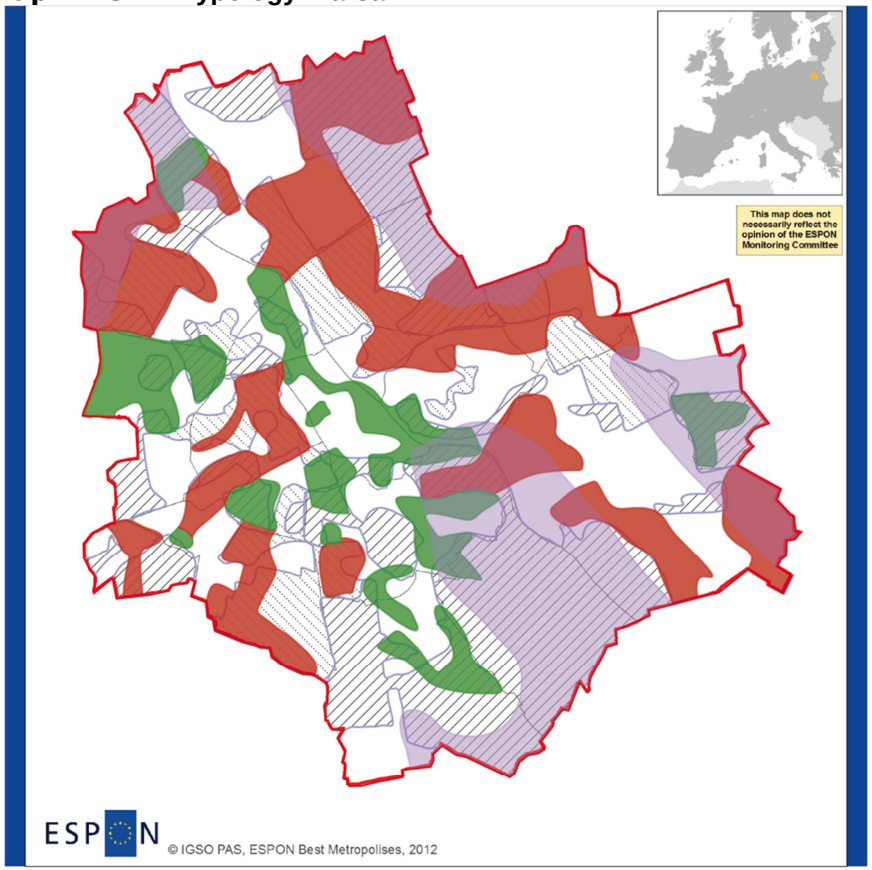


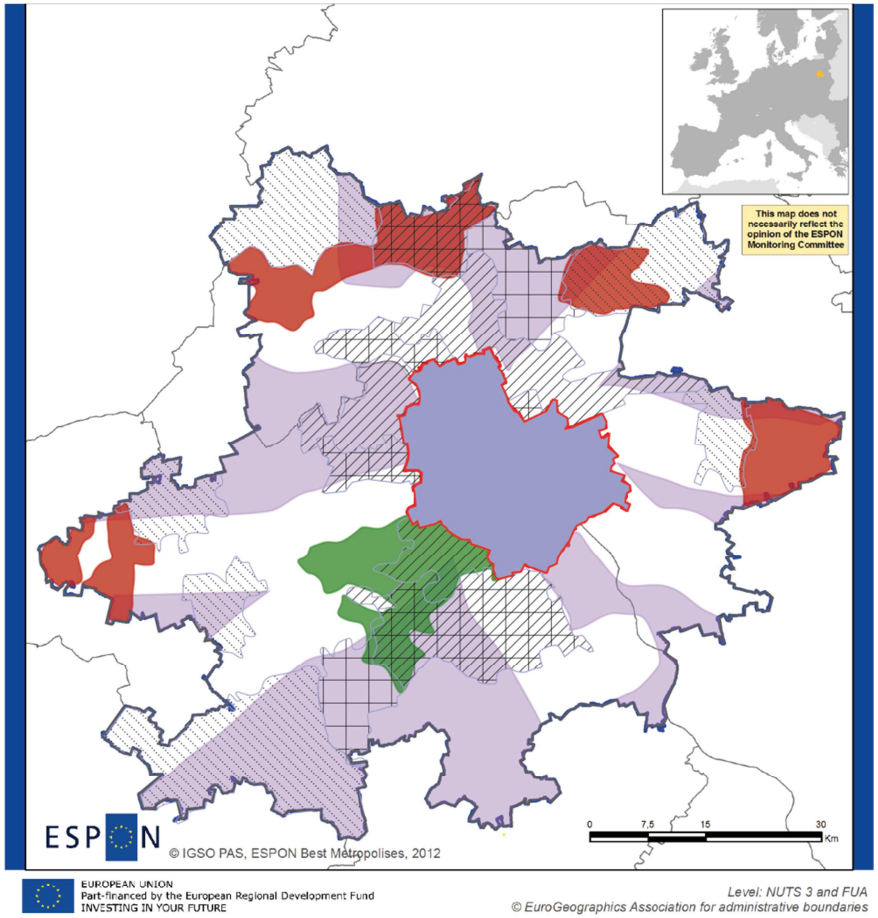
Map A4.4 **Typology Berlin**





Map A4.5 **Typology Warsaw**





Comparison

The spatial patterns of living conditions and attractiveness in the three metropolitan regions are highly influenced by historical conditions. In other words, actual spatial patterns replicate previous divisions. This is in particular visible in the case of the metropolises, less so in the surrounding areas of the FUAs.

In Paris, the disparities between the western and north-eastern parts of the city continuously exist since the 19th century (see Chapter 1). Despite numerous polices to tackle this problem, this historical division seems petrified. When comparing the maps with the distribution of social dwellings in the city of Paris, the patterns are repeated with the concentration of HLM dwellings in the areas marked as lower status areas.

In the case of Berlin the pattern of areas assessed to be relatively attractive (higher status areas) and respectively unattractive (lower status areas) are quite dispersed across the city. Apart from few relatively small areas in the city's centre, most highly attractive areas are located in the more distant areas of the city. These areas are often closely located to forests, rivers and lakes within the bounds of the city. The least attractive areas are similarly dispersed, though they are located mostly along two principal axes: the north-south and the west-east axis. Most of these areas are covered by the programme Action Areas Plus or by other urban renewal projects, which aim at improving these areas' attractiveness.

The typology on living conditions and attractiveness in Warsaw shows a clearly uneven development of the two parts of the city divided by the Vistula river. After World War II, the development was focused on the left side of the river bank (both housing, economic investments, etc.), whereas the areas located on the right side of the river continued to lose the attention of both inhabitants and investors. This spatial pattern of attractiveness might be explained by an insufficient number of bridges and lower access to the city centre from the districts located on the right bank of the river which made them less attractive. In addition, lower living conditions and concentration of pre-war buildings with poor dwelling facilities did not attract new inhabitants.

Thus, some principal patterns are observable for the three metropolises:

- Highly attractive places are partially located in the cities' centres, but they mostly (Berlin and Warsaw) do not represent the majority of very attractive places;
- In the case of Berlin the dispersion of the most attractive areas seems to be more dispersed in the more peripheral parts of the city than in the other two cases;
- Warsaw tends to show a relatively high share of areas which are of low attractiveness as compared to the other two metropolises.
- In Berlin many of the least attractive areas are restricted to quite small locations, whereas they tend to be more concentrated in the other two metropolises.

Considering the FUA of Paris, the main zones of attractiveness are spread towards suburban areas. This is particularly visible in the FUA of Paris, where these areas are mostly located south-west of Paris. It should be also stressed that the lower status areas within the FUA vary with their location. Those in the inner suburbs gather population with the lowest income and social dwellings, uncomfortable housing and high unemployment ratios. In the fringes of the FUA of Paris, the situation should be interpreted in a different manner, as these remote areas in the eastern parts are

mostly of rural character. Thus, their attractiveness is strongly related to the land use structures.

The FUA of Berlin is characterised by mostly highly attractive areas in the municipalities surrounding the metropolis. These areas are not only well connected with Berlin, but often have experienced population growth together with new commercial and residential building over the past 10 to 20 years. The areas further away from the city of Berlin are mostly more rural, which comes along with decreasing attractiveness, including relatively low accessibility – at least as public transport is concerned. Thus, a high quality of living conditions, as a result of large dwelling sizes is mostly a result of cheap and available space for housing in quite sparsely populated areas. Similarly, a low quality of living conditions in some areas neighbouring the city of Berlin is a result of high rent levels and relatively small dwelling sizes (e.g. Potsdam).

The degree of attractiveness in the FUA of Warsaw might be connected with the close suburban area which has the best level of connectivity and, at the same time, the most dynamic development in terms of new dwellings. This pattern seems more monocentric with lower levels of living conditions and attractiveness with a growing distance from the city of Warsaw to the outer parts of the FUA.

The typologies of the FUAs of Warsaw and Berlin suggests that apart from individual characteristics of particular areas, the distance to the respective metropolis is an important factor that determines the pattern of attractiveness. In Warsaw this goes along with the location of certain social groups. In the case of Paris, there is no such regularity at all, as the households representing lower social classes are living regardless of the distance from the core city. Nevertheless, a set of other reasons may explain this particular distribution of population regardless the degree of attractiveness (i.e. persons who work in peripheral parts of metropolitan region and do not need to live more closely to the metropolis; persons living in well connected parts of the FUA periphery, which allows them to live in low cost housing areas, which are at the same time environmentally attractive; persons living in the periphery for a long time and owning their housing, are not attracted to move).

4.8. Conclusions and Recommendations

Chapter 3 had aimed at analysing housing and living conditions in the three metropolitan regions of Paris, Berlin and Warsaw. Thereby, the analysis focused on the issue of the affordability of housing, since this was a common concern not only in these three metropolitan regions but in other European metropolitan regions as well. In order to gain comparable insights into the affordability of housing the central housing market characteristics as well as the main influences on the affordability of housing were identified and compared. This was complemented by a comparative analysis of the cities' housing policies and a typology of living conditions. The following table A4.9 gives a summarising overview of the main characteristics and most apparent differences between the three metropolitan regions.

Table A4.7. Overview of main findings and differences with regard to housing and living characteristics

	Paris	Berlin	Warsaw
Main Characteristics of Housing Market	City of Paris + Petit Couronne little differentiation regarding housing prices	Low share of self-owned dwellings leading to higher public intervention possibilities	Expected population growth and expansion; large number of dwellings with insufficient infrastructure
Affordability of housing	Affecting all income groups	Affecting mainly lower income groups	Affecting low to middle income groups
Main influences on affordability of housing		Socio-cultural preferences are crucial for the selection of the living district	Despite rising incomes the affordability of housing is being challenged by migration and high housing cost burden
Focus of Housing Policies and Programmes	Incentives and regulations to reduce social segregation	Focus on socially participative solutions for problem areas	Creation of new dwellings in abandoned areas and modernization of existing stock
Living Conditions	Relatively large problem areas; lasting geographical division between attractive and unattractive areas	Smaller dispersed problem areas along two axes; 'ring' of attractive areas along the border of the metropolis	traditionally unattractive living quarters in the east of the city; social status is linked to the distance of living locations

Different qualities of problems regarding the affordability of housing in the three metropolises were observed. In Warsaw the main challenge is to upgrade housing conditions to make use of available areas for new housing provision which should be followed by investments in transport, social infrastructure and services (compare chapter 5 and 6). Apart from the need for upgrading of the old building stock in the city of Paris, the large-scale problem areas represent the biggest challenge as regards housing policies in Paris in combination with very high housing costs throughout the city area. Therefore, the efforts should concentrate on socially participative models for the breaking up of large-scale problem areas. Berlin's smaller scale problem areas are already tackled by various measures such as the 'Soziale Stadt' programme. However, the affordability of housing is challenged by increasing housing costs and migration. As a preventive measure the focus on housing supply needs to be strengthened. Even though Warsaw's situation differs strongly, the experiences made with socially participative approaches may be helpful for future policy development. Finally, a balanced mix of the existing and possibly new instruments seems to be of tremendous importance for sustainable urban and housing development in all three metropolitan areas. City specific reviews, as proposed in the context of figure A4.5, not only need to consider the existence of the different influences but should also question the direction of influence. This way, such reviews may help identifying relevant or even crucial cross-sectoral policies for improving the city's or metropolitan region's housing market and the affordability of housing. Such cross-sectoral integrated approaches would tackle the affordability of

housing via different access points, including e.g. transport efficiency, employment opportunities, education etc.[14].

In order to reduce socio-spatial differentiation, it is however not sufficient to provide the mere number of low-cost housing units. It is equally important to ensure that housing for different income groups exists in many parts of the cities and the metropolitan area. In other words, it is especially necessary to avoid high spatial concentrations of only low-cost respectively high-cost housing, which inevitably implies spatial segregation. In metropolitan areas with need for additional housing affordable for low- to middle-income groups the crucial challenge is a spatially balanced provision of the necessary housing. In this context, in-depth analyses of neighbourhoods in which low- to high-cost housing units exist next to each other could help to indicate important characteristics for a successful coexistence and might also show the limitations to the development of mixed neighbourhoods.

Furthermore, these three examples illustrate a variety of issues to be considered in the framework of the EU2020 flagship initiative “European platform against poverty”, even though the analysis mainly focused on housing and its affordability. Also, the above typology has pointed out that with regard to public services more peripheral areas of the three metropolitan FUAs are disadvantaged. It can, however, be concluded that participative measures will be of high importance for future success in this field. Due to the different role these cities play in the European urban system (see chapter 2) and their different historical developments (see chapter 1) it is reasonable to believe that similar issues are at stake in a broad variety of European metropolitan regions.

It became eminent especially in Warsaw that a much more detailed monitoring of housing and living conditions needs to be implemented in order to territorially focus instruments. The monitoring seems to be most advanced in Berlin - it is however still not sufficient. Improvements should be made regarding the extension of indicators relevant for the measurement of living conditions at the level of social spaces as well as regarding the spatial coverage of the metropolitan area, since monitoring provides the basis for any sound strategy development.

[14] For arguments on how to improve housing conditions by an integrated approach see CECODHAS Housing Europe (2010).

5. Evolution of socio-spatial and economic structure

5.1. Introduction

The present chapter is aimed at tracing the main trends in the evolution of socio-spatial and economic structures in the three metropolitan areas, while at the same time investigating the mechanisms that provoke the ongoing processes. This in turn, enables the assessment of the efficiency of public policies in the matter of metropolitan development. The latter is being analysed in this chapter from two perspectives:

1) the efficiency in terms of reduction of socio-spatial disparities, and
2) the efficiency reflected in the advancement of polycentric development (both morphological and functional).

The current spatial organization of all three metropolises is a result of a long-term evolution. While Berlin and Warsaw suffered from destructive events during the World War II, Paris was developing in a constant manner. Due to specific historical development paths (compare chapter 2), the three metropolises also differ with respect to internal structures, namely as to the level of their morphological and functional polycentricity. Furthermore, they are characterized by differences in demographic potential and socio-spatial composition.

As demographic structure may determine metropolitan development, it should also be taken into account by policymakers tackling the issue of distribution of public services. For this reason, the observed demographic trends, as well as forecasts can be treated as important hints for the elaboration of policies aimed at a sustainable development of metropolitan areas.

In addition, the socio-spatial structure and the level of segregation of social and ethnic groups can produce socio-spatial disparities which in turn incite the fragmentation of metropolitan space. Concentration of neighbourhoods affected by economic, social and often physical lags, leads to the stagnation of broader areas. Negative processes are also strengthened by the selective outflow of inhabitants (compare chapter 7). Thus, an equal distribution of social and ethnic groups should lead to an increase of social and territorial cohesion, and the latter, as one of the key concepts of the Territorial Agenda of European Union, should be considered as a desired solution for metropolitan areas. A phenomenon clearly observable in the analysed metropolitan areas is an intra-metropolitan imbalance between the core city and the remaining region, produced by an uneven distribution of certain social and ethnic groups. Moreover, internal differentiation also concerns the core city and the metropolitan area themselves, which is why metropolitan policies should address this problem at different spatial scales (both at the city level and for the metropolitan area as a whole).

Economic potential of metropolitan areas is - nationally and globally - considered an important measure of urban competitiveness. Currently, the three metropolises take up different positions in the national and international urban hierarchy (compare Chapter 3). The capital cities of Paris and Warsaw have to a considerable extent functionally dominated their national settlement systems. Especially from a perspective of economic functions Berlin is faced with a more polycentric urban system in Germany, which implies a less dominant position. At the same time, Paris undoubtedly belongs to the few actual global players in Europe, whereas Berlin and Warsaw, showing signs of stability with respect to their regional specializations, are still defining their international positions.

Paris grows more slowly than some French regional metropolises, while Warsaw has recently a high economic growth in Europe and the lowest unemployment rate among the three cities: 5.6%, against 8.2% in Paris and 14.8% in Berlin (Eurostat 2007). Thus, the metropolitan polices should be tailor-made, based on the local preconditions and willing to use the specific local (metropolitan) assets to build a strategy for economic development and competitiveness of the metropolitan area.

Apart from the economic strength as such, the level of functional polycentricity is crucial in order to ensure sustainable development of the metropolitan area. This in turn contributes to the growth of attractiveness of different areas, both as economic spots and places offering good living conditions (e.g. through affordable housing). The process of development should encompass different communes (also in the suburbs), and not only concentrate in the core city which usually attracts economic functions (location of the most important national and multinational companies, crucial economic sectors, work places, etc.). Functional polycentricity at local and regional scale is therefore one of the main challenges metropolitan areas face today.

The abovementioned issues are discussed in the following sections and concluded with policy recommendations.

5.2. European context

The key European strategic documents (i.e. Territorial Agenda and Europe 2020 Strategy) directly and indirectly concern metropolitan areas and their internal spatial structures at different levels. Firstly, the polycentric and balanced development is assumed to be a key element for achieving territorial cohesion (TA 2020). Thus, metropolitan areas should be treated as functional regions organized in a way which ensures their internal polycentricity, as opposed to their 'natural' monocentric structure. The urban-rural interdependence should be recognised through integrated governance and planning based on broad partnership (TA2020). Secondly, the European growth strategy assumes that development should be smart, sustainable and inclusive (Europe 2020). Regarding the structure of metropolitan areas, it is crucial to mitigate social exclusion and segregation, and to promote education (especially highly specialized tertiary education), creative industries, the R&D sector etc. Therefore, the above mentioned priorities and targets were taken into account when analysing socio-spatial and economic structures in metropolitan areas within the BEST METROPOLISES Project.

The description of the corresponding European context has to include a brief summary of hitherto ESPON projects, especially referring to demography, migration trends and polycentricity, as well future development of cities and metropolitan areas. The analyses of Best Metropolises take these ESPON results into account. Nevertheless, as different analyses of different projects are made from different perspectives and with different objectives, the assessments of the Best Metropolises project may not always support the findings of other ESPON projects.

Accordingly, referring to the outcomes of the DEMIFER Project (Demographic and Migratory Flows affecting European Regions and Cities, 2005), the metropolises of Paris, Berlin and Warsaw belonged to different types distinguished. While Paris represented the type of so called "family potentials" – characterized by a slightly younger than average age structure and high natural population increases, as well as a positive net migration rate, Berlin qualified as a "challenge of decline" type, shaped by a negative natural population balance, as well as a negative migratory balance which resulted in population decline. Warsaw was classified as a "challenge of labour force" type, defined by a high share of young population in the productive age, as

well as a slight population decline, driven by natural decrease rates that affected population growth.

The broad overview of current and future issues relevant to urban development provided by the FOCI project (Future Orientations for Cities) constitutes an important basis for the analyses of various spheres of metropolitan areas and metropolisation (from social, through economic to spatial aspects).

As the BEST METROPOLISES Project intends to understand the trends and processes that appear within metropolitan areas, it may also benefit from the indicators for socio-economic polarization identified in the FOCI project. The indicators are related to the economic and labour market (level of knowledge-based employment), socio-demographic characteristics of society (household composition, level and structure of international and intra-urban migrations, notably suburbanization and gentrification) and political issues (social housing system, economic development policies and place-based policies).

In the FOCI project, the disparities within metropolitan macroregions (between large urban centres and their regional hinterlands) were presented in the context of the correspondence of demographic processes, structural changes and labour market fluctuations. Using this typology, Paris, Berlin and Warsaw metropolitan areas were classified as three distinctive types: Paris as a polycentric metropolis within a polycentric region, Berlin as a monocentric service center surrounded by regional hinterland with a labour market problem, and Warsaw as a national growth pole surrounded by traditional rural areas. The above mentioned typology contributes to better understanding of regional and national stakes for the development of these three metropolitan areas. In addition, this typology synthetizes the crucial features that determine specific logics of metropolitan areas' development.

Another ESPON project that is referred to within the 'Best Metropolises' analyses is CAEE (The Case for Agglomeration Economies in Europe) which focused on the examination of the relationship between agglomeration economies and city-regional/metropolitan governance (based on examples of Manchester, Barcelona, Dublin and London). According to the project's results, the basic internal disparities of the development within metropolitan areas corresponded to the highest rates of economic growth mostly in service sector activities (as measured by employment change) at the metropolitan core whereas older manufacturing industries tended to survive in pockets in smaller urban centres of the metropolitan periphery. Hence, the results of this project are treated as a starting point for certain key issues investigated in the framework of the Best Metropolises project. These are: the assessment of the impact of metropolisation on territorial functional integrity and sustainable economic development.

5.3. Demographic change

The evolution of the demographic structure in the metropolitan areas is crucial to assess the demographic potentials and barriers for development, as well as to ensure proper access and quality to particular public services (i.e. designed for specific age groups). It also allows for an indication of clusters with a concentration of particular demographic groups and direction of their evolution. The analysis of demographic structures should be set on the background of the contemporary processes of population change, including hitherto changes, as well as prospective views.

The demographic potential of the three metropolises, understood as the total population of the core cities and their functional urban areas is differentiated – (table A5.1) in the Berlin region it is twice as large as in Warsaw, while in Paris more than six-times larger. Moreover, there are substantial differences when analysing hitherto population development, especially when comparing Paris with the other two cities (Figure A5.1). The most visible population increase in the city of Paris took place in the second half of the nineteenth century, when the city reached almost 3 million inhabitants. In the next fifty years, this number did not change remarkably. Even the population dropdown related to World War II did not cause any dramatic changes, in contrast to the other two cities. At the beginning of the 1950s Paris had noted substantial population decrease, resulting in only 2,1 million of inhabitants at the end of the 20th century (a 30% decrease comparing to the beginning of the 1950s.). Starting from this point, the number of population started to grow, however at slow pace.

The peak of population development of Berlin took place in the period between World War I and II with the total population exceeding 4 million. After the dramatic population dropdown in the period of 1939-1945, the general trends of population development were positive, but not monotonous. Nevertheless, during the last half of the 20th century, Berlin noted a population growth of approx. 5%, comparing to the beginning of 1950s.

With respect to Warsaw, the population development is the most stable, except for one dramatic historical point (World War II). Between the beginning of the war and January 1945, the population decreased from 1,8 million to 160 thousands. (*Warszawa w liczbach*, 1947). The number of residents however increased rapidly, reaching 1 million in the mid-1950s. Beginning with the 1990s, the population growth became more modest, however still noticeable.

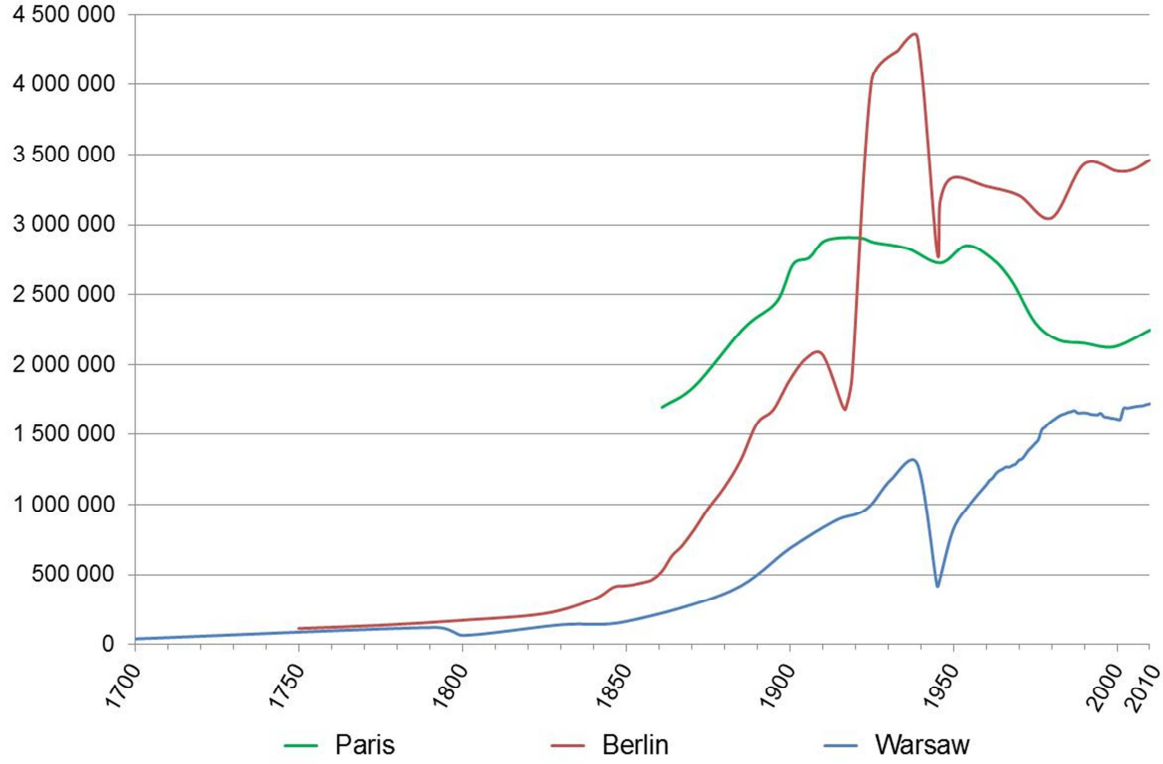
Regardless of the described differences concerning historical trends of population development and the current number of inhabitants, the latest decade shows similar demographic tendencies in the cities, reflected by a .slight increase of population: from 2,3% (78 500 approx.) in Berlin, 5,7% (121 000) in Paris, up to 6,7% (109 000) in Warsaw.

Table A5.1. Demographic potential of Paris, Berlin and Warsaw and their FUAs in 2009

Region	Population 2009	No. Housing units 2009	Area (sq. Km)	Average no. of persons per one housing unit
Berlin city	3,442,675	1,894,600	892	1,82
FUA Berlin (excluding city)	1,769,546	875,065	7675	2,02
Paris city	2,211,297	1,143,000	105	1,93
FUA Paris (excluding city)	9,559,000	3,748,000	16205	2,55
Warsaw city	1,714,446	818,874	517	2,09
FUA Warsaw (excludingcity)	1,515,227	547,400	4461	2,77

Data sources: Insee, RP2008 exploitation principal for Paris, Statistik Berlin-Brandenburg for Berlin and GUS, Local Data Bank for Warsaw

Figure A5.1. Population change in Paris, Berlin and Warsaw

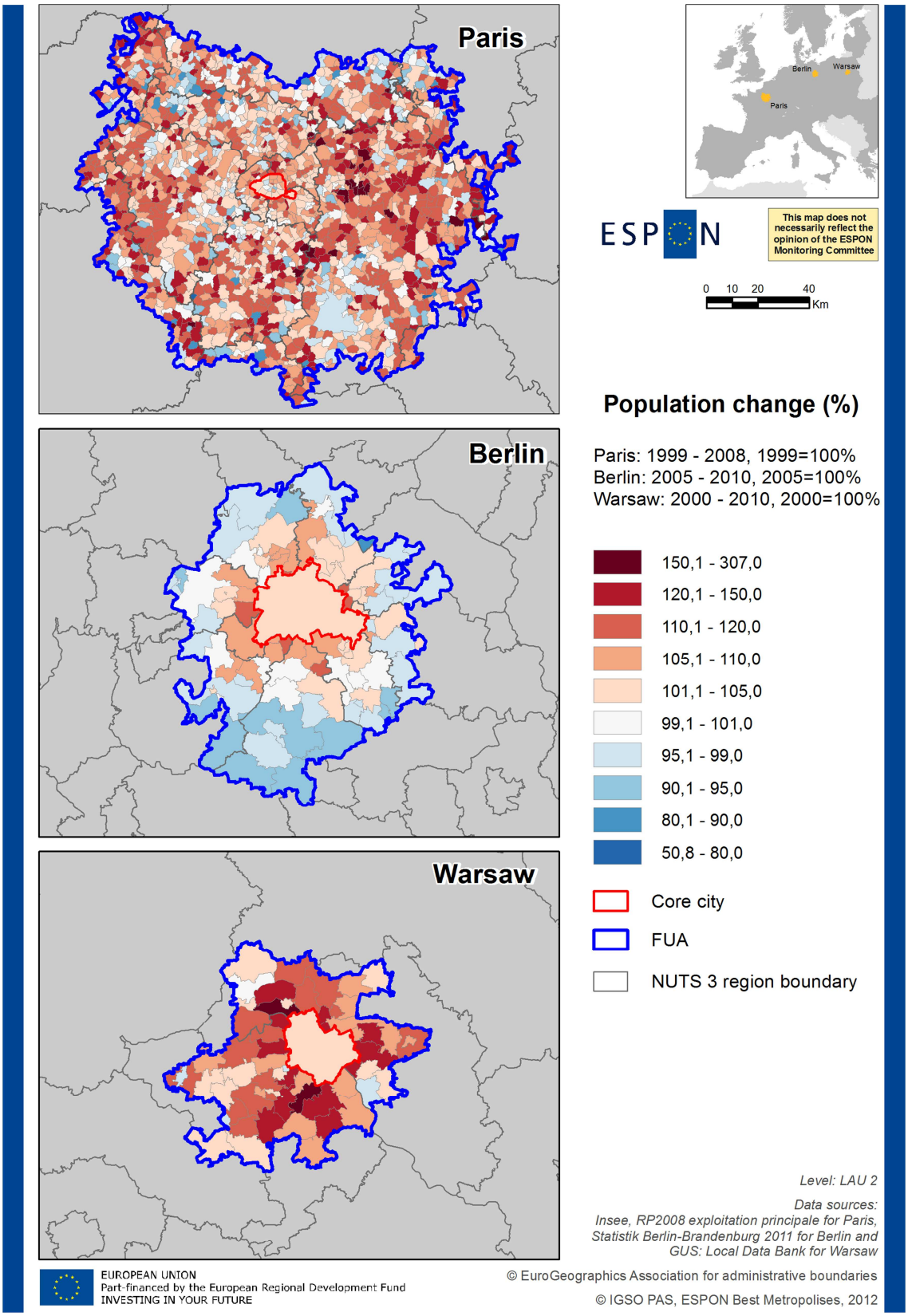


Source: Insee for Paris (1861-2010), Statistik Berlin-Brandenburg for Berlin (1750-2010) and GUS for Warsaw (1700-2010)

This increase is clearly visible when analysing the population change during the last decade15 at the LAU-2 level of the analysed three FUAs (Map A5.1). Although there are similarities in the case of the core cities, demographic trends in the surrounding municipalities are totally different. With respect to Paris, a population increase has been generally observed, with some exceptional, randomly distributed administrative units. In the case of Berlin FUA, there is a substantial difference between the suburbs located closely or more distantly to the city of Berlin. The previous have noted a slight population increase, while the latter have lost population. In the case of municipalities surrounding Warsaw a visible population increase was noted.

[15] Due to the availability of data, there were differences in the time periods used in the analyses of the metropolises: 1999-2008 for Paris, 2005-2010 for Berlin and 2000-2010 for Warsaw.

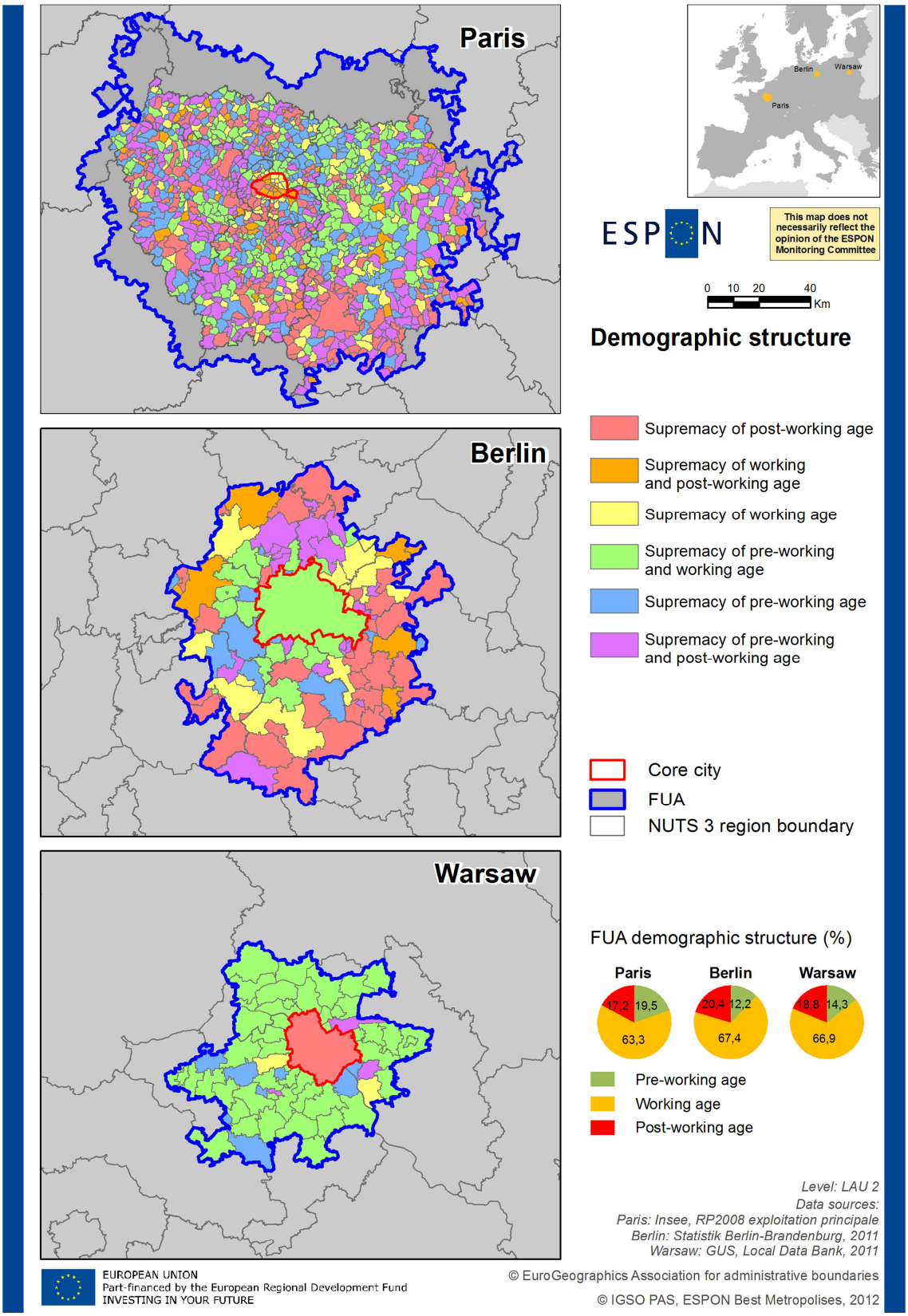
Map A5.1. Population change in Paris (1998-2008), Berlin (2005-2010) and Warsaw (2000-2010)



Prospectively, the path of population development of the three analysed metropolises will become more differentiated again. Paris metropolis is expected to keep a slow growth (0.42% during the period of 2006-2030), while in case of Warsaw city the increase should become more visible (8.5% between 2011-2035). For the city of Berlin, the predictions are slightly negative, while for the municipalities surrounding the core city, the strong population increase is anticipated. In the case of municipalities located at the periphery of metropolitan area, as well as, in other areas of Brandenburg which are far from the city, the strong population decrease is expected. The differences are related to divergent demographic processes, which are expected to become more and more crucial in particular metropolitan areas and their core cities. In Paris metropolis, the anticipated trends will be related to the increase of pre-working aged people (by 0,18%) and the (low) share of post-productive population of 16%- 22% (a French anticipated average in 2030). The net migration rate would be negative but international migrations should procure younger population that will have an impact on natural increase rates. In Berlin, the negative scenarios derive from the anticipated decrease in the number of young people (25.9% to 25%) and an increase of older population (27.5% to 42.3%). The Central Statistical Office in Poland foresees the continuing increase in the number of population in Warsaw city between 2011 and 2035 from around 1,733 million to 1,880 million. It is predicted that the share of population aged 60+ will rise (from 21.1% to 25.2%) and the youngest group of population (aged less than 17 years) will acquire a quasi-stability at around 15%. These trends will enforce social needs, in particular for young people and dependent elderly (at a later age than today).

The scenarios presented above have stressed the importance of demographic structure for the process of population change. Considering the division between pre-working, working and post-working age groups as a point of departure, there are clear differences between Paris, Berlin and Warsaw. The differences regard demographic structures within core cities, as well as within the whole of the FUAs. In Paris FUA, there are relatively more young people (19,5%) than in the other two metropolitan areas, (14,3% in Warsaw, and only 12,2% in Berlin). Paris as a city, there is an overrepresentation of working-age population, supplemented rather by elderly than young inhabitants – all districts (LAU-2 units) belong to relatively constructed types of supremacy of working age or supremacy of working and post-working age (Map A5.2). This can be observed mainly due to the absorptivity of Paris labour market and educational possibilities (especially tertiary education), which attract young people searching for a job or study opportunities. In Warsaw, an overrepresentation of inhabitants in the post-working age reflects the negative process of society ageing (the city belongs to the category of supremacy of post-working age). This process is mainly visible in central districts where multifamily housing estates constructed in the 1950s and 1960s are located. The process is related to low residential mobility rates, and, in consequence, insufficient inflow of new, younger inhabitants to the central districts. On the contrary, in Berlin there is a relative underrepresentation of elderly inhabitants (i.e. supremacy of pre-working and working age), in spite of observed process of ageing of population. The reasons for this paradox might be two-fold. First of all, other administrative units, especially in the eastern and south-eastern part of Berlin FUA suffer from outmigration, leading to a negative migration balance especially in the cohorts of working-age population. Moreover, Berlin became a city which attracts young people from all over the World.

Map A5.2. Demographic structure in 2010

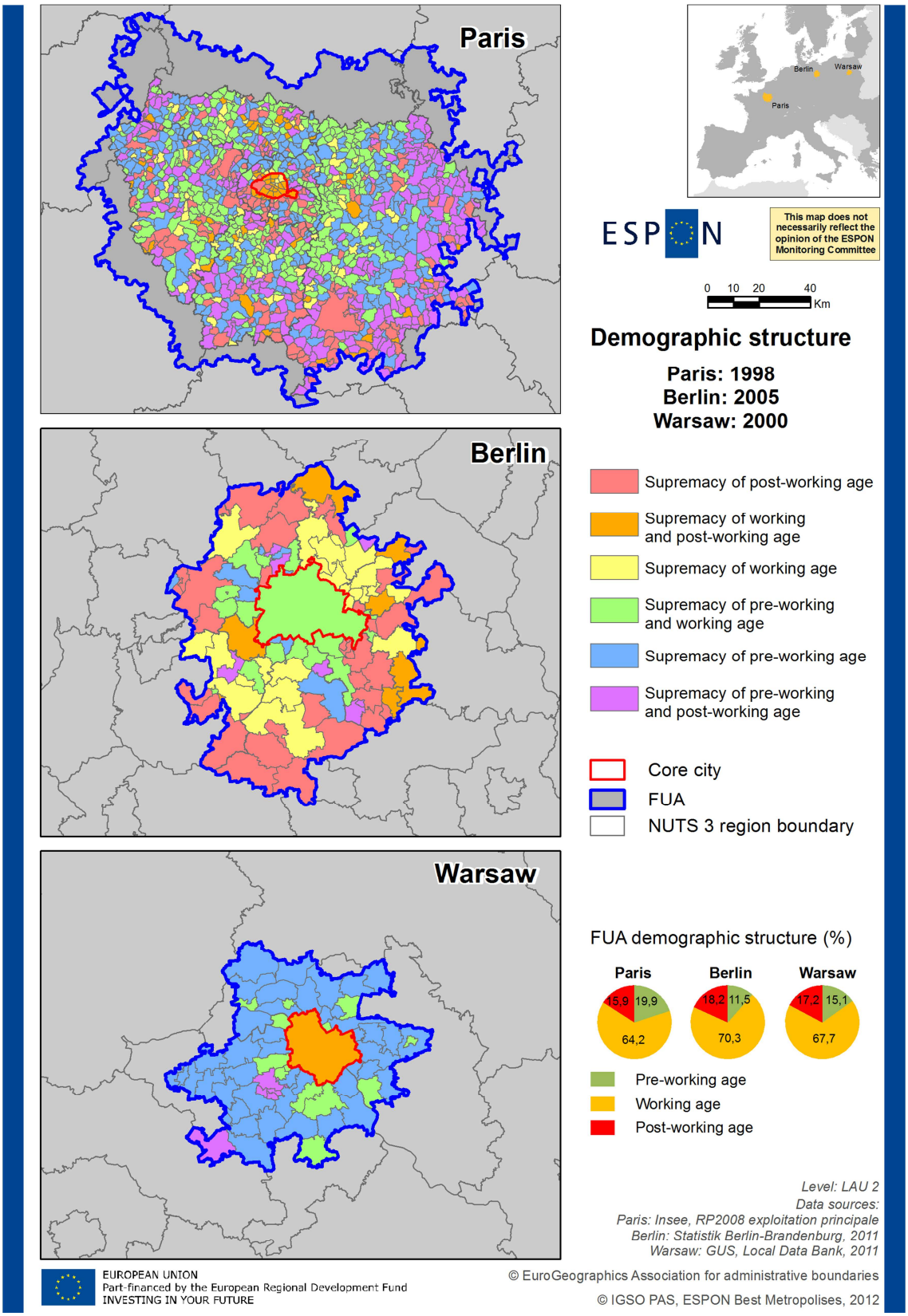


Comparing the situations at the beginning of the 21st. century (due to different available data this refers to 1999 for Paris, 2005 for Berlin and 2000 for Warsaw), the demographic structure in all three metropolitan areas has not changed in a dramatic way. However, in municipalities located in the north-eastern part of Paris metropolitan area an increase of the relative overrepresentation of population at working age (i.e. the change from supremacy of working and post-working age into supremacy of working age) was noted. Nevertheless, at the end of the 20. century, similarly to the year 2010, the distribution of different types distinguished within the demographic structure had a similar, mosaic character. However, at the same time some negative trends are clearly visible, as the number of municipalities characterised by relative supremacy of post-working age increased, supporting the overall negative trends of the increasing share of post-working population (17,2% in 2010, instead of 15,9% noted ten years before). Thus, the metropolitan area of Paris faces the problem of ageing of population, despite a significant inflow of young people (especially from abroad). In consequence, the character of changes (or lack of changes) of demographic structure in the majority of municipalities in Paris metropolitan area can be described as stable but with a dominance of post-working age (Map A5.4).

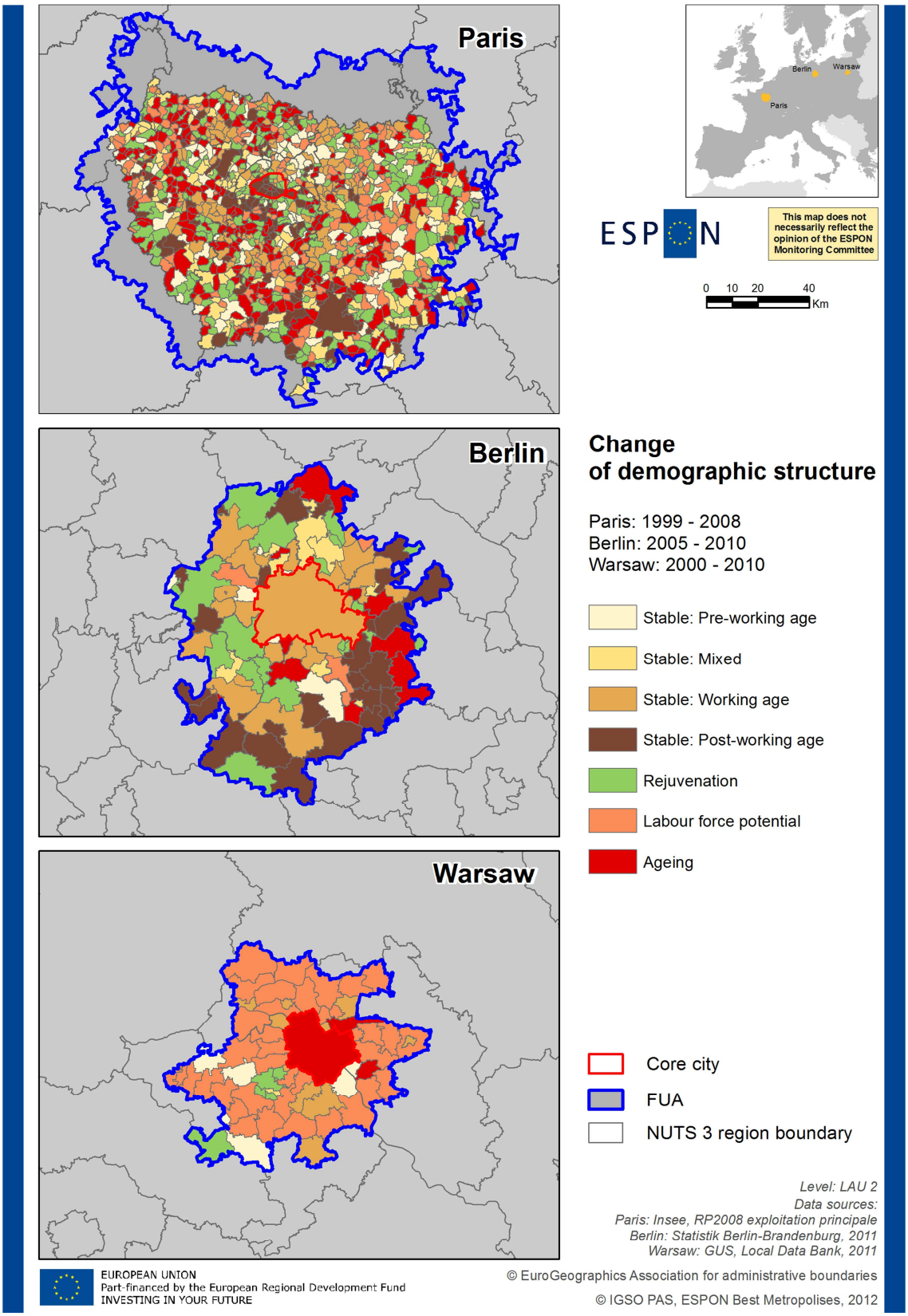
The demographic situation in Berlin and its FUA seems to be less dramatic, although the recent trend is also negative, heading towards increasing share of elderly population groups. In addition, comparability to Paris is limited as of the shorter reference period. Nevertheless, the demographic structure of the city of Berlin still represents supremacy of pre-working and working age (compare map A5.2 and A5.3) and its structure can be characterised as stable: working age relative domination. Similarly, in most of the administrative units which constitute Berlin FUA, there were no changes of demographic structure between the years 2005 and 2010. Thus, these units can be described as stable. Nevertheless, it should be stressed, that in some cases, especially in the southern and eastern parts of the FUA, this stabilization means that in future post-working age groups will have a relatively high share of total population, and, in other cases, the changes can be described as ageing of population (Map A5.4). Moreover, the overall changes of the share of particular population age-groups also suggest the emergence of the problem of an increasing share of elderly inhabitants.

Similarly, in case of Warsaw it is clearly visible, that the city faces the emerging problem of population ageing (map A5.3), in spite of the fact, that Warsaw still attracts young people, by working and educational possibilities. The growing share of core city population in the post-working age reflects global changes in demographic structures in the metropolitan area. The ageing process concerns mostly the city centre which is characterized by an overrepresentation of older population, both in 2000 and in 2010 (compare maps A5.2 and A5.3). However, the similar changes are expected to take place in neighbouring districts, as the share of population in post-working age rises there (Map A5.4). Furthermore, the above mentioned districts neither host an important number of newcomers, nor significantly increase the number of new dwellings (with the exception of Rembertów in the east) which produces an inconvenient demographic structure that might potentially hamper their functional dynamics and evolution. The unfavourable processes mostly concern districts on the eastern side of Warsaw, whereas those situated on the western side are to a certain extent privileged. Although the number of new housing investments is similar in both areas, the districts in the west and south-west represent a greater development potential due to a concentration of business clusters with new office space (Śleszyński 2004b, Wykrota et al. 2012). Thus, this creates more opportunities for constant development of these districts in terms of continuous economic restructuring.

Map A5.3. Demographic structure at the beginning of the 21st century



Map A5.4. Change of demographic structure



The remaining part of Warsaw FUA is mostly characterized by labour force potential defined as an overrepresentation of population in pre-working and working age. Nevertheless, three particular areas can be distinguished within this suburban zone. In the north and north-west, the favourable demographic structure is accompanied by considerable inflow movements and housing developments. The process of urbanization is partially hampered by the environmental restrictions connected with the localisation of Kampinoski National Park. In spite of the localisation of forests in southern and south-west terrains, the lack of highly protected natural areas enables more dynamic residential construction together with an on-going process of land use conversion (from agricultural to built-up purposes). Even though the demographic change in the eastern suburbs is still favourable and the migration balance represents positive values, this area develops at slower pace but seemingly makes an effort to catch up with other communities.

5.4. Socio-spatial structures

The issue of socio-spatial structures within the BEST METROPOLISES Project was analysed mainly in the scope of processes which reflect social inequalities within the city and its metropolitan area. Therefore, apart from existing patterns of socio-spatial disparities, the analysis concentrated on the background and main characteristics of processes of segregation and gentrification.

The meaning of the term 'segregation' is two-fold. On the one hand it can be understood as a pattern which should be investigated with respect to the extent to which representatives of different social and / or ethnic groups are segregated (i.e. living apart from each other). At the same time 'segregation' is a process which produces such irregularities of socio-spatial patterns (Johnston et al. 2009). In consequence, the present analysis focuses on the spatial concentration of potentially marginalized or excluded parts of the population. Subsequently, a focus on the core city was made which allows preparing a more detailed insight into intra-urban distribution of social groups. This was made based mainly on previous analyses conducted, dedicated to the three cities of Paris, Berlin and Warsaw, comparing main processes and patterns of socio-spatial disparities, as well as the background trends which reinforce or diminish socio-spatial inequalities, e.g. gentrification. The latter is understood as a process of upgrading urban neighbourhoods, previously neglected and declining areas which are modernised and revitalised so that former working-class areas are turned into middle- or upper middle class neighbourhoods (Bernt and Holm 2009).

The social distribution is shaped by geographic, functional and historic factors specific for cities and localities. Due to migrations, new lifestyles, changing local urban attractiveness, housing affordability, this social geography is evolving slowly (Paris) or more rapidly (Berlin and in particular Warsaw, due to recent major social, economic and spatial changes). Common trends are at work with various significance and reasons: centrifugal movement from the core city towards the suburbs, increasing share of middle class, increasing disparities between different areas in the city and suburbs, and decreasing local diversity. In consequence the changes contributed to territorial specialization, as well as progressive segregation of different groups of inhabitants. Thus, the description presented below, is based mainly on literature review of socio-spatial disparities in all three metropolises. As the literature concentrated mainly on the core city, the information derived from the review is supplemented by the results of basic indicator analyses at the scale of metropolitan areas of Paris, Berlin and Warsaw.

The riots in French *banlieues* (around **Paris**, among others) which took place during the second half of the first decade of the 21. century, were commonly linked to the increasing social disparities between neighbourhoods (see e.g. Bourdeau-Lepage and E. Tovar 2011), and as a consequence of ethnic segregation (e.g. Münch 2009). Furthermore, the quantitative, spatial analyses, have shown that the groups mostly affected by segregation are immigrants from North and Sub-Saharian Africa and Turkey (Préteceille 2009). Moreover, in the mentioned cases the segregation level has increased much stronger than economic segregation (ibid.). Therefore, both negative processes, i.e. ethnic segregation and the increasing of socio-spatial disparities draw the most important social process, which should be taken into consideration while analysing the socio-spatial structures in Paris and its metropolitan area. As a result, the cases of rapid social change in favour of upper and upper-middle classes in working- class neighbourhoods do constitute a significant, but limited part of the overall dynamic of social change in the Paris metropolis (Préteceille 2007).

On the other hand, data analysed by L. Bourdeau-Lepage and E. Tovar (2011) lead to the conclusion that, between 1999 and 2006 "social division between the populations of the Paris region's municipalities has been narrowing" and the overall level of well-being in Paris metropolises increased substantially. Nevertheless, the socio-spatial disparities have not disappeared. Moreover, clusters of ill-being (as defined by authors: disadvantaged municipalities surrounded by other disadvantaged municipalities) have expanded. The conducted analyses indicate increasing social problems in the northern suburbs of Paris, which differ from the general positive trend of well-being improvement (Bourdeau-Lepage and E. Tovar 2011). The same study localized the biggest clusters of well-being within Paris FUA (namely municipalities located in the west and south-west of the core city). Furthermore, in the case of Paris metropolis, the highest social groups are more concentrated within the city space when compared to simple workers (Fijalkow, Oberti 2001). Moreover, the most homogeneous districts in Paris, are those inhabited by the highest social groups, although social polarization can be observed as well. In the case of districts traditionally inhabited by middle and lower class, the homogeneity of their inhabitants is not so visible and they can be treated rather as socially mixed (ibid.). The most important processes of social change in Paris and its metropolitan area are an inflow of immigrants (mainly from lower social strata), which applies mainly to municipalities in the outer ring of the metropolis, and, gentrification, in case of a part of the former working-class districts (especially those located within the core city).

The gentrification process took the shape of diffusion affecting new residential areas, which in great majority adjoin to the other, affected by the process previously. This observation confirmed conclusions derived from studies conducted in Anglo-American cities, which described gentrification as a process of social conquest taking the form of a pioneer frontier. Moreover, the process continues from centre toward peripheries, which strengthens contrasts between the centre and the periphery, reported e.g. by the study of Clerval (2011). On the contrary, the other study conducted by E. Prétenceille (2007) has drawn substantial differences between Paris and the Anglo-American gentrification process, suggesting that "gentrification does take place in Paris, but that it is a much slower, more continuous, and more progressive process than the Anglo-American model argues" (Prétenceille 2007: 17). Moreover, there is no one gentrification, as certain processes settled within particular areas differs substantially. They can be grouped into three main categories (Prétenceille 2007):

1. the expansion of upper-class areas into adjacent working-class neighbourhoods, with an influx mainly of private-sector professionals, managers, and engineers;
2. upward social mobility of working-class areas, spatially and socially distinct from upper-class ones;
3. model of gentrification, with a substantial contribution of professionals in public, scientific, media, and artistic occupations.

In **Berlin** disparities between the eastern and western part of the city can be still observed in the urban landscape. This is for example visible with respect to rent levels and the same type of flat (specified according to building age, infrastructure equipment and square metres) would cost more in the Western than in Eastern part of the city. The same refers to differences between the average income per capitaAs compared to the outer eastern suburbs, only some inner city areas, characterized by a high share of foreign population and socially vulnerable groups, have an even lower level of per capita income. Thus, it is difficult to draw a clear picture of specific economic and/or social centres in Berlin. In both parts of the city, east and west, there are economically weak population groups. In consequence, one can argue that, although in Berlin the division between City West and City East still dominates the urban shape as well as the social and economic structure, the emergence of new socio-spatial structures can be observed. In terms of socio-spatial disparities, and, especially – in terms of socio-spatial segregation, Berlin during the last 20 years has changed from a "divided city" into a "fragmented city" (Häussermann and Kapphan 2005). The term 'fragmented city' was used to illustrate the process of emergence of division of socio-spatial structures into several different areas, settled by inhabitants which represent different socio-economical background, when comparing between areas, but at the same time, a relatively coherent background when analysing inhabitants of particular parts of the city. This mosaic and more diffused modes of socio-spatial structures of Berlin, supplement the legacy of a divided city between Eastern and Western part, characterised by different political, economic and social systems' heritage. The socio-spatial structures of contemporary Berlin consist of "the advantage city suburbs, on the one hand, and growing concentration of disadvantaged groups in the inner city plus several housing estates in the eastern part, on the other hand" (Besten 2010). This corresponds to the findings of recent studies which have proved that segregation is higher on the outskirts of German cities, than in inner-city areas (cf. Münch 2009).

The segregation in Berlin and its metropolitan area became more related to ethnic issues, than determined by social and economic status of the inhabitants. In spite of the fact, that the recent research argued that the great majority of immigrants were interested in mixed neighbourhoods (*Sinus Sociovision* 2007), their place of habitat - in quarters dominated by representatives of the same minority group or country origin - was more and more imposed on them. The informal discrimination on the housing market, and the observed shrinkage within the social housing sector limited the possibilities of free choice of residence by part of immigrants, and forced them to settle down within ethnically segregated neighbourhoods (Münch 2009) in such districts as southern Kreuzberg, northern Neukölln, northern Wedding, western Tiergarten and northern Schöneberg. In consequence, in these areas the share of immigrants exceeds 30% of the total population, whereas the overall average for Berlin is 16% approx. (Statistik Berlin-Brandenburg, 2012). In the case of Berlin, the share of social housing within the overall housing market is negatively correlated to the segregation level. Therefore, as Münch puts it (2009: 451): "the more housing units being released from the social sector […] the higher the social and thereby ethnic segregation in the remaining stock will be". The inflow of immigrants constructs the new dimension of socio-spatial structures of the city, beyond the

former eastern-western division and more contemporary ‘fragmented’ space of the city.

Apart from the processes described above, Berlin became an important arena of gentrification processes. The most commonly known example, Prenzlauer Berg “has been a battleground of gentrification and displacement for the last 15–18 years” (Bernt and Holm 2009: 312). The level of education and income of inhabitants in this district has increased during the last two decades (Holm 2006). Therefore, gentrification should be treated as one of the most important processes which stimulates the increase of socio-spatial differentiation between particular parts of the city.

In case of **Warsaw**, contrary to the theoretically ‘egalitarian’ character of the pre-1989 welfare state in Poland, socio-spatial disparities were part of the urban landscape during the period of state-socialism (e.g. Smith 1989, Węcławowicz 1979, 1998). After the collapse of the regime, socio-spatial segregation was related mainly to the labour market segmentation and unemployment (which reflects income differentiation) and accessibility of the housing market (Węcławowicz 2004). Although in post-socialist cities the liberal state forces played a dominant role, a decrease of socio-spatial segregation (understood as separation and concentration of population according to socio-economic status) can be observed, at least at the census track level (Marcińczak et al. 2013), which was also present in other post-socialist cities, and defined as a the ‘paradox’ of post-socialist segregation (Sykora 2007). In consequence, the population living in particular estates (census tracks) seems to be rather heterogeneous with regard to socio-occupational status, especially when comparing to the segregation level in similar cities in Western Europe (Marcińczak et al. 2012). The distribution of particular social groups within urban space can be explained by the localization of different segments of housing stock (Smętkowski 2009). This is even more visible when comparing the localization of newly built housing estates, not only luxury residential investments, and distribution of population from higher socio-occupational groups. Furthermore, the higher social groups tend to be more concentrated than members of disfavoured population (ibid.). Moreover, studies dedicated to the changes of segregation patterns during the first decade of transformation (more precisely: 1989-2002) show an emergence of new higher social groups’ clusters within the urban landscape (Marcińczak et al. 2013).

Nevertheless, the socio-spatial and economic disparities inherited from the pre-1989 period of socialism become more evident and strengthening during transformation. Warsaw as a most attractive destination of national and international investment and migration has offered attractive and differentiated labour market but gradually became too expensive for the increasing share of its inhabitants. The upper social categories are spread along an north-south axis and in some more dispersed enclaves. Blue collars and less qualified population live along the west-east axis (former industrial districts) and in selected peripheral areas. However, the "old" disparities remain to a high extent, for example, traditionally working class and former industrial districts of Wola or Praga Pn. remain less wealthy than other (better) districts like Śródmieście, Żoliborz, Mokotów, Ochota, Wilanów and Ursynów (Stępniak et al., 2009; Smętkowski 2009).

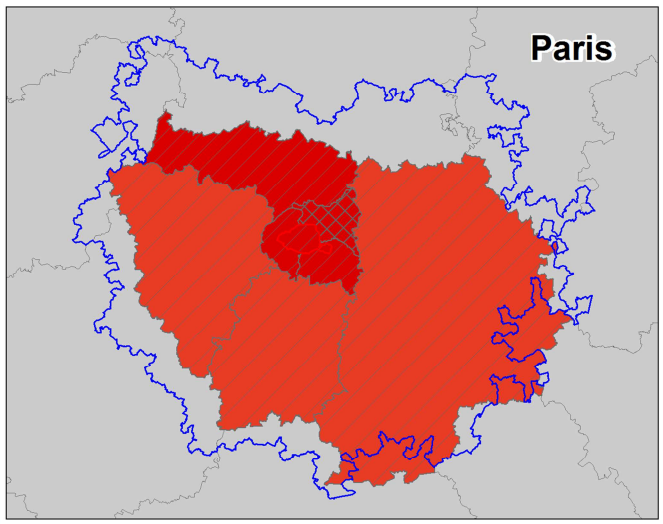
Furthermore, the social deprivation indicators in Warsaw attain much lower values and the concentration of poverty is visible only in one district, which is explained by a considerable share of poor quality of buildings constructed before WWII (64.0%) and a noticeable share of municipal renters (43.4%) among its inhabitants. But the internal distribution of socially disfavoured population in Warsaw is much more complex. Furthermore, the neighbouring enclaves of wealth and of social exclusion in

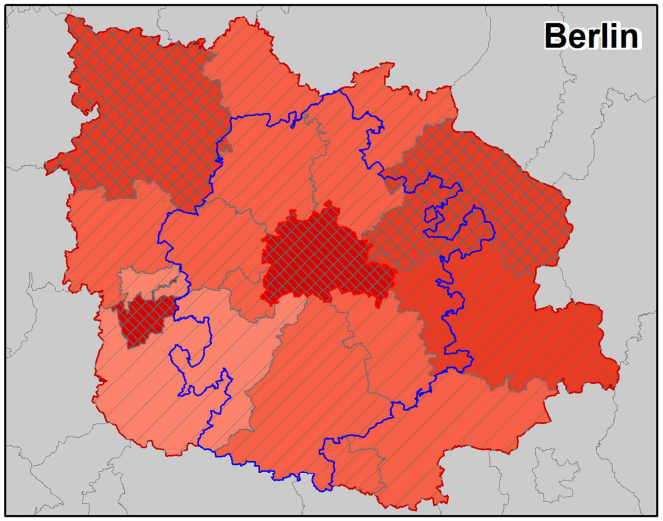
the central eastern part of the core city will probably be threatened by social and spatial conflicts and a possible succession of space triggered by inflow movements of the upper classes. Although deteriorated municipal buildings which dominate this zone offer poor living conditions, vacant monumental buildings dated from the 19. century are planned to be rehabilitated and redesigned for residential and leisure functions (i.e. complex of buildings in Koneser – former factory of vodka). Additionally, new prestigious investments (hosting new dwellings, offices, commercial spaces) are also planned in the proximity (i.e. Praski Harbour project). A possible conquest of space by upper-classes may also take place in the former industrial area of Powiśle. New investments set up in the last 10 years (i.e. Warsaw University Library, luxurious residential estates close to the river Vistula, the 'Nicolaus Copernicus' Centre of Science). Nevertheless, the gentrification process in Warsaw is still very limited, and one can stand that this process is at the initial stage of development.

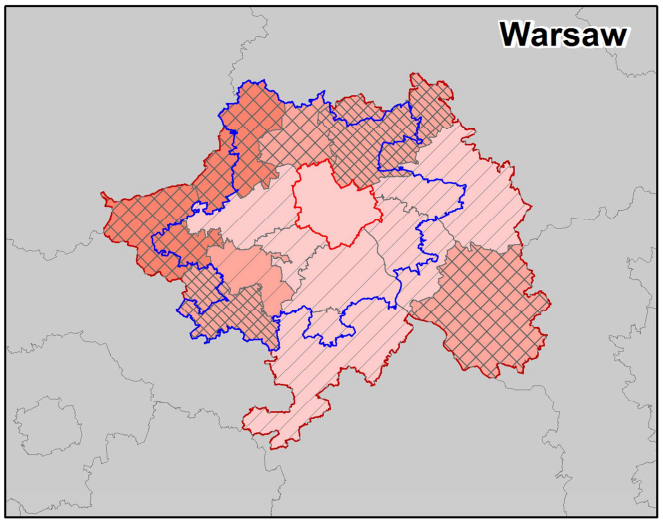
Concentration of persons who benefit from social assistance due to poverty related causes in metropolitan areas shows is a concentration of people benefitting from social assistance, which may lead to a territorial accumulation of social problems. This can be detected, when comparing the localization of 'socially problematic' areas within all three analysed metropolitan areas. In the case of Paris, a higher share of population receiving social assistance may be found in the northern part of the FUA (Map A5.5). As for Berlin FUA, a corresponding concentration can be observed in parts of the cities of Berlin and Potsdam. In the case of Warsaw, a higher share of population dependant on social assistance appears in the fringes of the Warsaw FUA (especially in the east and north). The first ring of suburbs in the west and south is almost free of social pathologies described by the share of population who benefits from social assistance due to domestic violence, alcoholism and drug abuse. Considering the share of beneficents of these two types of social assistance, the municipalities in the eastern part of Warsaw FUA should be considered as potentially threatened by marginalisation (Węcławowicz et al., 2012). Despite the fact that their potential and attractiveness for newcomers is still relevant because of the localisation in the proximity of the core city, the number of new residential constructions is still lower than in other parts of Warsaw metropolis (compare Map A5.4).

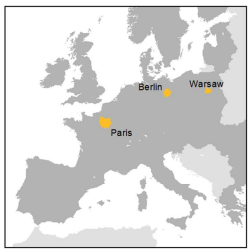
The efforts made in order to foster economic development in the metropolises can contribute to the reduction of poverty and residential segregation. However, there are many factors that increase and / or reproduce disparities. Jobs' proximity has a positive impact on social distribution of highly qualified employees, in Warsaw (West and South-West residential districts on former rural lands near low protected forests, with a good accessibility to the central business clusters: see: Śleszyński 2004b, Smętkowski 2009, Wykrota and al. 2012) and in Paris (South-West inner and outer suburbs near La Défense). In Warsaw, North and North West suburbs are also developing (housing developments and large inflow movements), while environmental restrictions hamper Western suburbanization near the Kampinoski National Park.

Map A5.5. Social assistance and unemployment









ESPON

This map does not necessarily reflect the opinion of the ESPON Monitoring Committee

0 15 30 60
Km

Social assistance and unemployment

Unemployment rate (%)

- 12,6 - 13,8
- 10,1 - 12,5
- 7,6 - 10,0
- 5,1 - 7,5
- 1,6 - 5,0

Share of the population receiving social assistance (%)

- 15,1 - 20,2
- 10,1 - 15,0
- 7,6 - 10,0
- 5,1 - 7,5
- 4,1 - 5,0
- 2,5 - 4,0

- Core city
- FUA
- Extended FUA
- NTS 3 region boundary

Level: NUTS 3, LAU 1 and FUA
© EuroGeographics Association and IGSO PAS for administrative boundaries
Data sources:
Paris: Insee, Recensement de la population 2008
Berlin: Statistik Berlin-Brandenburg 2011
Warsaw: GUS: Local Data Bank, 2011 and Ministry of Labour and Social Policy, 2011

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Gentrification of poor areas could mitigate or widen disparities, to some extent improve the social mix by middle class arrivals or push out lower income people. This phenomenon, visible in the three cities' central areas, is due to increasing share of highly educated people with middle levels of income. Part of them work in innovative and creative jobs, i.e. the metropolitan "new economy": in Paris metropolis (in the East of Paris city and near suburban cities) and in Berlin centre, and even, in Warsaw (in the central districts, also some artists in Praga, a district on the right bank of the Vistula river), however in case of the latter it is a considerably new phenomenon. In Berlin, it is a main factor of urban renewal with rather maintained social mix, in particular in the Eastern centre (where low-income people have been pushed out – among others – via Prenzlauer Berg to Friedrichshain and Neukölln). In Paris it may contribute to continuing centrifugal movement but improve the social mix in the near suburbs. On the whole, Berlin metropolis is still relatively socially diversified. Paris and Warsaw are on the contrary experiencing social polarization and specialization processes (cf. FOCI), with a concentration of the most disadvantaged inhabitants in specific parts of the metropolis away from employment centres and urban amenities.

5.5. Spatial structure: level of morphological polycentricity

The aim of this section is to present the spatial structures of the three metropolises and their level of polycentricity (both morphological and functional). The analysis of the evolution of spatial structures allows evaluating the efficiency of development policies adopted in each particular national and regional context and their impact on achieving sustainable goals. This in turn, enables an elaboration of tailor-made policy recommendations. Hence, the efficiency of spatial structure of the three metropolises was assessed according to the three criteria listed below:

- controlled spatial development with rational use of resources: rational urbanization process combined with the protection of natural resources and supported by regulated and monitored urban sprawl,
- existence of collaborative technical efficiency securing accessibility and connectivity within the metropolitan area (especially between domicile and work places),
- reduction of spatial disparities among different territories, especially through programs and policies dedicated to depressed areas (namely due to functional, social or physical problems), their regeneration and renewal.

The spatial structures of the three metropolitan regions differ in terms of their complexity and differentiation of urban patterns. In the case of Paris, it has developed without any particular historical interruption with a dense centre (both with regard to the population and economic activities) and a more extensively used suburban area (especially on the fringes of the Paris basin). In terms of human density16 the region has 42 950 inhabitants/km² in Paris, compared to 11 623 inhabitants/km² in the inner belt and 3 465 inhabitants/km² in the outer belt which makes the region one of the most compact metropolitan regions in the world (Kamal-Chaoui, Plouin 2012). Several attempts have been made to introduce a more polycentric pattern in terms of urban, economic and functional structures, including: the concept of 'new towns' (Cergy-Pontoise, Marne-la-Vallée, Saint-Quentin-en-Yvelines, Evry, Melun-Sénart) as satellite poles which was implemented in the 1970s (e.g. the Central Business district La Défense and Charles de Gaulle airport). The idea of restructuration of

[16] It was calculated as the sum of the population and jobs in 2008, divided by the urban land area (km²) in the same year.

suburban area of Paris was primarily based on the peripheral centers (new towns) aimed to act as powerful and lively poles, avoiding the uncontrolled sprawl of the agglomeration. Nevertheless, polycentrism could not be significantly enhanced, despite the localisation of several medium- to large-sized cities (around 100,000 inhabitants) to counterbalance the proximity of the city of Paris.

Berlin displays a less hierarchical relationship between the core city and the sub-centres than does either Paris or Warsaw. Nevertheless, at regional level the metropolitan area of Berlin is still quite monocentric e.g. in terms of service functions, population distribution, etc. The internal structure of the city of Berlin manifests a much more polycentric structuration, as there is no single, dominant business district but rather a series of districts with different structures and functions.

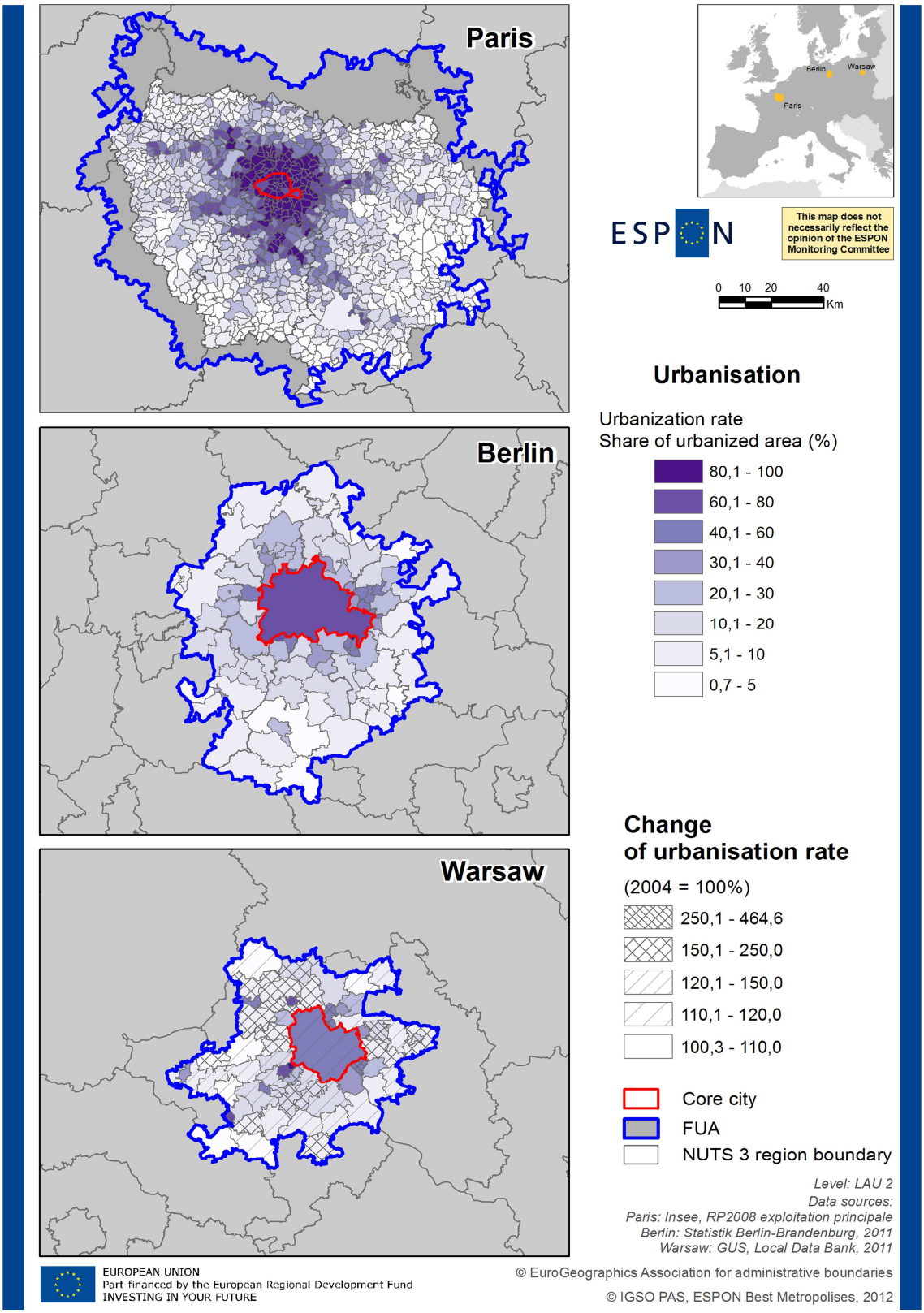
An even more concentric pattern is observed in the case of the Warsaw metropolitan region, where the city of Warsaw is not balanced by the existence of other large-sized towns. Only several medium-sized and small towns are located in the metropolitan area, although the functional position of the surrounding towns is rather low and they all display rather similar functional profiles. Referring to the wider scale of the Mazovia voivodeship, there are 5 sub-regional centres (Płock, Ciechanów, Ostrołęka, Siedlce, Radom) which are designed to counterbalance the capital city, however, their impact range remains rather weak (Map F23 in the Annex).

Land use dynamics: controlled spatial development

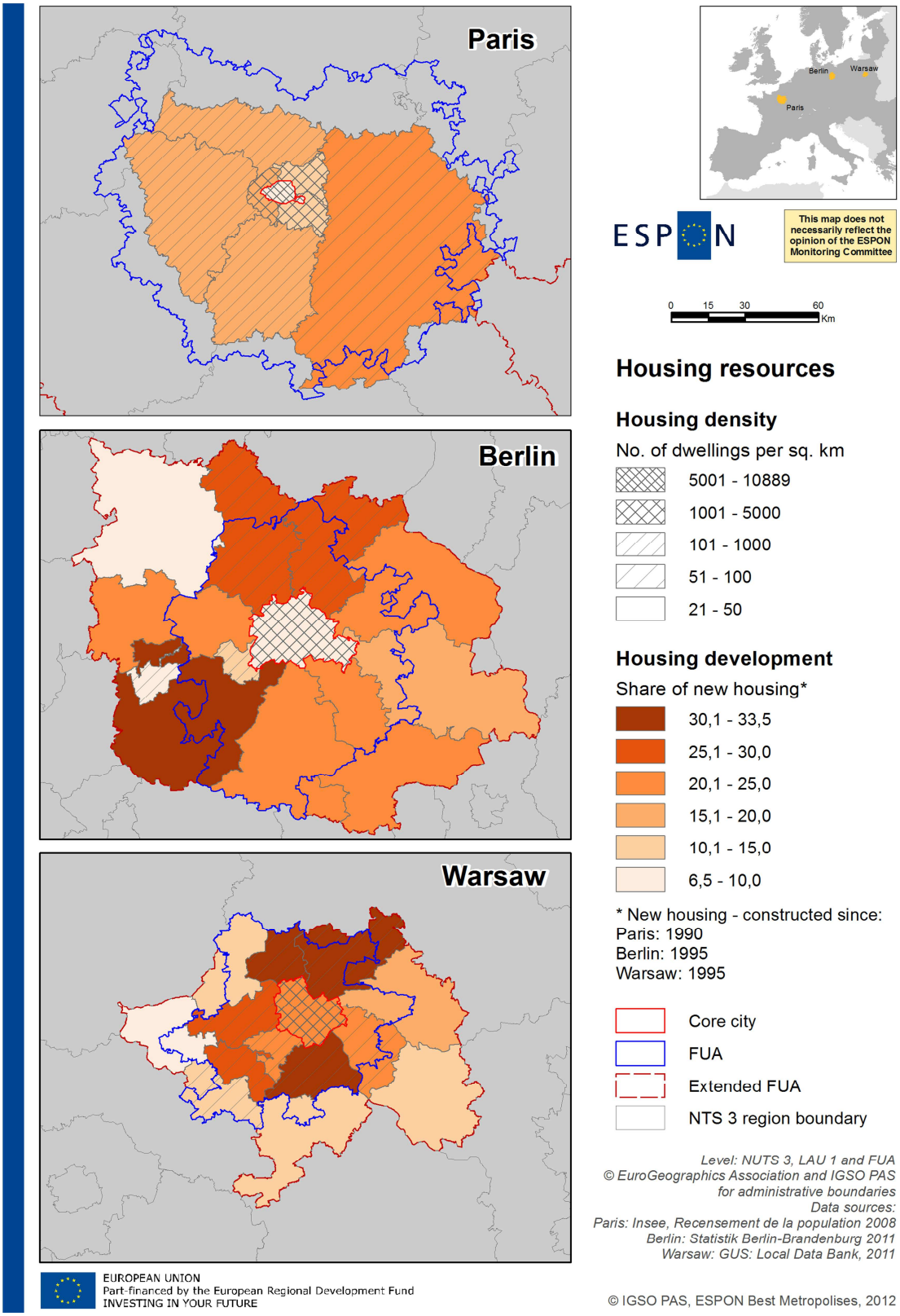
The development of metropolitan regions is usually accompanied by suburbanisation processes in the urban fringe (FOCI, 2010). Suburbanisation, connected with the growing number of the population in the suburban areas (cf. Map A5.1), is continuing in all three metropolitan areas due to changes in economic circumstances and lifestyle preferences. The former corresponds to the limited and expensive land resources in the metropolises, whereas the latter are shaped by a need for affordable housing (more easily accessible in the suburban or periurban areas), especially among households with children. The three metropolitan areas are shaped by these processes which vary in terms of intensity and spatial scope. As the growth of metropolitan areas is an undeniable process, the question of its spatial dimension and influence on other spheres of development rises. The model of compact metropolitan areas is clearly more desired because of its better efficiency when compared to dispersed urbanization and uncontrolled spread of urbanized areas which pressures non-urbanized lands through the development of infrastructural corridors, recreational areas, etc. (cf. Gutry-Korycka 2005, Radziejowski 2002). Thus, several models of spatial arrangements might be distinguished in order to achieve more compact urban areas that would counteract urban sprawl. Compactness does not mean being highly concentrated around the core city, but being organized in a more rational manner e.g. using star or satellite arrangements (cf. Nowakowski 2002). These kinds of spatial structures are fairly less energy consuming and costly (both in construction and exploitation) and have a less negative impact on the natural environment and life quality than models characterized by diffused arrangements (cf. Nowakowski 2002).

Referring to the outcomes of the ESPON 1.1.1 project, polycentricity is opposed to urban sprawl, in which the structure of secondary centres is diluted in a spatially unstructured continuum (ESPON 1.1.1, final report, p. 3). Though, the polycentric structure is seen to promote the balanced and multiscalar types of urban networks that are most beneficial from a social and economic point of view, both for the core areas and for the peripheries.

Map A5.6. Urbanisation rate in metropolitan areas of Paris (2008), Berlin (2010) and Warsaw (2010)



Map A5.7. Housing resources and new housing developments in metropolitan areas of Paris, Berlin and Warsaw



The city of Paris and the inner suburbs17 are characterised by particularly high levels of urbanisation while the municipalities neighbouring the cities of Berlin and Warsaw

[17] The three *Départements* (first ring of suburbs) neighbouring the city of Paris.

are still more extensively used (see Map A5.6). Nevertheless, only the Warsaw suburban area experienced a significant level of growth in the share of urbanised land over the last 6 years (2004-2010) whereas the suburban areas in the case of the two other metropolises have undergone only slight changes in the last few years.

The expansion of the residential function in suburban areas is also confirmed by the distribution of newly constructed housing units (Map A5.7). The large number of new dwellings around the cities of Berlin and Warsaw confirms the ongoing process of progressive suburbanisation. The metropolitan region of Paris continues to grow but the process of the redevelopment of formerly used territory seems to play a pivotal role in the current changes of urban structure.

For over 40 years, in the Paris region, the urbanized land has grown at a 2.2 pace (1960–2000) and an important part of the environmentally attractive land (including rural areas) has been built up, in spite of protection measures adapted in various official documents (e.g. Schéma directeur de la Région Île-de-France, SDRIF, local planning documents) and despite a strategy for enforced peripheral centers, that was supposed to limit the urban sprawl since 1970s (see Map F22 in Annex). Nevertheless, natural and agricultural areas still constitute the majority of the region Ile-de-France and account for 76% of the total regional land area (Kamal-Chaoui, Plouin 2012). It is worth noting that between 1999 and 2003 the share of newly urbanized areas yearly was a bit lower than in the previous period of 1990-1999 (1400ha/year instead of 2200 ha/year), which may indicate a good tendency (SDRIF 2008, p. 231).

In the case of the city of Berlin, the urbanized area increased from 60% to 70.3% in 30 years (1969-2010) and the rate of urbanization was even stronger in large parts of Brandenburg, though at an overall much lower rate of urbanized land.

In Warsaw metropolis, the overall rate of urbanization is still lower when compared to two other metropolitan areas, (60% approx. in 2011), whereas in a great number of municipalities its values attain less than 30%. Even the internal structure of land use in Warsaw is diversified and external districts represent types of land use more similar to suburban municipalities (the share of built-up and urbanized areas in 201218 attains 38,7% in Białołęka, 33,6% in Wesoła, 31,5% in Wawer, 21,0% in Wilanów). In general, the urbanization rate constantly rises in all municipalities, especially in the first suburban ring.

Spatial development towards connectivity within metropolitan areas

The efficiency of the spatial structure is analyzed and evaluated here through examination of the two related phenomena: the urbanization process (together with urban sprawl) and the capacity of transport infrastructure. With the on-going process of urbanization, as well as sprawl of urban area, the question of intra-metropolitan connectivity arises. It refers not only to hierarchical directions (i.e. between the core city and suburban areas) but also to complementary directions (i.e. between suburban areas). Thus, both patterns of urban density and of transport infrastructure are crucial to achieve good accessibility of jobs and housing within metropolitan area. The situation of the three metropolises of Paris, Berlin and Warsaw differs in this respect (see Chapter 6).

In the case of Paris metropolis, the very dense and well-served core city, dense and more dispersed suburbs, as well as the outer fringes of the region are mostly served

[18] Statistical review Warsaw, 21st year, no 3 quarterly, Warsaw, November 2012

by roads and radial rapid public transport lines. The shift towards public transport came only in the 2000s with slower transport lines (streetcar, bus with a high quality of service), but the main project of new underground ring planned in 1994 (Regional Strategic Scheme, SDRIF), linking suburbs and facilitating suburb-to-suburb mobility, has not been implemented yet. Suburban outer areas are not served and urban density around the railway stations is still too weak. The organization of a more sustainable transport system has been a core issue in the recent metropolitan debate and stands as a major project. There is an ongoing discussion concerning the choice between high speed or more dilated new infrastructure and the upgrading of the existing network. A more balanced system is required in case of Paris, which struggles with congestion. A multimodal and circular mobility is needed and a new challenge arises concerning mid density areas, where public transport should be improved (not only in high density areas, where the motorization rate is very low). The ideas how to avoid urban sprawl in the Paris metropolis were also included in the SDRIF 2008 and envisage an intensification of urbanized spaces and a united mobilization of all the region's areas to jump-start housing construction (see Map F24 in the Annex).

Berlin metropolis is less concentrated and works with a spread out and diversified public transport network, which covers a large share of the dense agglomeration, along with a large network of bicycle paths. Berlin seems to have the most complete public network (good coverage of intermodal system, unified between east and west, quality of services, large choice of modes, the lowest motorization rate), supplemented by a large network of bicycle paths, with a lower pressure of use than Paris and no dedicated solution towards with suburbanization.

Between 2003 and 2010, the process of urbanization in Warsaw metropolis continued mainly along four out of eight major transport axes (north-west, north-east, east and south-west) and was a consequence of decline in the share of agricultural lands (conversed into built-up areas), growing use of urbanised but formerly non-built up areas and a slight decline in the share of forests and green lands' areas (Departament Geodezji i Kartografii UMWM, 2011). The aforementioned terrains possess usually relatively good road infrastructure and even potential for further development of public transport and road infrastructure. Nevertheless, their capacity to serve for larger number of commuters in the current state is rather limited. As the rise in the number of new inhabitants in the suburban area has doubled during the last 10 years and the commuting flows are greater, the development of appropriate transport infrastructure (both road connections and public infrastructure) is lagging behind. In this specific case, an inefficient connectivity may be regarded as one of the consequences of accelerated process of metropolisation.

Considering the existing interdependencies between urbanisation and transport infrastructure patterns in the three metropolises, regional and local institutions responsible for planning and cohesive development face different challenges. Thus, specific strategies in terms of transport infrastructure are required in order to ameliorate the connectivity on the one hand, and to conceive metropolitan suburban organization on the other. The latter requires taking into account different aspects such as: suburban lifestyles, specific forms of communities, with growing number of commuters and increased mobility of individuals.

Urban regeneration as the remedy for spatial disparities

The processes of suburbanisation and urban sprawl are counterbalanced to some extent by the redevelopments of already urbanized areas, which e.g. have not been used lately and/or can be reused after applying urban renewal and regeneration

programmes. These processes might be perceived as an alternative way for city growth, instead of sprawling towards the suburbs and consuming unspoiled natural spaces. This trend is more or less active in the three metropolises, focused on former industrial lands or degraded urban areas. The three metropolises have many “brownfield” sites that require conversion but are attractive (because of their localization, accessibility, etc.) for economic (often business centres) and housing settlements’ purposes or may even host multifunctional programs. Only Berlin however, has a dedicated policy concerning post-industrial areas, while Paris metropolis tries to act through large planning bodies for the main opportunities. In Warsaw metropolis, post-industrial areas can be enclosed within Local Revitalisation Programmes, however, there is no specific policy tackling this question.

As for Paris metropolis, in the 1980s the regeneration of economic sites has been a main way for developing offices areas on the western fringes of the city and La Défense. In the 1990s, similar major opportunities in the East entered the regional planning, such as strategic areas like Plaine Saint-Denis (North of Paris) turning into a business center. Despite many local and regional measures (regional planning scheme, legal minimum rate of social housing, specific urban policies, etc.), processes of economic and urban redevelopment do not reduce disparities, which are even growing. Rather dispersed policies are being implemented since 1979 on degraded social housing from the 1950-70s social housing, without introducing major changes. Currently, 157 Sensible Urban Areas (ZUS) congregate 11% of the regional population (1.2 million inhabitants) and 135 renewal projects are at work from 2004 to 2013 (see Map F25 in the Annex). A few sectors succeed in managing both an urban and economic redevelopment (Plaine St-Denis, Paris). Social initiatives are also implemented with national and, more and more often, also local support (of municipalities, associations). Some main reasons of territorial exclusion (lack of or low quality transport services, lacking employment and economic development, ethnic concentration) are related to ordinary-law policies and a recurrent question concerns limits of such dedicated policies. The SRU law imposing 20% of social housing in each municipality has also a low effect. Other policies and tools introducing structural changes, such as financial equalisation, should be more efficient at the metropolitan level.

Starting from 1999, Berlin has developed a State program for industrial areas’ modernization (StEP, Stadtentwicklungsplan), which has been the basis for a new strategy on innovative development in 2011. In order to support the productive sectors in their key economic role, many projects are being planned with private investors in the metropolitan area, that may become important spots in the future (e.g. the BBI business Park, the Cleantech Business Park). In Berlin, the Land program "Soziale Stadt" QM (Quartiersmanagement) was carried out in the period of 1999-2009 in some neighbourhoods where economic and social problems had increased (see Illustrative example 2). The management included an active participation of inhabitants and social actors in the project concerning physical, social, economic and cultural renewal. This initiative went along with the IBA urban renewal program and the East upgrading federal program (Stadtumbau OstProgramm), aimed at ensuring economic and urban renewal with private investors in six central degraded areas since 2005.

In Warsaw metropolises, several projects concerning post-industrial sites were implemented both in the core city (Old Power Plant, Old Jung’s Brewery, Municipal Water Plant, Old Gas Plant, Norblin Metallurgic Plant, Old Main Railway Station), as well as in the suburban area (19. century industrial old town in Żyrardów, Old Paper Mill in Konstacin-Jeziorna) providing new functions, mainly cultural (Pawlikowska-Piechotka 2008). In order to ensure more cohesive development of the core city, the

initial Urban Renewal Program in Warsaw was set up between 2004 and 2006, co-financed by the European Funds. It covered four central districts characterized by lower living conditions, as well as former industrial and military territories. The extended Urban Revitalisation Program was then prepared for the following period of 2005-2013 (see Illustrative Example 5) and envisaged the realisation of various projects in 14 out of 18 districts in Warsaw (Map F34 in Annex). The projects were elaborated by each district itself after having delineated degraded areas on the basis of indicators reflecting social structures, entrepreneurship and quality of land use structures. Although each project in the districts covered a particular area, the operations rather focused on punctual actions such as rehabilitation of selected buildings (especially those classified as cultural heritage), creation of cultural, leisure or sport centres, modernisation of public spaces, etc. In the following years, additional areas are going to be selected to ensure their cohesive development.

Illustrative Example 5: Paris metropolis: sustainable local planning and "new urban neighborhoods" (Nouveaux Quartiers Urbains, NQU)

In 2009-11, the regional council launched 3 calls for sustainable neighborhoods in Ile-de-France, as local appliance of sustainable objectives from the SDRIF (2008). The projects have joint funding from the national government and offer to local authorities a chance to implement innovative projects in sustainable urban development.The initiative was successful with 77 candidates and 29 winning projects being now implemented throughout the whole regional area, including Paris city with two mixed and dense projects (Fréquel Fontarabie – see illustrative example 1, Clichy-Batignolles). The criteria were distinguished as follows: to ensure territorial cohesion, to respond to the housing crisis, to organize the diversity of urban functions and compactness, to integrate environmental quality, and to establish innovative solutions. The former brownfields or urbanized areas are privileged by the project in order to avoid encroachment on rural area and promote natural and gentle movements. The beneficents receive not only financial assistance but also support for the implementation based on optimization including consultation and contracting. Apart from the New Neighbourhoods, other types of sustainable projects were implemented under the programmes ÉcoQuartiers and ÉcoCités (Map F25 in Annex).

5.6. Economic structures

The analysis of economic structures in the three metropolitan areas has a two-fold character. First, the specificity of economic potential is presented with a particular focus on creative industries. Research commissioned in 2006 by the European Commission shows that the creativity and creative sector are key driving forces behind the development of cities and regions. They foster innovations, which are necessary for the development of other sectors. The creative sector is one of the fastest growing sectors in the European economy, contributing significantly to GDP growth and employment. Then, the analysis of the distribution of economic poles is aimed at assessing the level of functional polycentricity within metropolitan areas. This focus on functional polycentricity is important especially in the light of recommendations derived from the Territorial Agenda 2020, where polycentric development was considered as the key element in achieving territorial cohesion and therefore recommended for all relevant territorial levels in order to foster territorial competitiveness (TA2020 2011).

Economic strengths and potential

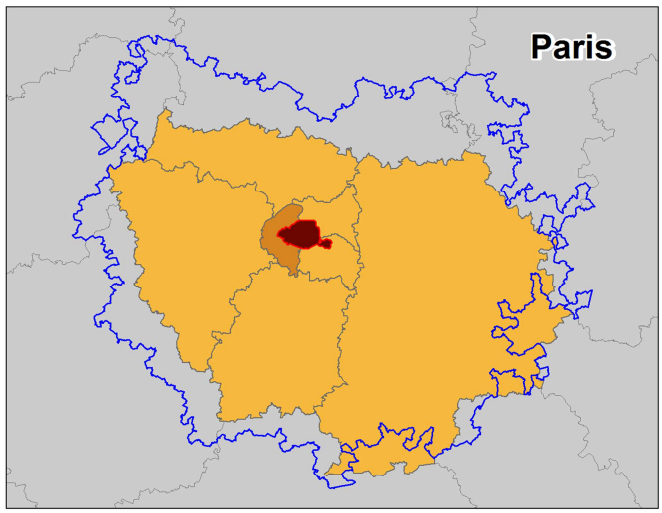
All the three metropolitan areas vary regarding their economic structure and the quality of enterprises that are located within their space. According to the outcomes of ESPON project 1.1.1., Paris was classified as a global decision-making centre (>5% of top 1500 companies in Europe), Berlin as a regional decision-making centre

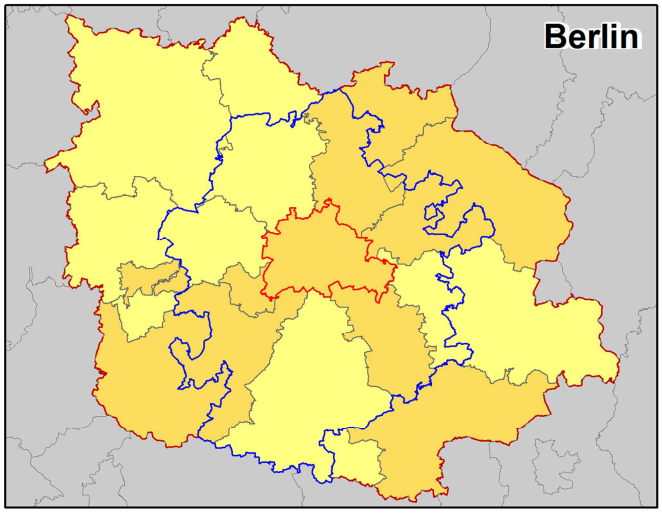
(2-10% of top 500 companies in the country) whereas Warsaw as a national decision-making centre (>10% of top 500 companies in country, less than 2% of top 1500 companies in Europe). As Paris is considered to be one of the global cities (cf. Chapter 3), its economic strength and functional specialisation are unquestionable (compare Map F4 in Annex). Moreover, the level of entrepreneurship (measures as the number of enterprises per 1000 inhabitants) in the three metropolises differs (Map A5.8), with the highest values attained in the core city of Warsaw and the close suburban area when compared with Paris and Berlin. Although, the number of enterprises per one thousand inhabitants in Warsaw is higher than in the two other core cities, their size (compare Map F26 in Annex) and economic strength might be lower as indicated by the business decision-making function from previous research. The three core cities are also different in terms of the structure of employment (see Figure F6 in Annex). In the case of Warsaw, almost one out of four persons is employed in the wholesale and retail trade sector (around 16% in Paris and Berlin), whereas one third is employed in professional, scientific, technical, administrative and support service activities in Paris (around 19% in Berlin and approx. 16% in Warsaw). This also reveals the differences with regard to economic strength of each core city (and metropolitan area).

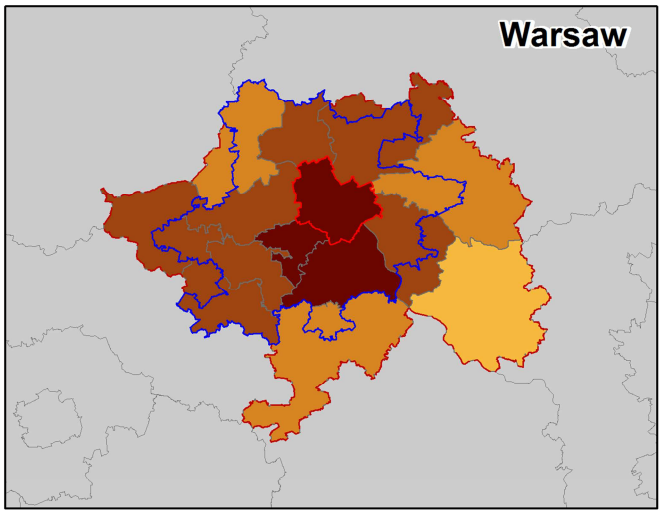
Paris has hosted a powerful and diversified tertiary sector for 40 years and qualifies as a prime worldwide business and travel destination. There are 5,35 million of work places in the region (3,94 million in the private sector) and 47% of them are located in Paris and Hauts-de-Seine department (Map F28 in Annex). The tertiarisation of economy in the Ile-de-France region reached the highest share in the whole country and service activities (consultancy and assistance, financial and real estate, R&D and cultural activities) represent here around 87% of the value added. Due to the tendency for outsourcing of certain tasks (e.g. property management, logistics, research, security and cleaning), the share of services to firms account for almost one fourth of regional value added. As a result, the share of highly paid and skilled jobs progresses importantly in the region. What is more, the Ile-de-France region is a leading region in Europe in terms of R&D and innovation, with 17 universities, over 300 research establishments and 18% of innovative small and medium-sized enterprises (Kamal-Chaoui, Plouin 2012). One of the important actions to support the regional and national economy sectors is the investments in R&D (in 2006, 43% of domestic spending on R&D in France have been made in the Ile-de-France), more than 15.5 billion euros (3.1% of regional GDP). All staff working for public and private research in Ile-de-France represented more than 137,200 people in 2006 (IAU 2009, see Map F28 in Annex).

The economy in **Berlin** was seriously impaired throughout the period of German division and has subsequently become more focused on the development of a few services industries, including creative and media industries. This specialisation also contributes to broader cooperation in the metropolitan region, where several sites with similar economic profiles are located. At the city level, the network of public and private R&D ‘hubs’ localised in different parts of the city, also plays a crucial role. An innovative economy is also emerging in biotechnology, in the media and catering industries, in transport technologies and in the creative industry (17 technology centres and 8 innovation parks, e.g. Adlershof and around universities; see Maps F29 and F30 in Annex).

Map A5.8. Enterpreneurship







ESPON

This map does not necessarily reflect the opinion of the ESPON Monitoring Committee

0 15 30 60 Km

Enterpreneurship

Number of firms per 1000 inhabitants

- 151 - 201
- 101 - 150
- 76 - 100
- 51 - 75
- 41 - 50
- 35 - 40

- Core city
- FUA
- Extended FUA
- NTS 3 region boundary

Level: NUTS 3, LAU 1 and FUA
© EuroGeographics Association and IGSO PAS for administrative boundaries
Data sources:
Paris: Insee, Recensement de la population 2008
Berlin: Statistik Berlin-Brandenburg 2011
Warsaw: GUS: Local Data Bank, 2011

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After the collapse of the socialist regime, the share of foreign investors in **Warsaw**, particularly in the tertiary service sector has strongly increased (58 % of jobs in 1988, 70.4 in 1995, 81.4 in 2005). Warsaw has also benefited from recent developments and is becoming a major investment destination with a booming tertiary sector in the 1990s (Map F31 in Annex). Among the enterprises that operate in Warsaw metropolis, those classified in the creative sector directly contribute to economic development of the cities through innovative thinking (see Illustrative Example 6). Research concerning the creative sector in Warsaw (Grochowski 2010) revealed that more than 6.00019 (35.000 in general statistics forwarded by the Central Statistical Office, GUS) of creative enterprises20 are located in the capital city, particularly in three districts: Ursynów, Mokotów and Śródmieście spreading from the city center to the south (2009; compare Map F32 in Annex) along the first underground line. If we compare the number of creative entities per 10.000 employed, the results vary to some extent and the highest values are attained by the three districts: Ursynów, Wilanów and Białołęka. This may confirm the thesis that diminishing the polarisation of the distribution of economic activities in Warsaw is an effect of the development of the creative sector, and this sector is to a great extent flexible in location (Grochowski 2010). Considering Mazovian Voivodship, in 2010, there were more than 53.000 creative enterprises and more than two thirds of them were located in Warsaw21 (Komornicki et al. 2011). The majority of the creative enterprises was concentrated in the proximity of Warsaw, within the Warsaw FUA (ibidem), e.g. in Piaseczno, Pruszków. Concerning the strategic activities connected with research and development, Warsaw Metropolitan Areas concentrates 335 of such institutions22 (including enterprises and others) and the majority of them is localized in the core city (Płoszaj et al. 2010). This sector employs about 30.000 persons in Warsaw (3,9% of all persons employed in Warsaw, 2006). Moreover, about 14 institutions (centers for technology transfer and academic incubators) supporting innovations and transfer of technologies are localized in Warsaw which puts the capital city on leader position in Poland (together with Cracow). However, considering the structure of R&D institutions, Warsaw lacks a technology park, as well as technology incubators, this considered to be a big weakness (ibidem).

While assessing the economic strength of metropolitan areas, the level of their attractiveness in terms of business localisation might be one possible proxy. To this end, the results of research prepared by Cushman & Wakefield were used (European Cities Monitor 2010). This analysis was based on the survey conducted in 500 companies from nine European countries between Board Directors or Senior Managers, with responsibility for company location. A representative sample of industrial, consumer, retail & distribution companies and professional services companies were included. Since the survey only covered cities within their administrative borders it restraints the usefulness for the FUA approach taken by the BEST METROPOLISES Project, nevertheless it enables at least the positioning of the three core cities of Paris, Berlin and Warsaw with regard to each other.

[19] The number of creative companies was verified during field research.

[20] The study included the following NACE sections, classes and subclasses: Section G: 47.78.Z; Section J: 58.11.Z, 58.13.Z, 58.14.Z, 58.19.Z, 58.21.Z, 59.11.Z, 59.13.Z, 59.14.Z, 59,20.Z, 60.10.Z, 60.20.Z; Section M: 71.11.Z, 73.11.Z, 73.12.A, 73.12.B, 73.12.C, 73.12.D, 74.10.Z, 74.20.Z; Section R: 90.01.Z, 90.02.Z, 90.03.Z, 90.04.Z, 91.01.A, 91.01..B, 91.02.Z, 91.01.Z

[21] Obviously the figures should be verified during field studies because of error information in REGON database.

[22] This constitutes about 29% of all institutions within research-development sector in Poland.

Illustrative Example 6: Looking for new development opportunities – supporting the creative sector in Warsaw

Warsaw is a metropolis with significant creative potential. Nationwide media: TV and radio stations, publishers of major newspapers and magazines as well as headquarters of the most important national and international firm, including those providing financial services, are located in Warsaw. The mass media, educational institutions, theaters, museums, and other cultural institutions together with concentration of highly educated and skilled people create unique environment of work and living. Warsaw is a leading center of culture - both in terms of creative potential and the cultural market.

There are altogether 313,000 firms operating in Warsaw. Approximately 7% of them can be classified as creative ones. Most of firms are located in the city center and neighborhoods that used to be industrial. Old factories have been replaced by modern branches of economy dominated by services. The creative sector has crossed the border of Wisła river and is developing in Praga Południe and Praga Północ districts. These two districts, especially Praga Północ, are the most neglected ones in terms of quality of housing and socio-economic situation of inhabitants. At the same time they offer attractive locations at lower prices than in the center of the city and provide creative firms with inspiring environment. Both districts participate in the urban renewal program implemented by the city of Warsaw. They contribute to the program in many different ways being involved in local community events, having impact on creation of public spaces, and by enriching the range of services offered in the area.

Development of the creative sector in Warsaw has also triggered reallocation of institutions and companies towards areas that have not been considered so far as attractive for location of businesses. New directions of businesses location may reduce the scale of polarization of production and service functions.

The creative sector in Warsaw is dominated by firms that deal with advertising, architecture and design and publishing. Warsaw's main advantage is the variety of companies. This creates an attractive and friendly environment for cooperation and business development. Studies prove that Warsaw is also a home to many companies whose services are important for the creative sector operation. Due to the large number of these companies on the Warsaw market owners of creative firms do not have to work with specific contractors, but they can freely choose collaborators.

Authorities of Warsaw have launched different programs to promote entrepreneurship and creativity, and initiative that are particularly important for development of small and medium size enterprises. A number of offices from the city hall are involved in these programs in order to coordinate different efforts and initiatives. Among them are: Office of Education, Office of Culture, Office of European Funds, Office of Investors' Services, Office of Property Management, Center of Social Communication. The Center of Creativity will be established in Praga Północ district to facilitate development of the sector in this part of Warsaw. The other project Creative and Cultural Economy is aimed at supporting young creative entrepreneurs through organization of seminars, conferences and workshops with assistance from foreign experts. Meetings labeled Creative Mixer are organized on regular basis to provide a platform for information exchange and collaboration among creative sector and authorities of Warsaw. An internet platform for entrepreneurs has been created to bring together all interested in new paths of Warsaw development.

Paris is one of the three cities in Europe (apart from London and Frankfurt) that are on the leading positions in terms of attractiveness for business (European Cities Monitor 2010). Berlin also gains a rather high position, while Warsaw is still lagging behind in this regard (Table A5.2). Between the most important factors deciding about this position four features were pointed: easy access to markets, customers or clients, availability of quality staff, quality of telecommunications, as well as internal transport and links with other cities.

Warsaw gains first place in terms of cost of staff, whilst Berlin takes up one of the top positions for quality of life and availability of office space (see Table A5.3). In the

ranking, Berlin was considered as the city that obtained the greatest improvement over the considered period (among the cities included in the ranking) in various spheres (e.g. in terms of quality of telecommunications)

Table A5.2. Best cities to locate business

City	2010 rank*	2009 rank	1990 rank**
Paris	2	2	2
Berlin	7	9	15
Warsaw	24	23	25

*in the group of 36 cities
**in the group of 25 cities

Source: European Cities Monitor 2010, p. 5.

Table A5.3. Ranking of cities in terms of factors that influence business location (2010*)

Best cities in terms of:	Paris	Berlin	Warsaw
Easy access to markets	**2**	9	24
Qualified staff	5	**2**	18
Quality of telecommunications	**2**	6	30
External transport links	**2**	9	29
Value for money of office space	25	**3**	6
Cost of staff	32	17	**1**
Availability of office space	8	**1**	12
The climate governments create	14	6	**3**
Languages spoken	6	9	16
Internal transport	**2**	**3**	33
Quality of life for employees	4	13	35
Freedom from pollution	25	19	32

*36 cities included

Source: European Cities Monitor 2010.

Warsaw possesses average rates of attractiveness business location, while Berlin appears as a regaining metropolis set on new economic fields and in particular creative economy and high technologies innovation. Even if innovative sectors are considered to lead the economic attractiveness, the activities and services requiring less skilled workforce (supporting metropolitan daily urban and economic functioning) are also crucial and should remain in the metropolitan area (in spite of their lower added value). Ensuring this kind of 'balance' between highly skilled jobs and less advanced ones increasingly becomes one of the current challenges metropolises are faced with, this holds for Paris in particular.

Distribution of economic poles: level of functional polycentricity

The level of functional intra-metropolitan polycentricity, understood here as the distribution of economic centres and functions, also varies between the three metropolitan areas. In the case of Paris metropolis, more than 3 million employees work in 20 cities (Paris and inner suburbs), as compared to 1 million in 40 cities located in the outer suburbs. Nevertheless, the vast majority of the highly qualified jobs are concentrated in the city of Paris and in the South Western suburbs. Despite the endeavours made in order to spread the economic activities within the metropolitan area, namely through the localisation of office spaces and creation of special economic zones (fr. Zones d'activité economic), functional polycentricity is still insufficient. This is also confirmed by the changes in the number of jobs in the metropolitan area characterized by an increase but mainly in the close suburban area (see Map F33 in Annex). Though, the level of polycentrism is still weak.

In the case of Berlin metropolis, it is necessary to differentiate between intra-city polycentricity and policentricity at the regional level. At the former level, despite a certain concentration of functions in the western and eastern city centre, many metropolitan functions are located in various parts of the cities, where numerous sub-centres contribute to functional polycentricity. At regional level, there are also several economic poles in the neighbourhood of Berlin. As compared to the city of Berlin, only few of them however have a considerable volume of jobs: As compared to about 1.15 million of jobs subject to social insurance in Berlin in 2011, Potsdam had only about 76,500 such jobs and Oranienburg north of Berlin roughly 15,000 jobs subject to social insurance (Statistik Berlin-Brandenburg) – the largest municipalities in terms of jobs in the FUA of Berlin. In addition, these cities are rather closely located around Berlin and less so in the wider area of the FUA. Nevertheless, more polycentric structure with regard to R&D activities and the creative industries may be considered as a possible future scenario to strengthen the role of the metropolitan region through functional linkages between smaller centres within and beyond the FUA in the wider area of Brandenburg – an issue tackled with the innovation strategy Berlin-Brandenburg (innoBB).

Finally Warsaw metropolis is also characterized by a strong concentration of jobs in the core city (Komornicki 2011). According to the recently presented report concerning labour market in the Mazovian Voivodeship, the capital city offers about 1.3 million working places whereas the suburban and peripheral zone, less than 400,000 (Komornicki et al. 2011). The overrepresentation of working places in relation to the number of employed persons occurs in the core city (estimated at about 200,000) while the other areas struggle with insufficient number of working places (ibidem). The attractiveness of the local labour market can be measured as a quotient of persons who arrive to work in a given place and those who live in this place but leave it, in order to work in another one. Thus, Warsaw receives the highest values of the quotient (13.07) which confirms the dominance of the labour market of the capital city. This simply confirms the outcome of previous research relating to the monocentric structure of the metropolitan region of Warsaw with the strong role played by the core city.

In terms of morphological and functional structures, intra-metropolitan polycentricity becomes a tough task as it requires the horizontal and vertical cooperation of various actors / institutions and the coordination of a wide range of policies, which in turn brings forth new challenges. As the notion of polycentricity varies across Europe, one single solution is not applicable for all metropolitan regions. The example of the metropolitan region of Paris, however, indicates that developing satellite cities does not create polycentricity by definition. Nevertheless, using the lessons learned from

the long-term history of polycentric development in each region, certain combinations of tools are plausible for transfer.

Illustrative Example 7: Policies and Tools – examples from Paris

Since the 1990s, Paris metropolis develops regional (and national, see chapter 8) planning tools concerning strategic areas, along with SDRIF 2008 (standing strategic areas), the 2011 Grand Paris Project and the national policy adopted in 2006 and supporting cluster networks (poles de compétitivité). Currently there are 7 clusters in the Ile-de-France region (IAU 2009): Cap Digital (specializing in cultural industries and multimedia); Medicen Paris Region (biotechnology and health); Systematic (Software and Complex Systems); Mov'eo (automotive, aerospace, engineering and road transport); Advancity - formerly known as the cities and sustainable mobility (city, habitat and mobility); ASTech (aeronautics and space: business aviation, space transportation propulsion); Innovation Finance (financial innovation). Though a new frame for economic and urban development was set up, through collaborative projects, namely Contracts for Spatial Development (fr. Contrats de Développement Territorial, CDT) led by the Prefect of Ile-de-France. The CDT are defined in the Act of 3 June 2010 in Greater Paris and are planned to implement the economic, social and urban areas which are defined as strategic, especially those served by the public transport network of Greater Paris. These contracts establish the cooperation between different actors: the State, represented by the regional prefect, and municipalities and their associations. Moreover, the region of Île-de-France, its departments and a number of institutional actors including Greater Paris, Paris Métropole, International Workshop of Greater Paris and the Association of Mayors of Ile-de-France are invited to join in these efforts. The CDT will in particular specify the number of housing and social housing to be build, mention deferred development zones (fr. Zones d'Aménagement Différés, ZAD) and beneficiaries of pre-emption rights, scheduling execution of planning operations and major transport infrastructure, assessing their costs and providing the operations for which it is deemed in the public interest . Some of these areas include innovative programs, along with urban and social projects and could support economic and social dynamics. A global view over these local projects could be established in order to regulate and coordinate the future metropolitan development, linked to the transport network project.

5.7. Conclusions and policy recommendations

The aim of the chapter was two-fold. The first objective was to indicate the main trends in the evolution of socio-spatial and economic structures in the metropolitan areas of Paris, Berlin and Warsaw. Secondly, the chapter aimed at assessing the efficiency of policies implemented with regard to the reduction of socio-spatial disparities and support to polycentric development (both in the morphological and functional dimension).

Considering demography, two separate processes were distinguished: population growth and evolution of demographic structures, especially with regard to the ageing of population. During the last decade all three cities and their metropolitan areas had noted a moderate population growth, not least due to a positive migration balance, connected with a relatively high attractiveness of their job markets, as well as leisure, cultural opportunities, etc – though these aspects contributed in different ways and to different extents to metropolitan growth in the three cases. Furthermore, in the case of Paris, and, to some extent, in Berlin, the international population inflow, especially from outside the EU, played an important role. Due to differing historical, cultural and economic links, the main countries of origin differ between Paris and Berlin (see also Chapter 7) As for Warsaw, the majority of inflow was related to migration from other parts of Poland, due to the relatively high attractiveness of the city's job market.

All three metropolises face the problem of population ageing, witnessing an increase of the share of elderly inhabitants within their societies. During the last decade, this

share grew by approx. 1,3 to 2,2 percentage points. Moreover, in the three metropolitan areas, an increasing number of municipalities is faced with an ageing population. The same problem concerns the core cities of Paris and Warsaw. Only in the case of Berlin, the demographic structure is characterised by a supremacy of pre-working and working age. As natural demographic processes can be balanced by migrations, the crucial issue here is to ensure balanced migration between the considered areas. In order to ensure this balance, the attractiveness of these "ageing" areas should be ameliorated. However, in this context, attractiveness is to be understood in two ways. Firstly, if it concerns the areas with lower connectivity – additional investments in infrastructure should be crucial. In the case of poor housing conditions – projects focused on rehabilitation, or new constructions are important. On the other hand, there are also areas struggling with ageing which are well connected and offer good quality of housing in terms of size, maintenance, etc. (e.g. western districts of Paris) but are not accessible (for instance due to prices) to younger population. In this case, the programmes dedicated to increase the volume of affordable housing should be an absolute priority. Moreover, the increasing number of older population poses new challenges in terms of social programmes and services towards this demographic group. Special needs of older population should be investigated in each commune as it may concern both direct and indirect aid (e.g. financial support, special services, infrastructure, etc.).

The main processes in the metropolitan areas of Paris, Berlin and Warsaw, regarding socio-economic spatial structures are those related to socio-spatial segregation and gentrification. In spite of huge efforts on social housing, Paris city is losing its social mix. The same is affecting all metropolitan areas under investigation, though to different extents and varying degrees of segregation. Gentrification in Paris and Berlin, and new housing development in the case of Warsaw, introduce higher social classes into areas earlier dominated by residents of the working class. Even though the segregation indices are decreasing (e.g. in Warsaw), the processes described above can lead to very fragmented societies (and space).

Regarding socio-spatial structures of metropolitan areas, it is crucial to mitigate social exclusion and segregation, and to promote education (especially highly specialized tertiary education), creative industries, R&D sectors, etc. In spite of political visions of society developments, and targets of European and national policies, the problem of emerging socio-spatial disparities is not sufficiently tackled. However, comparing Paris, Berlin and Warsaw some differences had been noted. A relatively good situation, regarding socio-spatial structures was observed in the case of Berlin. Nevertheless, new negative processes, related to the emergence of ethnic segregation of immigrants from outside the EU can be observed. A possible way of solving the problem would be to inhibit the diminishing share of affordable, social housing. However, mixed neighbourhoods in terms of tenure structure (social housing, privately rented flats and privately owned) should be ensured, as the example of Paris demonstrates that concentration of social housing can provoke tenses related to economic and ethnic disparities (i.e. riots, which took place in Parisian banlieues). Therefore, apart from affordable housing, local, regional, as well as state authorities should ensure the access to job markets and high-quality public services.

Among the main processes detected in the three metropolitan areas which influence the spatial structure, certain similarities as well as divergences can be observed. All three metropolises struggle with further urbanisation (mainly uncontrolled, in the case of Warsaw metropolis), nevertheless the process itself operates at different spatial scales and with different intensity, and is being gradually replaced by redevelopment of formerly used areas (mainly in the core city due to urban renewal schemes). In the

case of Paris metropolis, the first endeavours to control the urban sprawl were undertaken already in the 1970s with a regional planning policy dedicated to the more polycentric development in the Ile-de-France. Paris region is considered as one of the most compact metropolitan regions in the world with a strong dominance of the core city. On the contrary, Berlin represents a less hierarchical structure at the city level, but still more hierarchical at the metropolitan level, and attempts to acquire a more polycentric structure, both in morphological and functional dimensions. With respect to Warsaw metropolis, uncontrolled urban sprawl over non-urbanized areas has intensified since the 1990s. The extensively built-up areas (both within the city limits and in the hinterland) also contribute to increased costs of transport within the metropolitan area of Warsaw.

A lesson for the future and a common issue to deal with relates to the analysis of suburban life styles at the metropolitan scale and a search for tools avoiding increasing settlement density beyond set benchmarks in suburban areas. The networks of services and jobs together with multimodal transport solutions (as in Berlin) should be highly recommended. In addition to dense and generally attractive (but congested) central areas, it could be an open field for 'thinking, sustainable and polycentric metropolises', which benefit from valuable and diversified environmental surroundings.

The processes of redevelopment and regeneration of brownfields are advanced only in the case of Paris metropolis where the projects concerning economic regeneration and fighting social disparities are implemented. At the same time, these processes in Warsaw metropolis are much less developed and only first endeavours been made to introduce punctual projects, concentrating mostly on the physical rehabilitation of buildings and new social and cultural infrastructure. The main constraint in this case is the lack of more thematically-oriented and cross-sectoral projects conceived commonly by the groups of cooperating municipalities. However, in order to organize such inter-communal renewal projects, specific legislation should be elaborated at the central state level. It would be recommended to follow the examples and lessons learned by France in this sphere, especially concerning institutional arrangements.

Among the consequences of metropolisation process in the domain of spatial structure three issues were distinguished. Firstly, disparities between different territories within the metropolitan area grow as a consequence of uneven development of the core city (and also close suburbs) and the fringes of the metropolitan area. This is mainly due to lower connectivity of more remote areas which in turn causes a worse accessibility of jobs, services, recreational areas, etc.

Disparities between the territories are probably the most important barrier which hampers the improvement of metropolitan attractiveness. In some cases, like Berlin, the spatial structure is less hierarchical and more balanced between an affordable centre and suburbs. The very strong hierarchy in the Paris metropolitan area (which is also growing in the case of Warsaw) is a key issue, creating differences, enforcing disparities and competing, contradictory economic and social challenges. At that point, the French experiences of policies dedicated to relegated areas show their limits and, at the same time, the need for special efforts. This could be another field of comparison with efficiency of connected common laws and policies (housing, transport, economic development), as implemented in Berlin. For Warsaw, the two other metropolitan development paths point out the need for active and collaborative actions against disparities.

The set of policies in order to ensure more compact or polycentric structure within metropolitan areas should be elaborated. Without any dedicated policy towards

distribution of people and economic activities, the unguided process of urbanisation, triggers urban sprawl. This in turn threatens the efficiency of urban structure and the quality of life and attractiveness of certain territories within the metropolitan area.

Finally, metropolisation and the growing number of inhabitants within metropolitan areas contribute to increasing numbers of commuters. As a result, existing transport infrastructure operates at maximum capacity and increases mobility costs. This in turn threatens the attractiveness of the metropolitan area.

The aforementioned negative consequences of the metropolisation process can be shifted into positive ones. However, it requires a thoroughly planned further development of metropolitan areas, bearing in mind the specific preconditions, related mainly to history and hitherto consecutive stages of spatial development.

Finally, the process of metropolisation contributes to economic growth and specialisation. The three core cities attract new investments and business investors. Nevertheless, the level of polycentricity in terms of distribution of economic activities is still low. The example of creative industries shows that Paris and Berlin are successful in their attempts to accelerate the development also in suburban areas, while in Warsaw, the process of deconcentration of economic functions paces very slowly. An improved economic role of close suburbs is a consequence of long-term dedicated policies which are in favour of setting up office/service centres in the suburbs.

To conclude, facing similar trends in various contexts, the three metropolises seem to be more efficient in managing economic development than in constraining urban sprawl or growing social and economic disparities. Berlin, with the lowest dynamics and limited financial means, chooses a cooperative (with Brandenburg) and rather coherent redevelopment, strongly based on post-industrial innovation and a more urban cultural and creative sector. Paris metropolis, much wealthier and very competitive in many fields, is less organized in this view, which is probably due to a very complex governance system and to the pressure of its international challenges. Warsaw is currently involved in a first intense period of real estate development and public private partnerships. It could be assumed that Warsaw and Paris metropolises could take advantage Berlin’s development strategy, which is more focused on collaboration and the involvement of public and private actors.

6. Transport, job accessibility and daily mobility

6.1. Introduction

Objective

The basic objective of this chapter is to identify relations between transportation systems, accessibility of workplaces, daily mobility of inhabitants including modal split and public transport management in the metropolitan areas of Paris, Berlin and Warsaw.

Background

The qualitative and quantitative features of metropolitan transportation network strongly influence motivations and preferences concerning places of accommodation. Metropolises should contribute to smart, sustainable and inclusive growth through an effective public and individual transportation network. The modern transport infrastructure appears to be a most promising opportunity for expanding the positive impact of the city. The upgrading of transport facilities and networks in the growth poles located in the metropolitan areas is one of the best methods to meet the requirements of a 'smart society' development. An effective public transportation management is a key issue for commuters travelling between workplace and place of residence.

European dimension

Transportation is one of the main policy areas for achieving a resource efficient Europe, the latter being a flagship initiative of the Europe 2020 Strategy (EU2020). Modern transport connections accelerate the diffusion of knowledge between the inner city and its suburbs and hinterland making the agglomeration 'smarter'. Sustainable transport promotes the 'green economy' which is more resource efficient and reduces environmental risks. Transport networks also deliver territorial cohesion contributing to 'inclusive growth'.

The overarching goal of the Common Transport Policy (EC, CTP 2009) is the promotion of an efficient, sustainable, safe and secure transportation system capable of enabling mobility whilst minimizing costs for users. The key objectives and initiatives of the 'Roadmap to a Single European Transport Area' are quality, accessibility and reliability of transport services, improved safety and security and promotion of more sustainable behaviour and integrated urban mobility. Clean urban transport, including the option of walking and cycling, a higher share of travelling by collective transport, the use of smaller, lighter and more specialized road passenger vehicles and the use of Intelligent Transport Systems all contribute to urban transport management (COM 2011). Supporting effective inter-modal transport solutions within city-regions and improving accessibility to services of general interest are essential for making EU territorial cohesion a reality (TA2020 2011).

The concept of accessibility has been developed in many different ways in ESPON projects, with particular attention to: European Accessibility and Peripherality: Concepts, Models and Indicators, ESPON Update of Selected Potential Accessibility Maps, ESPON Update of Air and Multimodal Accessibility Maps and, last but not least, ESPON TRACC: Transport Accessibility at Regional/Local Scale and Patterns in Europe (TRACC 2011). In the above mentioned projects accessibility indicators are mainly calculated at the European level (NUTS 3). However, the TRACC project takes both global and regional levels of analysis into account. Within TRACC,

Warsaw region (Warsaw, warszawski-zachodni and warszawski-wschodni: NUTS 3) belongs to case study area - Poland. Accessibility at the LAU 2 level is calculated for Warsaw region using different methodology and accessibility dimensions: travel time to the next regional centre, jobs available within 60 minutes travel time, potential accessibility to population, travel time to the next hospital, secondary schools available within 30 minutes' travel time and potential accessibility to medical doctors. Box-plots, cumulative charts and cartographic analysis are carried out within TRACC for Warsaw region in comparison with peripheral regions of Poland. The level of accessibility in the metropolis rises to the city centre and, in general, is better than for the rest of the area (beyond the metropolis). In the Best Metropolises project more basic accessibility indicators are taken into account based on the travel cost (time) between the city centre and the suburban cities.

The mobility at the metropolitan level was also a subject of investigation in several other ESPON projects: ESPON 1.2.1: Transport services and networks: territorial trends and supply, METROBORDER– Cross-Border Polycentric Metropolitan Regions, POLYCE- Metropolisation and Polycentric Development in Central Europe: Evidence Based Strategic Options and CAEE - The Case for Agglomeration Economies in Europe while flows in general were analysed by ESPON 1.4.4: Preparatory Study on Feasibility of Flows Analysis.

One of the key issues investigated within the ESPON project 1.2.1. was the role of transport networks in a more sustainable spatial development. The project enumerated the policy recommendations aimed to ensure territorial cohesion of European space. The amelioration of transport network and its efficiency is important especially in the short-term period, as that is the only way to avoid gridlocks and relocation of enterprises. This hint might be useful in the assessment of the public transport offer and the effectiveness of transport policies towards labour market evolutions (including the change of transport habits) within three metropolitan areas examined in the Best Metropolises project.

METROBORDER project provides an interesting analysis of the cross-border commuting in the cross-border metropolitan areas across Europe. The cross-border commuting and cross-border public transport are discussed as an example of the functional integration within metropolitan areas. In this chapter the functional integration is analyzed in this context for Paris, Berlin and Warsaw metropolises.

The first finding in POLYCE, concerning polycentricity (based on commuting data) in studied metropolitan areas, has highlighted a difference between the functionally integrated urban system of Vienna and urban systems in former state socialism countries, dominated by capital cities and hierarchical subordination of smaller sub-centres in the metropolitan area. In the Best Metropolises project, the comparison of daily mobility patterns in the three metropolitan areas reveals a similar diversification of commuting matrix between Paris, Berlin and Warsaw, which may also be confirmed by the influence of historical and political conditions and circumstances concerning metropolitan development.

Specification of topic

The main emphasis in this chapter was put on the differences between the core city and the surrounding area (particularly in commuter towns) but also on the availability of transport facilities within suburbs themselves. These topics refer both to accessibility and mobility issues and require a broad strategic perspective at the agglomeration scale, bearing in mind the existing territorial disparities. Due to the differences in size, structure, population density, catchment areas and the

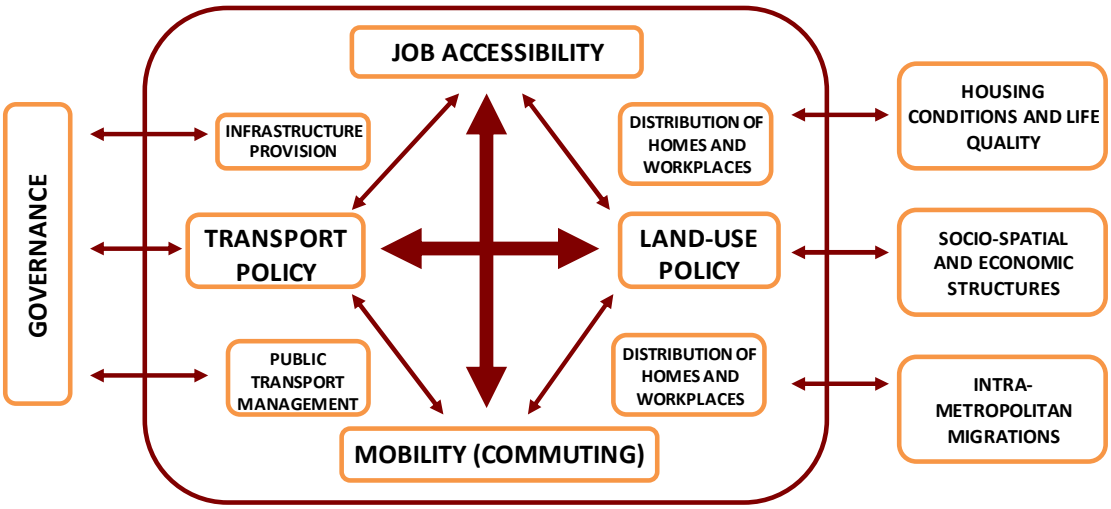
organization of public transport services in the three metropolitan areas, the possible comparison between them was limited. At the same time, it should be stressed, that to some extent the analyzed metropolitan areas struggle with similar problems i.e. congestion and bottlenecks on the transport links between the core city and commuter towns (also, between suburbs), as well as with the lack of proper public transport management.

6.2. Methodology and data

The distinction between accessibility and mobility is important to understand the role of transport in the metropolitan context. Being mobile can be defined as being capable of moving or being moved from place to place. Mobility is measured by actual movement, either the number of trips or total kilometres travelled (Handy 2002). Therefore in this chapter a number of mobility indicators is introduced in order to capture both individual and public transport behaviour.

Accessibility can be defined as the "potential for interaction" (Hansen 1959). It determines the advantage of one location (city or district) over another. It allows to assess the degree of regional inequality in the distribution of activities (opportunities) in space. The shift in job accessibility reflects the degree to which land use within the metropolitan system and public transportation decisions help to economize commuting and meet cohesion objectives (TRACC 2011, Cervero *et al*. 1995). The distribution of workplaces and places of residence shown in this chapter is crucial in this context (Figure A6.1).

Figure A6.1. Job accessibility and mobility (commuting) in the context of transport and land-use policy and external factors



Modern governance belongs to the group of external factors which influence both intra-metropolitan job accessibility (through infrastructure provision) and intra-metropolitan commuting mobility (through public transport management). Governance also has both a direct and indirect impact on other external factors widely described in this report like:

- housing conditions and life quality,
- socio-spatial and economic structure,
- intra-metropolitan migrations.

The feedbacks between the above mentioned variables are obvious (Figure A6.1).

Assessing individual and public transport, job accessibility, daily mobility and public transport management

In the area of metropolitan transportation networks, the data concerning public transport systems is easily available via internet websites. Census information and a number of publications concerning accessibility issues were also helpful for the identification of main transportation problems in metropolitan areas. Considering daily mobility, the data issued from the national census and household travel surveys are the main sources of information for metropolitan areas. For the analysis concerning Berlin, data from Statistik Berlin-Brandenburg (2011), SenStadt (2011) and from the Federal Employment Agency (Bundesagentur für Arbeit – BA) were used. For Paris, reports carried out by INSEE National Institute of Statistics and Economic Studies and RATP (Régie Autonome des Transports Parisiens) were taken into account. Reports prepared by IAU IDF (L'Institut d'aménagement et d'urbanisme de la Région parisienne) and Syndicat des Transports d'Ile-de-France have also constituted a source of information. Finally, in Warsaw the information was issued from the Central Statistical Office, Warsaw Traffic Survey (2005) and the report: *Opinia mieszkańców*… (2011).

6.3. Individual transport in Paris, Berlin and Warsaw

Paris

Since the 1960s, car democratization in Paris has accompanied urban sprawl with detached houses and longer daily trips. The road network of the whole central area, up to A86 ring, is overcrowded. Among European most congested cities in 2011 Paris ranked 5th (TomTom 2012). Fifty per cent of the traffic in Paris is concentrated on Boulevard Périphérique, a dual carriageway (generally four-lane) ring road on the Paris' limits. Two other rings are prepared for suburb-to-suburb traffic: the A86 (5-7 km from the Périphérique, completed in 2011) and the A1 (Francilienne, 30 to 40 km away from Paris, is planned to be completed in 2015). Although two major ring roads are constructed, there are still major traffic jams during rush hours, especially at the northern and eastern edge of the central area (up to A86). According to the INRIX France Traffic Scorecard report seven out of eight worst traffic jams in France appear on Boulevard Périphérique and one (3rd place) on A 86 (direction Champigny-sur-Marne at Exit Rancy[23].

Berlin

Berlin has fewer problems with congestion due to its remarkably low rate of motorization (324 vehicles per 1000 inhabitants in 2008). The city has good connections with the rest of Germany's motorway network. Apart from its inner-city motorway (Stadtring A100), Berlin has several motorways and other expressways linking the city with the surrounding Berliner Ring, which is a 196 km long bypass. The Berliner Ring in turn is linked with several motorways connecting the city with other cities in all directions. Since 2008 a new motorway links the new Berlin-Brandenburg airport (BBI, in the future BER airport) and scientist park Adlersdorf with the internal ring road – Berliner Stadtring A100. Although on the A100 the traffic volume exceeds 200 thou. vehicles a day and traffic jams also exist, Berlin's traffic is the least dangerous in European capitals with only 1.64 deadly accidents per 100,000 inhabitants in 2010 in relation to an European average of 3.95 (SenStadt Verkehrslenkung). The inner ring motorway in the eastern part of the city has not

[23] http://www.inrix.com/pressrelease.asp?ID=106

been constructed yet, since the East Berlin road infrastructure was built in a radial system focussing on Alexanderplatz (SenStadt Verkehr (a)). The main argument for the extension of the A100 in the south-east of Berlin lies in the combination of two different systems and the reduction of traffic in housing areas. It is also argued, that a quick link between the new international airport and the eastern and north-eastern suburbs is needed (SenStadt Verkehr (b)). However, the extension can only be developed through the destruction of allotments and housing estates, and a higher burden of traffic and air pollution at the newly created hour-glass spots where the extended highway ends (SenStadt Verkehr 2010).

Warsaw

The TomTom report has found Warsaw the most congested city in Europe in 2011 (TomTom2012). The main problem is that the city still does not have a completed ring road and most traffic has to go through the centre. Further delays in traffic are due to the road works in the south-western part of Warsaw Metropolitan Area (S2, S7 and S8 expressroads) and in the north (S8 express road and the Maria Skłodowska-Curie bridge route). All investments when completed in 2012 and 2013 should ameliorate the traffic. However the lack of a bypass road on the right bank of the Vistula would be probably still considered as one of major obstacles for commuters. According to the opinions of inhabitants in Warsaw, the construction of bypasses is the most urgent transport investment, followed by the construction of new metro lines and rehabilitation of streets (Opinia mieszkańców… 2011). The delays in construction of the southern and eastern part of the bypass are caused by both environmental issues (eastern Warsaw bypass) and important costs of this investment, as the bypass in the southern part of Warsaw is planned in the tunnel under the Ursynów district. At the boundary of the city of Warsaw in 2010 the traffic volume exceeded 54-56 thou. vehicles / 24h on four major axes leading out of the city (Generalny Pomiar Ruchu 2010).

6.4. Public transport accessibility in Paris, Berlin and Warsaw

Paris

In general, the Parisian public transport system is well-developed in the core centre but lacks additional links between the suburban areas which limits its efficiency at the metropolitan scale. The system consists of:

- a historical tightly structured subway network (214 km, 14 lines, 245 stations, in total 4.5 million passengers a day, while 21 thousand passengers a day per km of metro line),
- a radial suburban-transport network RER - Réseau Express Régional (built in the 1970's and serving the main suburban “new cities” with a length of 586 km, 5 lines, 257 stations, 2.14 million passengers a day in total and 3.7 thousand passengers a day per km of RER line),
- national / international railway system (SNCF).

Berlin

The city of Berlin has a very efficient public transport network and a high share of public transport in the modal split. The network consists of:

- metro U-Bahn (146 km, 10 lines, 173 stations, 1.36 million passengers a day in total and 9 thousand passengers a day per km of metro line)
- tramways (190 km network in use in the eastern part of the city),

- Berlin rapid system of S-Bahn (a subsidiary company of Deutsche Bahn AG (German Railway Company)) which is a radial system combined with the S-Bahn ring (332 km, 15 lines, 166 stations, 1.06 million passengers a day in total and 3 thousand passengers a day per km of S-Bahn line),
- national / international railway system with several inner-city railway stations including the new central railway station Hauptbahnhof finished in 2006, which is an interchange station (Kreuz) with east-west and north-south tracks at different levels.

The accessibility of public transport in Berlin on all modes of public transport is sufficient. Average walking times to get the nearest U-Bahn, S-Bahn or tram stop for Berlin inhabitants rarely exceeds 10 minutes and usually lasts less than 5 minutes (SrV 2008).

Warsaw

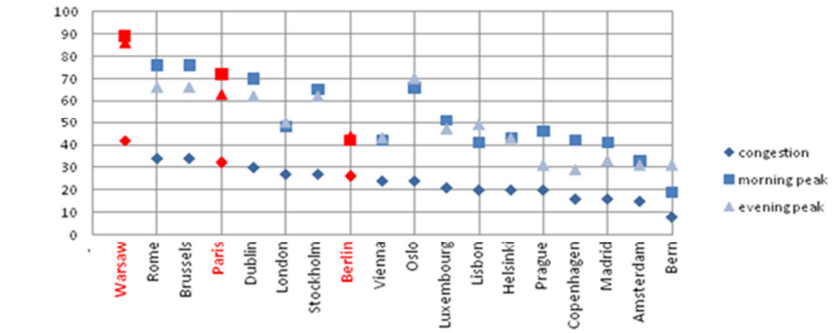
Warsaw public transport network is based mainly on bus and tramway routes. The average walking time to get to the nearest public transport stop for Warsaw inhabitants is 6 minutes while for inhabitants of the suburban areas – 7 minutes which may be regarded as satisfactory (Warsaw Traffic Survey 2005). The wide spatial range of public transport services and the opportunity to reach remote areas of the metropolis by bus lines is the most frequently pointed out positive feature of the metropolitan transportation network system (Opinia mieszkańców… 2011).

However, presently there is only one metro line in operation (23 km, 21 stations, 0.55 million passengers a day in total and 24 thousand passengers per km of metro line) which is overcrowded, especially during peak hours. The first part of the second metro line (7 stations) is under construction and will be finished in 2013.

6.5. Metropolitan transport network. Its efficiency and accessibility

In order to measure the efficiency of both individual and public transport city network, the level of congestion was selected as a principal indicator. TomTom has captured the anonymous travel time information covering 31 European cities. The congestion index provides information about real-life driving patterns by time of the day and provides more exact route information and arrival times (TomTom 2012) (Figure A6.2).

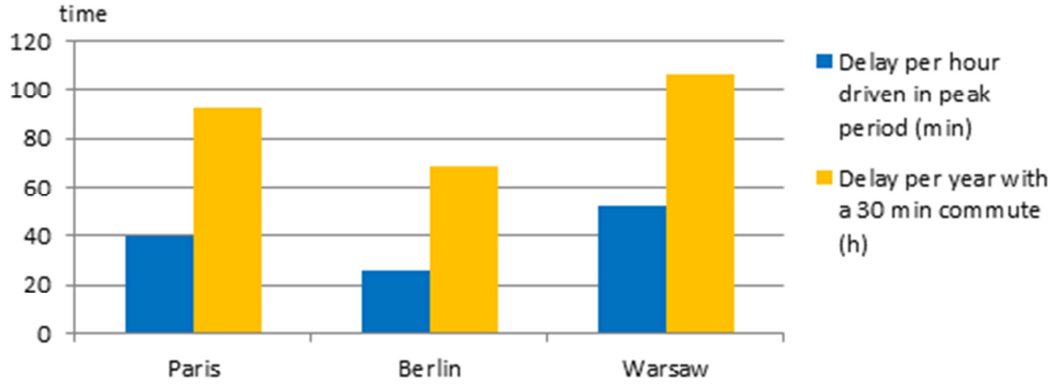
Figure A6.2. TomTom congestion index. Comparison between European capitals



Source: TomTom (2012)

There is a huge difference in the congestion level between peak hours and the daily average in Paris and Warsaw, while in Berlin both values are below 50 per cent. The TomTom report finds Warsaw the most congested city in Europe. On average, journey times in Warsaw are 42 per cent longer than when traffic in the city is flowing freely and 89 per cent longer during morning rush hours comparing with the entire road network.

Figure A6.3. Travel delays in Paris, Berlin and Warsaw



Source: TomTom (2012)

The traffic congestion leads to long delays, unpredictable travel/commuting times, loss of income and productivity, increased fuel consumption and greater pollution. Warsaw and Paris again find themselves in much worse situation than Berlin.

Although, there are huge differences in the peak hours' travel times, the average travel times in the off-peak hours are quite similar in all three cities. The individual and public transport accessibility indicators are travel times between the major city centre (Parisian Châtelet – Les Halles station, Berlin Friedrichstraße station and Warszawa Śródmieście station) and three suburban cities located in the north-west, south-west and east direction from each city within the distance between 13 and 19 kilometres to the metropolitan city centre) (tab A6.1)

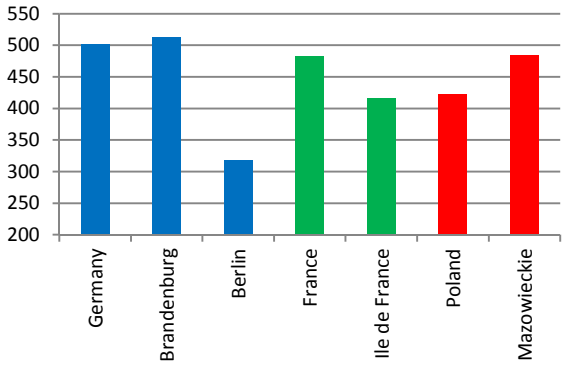
Table A6.1. Individual and public transport accessibility in Paris, Berlin and Warsaw metropolitan areas to three suburban cities

Metropolitan area	Direction	Suburban city	Population of the suburban city (thousand) *	Air line distance to the center of metropolitan area (km)	Road distance (km)	Average car travel time off-peak (min)**	Travel time (public transport) (min)	Average speed by public transport (km/h)
Paris	north-west	Argenteuil	103	13	17	29	30 (SNCF; RER)	26
	south-west	Versailles	87	17	30	34	46 (RER)	22
	east	Noisy-Le-Grand	63	14	18	21	20 (RER)	42
Berlin	north-west	Hennigsdorf	26	18	21	30	34 (S25)	32
	south-west	Teltow	23	17	21	29	27 (S25)	38
	east	Neuenhagen bei Berlin	17	19	22	27	37 (S5)	31
Warsaw	north-west	Łomianki	17	14	17	21	53 (BUS, METRO)	16
	south-west	Pruszków	57	15	16	22	23 (S/KM) 27 (WKD)	39
	east	Sulejówek	19	18	20	24	27 (KM; SKM)	40

*Population in Berlin and Warsaw in 2010, in Paris in 2008
** http://czas.dojazd.org/

For the suburban cities which are covered by suburban railway lines and have direct connection to the city centre travel times in the analyzed metropolitan areas by public transport equal between 23 and 34 minutes with the average speed of 30-40 km/h. However, if there is no direct railway connection the travel time is close to 50 minutes. In case of Łomianki, suburban town located north-west of Warsaw, the average speed by public transport is the lowest and equals only 16 km/h.

Figure A6.4. Motorization rate (cars/1000 inh.) in NUTS 2 in comparison with national rate (2008)



Source: Eurostat.

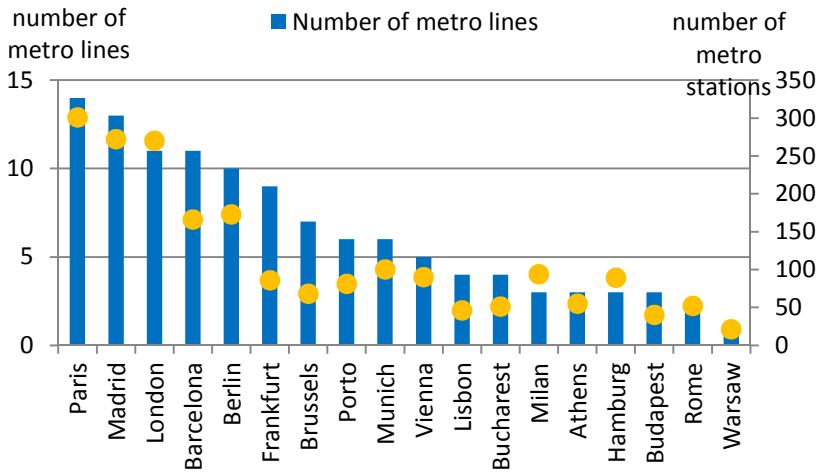
Taking into account the mobility patterns, the motorization rate and the annual average number of kilometres run by car, the lowest values are attained in Berlin. Berlin is the city characterized by lowest number of deadly accidents. Berlin also has a relatively uncongested metro network (Table A6.2).

Table A6.2. Mobility indicators

	Annual average km run by car (year)*	Number of deadly accidents per 100 thousand inhabitant.	Metro traffic (thousand passengers a day per km of metro line)
Paris	21015 (2001)	3.04	21
Berlin	12400 (2007)	1.64	9
Warsaw	18500 (2005)	3.35	24

* EGT (2001); SrV (2008); Warsaw Traffic Survey (2005)

Figure A6.5. Number of metro lines and metro stations. Comparison between European cities



Source: own calculation.

Summing up, Berlin is characterized by a very good individual and public transportation network, high level of safety, relatively low level of both congestion and motorization rate and relatively good accessibility of the suburban towns. Paris needs to improve the mutual accessibility of the remaining suburban towns. The traffic jams during the morning and evening peak are in Paris still one of the highest among European cities. Warsaw suffers from a very high level of congestion, bottlenecks and long travel times to the city centre during peak hours. The increasing motorization rate is becoming one of the main causes of traffic jams. The insufficient metro system is a major weakness of public transportation in the capital of Poland (Figure A6.5). The metro and train system plays an important role in the public traffic of Paris and Berlin, while in Warsaw more than 50 per cent of in-commuters still come to the capital city by own car and they share a problem of insufficient number of park and ride places (Table A6.1).

6.6. Sustainability and modal split in Paris, Berlin and Warsaw

Paris

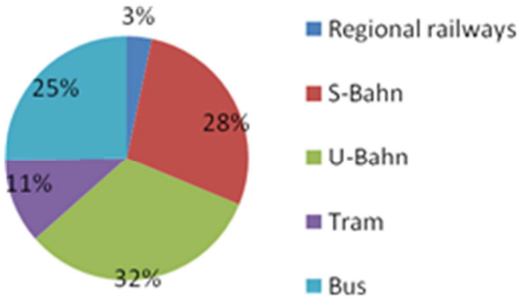
Paris has been successful in reducing individual traffic and increasing the use of public transport. Between 2000 and 2007, the share of metro travels in the total of inner-Paris travel increased by 14 per cent, the RER's share rose by 10 per cent and the SNCF's by 21 per cent. These three means of transport account for 58 per cent of the total of daily travel. The bus share has decreased by 16 per cent and that of cars by 24 per cent. Private motor vehicles represent only 37 per cent of the total travelling (Kopp 2011).

New tram lines are implemented, mainly on circular schemes (around Paris, near A86). Autolib (electric car sharing system) and Vélib (bicycle sharing system) support positive changes in the modal split in the central area. Supporting a minimal number of parking places for bicycles in newly constructed buildings, as well as reserving a parking provision to bicycles in selected parts in the streets, are prescriptions for local authorities. The Urban Mobility Plan for the Ile-de-France (Plan de déplacements urbains d'Ile-de-France – PDUIF; http://pdu.stif.info/) aims at increasing public transport provision by 25 per cent by 2020 through the promotion less polluting, more energy efficient modes of transport. The main new projects are metro lines in the suburbs around Paris (Grand Paris Express) and bus rapid transit lines. The hierarchical offer will be adapted to both geographic and temporal demand. However, it will require a 35 per cent increase of running costs.

Berlin

The motorization rate grew in Berlin after the reunification of Germany, particularly in the eastern part of the city. However, since 1995 it has shown signs of stabilization; currently with a rate of only 324 vehicles per 1000 inhabitants in 2008 Berlin is performing much better than many other German, French and Polish cities. The low rate of motorization makes it much easier to deal with traffic issues than in other metropolitan regions. Moreover, in the centre of Berlin a reduction of vehicle traffic has been observed. It has been probably caused by the expansion of paid parking zones and the increase in the number of public transport passengers from 1061 million in 2000 to 1260 million in 2009. Reliable tight schedules, tight network between the different modes, addition of metro line busses, connection of circling and centroid lines also stimulate sustainable development. In the structure of transportation means used by Berlin's inhabitants, the Metro (U-Bahn) and the S-Bahn constitute more than a half of the modes usually chosen (Figure A6.6).

Figure A6.6. Public transport modal share in Berlin



Source: Stadtprofil Berlin.

An increasing share of bicycle use and pedestrians over the last decade indicates also the quality of traffic multi-modality in Berlin (StEP-Verkehr 2011). About 650 km of bike paths, many Bike-and-Ride parking lots and the possibility to transport bicycles in the S-Bahn, U-bahn and in regional railways supports the service quality of the public transport system in Berlin. Improvements in public transport were done also by the BVG (Berliner Verkehrsbetriebe) in 2004 with the implementation of the Metroline concept for busses and trams (BVG 2004). These priority lines serve as special, supplementary links for S-Bahn and subways, with a frequency of at least 10 minutes. The implementation of the Metroline concept stabilised the number of passengers demanding the services of the BVG (StEP-Verkehr 2011).

The expansion of paid parking zones, the implementation of the Metroline concept for busses and trams, the high number of extra bus lanes (102 km), the city-wide bicycle rental system and the 'Call a bike' system, 650 km of bicycle tracks along sidewalks with different surface than pedestrian part of sidewalk and 760 km of other bicycle roads support the sustainable development of the city. Moreover, since 2008, Berlin's city centre has a special environmental zone[24].

Environmental zone in Berlin

On January 1, 2008 Berlin established an Environmental Zone delimited by the suburban train circle line (S-Bahn railway Ringbahn "Hundekopf"). In the Zone only vehicles that meet certain emission standards are allowed to be driven. Vehicles are obliged to have a sticker that identifies its pollutant group. Since January 1, 2010 only vehicles with green-coloured windscreen tickets are allowed. Vehicles registered abroad are classified according to the European emission standards and their initial registration date

Emission standard (Euro norm)	Pollutant class	Initial vehicle registration	Sticker
Diesel engine			
Euro 1 or older	1	before 01.01.1997	none
Euro 2 / Euro 1 + filter	2	from 01.01.1997 to 31.12.2000	red
Euro 3 / Euro 2 + filter	3	from 01.01.2001 to 31.12.2005	yellow
Euro 4 / Euro 3 + filter	4	from 01.01.2006	green
Petrol engine			
Before Euro 1	1	before 01.01.1993	none
Euro 1 and better	4	from 01.01.1993	green

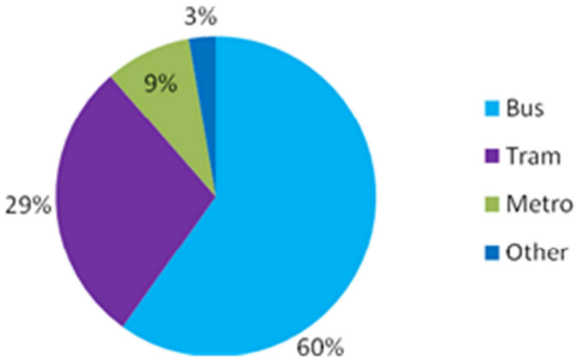
Source:http://www.stadtentwicklung.berlin.de/umwelt/luftqualitaet/de/luftreinhalteplan/download/touristeninfo_en.pdf

[24] www.visitberlin.de/en/article/berlin%E2%80%99s-environmental-zone

Warsaw

The increasing motorization rate (more than 500 cars/1000 inhabitants) and the stable level of public transport in the modal split are the major city problems concerning sustainability in transportation. The Warsaw public transportation system is dominated by buses (60%) and trams (29%) (Figure A6.7).

Figure A6.7. Public transport modal share in Warsaw



Source: Warsaw Traffic Survey (2005).

The present state of the tramway network in Warsaw is, in general, a socialist heritage (with a notable exception of Bemowo district where new tramway lines have been built in last two decades), the Strategy on Sustainable Development of the Warsaw Transport System for the years 2007-2015 points out that one of the priorities for following years is development of the tramway transport system.

Although buses are in general regarded as less sustainable than the subway or tram, new hybrid solutions allow reduction of fuel consumption by over 20 per cent. The emissions of exhaust fumes into the atmosphere are considerably reduced due to the newly introduced fleet of 168 buses including some with hybrid engine technology bought in 2011 by the Municipal Bus Company in Warsaw[25].

The project of 30 car parks of the “Park & Ride” system is implemented by the Public Transport Authority of Warsaw. The car parks are located close to the metro stations, train stations and other public transport stops and interchanges. The drivers have an opportunity to avoid traffic jams and to continue travelling by metro, train or tram. At the moment, the drivers may use 13 car parks with 3 750 parking places (http://www.ztm.waw.pl/?c=138&l=2). Car parks are free of charge if drivers present a valid, at least daily, ticket.

In addition to car parks, a developed network of bicycle parking lots is being located at car parks and at bus loops, metro stations etc. The ‘Bike and Ride’ system consists of 38 parks and the number of biking places has increased threefold during the last two years. Finally, the Warsaw Public Bike system has been introduced in August 2012. Prospectively it is to include 120 renting places (105 in the centre of Warsaw and 15 close to the metro stations) with more than 2000 bikes, work seven months a year with the first 20 minutes’ lease being free of charge (Warszawski Raport Rowerowy 2011).

[25] http://www.um.warszawa.pl/en/Highlights/one-biggest-single-order-history-warsaw-s-bus-services

Comparison

In terms of transportation and commuting, the sustainable metropolis shall focus on low environmental impact which could be acquired through the implementation of the most carbon-efficient modes of transportation. Paris and Berlin are successful in increasing the share of public transport. Despite growing transport demand and motorization rate, in Warsaw public transport still plays a crucial role and the proportion between public and individual transport share remains at the same level .

Considering the solutions for a sustainable transportation system, there are several ideas applied in Paris and Berlin that might be regarded as recommendations and followed up by the local authorities, such as: electric car and bicycle sharing systems (Paris, Berlin) or public transport investments (Grand Paris Express) and transport on demand (Paris, Berlin) (Table A6.3).

Table A6.3. Sustainability trends and solutions

	Major trends in modal split	New solutions	Public transport near the boundary of the city
Paris	Successful in reducing the car share and increasing the public transport share between 2000 and 2007 but still a high rate of motorization and car usage	'Autolib' (electric car sharing system) and 'Vélib' (bicycle sharing system) Bus transport on demand in Roissy	Grand Paris Express
Berlin	Share of public transport in the modal split at a stably high level. The rate of motorization is only 324 cars/1000 inhabitants	Environmental zone 'Nextbike' and 'Call a bike' systems Metroline concept Deman-responsive services Extra bus lines	S-Bahn railway Ringbahn "Hundekopf" at the boundary of the city centre
Warsaw	The share of public transport is at a stable and relatively high level but the rate of motorization is increasing (more than 500 cars/1000 inhabitants)	Warsaw Public Bike Hybrid engine technology buses Extra bus lines	Maria Skłodowska-Curie bridge route including tram line

6.7. Commuting flows in Paris, Berlin and Warsaw

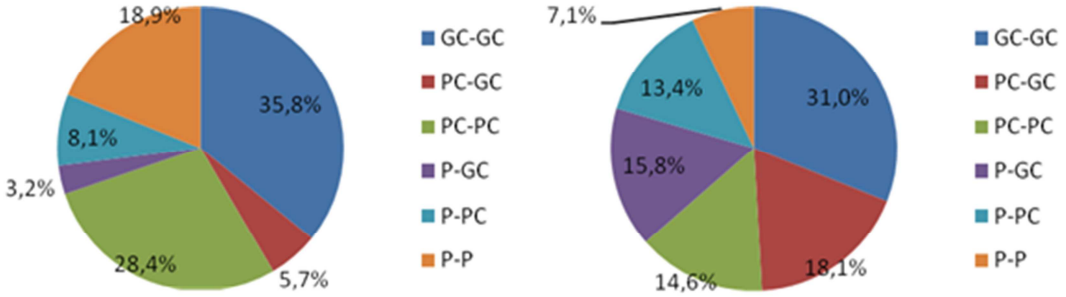
Paris

One of the main commuting problems in Paris is the insufficiency of inter-suburb transportation infrastructure, concerning travelling between the outer suburbs (fr. Grande Couronne, GC), which intensified between 1976 and 2001 from 29 per cent to 36 per cent, as share of total trips in the Paris region. The share of trips in the outer suburbs in the total travel length also increased from 24 per cent to 31 per cent. (Figure A6.8). Therefore better public transport infrastructure connecting the outer suburbs (like Grand Paris Express) is strongly recommended.

According to the French statistics, the daily mobility of a resident of Paris is on average: 6.3 km by car, 8.5 km by public transport and 0.6 m on foot (IFTGS). The motorization rate differs between the suburbs and the city, being the highest in the

outer suburbs, where it exceeds 84 per cent, lower in the inner suburbs, were it equals 68% and the lowest in the core city, where most inhabitants can travel by metro and other modes of public transport. There, the motorization rate is only 45%. Considering the diversity of travel purposes, the main reason for travelling is work, but only 30% of the trips is based on commuting (commuting creates 80% of daily travel time of a Paris resident), 25% of people move for personal purposes, 17% for leisure, 16% for shopping and 13% for educational reasons (IFTGS).

Figure A6.8. Share of flows by direction in 2001 (per total number of trips – on the left and per travel length – on the right) in Paris region



Source: IAU 2008, 170 millions de kilomètres par jour…

The average daily time spent on travelling (all purposes) in Paris region is 82 minutes and it does not differ much between the core city, inner and outer suburbs (IFTGS). However, according to Berger and Brun (2006) an average time spent on commuting increased from 15-30 minutes in 1975 to 40-50 minutes in 1999 in the outer eastern area of Ile-de-France. The average travel length for the studied area also exceeded 25 km which means that people who live in the outer suburbs commute covering much longer distances than they used to in the 1970s.

Berlin

Berlin metropolitan area is characterized by relatively low commuting values in comparison to its size. Although since 1998 the number of in-commuters to Berlin has increased by about 60 thousand, there are still only 180 thousand in-commuters from the rest of Brandenburg (mainly from the north-eastern direction – Oberhavel, Barnim and Märkisch-Oderland) and 70 thousand out-commuters from Berlin to Brandenburg (of which 13 thousand are residents of Berlin working in Potsdam and the relation between Berlin and Potsdam is balanced in this field).

The average daily time spent on travelling (all purposes) in Berlin is 70 minutes per person and day. The average daily distance covered exceeds slightly 20 kilometres. The average journey time differs between modes, from less than 20 minutes/journey for pedestrian and bicycle traffic, to more than 20 minutes for private motorized transport and more than 40 minutes for public transport. The share of transportation modes for commuters in Berlin was in 2008 as follows: 40 per cent chose a car, 38 per cent public transport, 14 per cent bicycle traffic and 8 per cent preferred walking (Mobility in the City).

Warsaw

In 2005, 54 per cent of Warsaw inhabitants and 53 per cent of those living in the so called Zone (former Warszawa voivodeship and miński poviat) had a driving license. In the same year, the average car age was approximately 7-9 years and the annual

average number of kilometres run by car equaled 18.5 thousand in Warsaw and 19.6 thousand in the Zone.

The travel purposes of Warsaw inhabitants in 2005 were as follows: commuting – 39%, education – 16%, shopping – 28% and other – 17%. In the Zone commuting was the main purpose for travelling (59%). In the age category of 26-39, more than 77% of the respondents declared that their main purpose of travelling to Warsaw was commuting (Warsaw Traffic Survey, 2005).

An average travel time (when travelling to work in 2005) was 38 minutes for Warsaw inhabitants, while 44 minutes for the inhabitants of the Warsaw zone. The share of transportation modes for Warsaw inhabitants was in 2005 as follows: 23% chose a car, 54% public transport and 21 per cent preferred walking. In the Zone much more inhabitants used private vehicles – 33 % of them considered a car as a main mean of transport, while for 30% public transport was the best solution, while 28% preferred walking (Warsaw Traffic Survey, 2005).

Comparison

Paris, Berlin and Warsaw as capital cities are major destinations for commuters. All three metropolitan areas are composed of numerous commuter towns and can be considered as commuter belts or labour market areas. In Paris the main problems are that the average trip length and the number of trips between the outer suburbs has significantly increased to more than one third of all the trips within Paris region (Berger and Brun 2006, Navarre 2002). Therefore, the commuting flows in Paris region are higher than in Berlin and Warsaw metropolitan areas. The Berlin and Paris commuting matrices are similar to a “spider web” (maps A6.1 and A6.2).

The number of in-commuters is connected with the distribution of population and workplaces in the city, inner suburbs and suburban cities. Berlin and Paris metropolitan areas can be divided into several zones following the paper published by IAU-IDF (Navarre 2002). Warsaw metropolitan area has also been divided into three zones (Zone 1, the city centre, Zone 2, the inner suburbs and Zone 3, the outer suburbs) so that all three metropolitan areas can be compared with respect to population and workplaces’ distribution (Table A6.4 and Figure A6.9 and A6.10).

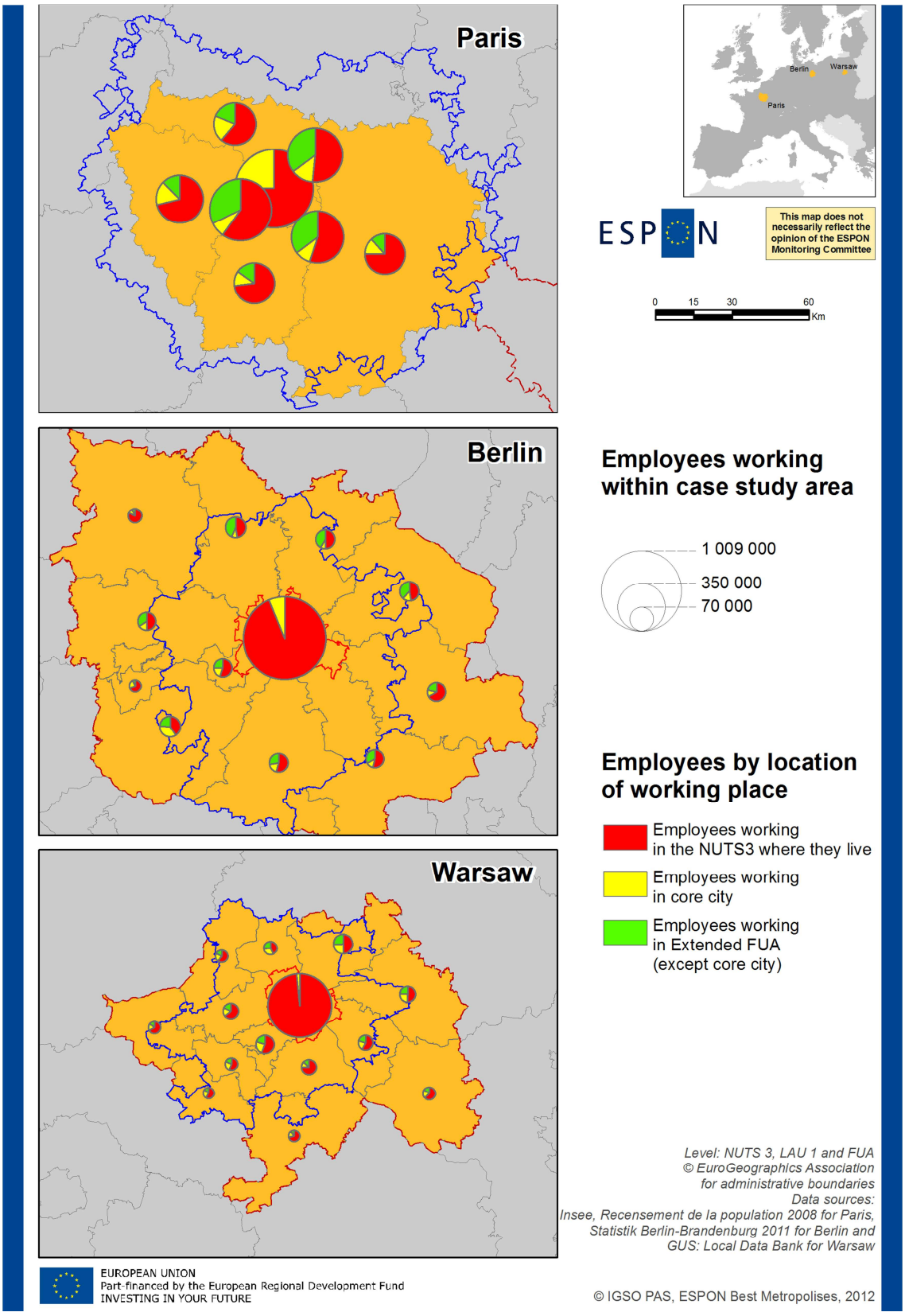
Table A6.4. Division into zones. Zones 1, 2 and 3

	Paris	Berlin	Warsaw
Zone 1	The city of Paris	The area within the S-Bahn-Ring	Śródmieście, Żoliborz, Wola, Ochota, Mokotów, Praga Północ and Praga Południe districts
Zone 2	The NUTS 3 regions surrounding Paris (Petite Couronne)	The remaining area of the city outside the S-Bahn-Ring	All other districts within the administrative boundary of Warsaw
Zone 3	Part of the outer suburbs up to 15-30 km outside Zone 2	Part of the outer suburbs up to 15-30 km outside Zone 2	Part of the outer suburbs up to 15-30 km outside Zone 2*

*Consists of Błonie, Brwinów, Celestynów, Czosnów, Góra Kalwaria, Grodzisk Mazowiecki, Halinów, Izabelin, Jabłonna, Józefów, Karczew, Kobyłka, Konstancin-Jeziorna, Legionowo, Leszno, Lesznowola, Łomianki, Marki, Michałowice, Milanówek, Mińsk Mazowiecki (urban and rural), Nadarzyn, Nieporęt, Nowy Dwór Mazowiecki, Otwock, Ożarów Mazowiecki, Piaseczno, Piastów, Podkowa Leśna, Prażmów, Pruszków, Radzymin, Raszyn, Serock, Stare Babice, Sulejówek, Tarczyn, Wiązowna, Wieliszew, Wołomin, Ząbki, Zielonka municipalities

Source: own elaboration with the use of Navarre (2002) in case of Paris and Berlin.

Map A6.1. Employed inhabitants by location of working place



Map A6.2. Commuting flows between NUTS 3 (Paris and Berlin) and LAU 1 (Warsaw)

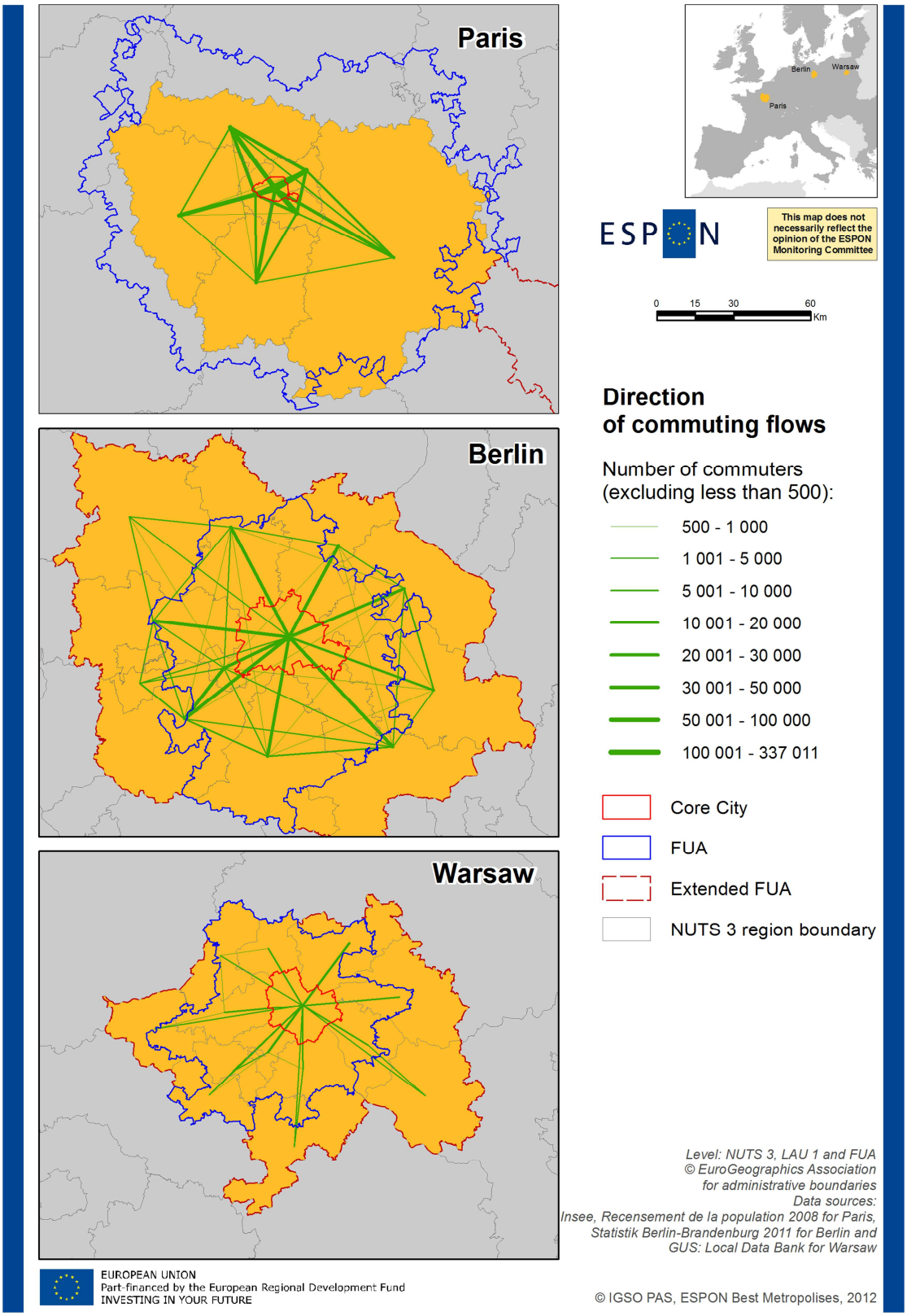
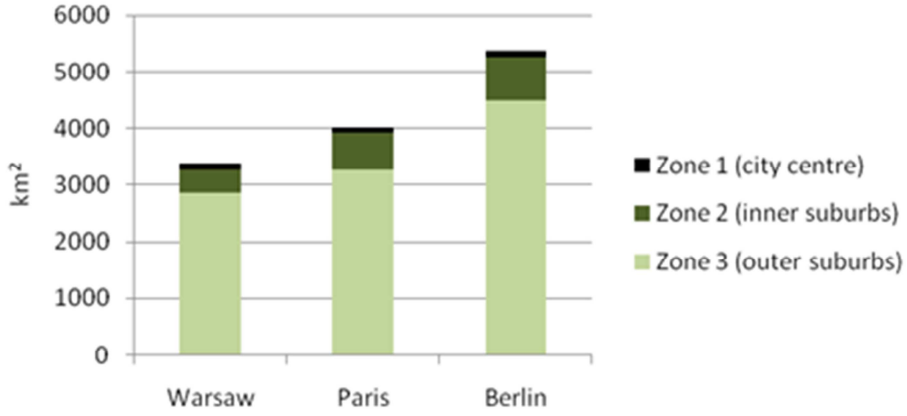
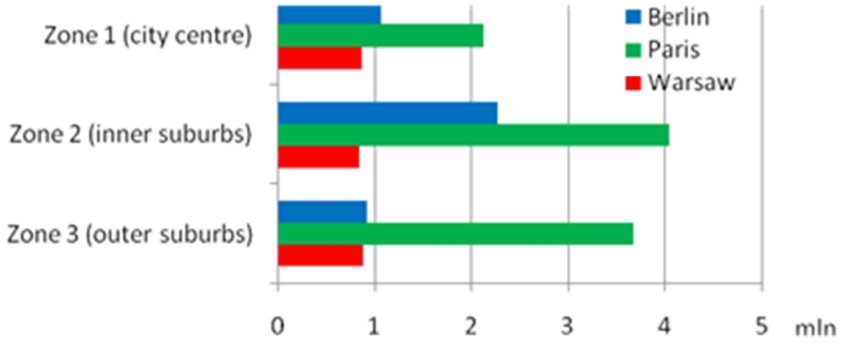


Figure A6.9. Area of zones 1,2 and 3 (km^2)



Source: own calculation based on Navarre (2002); Panorama dzielnic Warszawy w 2003 r., 2003; Local Data Bank, Poland

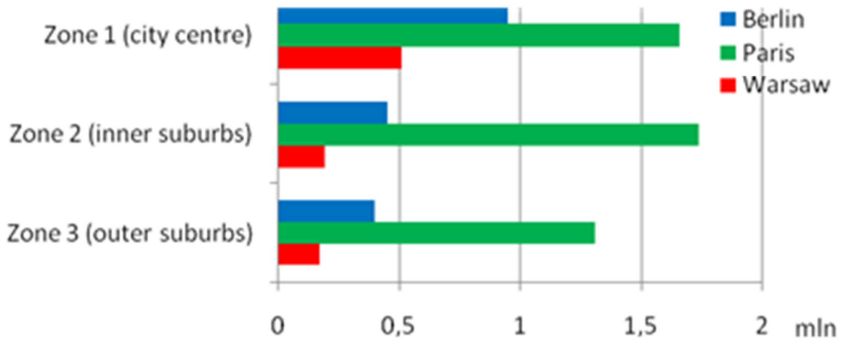
Figure A6.10. Distribution of population



Source: own calculation based on Navarre (2002); Panorama dzielnic Warszawy w 2003 r., 2003; Local Data Bank, Poland

In Paris the number of inhabitants in the outer and inner suburbs is similar and in each case nearly twice as big as in the city centre. In Berlin people living in the inner suburbs outnumber those living in the city centre and in the outer suburbs, where the population density is relatively small with Potsdam (of 153 thousand inhabitants) as the only bigger city in terms of population. In Warsaw the population is nearly equally distributed among the zones.

Figure A6.11. Distribution of working places



Source: own calculation based on Navarre (2002); Panorama dzielnic Warszawy w 2003 r., 2003; Local Data Bank, Poland

The workplaces are surprisingly nearly equally distributed among the zones in Paris metropolitan area. The jobs in Warsaw and Berlin are not as equally distributed as in Paris. In the metropolitan areas of the capitals of Germany and Poland the number of working places in the city centre is more than twice as bigger as in the inner or outer suburbs. However, in Berlin metropolitan area the number of jobs both in the inner and outer suburbs accounts for only approx. half of the jobs in the inner city. In Warsaw the difference is higher and the number of jobs in the city centre is nearly three times bigger than in the inner or outer suburbs. The distribution of workplaces in Warsaw metropolitan area differs strongly from the distribution of population. This is one of the reasons for relatively large commuting flows in the Warsaw metropolitan area, between the outer and inner suburbs in particular.

Summing up, the poor job accessibility in Warsaw metropolitan area and the lack of modern and effective individual and public transport connections between the city and its surrounding area have become an obstacle for in-commuters. Moreover, the lack of multimodal stations and park and ride places should be considered as a big problem for Warsaw metropolitan area.

6.8. Public transport near the boundary of the city in Paris, Berlin and Warsaw

Paris

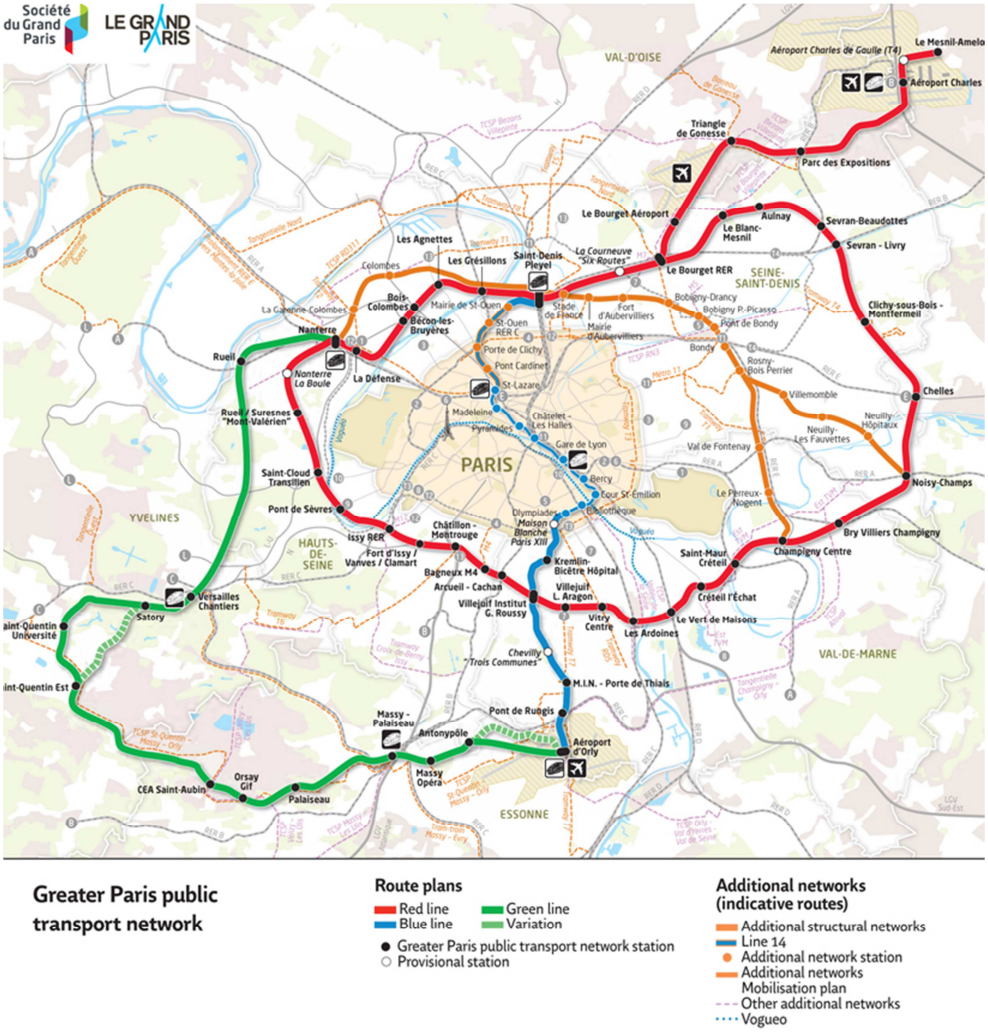
In 2011 the debate concerning the regional planned ring line Arc Express and the new Grand Paris project ended up with a compromise project of Grand Paris Express based on an outer suburb “double curl” subway (155 km), serving a range of existing and future economic clusters in the near and outer suburbs. This long term project (until 2025 and more) will include multimodal railway stations with intensive urban densification. The work on the line 14 extension to Mairie de Saint-Ouen (Northwards) is scheduled for completion in 2017. The first sections of the new orbital metro are expected to come into service in 2018 (Figure A6.3).

Public transport on demand around Roissy in Paris

Some experiences have also been carried out in Paris metropolis regarding transport on demand. Charles de Gaulle (Roissy) Airport and the big working area around is the main example since a ‘transport on demand’ network has been settled for workers. The existing network does not fit the workers’ needs: there is a fast transport system linking Paris and the airport but only few buses for local trips. Furthermore, many Charles de Gaulle airport workers spend staggered hours at work and cannot use the traditional public transport network which is available only during the day. In 2008, 12 000 Seine-et-Marne inhabitants (in the outer suburbs) worked in Roissy, 79 percent of them working out of hours.

Filéo bus network - formerly called Allobus is a special network created in 1999 for the workers and available on demand. It allows 1500 workers per day to go to work. It is composed of 6 lines and available in 22 cities around Roissy, round-the-clock. Its users give a call 30 minutes before they want to drop in at the nearest stop. It has mainly been settled and subsidized by the STIF and it is operated by a private transport firm (Keolis). The fare system is coordinated with STIF system: the same tickets and season tickets used within the Paris region network also function on Filéo network.

Map A6.3. Overall scheme of Grand Paris Express



Source: http://www.ratp.fr/en/ratp/r_33841/the-greater-paris-express-project/

Berlin

At the boundary of the city centre of Berlin exists a 37.5 km long S-Bahn railway called the Ringbahn or “Hundekopf (dog’s head)”. S-Bahn service is carried out by the S 41 (clockwise) and S 42 (counter-clockwise) circle lines, with 400,000 passengers a day. The completion of the inner-city-encircling Ringbahn was dated 2002. However, the planned extensions of lines S9 and S45 to the new Berlin-Brandenburg Airport have been postponed due to the announcement that the opening of the new airport has been delayed.

One of the main traffic problems concerns Berlin S-Bahn, a subsidiary company of Deutsche Bahn AG (German Railway Company). In 2009 a technical defect occurred and a train ran off the rails after deficits in maintenance. Since then, the service is partially interrupted, there are fewer wagons per train, the frequency of trains is reduced and temporarily the S-Bahn had to be operated at lower speed, thereby increasing inner-city travel times. The service was also interrupted during the two last winters. These interruptions were mainly caused by scarcity in maintenance. As a consequence of these interruptions and in order to improve the services, it is currently investigated whether the working assignment for the S-Bahn can be transferred to the city owned BVG company (which runs the subway, busses, trams and ferries) when the current contract terminates in 2017.

To guarantee a minimum mobility in suburban and rural areas of Brandenburg, the transport federation Berlin-Brandenburg (Verkehrsverbund Berlin-Brandenburg VBB), the local authorities and operators have implemented demand-responsive public transport services. A system between traditional bus and taxi was installed in places where the demand is too low to fill a bus. Passengers call the service in advance and the dispatcher of the services combines the requests of passengers to achieve a higher loading factor for the taxi (CAPRICE 2011).

Warsaw

Concerning the railway system within the metropolitan area of Warsaw, there are three important public services operating at different spatial scales. The Fast Urban Rail (belonging to ZTM) provides services between the core city and the major towns in the close suburban zone (3 lines connecting suburban towns of Pruszków, Otwock, Sulejówek and Legionowo with the centre of Warsaw). The service is strengthened by a short-distance train company (Warszawska Kolej Dojazdowa WKD) operator. In addition, the regional operator Mazovian Railways (KM) is responsible for more distant connections within the Mazovia Voivodeship. All the lines aim at linking the city with suburban cities. However, there is no public transport ring.

Maria Skłodowska-Curie Bridge in Warsaw

Parts of Warsaw located on the right bank of the Vistula river experience dynamic changes in terms of new housing developments, which attract new inhabitants from other parts of the city, from the metropolitan area and other parts of Mazovia region or Poland. Most of them are professionally active and commute to other parts of the city where jobs are located. The best example is the district of Białołęka. Between 2002 and 2010, the number of Białołęka's inhabitants has increased from around 60 000 to more than 92 000. The district is characterized by one of the lowest shares of the eldest population category (population aged 75 years and older constituted 2.5 percent of the district's population) and by the highest share of the youngest population (population under 19 years of age constituted 24.1 percent of the district's population) in the city. The majority of the inhabitants live in two subdivisions located near to the river – Tarchomin (large housing estates from 1970s and 1980s) and Nowodwory (newly-built housing estates).

The problem of poor accessibility of Białołęka has been partially solved due to the construction of the Maria Skłodowska-Curie Bridge, which connects Białołęka with the western part of Warsaw (Bielany district) over the Vistula River. The bridge was opened in 2012 as the eighth road bridge in Warsaw. The new route connects Białołęka with the Warsaw's only metro line (northern end of the first metro line in Młociny station). The route consists of three parallel bridges, two for motor vehicles and one for light rail, bicycles and pedestrians.

The main objectives of the investment were as follows: to shorten travel times and costs within the Warsaw transport system, to improve the accessibility of Białołęka district, to increase the modal split to more sustainable modes of transport (tramway and metro), to increase comfort and safety while travelling to the city center (intelligent transport systems), to increase public transport frequency, to limit noise levels and GHG emission, to improve the integration of different means of transport (multimodal stations), and to increase the attractiveness of the terrain along the tramway route (economic activity).

The Maria Skłodowska-Curie Bridge can be seen as a strategic type of investment. It might be anticipated that it will have an important impact on the development processes both in Warsaw and the surrounding area. Warsaw needs more strategic investments which open new development perspectives, contribute to sustainable development, increase territorial cohesion, and reduce differences in access to urban goods.

Maria Skłodowska-Curie Bridge route is an exception in this respect that it links two suburbs by a new tram line. Further extensions of the tram network in the whole city are planned only after 2020. However, it is worth mentioning that in June 2012 a new railway line connecting Chopin Airport with central Warsaw was opened. The journey to the city centre takes around 25 minutes. The construction began in 2006 with a major repair of an 8-kilometer track section including the construction of two new stops. These stops will serve the newly built office, commercial areas and housing estates (www.lotnisko-chopina.pl).

6.9. Public transport management in Paris, Berlin and Warsaw

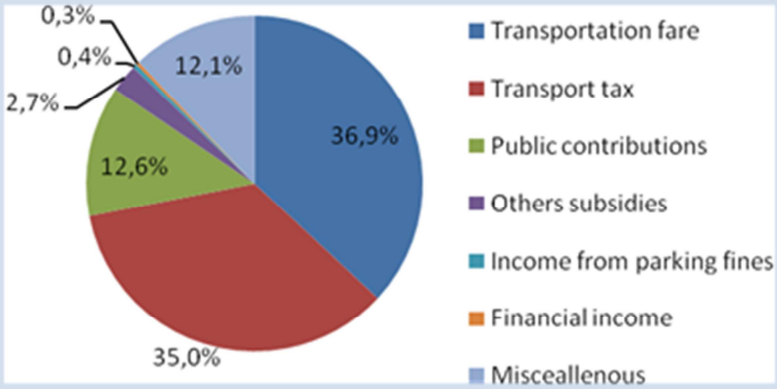
Paris

In the Paris region, the Paris Ile de France Transport Syndicate, a regional organizational authority (Syndicat des Transports d'Ile-de-France STIF) is responsible for organizing public transport in Île-de-France. Since 2000 a contract between STIF and RATP (Régie Autonome des Transports Parisiens) defines the duties of each side and the quantity and quality of transport services which companies must provide. This gross-cost contract replaced the former deficit-balancing subsidy. RATP directly operates most of the public transport both in Paris and Île-de-France region including Paris Métro, tram and bus services and part of the RER network.

Transport tax as a resource of public transport funding in Ile de-France

The transport tax (fr. *versement transport*) is a very important source of income and significant position in the budget of the STIF. The tax was established in 1971. It is calculated on wages and is paid by every company that employs more than nine people. The tax covered in 2009 around 39 percent of the total public transport costs (cost of operations + investments) in Ile-de-France region. The transport tax was originally intended to increase the capital for investment in public transport infrastructure. In fact it is more and more used to cover its operating expenses. The board of STIF decides every year about the total amount of the public contributions which are to be shared between the members (51 percent for the region of Ile de France, 30 percent for the city of Paris and the remaining 19 percent for other counties of Ile de France) (CAPRICE 2011).

Figure A6.12. Funding public transport in Ile de France in 2008



Source: http://www.caprice-project.info/spip.php?article30

Berlin

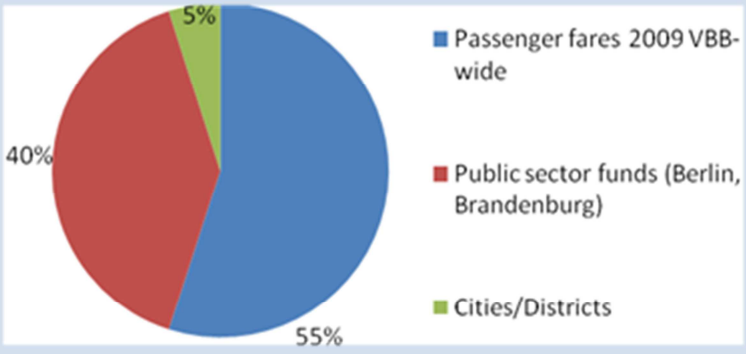
The tariff regulations for public transport in the Berlin- Brandenburg region are controlled and organized by the transport federation Berlin-Brandenburg (Verkehrsverbund Berlin Brandenburg VBB), which is an organization owned and controlled by the states of Berlin and Brandenburg and the counties within the region. The tariff is consistent for the whole region and applies to all modes of transportation. Single traffic companies or municipalities are not allowed to make own tariffs, but have to stick to the common regulations. This system is a major advancement compared to the pre-1999 existing status, in which each traffic company had an own tariff.

The tariff in the Berlin metropolitan area is based on the division of the region into several zones, which are three for the case of Berlin with an inner- city (city centre within the S-Bahn ring), an outer- city and the area surrounding Berlin with the S-Bahn stops. The state of Brandenburg is divided into approx. 1300 sub-districts, followed by a pattern of honeycombs, not necessarily sticking to political borders. The price of a ticket is calculated after an algorithm considering the number of sub districts touched by the travel route. Neither the distance of the travel route nor the choice of transportation play a role in the price of the tickets (http://www.vmv-mbh.de/downloads/Vortrag%20VBB_Jens_Burghardt.pdf).

Financing of public transportation in Berlin-Brandenburg region

The financing of public transportation measures in the Berlin- Brandenburg region is based on three sources: earnings from sold tickets, subsidiaries by the states of Berlin and Brandenburg and additional subsidiaries from counties and cities. While subsidiaries are negotiated on the base of long- term traffic contracts, the division of earnings is calculated for every year, following a complex model and including every involved transportation company by considering their particular number of passengers, earnings and other parameters. The model for division of earnings is also included in negotiations on the traffic contracts. The VBB is executing both negotiations and contract controlling as a service provider for the states and counties (http://www.vmv-mbh.de/downloads/Vortrag%20VBB_Jens_Burghardt.pdf).

Figure A6.13. Sources of finance in public transport in Berlin-Brandenburg



Source:http://www.polisnetwork.eu/uploads/Modules/PublicDocuments/Gross_cost_incentive_contracts___an_innovative_instrument_of_financing_local_and_regional_railways__Dr_Alexander_West__Verkehrsverbund_Berlin-Brandenburg.pdf

The range of companies carrying out the particular transport is wide, reaching from state-owned companies like Deutsche Bahn (DB) for regional and commuter trains (S-Bahn) or the Berlin Traffic Enterprise (Berliner Verkehrsbetriebe BVG) for Subway, Tramway and Busses in Berlin to small Bus- companies and smaller railway companies as well. The VBB is the organization acting between transport planning authorities (states and counties) and the companies operating the particular transport mode. Which company will be responsible for which traffic is decided with the renewing of contracts, which usually run for a long period (depending on the type of contract - in rail transport 10 years+).

A problematic situation in terms of market conditions arises through a unique infrastructure within both the commuter train and the subway system in Berlin, which can only be operated with special trains. As a result, the owners of the particular rolling stock (DB for commuter trains, BVG for the subway) have a monopoly, which became important in the last years, when several management mistakes led to problems in the S-Bahn traffic, but through the position of S-Bahn owner DB, a cancellation of the traffic treaty was impossible (http://www.ihk-berlin.de/linkableblob/1210976/.7./data/S_Bahn_Ausschreibung-data.pdf). These problems indicate the complexity of managing and maintaining such a modal split in accordance with local needs.

Warsaw

The Public Transport Authority (Zarząd Transportu Miejskiego - ZTM) is an organiser of public transport within the boundaries of the city of Warsaw. Selected lines (i.e. zone lines) are extended also beyond the city's borders, providing convenient connections within the territory of Warsaw agglomeration.

As the metropolitan transport system combines different modes of transport, an integrated – long and medium term ticket was introduced (ZTM-KM-WKD Integrated Ticket) to facilitate the travel within Warsaw metropolitan area. The Integrated Ticket is honoured within the designated area by railway carriers, local bus lines, which are opened by the Public Transport Authority and commune self-governments of the Warsaw region. However, the problem of cost allocation of this initiative between Warsaw and other suburban municipalities does still exist. Therefore, the establishment of a common metropolitan transport authority is a clear core objective included in the transport strategy in Warsaw. However, such change will require the adoption of the new Metropolitan Act. In the meantime, until the appropriate law is adopted, the city would prefer to conduct the bargaining process at the powiat level. Current negotiations at the municipality level are difficult due to the different (central or peripheral) localization of railway stations in particular municipalities.

The construction of intermodal stations between different transport systems (national railways, regional railways and metro) is still an urgent need in Warsaw. Unfortunately, even though the investments have been realized recently, they rarely include intermodal stations. As an example serves the inconvenient interchange between the Śródmieście railway station and Centrum metro station. Another example could be the lack of underground connection between the new Stadium metro station (of the second metro line, under construction in 2012) and the PKP Stadium railway station. In the latter example, the previous idea of a tunnel for passengers was abandoned. The problem arises in many other parts of the city due to the fact that the negotiation process between railway companies and the city of Warsaw is complicated. One of the reasons is the large number of companies on the railway side.

Comparison

Proper public transport management is crucial for better job accessibility. Paris and Berlin have an integrated public transport management system at the regional level. In both metropolises the regional authority controls public transportation including imposing tariffs in the region. With regard to the management of public transport, Paris and Berlin can be seen as examples of well-adjusted solution to the needs of regional transport system. The metropolitan area of Warsaw struggles with problems concerning the organization and management of common public transport that would be satisfactory for both Warsaw citizens and in-commuters from the neighbouring municipalities. The lack of an integrated public transportation system at the regional or metropolitan level is the major obstacle to providing integrated services for different modes of transport in the capital of Poland.

Table A6.5. Public transport management

	regional public transportation organization model	fare policy
Paris	Syndicat des transports d'Ile-de-France (STIF) defines and organizes public transport services for the Ile-de-France Region	Integrated public transport services and integrated fare policy Public transport tax paid by companies in the metropolitan area
Berlin	Verkehrsverbund Berlin-Brandenburg (VBB) organizes tariff regulations in the Berlin- Brandenburg region. It is a public transport authority owned and controlled by the states of Berlin and Brandenburg	Tariff consistent for the whole region and applied to all modes of transportation
Warsaw	Lack of integrated public transport management system at the regional or metropolitan level as Warsaw Public Transport Authority is a budgetary unit of the Capital of Warsaw	Three important public services operating at different spatial scales Problem of cost allocation between Warsaw and other suburban municipalities (agglomeration ticket)

6.10. Conclusions and recommendations

The process of suburbanisation, the increase of the motorization rate, the technological development leading to sustainable solutions for both individual and public transport and many other challenges have a strong impact on the transportation system, job accessibility and daily mobility in three metropolitan areas.

The conclusions of this chapter refer both to infrastructure and organizational challenges. Agglomeration effects in the three metropolises can be strengthened by decreasing travel times and relieving bottlenecks through the construction of tunnels, bypasses or new metro lines (infrastructural solutions). On the organizational side – the introduction of congestion pricing schemes and improvement of public transport management are possible solutions.

The most important conclusion and recommendation for Warsaw, marked by features of a post-socialist city with an insufficiency of transport infrastructure provision both with respect to individual and public transport is that it should overcome its latecomer position by investing in new metro lines, ring roads, interchange stations and 'park and ride' facilities. In the case of Paris metropolis, the completion of Grand Paris Express project will have partially solved the problems of connecting the outer suburbs, which is the city's main transportation disadvantage. As for Berlin, the effective public transport network needs only small improvements.

The commuting flows in Paris region are higher than in Berlin and Warsaw metropolitan areas mainly due to different population and job distribution. The Berlin and Paris commuting matrices resemble a “spider web”, while in Warsaw most of the people commute to the city centre. However, in all three metropolises the commuting length has increased over the last decades. Therefore, a policy should be considered regarding incentives for firms to locate their activities close to residential areas. In Warsaw more developers should be attracted to the city centre so that the number of inhabitants and working places in the city centre, inner suburbs and outer suburbs is more balanced.

In terms of energy efficiency, it is recommended to implement new solutions, including hybrid engines in buses. The introduction of congestion pricing systems and environmental zones in the city centres are seen as interesting ideas. In order to make the public transport usage more comfortable, integrated passenger information and integrated tickets are necessary for metropolitan areas. Furthermore, additional improvement should be made to facilitate the access to all modes of public transport for passengers with reduced mobility.

Warsaw metropolis should follow good practices of Syndicat des Transports d’Ile-de-France and Verkehrsverbund Berlin-Brandenburg, and implement integrated public transport system management. Public transport authorities ought to be capable of setting up complex rate systems both for their administrative boundaries and the surrounding commuting areas. Background systems for sharing the revenues among all operators involved are needed. If a railway company is a national or private one, the national regulator is needed to assure the integration of fares between the railway and local public transport. Regions should insist to introduce new legal solutions so that one integrated regional authority could manage all means of their public transport. The introduction of a new transportation tax may be considered to make public transport financing at the regional level constant and reliable.

In the future, further research is needed to evaluate the direct and indirect effects of new public and individual transport investments with particular attention focus on the A2 motorway, the S2, S7 and S8 extensions and the second metro line in Warsaw or the Grand Paris Express in Paris. The impact of metro and tram extensions on the modal split and the decrease of motorization rate in all three metropolises should be studied both by local government policy-makers and scientists. The good solutions of public transport management from Paris and Berlin should be implemented and monitored in Warsaw metropolitan area.

7. Intra-metropolitan migrations

7.1. Introduction: aims, research methods, source materials

Constant population movements of residential character are crucial factors shaping the contemporary socio-spatial structures in urban areas, including developed countries. This results from the general increase of mobility, weakening or even decrease of birth rates. Thus, identification of the direction and intensity of migration processes is an essential element which increases the possibility of explanation of processes of social differentiation, spatial segregation and, in general, the development of socio-spatial structures. Therefore human displacement and migratory flows are considered as one of the most important elements influencing Europe 2020 priority: inclusive growth.

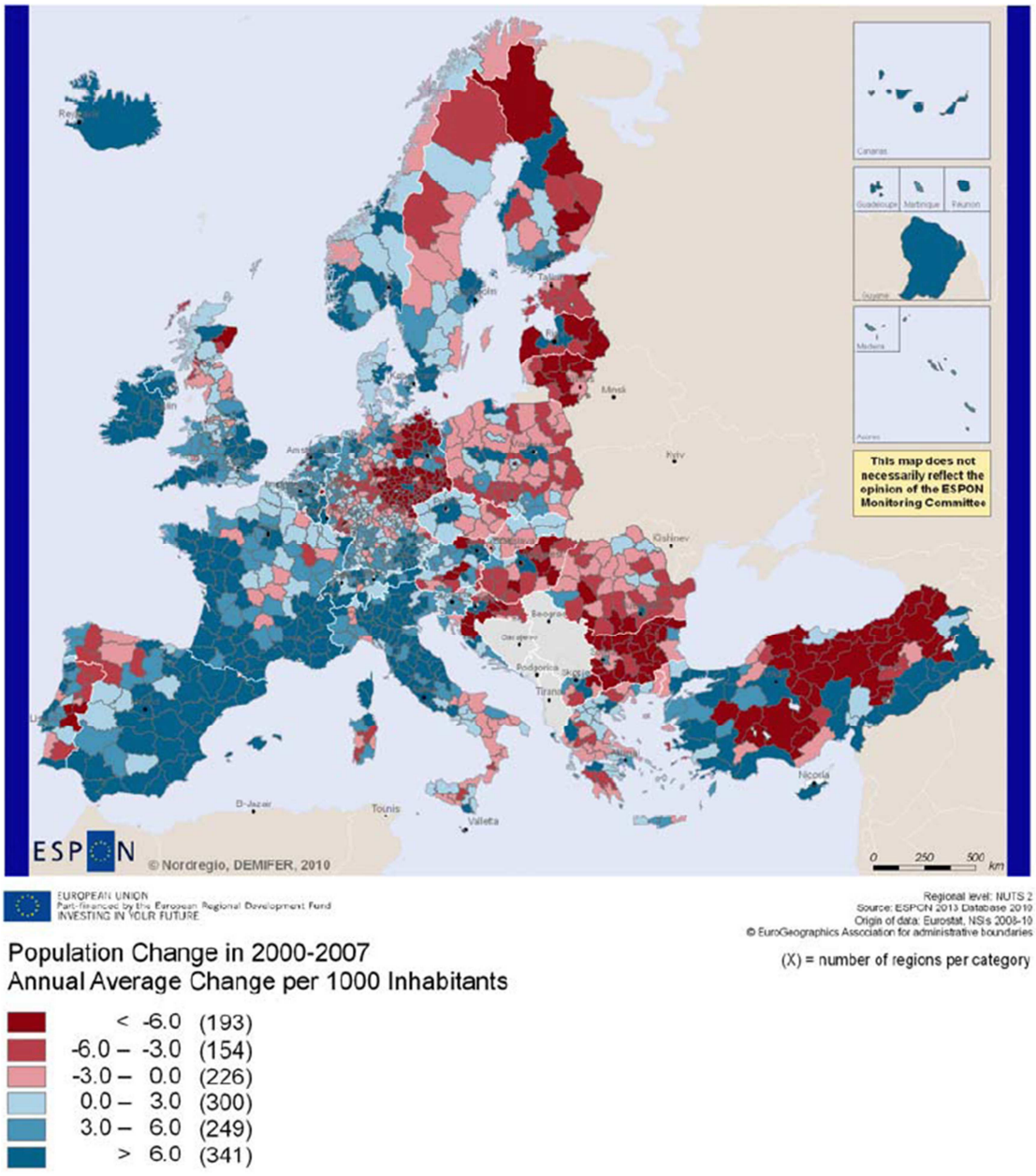
For these reasons, the analysis of migration processes is one of the most important issues in terms of understanding development, not only demographically, but also economically. In previous works, ESPON projects have paid a substantive amount of attention to this issue. Firstly, three projects were specifically dedicated to migration issues: 1.1.4. (The Spatial Effects of Demographic Trends and Migration), DEMIFER (Demographic and Migratory Flows Affecting European Regions and Cities) and SEMIGRA (Selective Migration and Unbalanced Sex Ratio in Rural Regions). Moreover, migrations were an important factor in the development of broader structures and systems, such as metropolitan centres in particular, the outermost regions, or processes explicitly connected with them, like metropolisation and peripheralisation. Further projects to be called upon here, are: ATTREG (Attractiveness of European Regions and Cities for Residents and Visitors), EDORA (European Development Opportunities in Rural Areas) and FOCI (Future Orientation for Cities).

Both groups of applied research and targeted analyses of ESPON projects, especially touch upon the context of backwash effects of human resources and their concentration in metropolitan areas or other attractive types of regions (e.g. tourism clusters). The mechanism of selective migration is believed to be one of the main reasons for the impairment of peripheral regions, including rural and agricultural ones. On the other hand, over-concentration and high volume of immigration, including foreign immigration, which focuses on larger urban centres is a factor influencing social segregation of different types: income, education, and ethnic or ethno-religious. This becomes a major challenge in terms of shaping urban policy, especially its social context.

The achievements of the ESPON projects, and more broadly migration research in Europe clearly shows that the processes of selective long-term movements, especially of residential character, become particularly vivid in large urban areas. Analyses indicate that it is happening due to a large number of factors. First, there is the economic attractiveness, associated with obtaining high or relatively higher income from work, both legal and illegal (mainly in the case of foreign immigrants). The second factor, associated with the previous, is the appropriate size of a unit in terms of population and economic potential, which allows anonymity both with respect to the living place and place of work. The second group of factors is associated with the possibilities of personal growth and career. It was no coincidence that the second demographic transition revealed itself in the metropolitan areas of Western Europe, where the possibilities of career development are the biggest.

In European countries generally one can observe a growth of population in all major metropolitan areas (Map A7.1). However it is characteristic that differences in population between metropolitan and remote areas are growing (e.g. in eastern Germany and Poland).

Map A7.1. Population change in NUTS 3 in Europe, 2000-2007



Source: Demographic and migratory flows affecting European regions and cities. Applied Research Project 2013/1/3. Atlas of maps for Draft Final Report (The ESPON 2013 Programme: DEMIFER).

According to the results of ESPON projects the influence of less important factors motivating movement, will gain on importance. The recent studies stress the particular importance of the so-called cultural industries. In the scenarios of population and economic development the competitive opportunities of the largest European cities in terms of attracting the most creative individuals are taken into account. This is due to a kind of renaissance of the model of an open city, known

since the Middle Ages, especially favourable for creative and innovative individuals - people of science, art, culture, experts, highly qualified specialists, etc.

In this context the importance of capital and generally prime cities in individual countries is stressed. This is particularly true for major European cities, which take up highest positions in the settlement hierarchy: London and Paris. Also the importance of Berlin can be highlighted in this context; the city in the future may play a role in organizing the process of selective migration, related to attracting highly qualified professionals from Central and Eastern Europe, where competitive presence of Warsaw, Prague, Budapest and Vienna considering above mentioned processes should also be noticed.

The above discussion of the results and analyses revealed in the completed and ongoing ESPON projects indicates that the comparative analysis of Paris, Berlin and Warsaw constitutes a good experimental field. Migration Studies, carried out for these cities include the case of a world city (Paris), a second order city (Berlin) and a third or fourth order city (Warsaw), in many aspects competing with each other and characterized by the development of the same processes and problems appearing at different levels and on various advancement stages, with a variety of practical approaches.

The main objectives of this part of the project are, therefore, the evaluation of migration processes from the perspective of development of spatial structures and urban policy. To do this, it was necessary to carry out several types of analyses. The first condition was a detailed identification of the current situation in terms of various factors affecting the migration process in specific urban centres. These conditions vary in nature and are generally associated with four categories of premises.

Firstly, the population movements are influenced by the economic situation, associated with the position of the individual centres, mainly in terms of demand and the structure of the labour market and its attractiveness as a place of residence and professional careers. The second factor determining the volume, intensity and structure of migration are clearly demographic conditions, especially in connection with the structure of population in the source areas. Thirdly, an important issue is the availability of accommodation, closely linked to real estate market and general economic situation, including income level and availability of credits. The fourth element is a broad spectrum of urban and infrastructure conditions, particularly regarding the spatial politics of urban and regional authorities, as well as the issue of accessibility. The latter is conditioned by the availability of housing, manifested in a characteristic way in the form of substitution of residential migration by commuting.

The conclusions are based on available sources and information about contemporary processes and original data on the size, structure and direction of migration. For the three analysed agglomerations official statistical data were used. These data consist mainly of annual volumes of inflows and outflows by communes (local LAU-2 units), as well as matrices of the source and target communities for different years. The empirical analysis used classical metrics and indicators of migration (inflow, outflow, efficiency) and cartographic analysis. In accordance with the objectives of the project, studied areas were divided into core and outer zone, which were further divided into smaller units.

In Berlin current registers of population were used (Statistik Berlin-Brandenburg) and secondary data of the City Hall (i.e. Stadtprofil Berlin 2010), as well as other studies (Häußermann 2010, Burdack and Hesse 2007). In Paris data on population censuses in 1962-2006 and Household Survey 2001-2006 (INSEE) and other studies served

as basis for research (Berger 2010, 2011, Berger and Brun 2006, De Biasi 2011, Bonvalet 2010, Charrier 2009, Salembier and Jankiel 2008). Migration flows between communes (and districts in Paris) including flows of 100 and more inhabitants, deciding on not changing their place of residence (commune) within the last 5 years. For Warsaw data of the Central Statistical Office were used: registered populations in communes and districts and registered migration inflows and outflows (2000-2009, in this the matrix of inter-districts and inter-communes' flows 2003, 2006, 2009) as well as additional studies (Potrykowska and Śleszyński 1999, Lisowski 2005, 2010, Gutry-Korycka 2005, Śleszyński 2004a). Data due to the way of registration does not cover all the actual migration flows in the Warsaw metropolitan area. More detailed description of data sources is shown in Table A7.1.

Table A7.1. Characteristics of the data sources used in studies of migration in metropolitan areas of Berlin, Paris and Warsaw

City	Used data	Source of data (institutions responsible for collecting and transmitting data)	Remarks
Berlin	Current registration of population, Regionaldatenbank Deutschland	Statistik Berlin-Brandenburg, City Hall	Secondary data (City Hall)
Paris	Population censuses (recensements de la population) 1962, 1982, 1999, 2006 (expl. princ.), 2008 (expl. princ. et complem.) ; Household survey 2001-2006 (fr. Enquêtes Nationales sur le Logement) ;	Institut National de la Statistique et des Études Économiques (INSEE)	Migration flows between communities (and districts in Paris) above 100 (Flux de mobilité - migrations résidentielles (seuil : flux >= 100) ; number of inhabitants who decides not to change living place (commune) within last 5 years (Population n'ayant pas changé de commune de résidence à 5 ans d'intervalle ou Population ayant changé de commune de résidence à 5 ans)
Warsaw	Migration inflows and outflows in the period 2000-2009, the matrix of inter-district and inter-commune flow 2003, 2006, 2009	Central Statistical Office in Poland	Data due to the way of registration does not cover all the actual movements and within the Warsaw agglomeration are underestimated by 20-30%.

Source: Own elaboration.

6.2. Paris

General trends and motivations

In spite of a weaker growth and an acute housing crisis (both quantitative and qualitative) Paris Region maintains a dominant position in the national scale (1/4 population, 1/3 jobs) and with respect to national / international attractiveness. Slow population growth comes as a result of a negative migration but a positive natural increase, due to a high birth rate (15.4/1000 / 12.1 in France) and an immigrants' profile (young and fertile newcomers, immigration with families). The net migration rate in IDF (compared to the global population) is the lowest among the 22 French regions. However, according to INSEE forecast, a regional light growth should go on until 2050, the capital being attractive for young population while regional metropolises for its older part.

Paris Region becomes more and more specialized in high qualification employment, with a large middle class society on the one hand and range of low qualified workers on the other, therefore the social profile is more and more extended in the extremes. The structures of newcomers to Paris region are mostly composed of single persons or childless couples, young people looking for studying and working opportunities to begin their career, but also poor households from abroad. Outgoing population families (in search for better quality of life, affordable and adequate accommodations, home-return) and pensioners (home-return, heliotropism) constitute two important categories, which may choose to move to another regional capital. Furthermore, paperless (200 to 400.000 persons in France) and homeless (10 to 12000 in Paris and 100000 in France along the Ministry, 33 000 and 100000 in shelters, of which 33% in Paris Region along INSEE) people create an invisible geography of mobility in insalubrious housing (Paris, Seine-Saint-Denis), slumlords or emergency shelters.

Table A7.2. Previous place of living of inhabitants in IDF region (5 years earlier). Population aged 5 years and more.

Place of living in 2003 (1st of January)	Inhabitants of IDF in 2008 (1st of January)
In the same region	10 037 339
In the same local community	8 248 250
In the same apartment	6 945 732
In other region or abroad	810 492
Total	10 847 831

Source: Insee, RP2008 exploitation principale.

Housing mobility is decreasing since a decade in Ile-de-France (due to the high level of prices and to the lack of affordable housing), 1/5 of new inhabitants come from other regions or abroad, 1/5 live with parents, 3/5 have their own apartment in Ile-de-France (ENL). That is why the question of residential mobility and housing demand of Île-de-France inhabitants have been raised from several perspectives. Four kinds of motivations to change the place of accommodation might be distinguished: economic, family reasons, professional and social (Bonvalet 2010; also Authier and Lévy 2010). In general, these motivations reflect the aim to improve social position through change of place of living; Bonvalet (2010) also stresses the importance of stakes connected with the education of children. Specific housing supply in Paris, poorly adequate for families (Bonvalet 2010; *Comment produire du logement…* 2007) has caused that household with children are pushed to move further from the agglomeration centre in order to obtain larger dwellings which would better correspond to their needs (Salembier and Jankiel 2008).

M. Berger (2006, 2010; also Tabard 1993) highlights the differentiation of localization of households within Île-de-France region: white-collars are more often owners of a single family house in the most attractive western and south-western close suburbs of Paris which reflects a continuum of East-West subdivision of Paris into "poor" and "rich" districts (Pinçon and Pinçon-Charlot 2004). At the same time, blue-collars are obliged to search for accommodation in more distant areas of the agglomeration.

According to the National Housing Survey conducted in France (fr. *Enquêtes Nationales sur le Logement*) change of the work place rarely constitutes a motivation for residential mobility within the same region. Simultaneously, inter-departmental mobility seems to be directly connected with professional reasons and local mobility corresponds to consecutive stages in the family life cycle (Berger and Brun 2006). Hence, the other motivations are usually given greater importance by the households, for instance: a wish to become an owner-occupier, search for an individual house or a bigger dwelling.

It should also be stressed that the tenure structure of dwellings has a direct impact on households' mobility, particularly in Île-de-France region. The owner-occupiers as well as the private renters are usually more mobile and change their place of accommodation more often when compared to the population living in social dwellings HLM (*La mobilité résidentielle…* 2009; Guillouet and Pauquet 2010). The mobility in social housing (22% of inhabitants, originally conceived as temporary) has become very low (6.2% (against 9.7% in France – AORIF)). The private rental housing is rare and too expensive and in the dense area, social housing is often the only way to stay for low or middle income households. Other reasons of weakening mobility are: a low rate of housing construction (in 2010, 42 000 units at work, against an annual objective of 70 000) and too many small dwellings in rental investment (a large part of the construction with social housing at the moment). On the whole stock, the mobility rate is 10% in 2010 and is decreasing, people postpone their residential project because of the financial crisis.

Table A7.3. Population growth in Île-de-France region.

Region	Population (1st of January 2006), thous.	Average population growth rate (annual in %)			Average population growth rate: natural growth rate (annual in %)			Average population growth rate: net migration (annual in %)		
		1999-2006	1982-1999	1962-1982	1999-2006	1982-1999	1962-1982	1999-2006	1982-1999	1962-1982
Paris	2,181.4	0,4	-0,1	-1,2	0,7	0,5	0,4	-0,4	-0,6	-1,6
Petite couronne	4,326.4	1,0	0,2	0,6	1,0	0,9	0,8	0,0	-0,7	-0,2
Communes neighbouring Paris	1,325.6	1,3	0,1	-0,3	1,0	0,8	0,6	0,2	-0,7	-0,9
Other communes in *petite couronne*	3,000.8	0,9	0,2	1,1	1,0	0,9	1,0	-0,2	-0,7	0,1
Grande couronne	5,024.6	0,7	1,1	2,9	0,9	0,9	1,0	-0,2	0,2	1,9
Communes within Paris agglomeration	3,635.2	0,6	0,9	3,1	0,9	1,0	1,1	-0,3	-0,1	2,0
Communes in the peri-urbain zone of Paris	1,277.8	0,9	1,6	2,6	0,6	0,6	0,6	0,3	1,0	2,0
Other communes within *grande couronne*	111.6	0,2	0,6	1,1	0,3	0,3	0,5	-0,1	0,3	0,6
Ile-de-France	11,532.4	0,7	0,5	0,9	0,9	0,8	0,8	-0,2	-0,3	0,1
Other regions	49,867.1	0,7	0,4	0,8	0,3	0,3	0,5	0,4	0,1	0,3
France	61,399.5	0,7	0,4	0,8	0,4	0,4	0,5	0,3	0,1	0,2

Source: Insee, recensements de la population 1962, 1982, 1999 et 2006 ; état civil 1962-2005

Regularities and intensity of internal migrations

During the urban expansion (until 1984), the residential mobility was sustained by a new residential supply, in a centrifugal movement (rapid growth of the outer suburbs). Then, it has everywhere decreased, especially in social housing (inhabitants prefer staying, because of too high prices everywhere else). The residential route broke-down: the private rental sector (decreasing with urban renewal) is still a temporary housing but more expensive, social housing (conceived and active until 1984 as a first step) is impoverished and more stable, buying has become very difficult.

According to the National Housing Survey in 2006, 1 538 000 of households (31,4%) in Île-de-France region have changed their dwelling during the last four years[26] compared to 2 559 000 households (52,3%) which have stayed in the same apartment for at least eight years (*La mobilité résidentielle… 2009*). In 1984, the share of households that have changed their dwelling recently in the total number of households in the region was slightly higher (34,6 %) whereas the share of households occupying the same apartment for a long time was lower (45,4 %).

Table A7.4. Residential migration rate between 2003 and 2008.

Age group	Paris	Seine-et-Marne	Yvelines	Essonne	Hauts-de-Seine	Seine-Saint-Denis	Val-de-Marne	Val-d'Oise	Ile-de-France
Until 18 years old	-256,3	25,2	-46,2	-45,6	-159,3	-132,9	-116,5	-50,3	-101,8
18-24	578,2	-76,9	-148,2	-42,1	229,2	31,6	160,4	-44,8	117,9
25-39	-245,9	106,1	17,2	9,1	39,6	-74,6	-13,9	-31,3	-51,2
40-64	-174,7	-25,8	-67,3	-64,6	-90,4	-92,9	-75,3	-76,9	-90,0
65 years old and more	-132,8	-61,5	-111,5	-114,3	-100,4	-149,2	-103,3	-116,9	-113,5
Total	-128,1	1,7	-61,8	-52,1	-43,5	-93,0	-51,3	-65,0	-67,2

Source: Insee, RP2008 exploitation principale.

Between 2001 and 2006, the net migration rate between Île-de-France region and abroad was positive, however, Parisian region loses in migration flows with other regions (556 000 inflow compared to 902 000 outflow). As a result, between 2001 and 2006, Île-de-France region lost 66 inhabitants per 10 000 each year (Charrier 2009). It is worth noting that internal migrations within the region play a more important role than external: 7,9% of IDF inhabitants inhabited other region 5 years ago, whereas 8,6% of IDF inhabitants has changed the place of accommodation within the region. Moreover, two thirds of inhabitants in the region have stayed in the same apartment between 2003 and 2008 (Table A7.4) which indicates a decline of residential mobility within IDF (Berger and Brun 2006).

Concerning residential mobility of economically active persons, between 2001 and 2006, they moved very often from the agglomeration centre to more peripheral communities. Due to the residential mobility, households increased the distance from the city centre for about 1,2 km: after their change of accommodation, they inhabited about 17,1 km from the centre of the agglomeration instead of 15,9 km before (Berger 2011). Nevertheless, this regularity did not include the group of young inactive population which usually moved out from peripheral communities towards the core city where the housing offer suits better to their needs i.e. there exists an important share of small dwellings for rent (Berger 2011, de Biasi 2011). Finally,

[26] 280 234 have moved from other regions.

different social categories are more or less mobile which is often associated with an increase in dwellings' prices, particularly in the core city. This is perceived as a major factor that influences the mobility of less affluent population towards more peripheral areas.

Directions of internal migrations

In the case of the Paris metropolitan area the phenomenon of peri-urbanisation (fr. périurbanisation) reveals itself fully. Its characteristic features are relatively large distance flows, which according to French sources are on average longer than 40 km (Cavailhes *et al.* 2004, by Lisowski and Grochowski 2008). This creates serious challenges for transport, as most of the migrants are still in close relationship with Paris through the daily work commuting. However, because the inflow areas are mostly not strongly urbanized, the process of peri-urbanisation is associated with favourable changes in quality of housing, which is the main reason for migration on such a large distances.

The directions of migration that appear within Paris metropolis shall be treated at two spatial levels. First of all, general trends shall be described according to the spatial division into: core city of Paris, first ring of suburbs (fr. *Petite Couronne*) and outer ring of suburbs (fr. *Grande Couronne*). According to the data issued from the consecutive National Population Censuses (Table A7.4), the core city of Paris as well as the first ring of suburbs has started to increase the population recently, whereas in the outer suburbs (characterized by lesser population density) the population growth rate has diminished. This phenomenon of reconcentration (fr. *recentrage*) of population growth is explained by the redensification (fr. *redensification*) of the centre of agglomeration (Mary-Portas 2009). More detailed analysis concerning residential mobility between communes within Ile-de-France region completes and enriches the study.

The directions of residential mobility in Paris metropolis vary between the three parts of Paris metropolis: the core city, first ring of suburbs and outer suburbs (Table A7.5). The newcomers to the core city have been already citizens of Paris or are recruited from outside of the Ile-de-France region or from abroad. Those who have moved to the communes localised in the first ring of suburbs have been already living there before or came from Paris. Finally, in the outer suburbs, apart from internal residential mobility, new residents are mostly recruited from abroad. This structure of residential mobility in the Ile-de-France region outlines three issues:

- in the core city, important impact of newcomers from outside the region on the socio-spatial structures,
- essential migration of residents between the core city and inner suburbs,
- in case of outer suburbs, mostly internal exchanges of residents.

Table A7.5. Directions of residential mobility within Paris metropolis.

Current place of living		Values	Place of living 5 years earlier					
			No. of persons who changed a place of living*	75	92, 93, 94	91, 95, 77, 78	Outside Ile-de-France	Abroad**
				Core city	Inner suburbs	Outer suburbs		
Paris (75)	Core city	absolute	354 754	153 116	42 220	6 292	59 206	93 920
		%		43,2	11,9	1,8	16,7	26,5
92	Inner suburbs	absolute	195 038	64 032	81 492	3 684	6 796	39 034
		%		32,8	41,8	1,9	3,5	20,0
93		absolute	164 954	37 208	85 897	4 814	1 191	35 844
		%		22,6	52,1	2,9	0,7	21,7
94		absolute	128 410	33 815	67 276	1 082	1 064	25 173
		%		26,3	52,4	0,8	0,8	19,6
91	Outer suburbs	absolute	68 952	386	5 494	46 971	1 117	14 984
		%		0,6	8,0	68,1	1,6	21,7
95		absolute	77 207	1 697	12 224	49 044	0	14 242
		%		2,2	15,8	63,5	0,0	18,4
77		absolute	55 711	328	10 280	33 153	468	11 482
		%		0,6	18,5	59,5	0,8	20,6
78		absolute	90 053	4 399	6 420	54 925	1 157	23 152
		%		4,9	7,1	61,0	1,3	25,7
Ile-de-France		absolute	1 135 079	294 981	311 303	199 965	70 999	257 831
		%		26,0	27,4	17,6	6,3	22,7

** only inflows with at least 100 persons*

*** both foreigners and French*

Source: Insee, Recensement de la population 2008 exploitation complémentaire, flux de mobilité - migrations résidentielles (récapitulation).

Conclusions

4. Peri-ubanisation a profitable and disadvantageous process (fr. périurbanisation)

The process of de-concentration is profitable from the standpoint of living conditions (mainly due to better housing), but disadvantageous for efficient transport and settlement. This creates numerous challenges for transportation policy and planning of land settlements and their support infrastructure. Especially when in the next few years the elderly will become a growing part of the population on inflow areas (mainly due to natural biological ageing processes). According to IAU 2012 report (Omphale 2010), in 2030, the share of older people (more than 60 years old) should grow the most in the outer suburbs.

5. Migrations don't mitigate but accentuate social disparities

Socio-spatial disparities are increasing, both through inner residential mobility (mainly executive and young people move) and geographical isolation of lower categories (2/3 of moving target metropolitan fringes). An extreme social sharing comes from executives concentrating in Paris and the large south-west suburb, and the blue-collar population staying in the close north-eastern suburbs (high number of social and low price rental housing, area of poverty) or moving to the furthest metropolitan fringes (private individual housing estate). Some still quite mixed areas (ex-new towns, south-east) experience intra-territorial exclusion or separation where presence of recent or older immigrants (or even French children) is often a mark.

6. The housing crisis is a main reason of metropolitan immobility and a narrow field of action

The lack of adapted and affordable housing is dramatic in Paris Region and the metropolitan centre has become financially unreachable for middle class families. Increasing housing prices go with a decreasing building rhythm: 31000 accommodations/ year built at the beginning of the 2000's (70.000 at the end of the 1970's, new level requested to make up the current crisis). The social housing lack is emphasized by the pressure of poorest households. Residential mobility, building rhythm and economic crisis are directly linked, with possible damages for Paris Metropolis. In that situation, only local or segmented actions try to impulse movements: efforts in Paris to create social housing, fiscal advantages on private rental housing, reduced VAT for new private housing around social housing renovation (ANRU), incentive for inhabitants to change for a smaller flat in social housing, etc.

7. Poor, privileged and illegitimate international immigration constitutes problems to be tackled

Openness for migration is a tradition in Paris metropolis (former colonial power, official economic immigration from Maghreb in the "Thirty glorious", etc.) and 40% of immigrants to France live in Ile-de-France in 2006 (IAU, Sagot, 2010). Paris (for high qualified and wealthy immigrants) and Seine-Saint-Denis (for the poorest) are the two main destinations for immigration. Most of international immigrants come from outside the EU and further countries. Chinese, Malian and Turkish immigrants are currently the most affected by segregation, which often goes on for the second generation (especially from Maghreb). Segregation phenomena appear besides grouping wills in the private sector (Chinese or Maghreb quarters in Paris as well as in the suburbs). In the social sector, immigrant rate is often high in derelict housing complexes (one criteria for the French urban policy). On one hand, immigration from OECD is often economically privileged, cosmopolitan and graduate, living in the metropolitan centre and active contributor to metropolitan efficiency. On the other hand distant immigrants, often poor and less qualified, may experience a more and more difficult integration.

7.3. Berlin

Determinants of migration after 1990

Since Berlin has become the German capital its concentration of service industries has increased steadily, now being on a higher level than ever. This was conducive to a change in the structure of employment, and to some extent attracted highly qualified staff. However, the total number of jobs (from time before Berlin became the

capital) has not been rebuilt. According to the City Hall data, after 1990 over 300 thousand jobs in the industrial sector have been liquidated, which could not been replaced by the employment growth in services.

IN the east German federal states, which are customary origin areas of migration (e.g. Brandenburg – 16.3% of total in-flow to Berlin), depopulation is a serious problem especially in the smaller towns and rural areas. As a result of the poor labour market options people from these towns and rural areas are largely driven toward regions in western Germany rather than to the capital. It is worth mentioning that even in the case of Berlin, which generally attracts migration, an increased outflow of people over large distances to the western direction is observed: in 2010, from 131 thousand of those who emigrated, the most 19.7% although settled in Brandenburg, but a high inflow was also recorded for Nordrhein-Westfalen (5.8%), Bayern (4.8%) and Baden-Württemberg (4.0%).

Table A7.6 Directions of inflows and outflows to Berlin in 2010

State of origin destination	In-migration		Out-migration		Migration balance
	total	%	total	%	total
Baden-Württemberg	7 291	4,9	5 221	4,0	2 070
Bayern	8 196	5,5	6 242	4,8	1 954
Brandenburg	24 115	16,3	25 853	19,7	– 1 738
Bremen	1 105	0,7	674	0,5	431
Hamburg	3 470	2,3	2 794	2,1	676
Hessen	5 047	3,4	3 544	2,7	1 503
Mecklenburg-Vorpommern	4 281	2,9	2 802	2,1	1 479
Niedersachsen	6 761	4,6	4 888	3,7	1 873
Nordrhein-Westfalen	11 460	7,8	7 631	5,8	3 829
Rheinland-Pfalz	2 170	1,5	1 331	1,0	839
Saarland	504	0,3	313	0,2	191
Sachsen	5 409	3,7	3 195	2,4	2 214
Sachsen-Anhalt	3 387	2,3	1 910	1,5	1 477
Schleswig-Holstein	2 807	1,9	2 477	1,9	330
Thüringen	2 155	1,5	1 293	1,0	862
Germany (total)	88 158	59,7	70 168	53,6	17 990
Foreign countries (total)	59 611	40,3	60 783	46,4	– 1 172
Total (Germany and foreign countries)	147 769	100,0	130 951	100,0	16 818

Source: Statistik Berlin-Brandenburg.

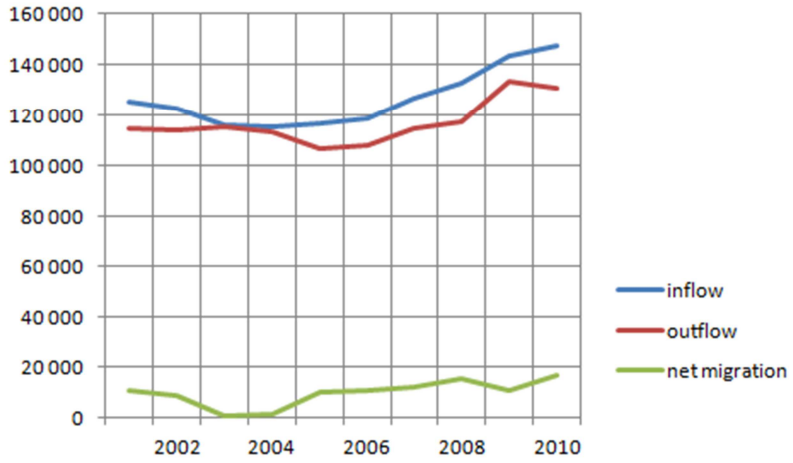
The general level of migration

The migration level is therefore generally in a close relationship with the economy and development of the higher-level functions (or rather the lack of them). Recently, the number of inflows rose to a level close to 150 thousand people per year (2010). Generally, the level of inflows, which seemed to be rather stable, without significant fluctuations since 1990, has grown only over the last few years. Due to spacious character of the city, outflows of population outside of its borders are diminished by movements between the districts of the city.

Outflows from Berlin were lower in the early 1990s (a little over 80 thousand people) and consistently grew, reaching the highest volumes in 1997 and 1998 (about 130 thousand people). From that moment there was a decrease and annual outflows

have stabilized at the level of 100-120 thousand people, first with a weak tendency for decreasing, and since 2005 - in the opposite direction (increasing).

Figure A7.1. In-flow, out-flow and balace of Berlin migration in years 2001-2010



Source: Statistik Berlin-Brandenburg.

Internal migration in Berlin

Berlin is characterized by relatively high residential mobility. According to the Stadtprofil Berlin the place of residence per year (in recent years) is subject to change of around 300-350 thousand people, and so up to 10% of the city population (Stadtprofil Berlin). In terms of quality, there are two types of migration: the process of concentration or internal displacement in the inner-city neighbourhoods and stronger de-concentration processes, including typical suburbanisation in the Berlin neighbourhood. Generally, the population of the inner-city area is not declining.

Migrations (both internal and external) related to the inner-city area consist mainly of non-German origin population. It is conducive to the concentration of newcomers in the central parts of Berlin and in some urban areas where the share of foreign immigrants in 2008 exceeded 30% total population. This may cause the rise of social differentiation, spatial segregation and the emergence of social disparities Some of the central districts of the city are also experiencing an outflow of native German population, which is moving to the fringe districts of the city or even outside of the city borders. Popular are neighbourhoods of single-family houses mostly located along the city's boundary. In other suburbs of the city larger estates with several housing units predominate. However also opposite flows can be observed, some central districts of Berlin (e.g. Friedrichshain-Kreuzberg) are becoming more and more popular for young creative part of the society.

Table A7.7 Basic directions of migration folws in Berlin by district in 2010

District	In-migration		Out-migration		Migration balance		
	total	of which across the state border	total	of which across the state border	total	as a result of	
						internal migration	external migration
Mitte	41 429	24 956	42 894	22 943	– 1 465	– 3 478	2 013
Friedrichshain-Kreuzberg	31 434	17 646	31 775	14 105	– 341	– 3 882	3 541
Pankow	30 580	16 787	26 793	12 759	3 787	– 241	4 028
Charlottenburg-Wilmersdorf	27 269	14 472	26 140	12 629	1 129	– 714	1 843
Spandau	15 296	8 162	12 232	5 747	3 064	649	2 415
Steglitz-Zehlendorf	22 000	10 893	18 969	9 980	3 031	2 118	913
Tempelhof-Schöneberg	26 214	11 734	24 732	10 282	1 482	30	1 452
Neukölln	26 843	13 222	27 434	14 629	– 591	816	– 1 407
Treptow-Köpenick	14 907	6 858	13 010	6 432	1 897	1 471	426
Marzahn-Hellersdorf	14 662	6 779	12 863	6 415	1 799	1 435	364
Lichtenberg	20 619	9 699	18 896	8 477	1 723	501	1 222
Reinickendorf	15 204	6 561	13 901	6 553	1 303	1 295	8
Berlin	286 457	147 769	269 639	130 951	16 818	–	16 818

Source: Statistik Berlin-Brandenburg.

Suburbanisation processes

Processes of population outflow from the central districts to the areas outside the city borders in the past were practically blocked due to political situation (the western part of the city was surrounded by state borders and the eastern part was under strict legal restrictions reducing population placements as well as large reserves of land within the administrative boundaries of the city). Acceleration of suburbanisation processes are recorded after the fall of "Berlin Wall". The years 1990-2010 can be divided into several characteristic periods of migration. Till 1998 (and especially since 1993) a relatively rapid increase of outflows could be observed, to slightly above 40 thousand people in 1998.

As a result, the number of inhabitants of the suburban area is growing. According to one of the estimations (within the enger Verflechtungsraum), in the years 1990-2008 in the outer zone the population increased from 787 to 1029 thousand, which gives a 31% relative increase. The data of Berlin City Hall shows that in the years 1990-2009 from Berlin to the neighbourhood area moved out nearly 0.5 million of inhabitants, while the inflow from that direction was much smaller (0.2 million). This started the re-urbanisation process which intensification is increasing in last few years balancing migration level.

The increase of the suburban zone is not equal and some areas experience population decline. However the largest increases of population concern especially the areas adjacent to the administrative borders of Berlin, what may be explained by better spatial accessibility. According to Zakirova (2008) the increase of population did not coincide everywhere with increase of jobs. In the eastern part of the Berlin suburban zone in several municipalities after 1990 also decrease of population was observed.

Table A7.8. Migration across municipal and state borders of Brandenburg in 2010, by administrative districts.

Independent city or administrative district	In-migration		Out-migration		Migration balance		
	total	of which across the state border	total	of which across the state border	total	as a result of	
						internal migration	external migration
Brandenburg a.d. Havel	2 530	1 289	2 664	1 392	– 134	– 31	– 103
Cottbus	4 819	2 412	4 084	2 534	735	857	– 122
Frankfurt (Oder)	2 890	1 562	2 966	1 925	– 76	287	– 363
Potsdam	9 838	6 402	7 975	5 294	1 863	755	1 108
Barnim	9 659	5 255	9 239	4 893	420	58	362
Dahme-Spreewald	9 636	4 797	9 126	4 407	510	120	390
Elbe-Elster	3 847	1 523	4 590	2 231	– 743	– 35	– 708
Havelland	7 523	4 028	7 148	3 617	375	– 36	411
Märkisch-Oderland	10 577	5 039	10 554	4 837	23	– 179	202
Oberhavel	11 030	6 001	10 178	5 116	852	– 33	885
Oberspreewald-Lausitz	3 987	1 634	4 939	2 366	– 952	– 220	– 732
Oder-Spree	9 753	4 799	10 256	4 170	– 503	– 1 132	629
Ostprignitz-Ruppin	4 502	1 555	4 864	1 891	– 362	– 26	– 336
Potsdam-Mittelmark	11 317	5 267	10 355	4 469	962	164	798
Prignitz	3 455	1 446	3 895	1 868	– 440	– 18	– 422
Spree-Neiße	3 873	1 425	5 162	2 327	– 1 289	– 387	– 902
Teltow-Fläming	8 320	4 044	8 314	4 021	6	– 17	23
Uckermark	5 301	2 479	5 924	2 975	– 623	– 127	– 496
Land Brandenburg	122 857	60 957	122 233	60 333	624	x	624

Source: Statistik Berlin-Brandenburg.

The role of foreign migrations

The share of foreigners in Berlin compared to other cities in Germany is not high (around 14%), while in Munich, Stuttgart and Frankfurt is slightly higher and fluctuates in the range between 20-25%. However, given that majority of this population is associated with migratory movements of the past two decades, the phenomenon of foreign immigration should be seen as particularly characteristic of the "demographic landscape" of the German capital. According to the City Hall, in 2009 in Berlin, nearly 0.5 million people had non-German origin. The largest share of this group, about 200 thousand, are Turks, around 100 thousand - people from Russia and former post-Soviet republics (including a relatively large Jewish Diaspora), about 60 thousand – from the countries of former Yugoslavia and about 50 thousand of Poles.

Settlement of foreign immigrants is varying spatially. Particularly high percentages of population are concentrated in the districts of West Berlin (Kreuzberg - "Little Istanbul", then Charlottenburg, Tiergarten, Wedding and Schöneberg), and far less likely in the districts of East Berlin (e.g. Spandau). However recently highly segregated areas are fragmented by gentrification processes which take place especially in Kreuzberg, but also Tiergarten and Wedding.

Origins of foreign immigration in Berlin refers to conditions of post-war Western Europe and are associated with the need of the workforce in context of rapid economic growth of individual countries, especially in context of fast industrial development. This gave rise to ‘Gastarbaiter’ phenomenon/culture and lasting several decades processes of their embedding in the typical inner-city neighbourhoods. Starting from the 1980s of the last century, apart from economic

conditions, also political reasons of emigration was strongly marked, especially as a consequence of the introduction of martial law in Poland in 1981, and then the war in Yugoslavia in the 1990s. Regardless of the typical political refugees, both of these crises intensified economic reasons for migration that ended in Berlin.

Apart from the large share of immigration, foreigners constitute an important part of foreign emigration. In 2010, less than 40.3% of all outflows were those with destination abroad. Only a small percentage of these streams consist of Germans, the vast majority was originating from places such as Turkey or other Mediterranean countries. In these neighbourhoods local inclusion programmes focused on foreign speaking inhabitants of the districts should be implemented (since a number of households is using non-German language at home which does not conduce inclusion).

Conclusions

1. A generally low attractiveness for intellectual and highly qualified migration

Despite its importance as centre of science and knowledge. Berlin is not a place of concentration of intellectual and professional elites (in terms of occupation and labour, rather than culture), which is subject to the city's lower attractiveness when compared to other major cities, especially in the western, northern and southern parts of Germany . This is probably due to the economic and service profile of the city, which does not concentrate on the highest level functions as much as it should be apparent from its capital position. The city draws high quality workers in such areas as administration and policy making, research, media and software. It is worth mentioning that from the standpoint of development of the whole country it is neither a negative feature nor negative process, since it fosters the polycentric model of development and prevents excessive leakage and hypertrophy of growth factors, but on the other hand, it weakens the chances of Berlin in international competition and building a strong position in the settlement system in Europe.

2. Increase of multiculturalism and foreign immigration

A characteristic feature of migration in Berlin is the strong position of non-German communities. There are two key aspects here. First applies to the global volume of foreigners' flow, second to the processes of spatial concentration and segregation. Both aspects are problematic from the standpoint of social cohesion and migration policies. Important factor in this context are living costs rising in Berlin and various mobility of two and more person households versus individuals (the latter tends to have higher potential for movement).

3. Weak suburbanisation

The process is quite apparent and is mainly due to the nature of urban structure of the city. Within the boundaries of Berlin relatively large volumes of flows can be observed (annually the residence is changed by 8-10% of the population). This may lead to social differentiation, spatial segregation and the emergence of pathologies (more on this subject in Chapter 5).

6.4. Warsaw

Economic, social, housing, demographic and urban conditions

The most influential condition as regards the direction of migratory flows in Poland are the differences in the attractiveness of work and residence places, which strongly derive from the socio-economic polarization of the country, bound to the imbalance of labour markets. Despite this, residential mobility in Poland is relatively low, mainly due to economic barriers, particularly in case of flats' purchase. This is especially evident in the case of Warsaw, where the cost of residence is the highest in Poland.

Thus, commuting to work is a kind of substitution of permanent residential migration, which feature has continuously been characteristic for the Polish capital for several decades (Dziewoński and Korcelli 1981). For this reason the latest (for the period after 1989) detailed data on labour movements to Warsaw are presented (Maps F22 and F23 in Annex) which indicate the existence of long distance labour weekly commuting.

Housing factors, both as stimulants and de-stimulants of migration are a complex issue, due to the fact that a significant portion of housing resources is characterized by substandard conditions and that the average living space in the city is low, when compared with the aspirations of residents and their financial capacity. This affects quite intense population movements within the Warsaw area, associated with the search for better living conditions, which applies to both the standard of the premises, as well as locations within cities. In some cases it also involves a transfer to the outside the zone of intense urbanisation - to the suburban area.

An undoubtedly important factor in the development of the housing market is a favourable macroeconomic situation which includes stability of financial systems. It is related not only to the general economic situation, but is also reflected by consumer behaviour. Due to the fact that apartments in Poland are very expensive goods, in practice, their availability is closely correlated with the availability of loans, primarily in the mortgage system. These in turn are strongly influenced by general macroeconomic situation in Poland and outside the country, including interest rates and banks' internal policies. As a result, even for short periods of time, the possibility of purchasing flats varies considerably.

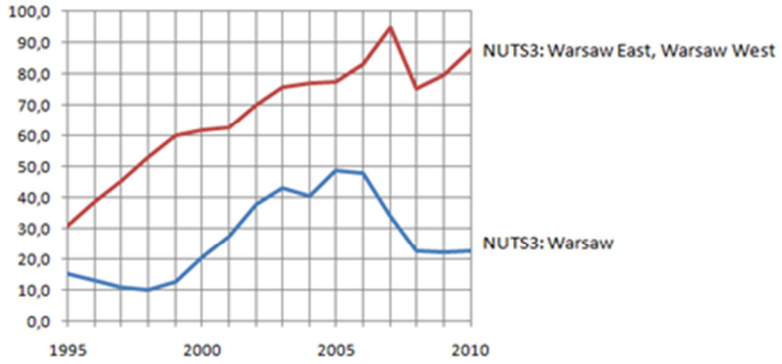
An important factor, unfavourable to housing development is the practical abandonment of the public housing policy in Poland, followed by the often promoted but false premise that housing problems will be solved by increasing incomes of the population. Clearly this will concern only a part of the society, bringing socio-spatial polarization as consequence, both in Warsaw and in the metropolitan area. In the foreseeable future, it is difficult to expect a change in the implementation of mechanisms of stimulating housing development.

In the case of urban determinants clearly the formation of a functional centre in the type of a CBD can be observed, which causes a concentration of work places and contributes to the rise of the district's rank in the spatial structure of the city and metropolitan area. However, in the case of spatial development of the suburban area the most serious problem is the uncontrolled and chaotic expansion of urban sprawl-type buildings, which contributes to the deepening of inefficiency of transport and settlement systems, the radical expansion of infrastructure operating costs, chaos and general degradation of space in functional, structural, landscape and aesthetic terms.

Among demographic determinants of the development of Warsaw Metropolitan Area, first of all the increase of the level of births registered in recent years (only in Warsaw in the years 1995-2010 from 12 to nearly 20 thousand) should be mentioned, which is a result of entering the procreative age by the baby boom generation of 1974-1984 Taking into account biological determinants, it is expected that the number of births in Warsaw, and in the outer zone after 2015 will clearly decline. The most important factor influencing the size and direction of migration is the depletion of traditional migration resources, located in central and eastern Poland. Undoubtedly a factor that undermines the migration flows to the capital in recent years is the formal abolition of barriers of access to labour markets in several EU countries. The emergence of alternative migration destinations, even in the circulation form, contributed to the pull of migrants from the traditional destination, this being the Warsaw Metropolitan Area.

In case of migrations from Warsaw to the outer zone the top of registered migrations occurred in 2007 (Figure A7.2), when the number of newly registered inhabitants equalled 22.1 thousand, while the number of unregistered - 8.0 thousand persons. This was a result of similar economic determinants as indicated in the case of migration to Warsaw or the deterioration of transportation infrastructure in the system of commuting, of which the latter is more likely. The inhibition of suburbanisation processes was signalled on the basis of econometric comparisons of Polish and American cities (Niedzielski and Śleszyński 2007). In total, it can be assumed that the transportation barrier will in the next few decades be the main obstacle in the development of residential de-concentration of the core population of Warsaw to the outer zone.

Figure A7.2. Recorded net migration in the years 1995-2010 in Warsaw and its two surrounding sub-regions the NUTS3 (Warsaw Western and Eastern)

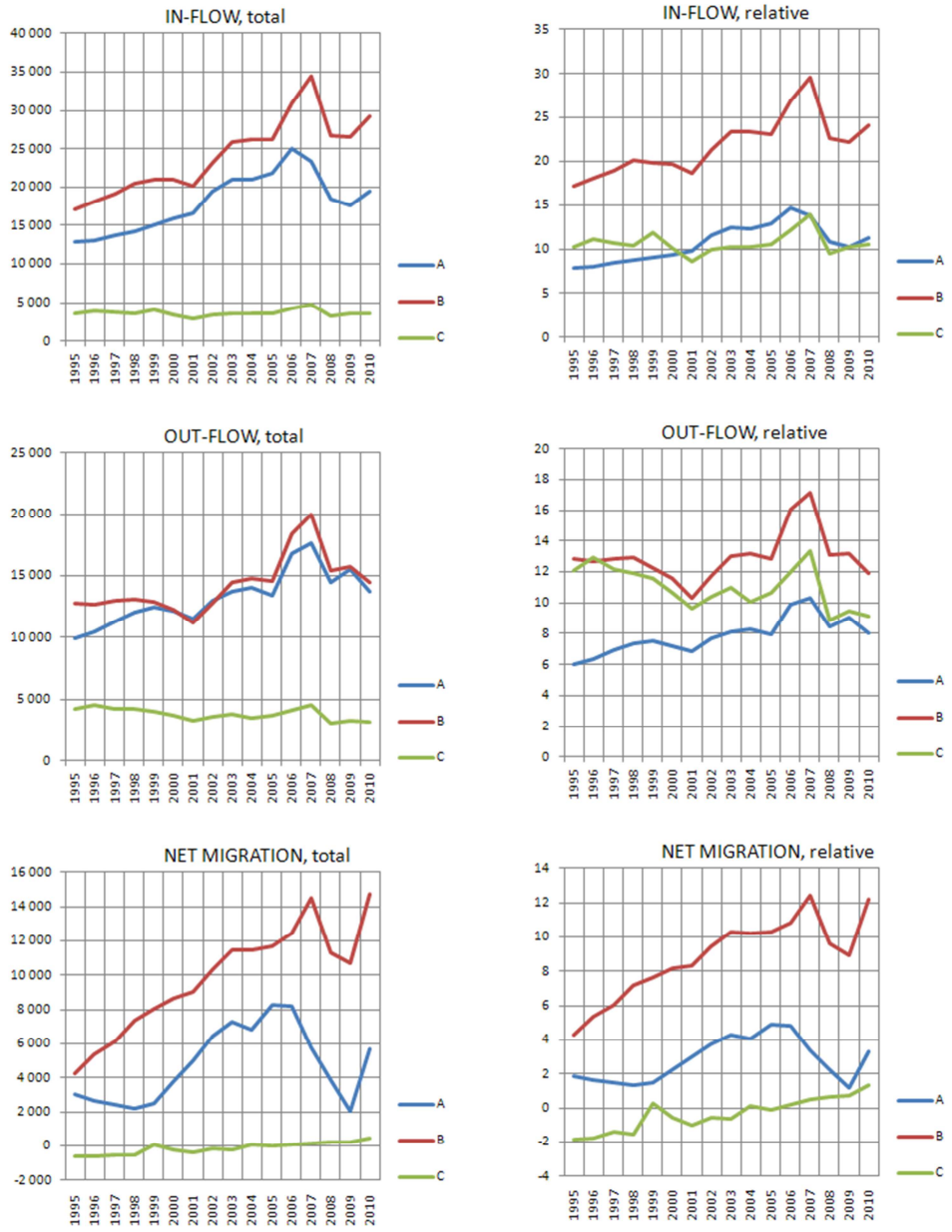


Source: Based on CSO data.

Intra-metropolitan migration

The analysis of recorded inflows for the period 1995-2010 clearly shows the varied pace of each type of increase population of the metropolitan area. Both the highest absolute values and relative (referenced to the total population) concern first of all the suburban areas. The peak of the number of inflows occurred in 2007, when about 35 thousand people were registered in the suburban zone, which gave the relative rate of about 30‰. At the same time the outer zone accumulated the largest share of migrants.

Figure A7.3. Registered volumes and relative migration rates (number of events per 1000 inhabitants) in the Metropolitan Area of Warsaw in the years 1995-2010 by type of area: A - core (Warsaw), B - the outer zone, C - other areas (other municipalities of NUTS3 sub-region Warsaw-West and Warsaw-East).



Source: Based on CSO data.

The dynamics of outflows also varies in time, but the interdependences are not so strong as in the case of inflows. Around 2001 appears the characteristic swing upward, however not so evident as in the case of inflows. There were also quite high rates of relative outflows in the outer zone (up to 13‰ per year).

The registered net migration over the whole period was positive for Warsaw and suburban area, with a constant upward trend, weakened in 2007-2009. A specific characteristic is the profound decrease in net migration in Warsaw to just 2 thousand

people in 2009. Interestingly, after the collapse of this upward trend in 2009, the next year follows with its reconstruction (overall balance presented in the Table A7.9).

Table A7.9. Migration balance of Warsaw Metropolitan Area in the years 1996-2010 (in five-year periods).

Net migration, thous.	1996-2000	2001-2005	2006-2010	Total 1996-2010
Core (Warsaw)	13.5	33.8	25.6	73.0
External zone	35.1	52.6	62.0	149.7
Total	48.6	86.4	87.6	222.7

Source: Based on Central Statistical Office in Poland data.

From this synthetic balance emerges the conclusion that development of residential suburbanisation processes in the external zone is permanent. However the collapse of migration growth to Warsaw should also be noted. The phenomenon was clearly connected to the lower availability of housing, which was confirmed by earlier analyses of registered inflows, in which a strong negative swing in 2008 was correlated with the increase in the prices on the housing market in 2007.

The cartographic analysis shows that the phenomenon of suburbanisation increases steadily, particularly in the south-western part of the external zone, adjacent to the borders of Warsaw. In Piaseczno and its vicinity the inflow per 1000 inhabitants in all three periods was above the average 30 per 1000 registered inhabitants.

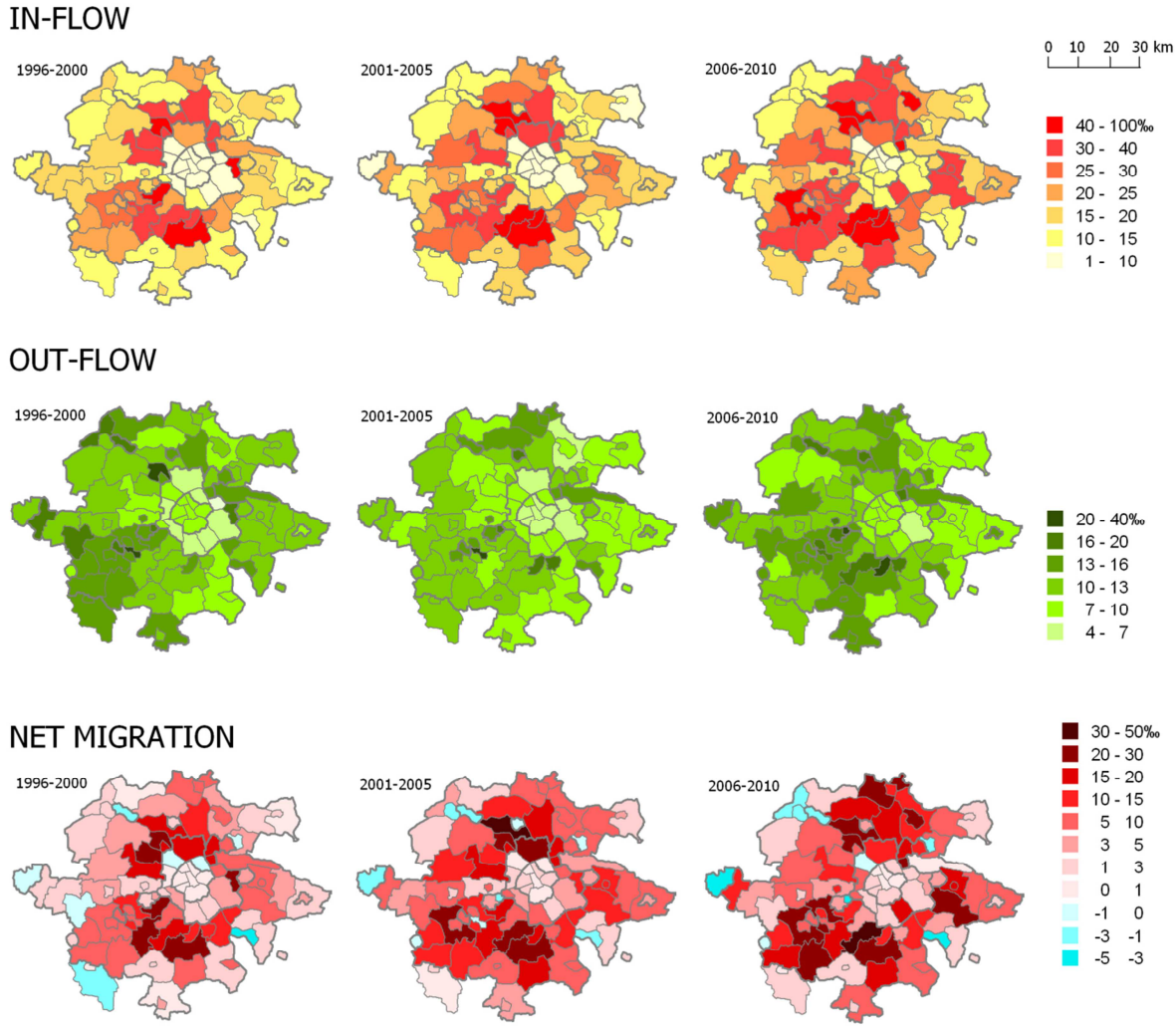
The indicator of outflows in all periods was spatially more equal, than in the case of inflows. Interestingly, in the city districts the registered outflow was higher in 1996-2000 and 2006-2010, than in the mid-five-year period of 2001-2005. Outflows also grow especially in the cities located in the external part of the Warsaw Metropolitan Area.

Positive net migration was characteristic for the municipalities located around Warsaw (called the "Warsaw ring", see Degórska and Deręgowska 2008), decreasing both towards the external borders of the region and to the centre of the city. In the latter case, however, negative values were not reached. Taking into consideration that some of the population is underestimated, it can lead to the conclusion that the migration potential is stronger and is associated with the central area of Warsaw.

Negative values of migration balances were noticed in some towns surrounding Warsaw, especially the larger ones and located in a larger distance from the city (e.g. Nowy Dwór Mazowiecki, Wołomin). There were several communes of this type on the outskirts of the metropolitan area. For these municipalities an increased outflow (in relation to the surrounding areas) and a reduced inflow was characteristic.

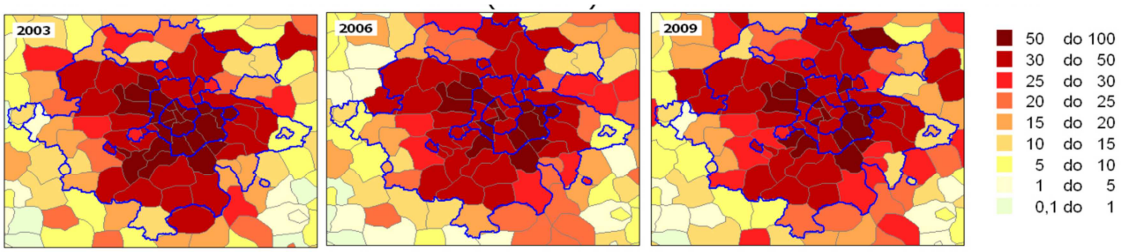
Inter-communal migration matrix, available for 2003, 2006 and 2009, indicates a further regularity in terms of the exchange of population in the Warsaw Metropolitan Area (see maps in Annex). The maps show a large share of outflows from Warsaw in context of total inflows: in some communes it was above 50%. Further, the analysis indicates that these flows were related to the spatial proximity of current and previous places of residence. Residents of north Warsaw often chose municipality Łomianki, those from western part of the city – Stare Babice, from the southern districts – Piaseczno, etc. (Potrykowska and Śleszyński 1999).

Map A7.2. Migration rates in Warsaw Metropolitan Area in the period 1996-2010 (by five-year period -the average yearly)



Source: Based on CSO data.

Map A7.3. The share of inflows from Warsaw in the years 2003, 2006 and 2009 (in%)



Source: Based on CSO data (inter-communal and between district matrix).

Conclusions

1. Fast exchange of population

The phenomenon causes the risk of deepening of unfavourable features of the social structure, related to the evolution of interpersonal and socio-institutional relationships. Already during the 2002 census up to 50% of the inhabitants of the

capital were people who were born outside of Warsaw, according to the next census in 2011, this percentage probably rises to about 60%. Problems of social integration processes, the growth of alienation, and even a sense of danger may be expected. This may stimulate socio-spatial segregation. In the spatial sense it requires more attention to spatial planning, development of public spaces and encourages local communities to common activities.

2. Ageing of the central districts

The outflow of residents with simultaneous replacement by younger inhabitants causes weakening of the negative processes of aging in central districts of the city. However, the gradual depletion of migration will increase with this phenomenon, which is why it is necessary to take radical action to increase the attractiveness of residence in the central districts of Warsaw, especially in view of their extensive development.

3. Changes of demographic structure

The weakening of natural growth and a substantial exchange of population causes stratification in the biological and socio-professional structure of the society and thus conditions two different demands on infrastructure services (especially in context of Services of General Economic Interests). In Warsaw, it is necessary to develop reliable estimates of such demand, eliminating the risk of sudden appearance of gaps in infrastructure, such as observed in the last few years with the advent of the baby boom.

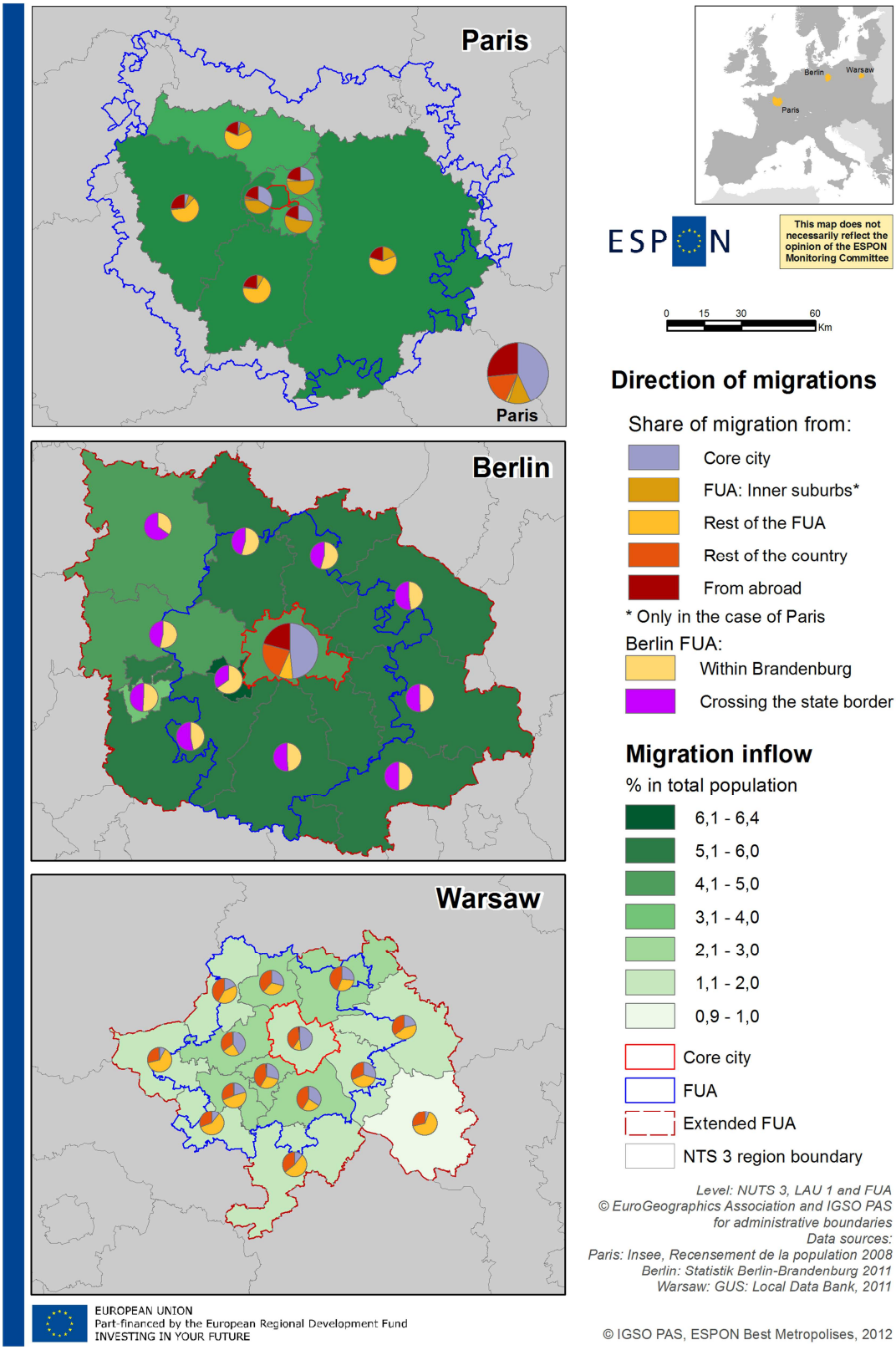
4. Flexible space and infrastructure policy

The instability of population requires more flexible policy concerning the spatial location of various services. First of all, large objects should be given up, in favour of smaller, more evenly distributed in space. Additionally, this will limit the scale of daily or weekly commuting due to shopping and services. On the other hand, it is necessary to try to manage migration flows in the desired locations, however due to the liberal approach to spatial planning in Poland and Warsaw. This postulate however, seems unlikely to be met.

5. Substitution of migration by commuting

The high cost of residence in the city or suburban area will result in economic barriers for the migration for settlement purposes. At the same time it promotes long-distance commuting. The costs of this phenomenon in the case of Warsaw are particularly high and troubling, since it refers not only to "pure" financial effects associated with the fuel expenditures, depreciation of transport, at best with costs of tickets (if access of transport is easy). A high social cost is also the loss of time, reflecting on personal (family) life. It should also be mentioned that the substitution of permanent migration by labour daily commuting has deepened over the resent decades.

Map A7.4. Direction of migrations and migrations flows in Paris, Berlin and Warsaw



7.5 Discussion of the results

Identification of common phenomena, processes and differences in residential suburbanisation.

The research allowed for the distinguishing of common features, as well as differences in the migration patterns in the metropolitan areas of Berlin, Paris and Warsaw. The similarities are as follows:

a) maintaining population growth accompanied by a positive balance of migration;
b) faster growth of suburban areas than the whole of metropolitan areas (it means weaker growth or sometimes decline of population in core areas);
c) the predominance of the centrifugal direction of displacement, fitting to the classic process of residential suburbanisation and resulting in the deconcentration of settlement systems;
d) significant consequences for the demographic structures, deepening their internal differences, including the comparable problem of demographic ageing of central areas (see the detailed proposals from Chapter 5).

These differences are caused by various levels and historical paths of socio-economic development, including the varying attractiveness of individual capitals, as well as the traditions of migration processes. These relate to the following issues:

a) the intensity of migration to suburban areas which is higher in Paris and Berlin, and much lower (almost twice) in Warsaw, even if in the case of the latter data includes underestimation of officially recorded data (by 20-30%). The stabilization or even reverse of the trend in Warsaw and the depletion of migration indicates that the level of mobility in the coming decades will probably not be subject to convergence in relation to the processes observed in countries of Western Europe;
b) the relatively high share of in-flows from Warsaw to the suburban area (in most municipalities more than 30%, sometimes even more than 50%), whereas in the corresponding peri-urban areas of Berlin and Paris a significant part of flows comes from other parts of the country and abroad;
c) the level of foreign immigration, which is relevant for Paris (suburban zone) and Berlin (the central area of the city), while for Warsaw still by far less important.

The main research hypothesis of chapter 7 (intra-metropolitan migrations) was formulated in a way that given the political and socio-economic changes resulting largely from the progressive European integration, the level and structure of migration in the studied cities are similar. It is the convergence hypothesis, often formulated for a variety of socio-economic events that occur as a result of international cooperation, increasing cross-flows and strengthening of various types of connections. This hypothesis proved to be only partially right. There are still major differences in the intensity and direction of individual streams of migration, due to various migration draws and socio-cultural contexts. This is particularly the hypothesis of the role of international migration in the metropolitan area of Warsaw. Despite the growth, the role is still much smaller than that of Berlin and Paris. More generally, it can be concluded that the present variety and diversity of endogenous potentials of various nature (demographic, cultural, economic, etc.) are still under

very strong influence of socio-economic processes within the metropolitan areas of the three cities.

The above hypothesis was confirmed for Paris and linked to the increasing role of housing in migration processes. It turns out that the barrier in the form of high housing prices proves to be too high even for many middle-class families. In case of this city the explicit changes in daily mobility were not confirmed, which is maintained at similar level (compare with the conclusions of chapter 6). In general, the process of de-concentration, which causes relatively long (on average over 40 km), work related commuting is detrimental to the efficiency of transportation and settlement effectiveness (though profitable in terms of living conditions). This creates many challenges for the transportation policy, planning of settlement structure and its infrastructure. Moreover, due to the fact that the elderly proportion of the surrounding areas will grow over time, due to natural biological processes.

The increasing selectivity of migration flows in Berlin was confirmed, resulting in the formation of the districts, which in future could transform into typical ethnic neighbourhoods, as is the case of Paris (districts or quasi-quarters: Chinese, Turkish, Malian, Arab, etc.). In the case of the German capital the concentration of Turkish, and the former post-Soviet states' ethnic groups may be considered. This is challenging from the perspective of social cohesion of the city and sensible social policy. It is worth mentioning that in Berlin in the case of international migration both high volume immigration, as well as emigration are characteristic.

Suggestion for further research

Performed analysis are the inspiration for further research related to the determinants and influence of migration processes on the formation of spatial structures in metropolitan areas of Berlin, Paris and Warsaw. At the same time demonstrated differences in developmental processes lead to slightly different research procedures, not necessarily of a comparative character. Due to the orientation and specificity, they can be generally characterized by the applied perspective.

In Paris, applied research should first focus on deepening the process of diagnosis of peri-urbanisation processes and its influence on the daily movements of the population, especially in the context of labour commuting and services. Specific identification of the migration structure would allow more efficient organization of spatial structures, including public transport, but also location of jobs and services.

In Berlin, the process proved quite strong spatial segregation within the boundaries of a city. It also requires reliable monitoring of population movements, which would give a better and more effective tool to prevent the effects of concentration of socially disadvantaged groups.

The largest needs for applied testing occur in Warsaw. Firstly, since, as it seems, the existing statistics do not respond to the growing need for planning and analysis. Initially there is necessity for precise identification of the number of actual (and current) living and working places (the recent estimation made for the Warsaw city hall will soon be obsolete due to the speed of processes). Another urgent need is to identify the direction and intensity of labour related commuting in a detailed disaggregation of census areas, or at least the urban areas, as the one which is possible to obtain to Paris and Berlin (and other European cities in general). If the last census (2011) due to the adopted methodology proves to be ineffective in this regard, it would be useful to use the experience gained by the Central Statistical

Office during the estimation of commuting to hired labour on the basis of tax applications.

In the case of continuation of the research presented in this project, the best solution would be more precise studies on smaller spatial units. The preparation of a joint Atlas for metropolitan areas of Berlin, Paris and Warsaw would be helpful, especially for better understanding of occurring phenomena in space. At the same time, it would allow for effective comparison of these processes, especially in the cases where the comparison was not possible, or even justified, due to poor comparability of spatial units, different definitions of demographic, economic and social events, as well as to data of different ranges of time spans.

Conclusions for urban policies

The studies allow the formulation of practical proposals for urban policy. They are important both for the major cities - the national capitals within their administrative boundaries and administrative units located in suburban areas. However, based on identified common features joint conclusions can be drawn, as well as occurred differences may lead to the specific comments on individual cities. In the latter case, especially the differences in the intensity of the phenomena and processes show how the advantages of the development policies can be used for the formulation of practical guidelines.

It is recommended that formulated proposals are primarily translated into three types of policies: social, spatial-settlement (or land use/spatial planning) and transport. The conclusions show how the desired shape of the socio-demographic, settlement and transport structures should be achieved, as well as how to ensure the increase of quality of life in terms of accessibility to various services, especially public (education, health, culture, recreation and leisure, etc.):

a) it seems that the primary postulate is the necessity of an integrated approach of development policies. Metropolitan areas should have their own individual development plans, including jointly considered major cities (cores) and suburban areas. This conclusion is based on appreciation of the functional relationships between the different zones of the metropolitan area, a community of interests and benefits of synergy and efficiency of urban systems development with a high degree of heterogeneity. The biggest obstacles here are different legal and administrative determinants, related to the territorial organization in each country. The worst situation is revealed in Poland, where a statutory designation of metropolitan areas is still missing, as well as due to the strong position of municipalities with core competencies in development policy at the local level, accompanied by the practical absence of hierarchical planning;
b) internal de-concentration of metropolitan areas will cause decrease of transportation and settlement efficiency, especially in a situation which is followed by an additional scattering of buildings in the area (Warsaw urban sprawl) and lack of a clear concentration (Paris peri-urbanisation). This requires even more integrated and deliberate shaping of settlement and transport policies. It can be achieved generally in two ways. Firstly, by releasing of investment areas held by the city or support to single-family settlements within the city borders, as it is happening in Berlin. This postulate is suitable for implementation especially for Warsaw, which is characterized by large extensiveness of planning and land use. However, in the case of

Paris, more belt-shaped development of agglomeration should be considered. It would allow a more effective handling of transport service for places of residence. The situation in Berlin in this respect against the other two cities is better and does not require a greater reduction of construction development, beyond the existing legal and planning solutions;

c) it has been stated that the migration processes contribute to the growth of socio-spatial differentiation, although in each of the cities it has quite significantly different nature. Firstly, the differences are related to the phenomenon of foreign immigration., which within the metropolitan area of Paris concerns the near suburban area (and some Eastern Parisian neighbourhoods), in Berlin in the city centre, while in the case of Warsaw is essentially marginal, without showing need for special treatment. The displacement of indigenous people is of more comparable character, with the greatest differentiation of the social characteristics in Warsaw. Addressing this issue requires the introduction of social activation programs, which go beyond the specific assumptions of the Best Metropolises project objectives and need to be defined in the future. Generally, the problem of social segregation in the Polish capital in the first place requires a good identification of areas of drainage. The next step would be detailed sociological studies allowing identification of the incentives convincing the younger age groups of residents to stay;
d) regardless of the success of the policy of limitation of selective migration movements which deplete social structures, the deepening of negative processes of decomposition of the demographic and social structure, especially in terms of the population aging should be expected. This requires a reorientation of social policy in this regard, particularly in the direction of better accessibility to health services and social services. However this is basically a problem of all core cities, and greater differences manifest themselves between their suburban areas. It can be expected that the greatest threat of the suburban area of Paris will be population aging, far more then in case of Berlin or Warsaw. For this reason, the rational development of settlement areas according to compact principle becomes even more important;
d) issues of internal migration of a permanent nature cannot be analysed without consideration of labour commuting, including its substitution for permanent residential displacements (analysis and conclusions are described in more detail in chapter 6). In general, support of the creation of jobs in suburban areas is required, especially in Paris and Warsaw, where the size of population de-concentration are or will be advanced to a greater extent than before. This should encourage shorter labour commuting, thereby improving the household time budgets, so important for social and family life.

Table A7.10 Proposals of actions for the policies development of Berlin, Paris and Warsaw - proposals for the synthesis of Chapter 5, 6 and 7

Phenomenon or process	Location	Level of essentiality for metropolitan area			Proposals of activities reducing negative effects of phenomena and processes
		Berlin	Paris	Warsaw	
Scattered housing	Suburban zone	small	medium	large	Warsaw: the adoption of the development plan of Warsaw Metropolitan Area and the zoning of urbanisation. In the case of absence of such plan, alternatively similar solution in the Spatial Development Plan of the Region and Studies of Conditions and Directions of Development. The introduction of the regulations limiting area set aside for housing development (e.g. in relation to population and its average growth rate in recent years). Differentiation of taxes based on location on housing development. Co-financing by individual investors costs of the infrastructure (connecting to the network, the cost of ongoing maintenance, such as snow removal, etc.).
De-concentration of population	Whole metropolitan area	small	large	medium	Preference belt-shaped urban development model. Prioritizing investments in context of high-speed coaxial/radial arrangement, both rail and car transport. Incentives for job creation in suburban areas. Public transport development enhancing inclusive labour markets integration and complementary individual communication (e.g. park & ride facilities).
Settlement concentration of foreign migrants	Whole metropolitan area	large	large	small	Incentives for creation of a more scattered model of settlement through the offers of available housing, housing replacement, etc. Integration programs, revitalization programs. Preventing the exclusion from the labour market. Increasing the professional qualifications of immigrants. The development and promotion of education.
Social segregation	Urban cores	large	medium	large	Detailed identification of the process in the context of absence of current research on this subject (especially in Warsaw). Housing policy differentiating of objects locations by systems of encouragements. Improved public services and conditions for commercial activities in the service sector (individual, personal) especially in socially deprived and drainage areas. Revitalization and gentrification programs.
Ageing of population	Urban cores, especially central areas	large	large	medium /large	Extension of the offer of health services and social services (especially in justified cases, the reorganization of the spatial location of facilities - an urgent need to study the

	(down-towns), in the perspective of one or two decade also large housing estates (block of flats)				spatial accessibility on issue). Improving accessibility. Adaptation of facilities for the disabled. Training social workers to meet the needs of the elderly. Geriatric care environment. Creating a positive climate to the growing population of older people (including opposition to various types of myths and prejudices). Promoting a healthy lifestyle, limiting the size of a disability. Creating learning opportunities for older people and incentives to remain in the labour market. Promoting ties and family values and solidarity between the generations. Incentives for those caring for older people (tax deductions, discounts communications, etc.). Support for families to remain within the administrative boundaries (family cards, and other amenities). The development of reliable demographic projections, taking into account population unregistered (Warsaw).
Increase of traffic and congestion	Centres of the cities/ main exit/entrance channels	medium	large	very large	De-concentration of jobs. Creating incentives to relocate business activities outside the crowded city centres . Improving the conditions for the operation of public transport, particularly rail (surface and underground). Creating "park & ride" infrastructure. Improving the conditions for individual transport (Warsaw) - construction of bypasses between districts, reconstruction exit/entrance roads. The necessity of planning for transport infrastructure closely with the policy of settlement and labour in context of existing peculiar location decisions (in Warsaw).
Weak availability of housing for migrants	Cores of the cities, part of suburban zones	medium	large	large	Support for specific locations, convenient in terms of urban policy objectives against segregation. Release of investment areas that belongs to the city
Substitution of migrations by labour commuting	Cores of the cities, including local centres	small	medium	large	De-glomeration of jobs requiring policy on a regional or national level. Relocation of the institutions in order to achieve multiplier effects, to attract other investors and activation of peripheral regions. Promotion of polycentric development, reducing the concentration and hypertrophy of the high level functions. The recommendation, however, is difficult to reconcile with the policy of improving the competitiveness of the country's most important metropolitan areas, vying for position in the international systems that account for the advantage just because of the effects of agglomeration and concentration.

8. Model of governance and social participation

8.1. Introduction

Metropolitan areas differ across Europe in terms of function and size and there is no 'one size fits all' model of metropolitan governance, including modes of social participation in the process of policy making and implementation of development plans. Metropolitan governance is a territorial governance in its very nature and as such shall be structured through adaptation to functional geographies i.e. economic, social, political, and spatial relationships among different parts of metropolises (territorial units that are located within formally delineated or commonly recognized borders). Governance can be exercised using formal institutions that operate within political structures. There are two basic types of such arrangements: initiatives developed at the local level that form governance mechanism at the supra-local or sub-regional level; and solutions imposed top-down through administrative reforms. The first one may succeed without heavy formal structures. Voluntary arrangements are often more likely to succeed, as they are usually based on shared trust and joint recognition of the needs of a particular area. In these cases, some form of loose organizational structures can help to bring together groups of actors. This solution also shows, that existing administrative regions and local government structures do not necessarily need to be changed, but they have to adapt to this functional reality. The second type usually results in establishment of additional tier of administration, which is often seen as a threat for local autonomy.

National governments are, obviously, in a key position to create administrative solutions necessary to establish metropolitan governance structures. However, it does not mean, that solutions worked out at the central level would be adopted by those, who are to be affected by them. Central cities of metropolises and municipalities that are parts of their metropolitan areas have different development potential and often different development goals. What brings them together are interdependencies that result from geographic location and functional links. The broader political and legal background also exerts a major influence on administrative structures generally, and those that cover metropolises in particular. The size and number of municipalities and regions and the distribution of powers among authorities from different tiers of governance are factors that exert a strong influence on the emergence of the metropolitan area as a relevant political issue. In addition, the way local authorities are financed and, in particular, the way the intergovernmental financial transfers' system is designed, have strong impact on perception of what is good solution to guide metropolitan development.

In this chapter experience of the three metropolises concerning governance issue and social participation are presented. They are related to the problem how to bring together dynamic economic development, sustainable social development and balanced spatial development, as it is pointed out in the EU 2020 strategy. Paris, Berlin and Warsaw are capital metropolises with specific history, culture and international economic and political positions. They share common development problems although the scale and specific nature of these problems differ. Despite territorial reforms and institutional changes, the issue of efficient governance in the three metropolises has not been solved yet. This chapter is also supposed to present, using examples of the three metropolises, complexity of circumstances that shape development processes of metropolises.

Metropolitan governance

Effective governance of metropolitan areas has been an important issue for more than four decades in spatial and economic development of regions and countries in Europe and in North America. Metropolitan areas form a special, internally differentiated and morphologically sophisticated type of functional urban areas. Highly performing functional areas are crucial not just for the local, regional and national levels, but also for Europe as a whole. They are essential drivers of national and European economic development.

Despite many attempts of introduction of new organizational and institutional arrangements no single European model of metropolitan governance has been worked out. Still, metropolitan governance remains a crucial issue for strengthening position of metropolises in globalized world and securing proper conditions for their social, economic and spatial development.

Combining dynamic economic development with social equity and territorial cohesion is an important component of the EU 2020 Strategy for "smart, sustainable and inclusive growth". In sophisticated metropolitan systems local governments separately cannot deal with development challenges. Efficient governance must be multi-level and multi-dimensional to combine spatial, economic and urban policies. It also requires new forms of horizontal and vertical cooperation as well as new organizational and institutional arrangements. Different actors also must be involved in formulation and implementation of policies at the metropolitan level.

There is a number of studies addressing the problem of metropolitan governance. Among them are: Cities for Citizens, OECD 2000 Report (with comparison of governance systems of different metropolitan areas), URBACT 2008-10 projects (JOINING FORCES, focused on multi-scale action, LUMASEC focused on land-use and economic development, NODUS focused on planning tools). Regional level is often treated as strategic one for action and political regulations (Le Galès 1997) since European policies are usually implemented at this level with use of structural funds. The ESPON program addresses metropolitan governance problems at the level of FUA. According to studies performed by NORDREGIO (SEBco, about South Baltic cities 2007), also medium-sized towns can together come up with efficient management scheme.

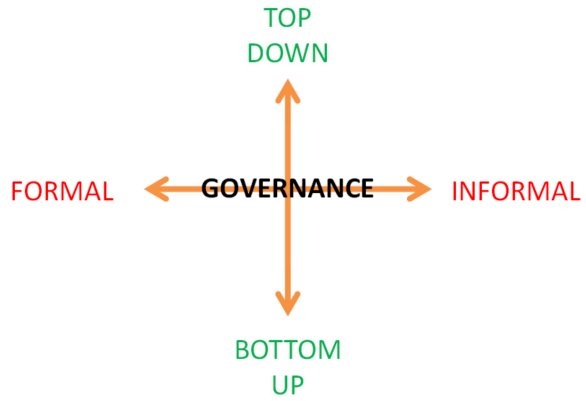
Reforms implemented in the 1980s were focused on creating new institutional structures of governance at regional level. In the 1990s (the "Golden age" of metropolitan government reforms, Lefevre 2001), many European cities established new forms of cooperation. A top-down approach that led to consolidation of institutional power resulted in establishment of Greater London in 1999. Bottom-up approach could be identified in France and Italy. In Stuttgart and Hanover innovative metropolitan associations were instrumental for improved efficiency of governance (Walter-Roggs and Sojer 2006); other mixed solutions (resulting from "new regionalism") appeared in Germany (Heinelt and Kübler 2005). However, most of the solutions worked out in the past are not functional any more under contemporary development conditions (with exception of London and Stuttgart, Pinson 2005 for Italy and Spain, Lefevre 2001 for Portugal).

Looking at solutions used in different metropolises to manage development processes one may distinguish three ideal type models of governance:

- *governance without government*, which basically means steering and coordinating development by the municipalities without predominantly relying on the formal structures and institutions of governing;
- *governance with governments* referring to the need for more cooperation horizontally within the metropolis, but also vertically with regional and supra-regional institutions;
- *governance by government*, which is understood as top-down steering and coordination by strongly formalized institutions of governing.

These three models refer to the two dimensions crucial for efficiency of governance solution i.e. to the degree of its formalization and its origins (who designed, implemented, and supervises ongoing governmental practices). Metropolitan institutional arrangements vary across a vertical axis that represents the degree of participation and a horizontal axis that represents the degree of institutionalization of potential approaches.

Figure A8.1. Governance dimensions



Source: International Metropolitan Governance: Typology, Case Studies and Recommendations; R. D. Yaro, L. N. Ronderos, Colombia Urbanization Review, 2011

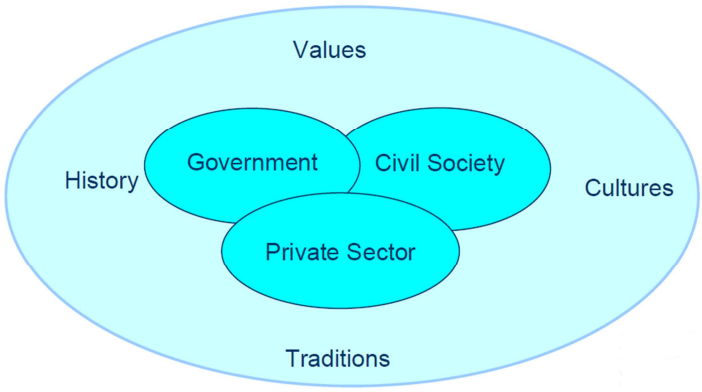
In practice these ideal type models have been translated into three types of metropolitan governments. The first one is the unitary metropolitan government typical for regions in which a large part of metropolitan space is covered by one region-wide administration without independent local government. The unitary solution that can be found in Europe (Berlin, Madrid, Vienna) were established for historical reasons and date from the beginning of the previous century. The potential of the unitary model is based on the efficient arrangement of metropolitan-wide governmental services (public transportation, electricity, sanitation). The second model: hierarchic meso-level model consists of two tiers of government in metropolises: meso-level government (metropolitan government) and local government. The meso-level government supervises some of the local government activities. A risk related to this institutional arrangement is related to the sensitive relationships among municipalities from the metropolis. The third ideal model also consists of dual tiers of government, but without the hierarchy of the meso level. Here, the local government is very powerful, particularly in the central city of metropolis, while the regional government occupies a relatively light, largely intermediating and coordinating position. This model can be found in France.

8.2. Political context of urban governance

Approaches to governance generally are deeply rooted in the history and traditions of public administration development in each country and are directly related to territorial subdivisions' systems. Territorial subdivision system together with the way competences, responsibilities, and powers are ascribed to specific tiers of public administration, determine a model of intergovernmental financial transfers. This model has crucial impact on development potential of spatial units: cities, municipalities, regions, and metropolitan areas. The model also reflects relationships among different tiers of public administration, especially relations between the central government (the state) and territorial self governments. These relations are important in the process of formulation and implementation of national urban policy, that is, by definition, territorial policy, which should be translated into specific means of territorial governance. Thus, the first question in this context is whether and how national urban policies influence development of the three metropolises (see diagram below).

Regarding urban policy, France has been very innovative in the last decades but in a specific way, which relates to the national history and the role of the central government in policy making. Although the country has embarked on a significant decentralization process since the last three decades, innovation has mainly been produced by the central government (new institutional structures, new procedures and instruments, new approach to trigger more active social participation in governance processes). These institutional and procedural innovations should permit the elaboration and implementation of adequate policies (in their content and their territorial relevance) to address the most serious urban problems which are economic development and the lack of social cohesion. It is up to the local actors and leaders to use these new arrangements.

Figure A8.2. Context of urban policies formulation



Source: D. Windsheimer, 2007, New Regionalism and Metropolitan Governance in Practice; METAR 51/2007

Addressing urban issues throughout institutional structures is a definite French attribute. The innovation here is to create institutional structures at the area-wide level. *Communautés urbaines* and *communautés d'agglomération* have been established in order to address the specificities of large urban areas. Since institutional changes was not sufficient to formulate and implement adequate urban policies, the central government has proposed new modalities and instruments such as the various types of agreements (*contrats de ville, contrat d'agglomération, contrat de plan Etat-Region*) and the production of territorial projects like the projets d'agglomération. To strengthen institutional and procedural innovations the

establishment of structures aiming at involving the population such as the *conseils de développement* and the *conseils de quartier* took place.

An important component of the paradigm of regional development in France was for years search for a territorial balance between Paris and the region that the city is located in. This component and related to it tasks of balancing development processes seem to gradually diminish. This is because of internationalization of development processes and the fact, that Paris is no longer considered only with respect to the national territory but also as a global metropolis.

Urban development policy at the national level in Germany is a complex and at the same time sensitive matter: complex because the German urban system is very heterogeneous; sensitive because the responsibilities for cities are divided up between the local, the Laender and the Federal level. Federal states and the Federal Government together with different stakeholders have reached agreement on necessary action that would support urban development. A memorandum "Towards a National Urban Development Policy in Germany" contains ideas on how to address cities' development in a way that contributes to their sustainability. In every day practice more and more municipalities initiate their own inter-communal co-operation within the urban regions. This is done to overcome barriers related to allocation of competencies and powers among tiers of administration. Negotiating contracts to address selected city region problems has become a more common routine among local governments. Proactive approach of local (urban) governments and results of their initiatives prove importance of bottom-up approach to urban governance in case of Germany.

What is characteristic for the urban policies in Germany is increasing emphasis on social dimension of urban development. This reflects both the increase of social problems in cities and the erosion of the welfare state. The latter makes urban governments main actors responsible for formulation and implementation of development policies and delivery of urban goods and services as well as creation of living environment. Urban development and the management of public facilities and utilities relies more and more on local public-private partnerships, focusing on economically profitable projects. Though such partnership usually speed up planning and decision-making processes, they may lead to neglecting social or environmental concerns.

The shrinking of municipal budgets, force the federal government to change from nation-wide to competitive promotional programs. Thus, it is up to creativity of urban governments what kind of resources they may obtain from federal source in order to supplement their own financial assets. The challenging development conditions encourage or sometimes force municipalities to initiate inter-municipal co-operation.

In Poland national urban policy has not been formulated yet. The discussion on urban areas development is in the initial phase. The issue of metropolitan governance has been recognized as an important for sustainable development of metropolises, however no specific trends or actions can be identified in terms of preferred political choices concerning the issue who, how, and to what extend should take the responsibility for cities' development. In Polish case both local governments and the central government participate in the discussion on urban development, especially on metropolitan areas development. Polish Ministry of Regional Development and Ministry of Administration and Information Technologies has elaborated some propositions on how metropolitan areas development might be managed. The "Green book on metropolitan areas" and the "White book on metropolitan areas" have been published recently (in 2012 and 2013). They contain

results of public consultations of proposed regulations. The concept of ITI – Integrated Territorial Investments, has been formulated in order to trigger cooperation among municipalities from functional urban areas and encourage municipalities to approach their development problems from broader spatial perspective. It might be expected that during the next couple of months the discussion will become more dynamic, better structured and focused. This is because governmental proposition provide a good frame for future discussion.

In the context of what was said above the question arises: whether and to what extend national urban policies empower cities? In case of Paris and Berlin the national urban policies are not just concerned with the classical top-down policymaking process but also include local policy initiatives. National governments do not determine each and every aspect of the national urban policy and they are aimed at empowering the cities to meet their challenges. In case of Warsaw there is no evidence, that actions undertaken at the central level bring any visible results in terms of stronger development potential of the city.

8.3. Administrative context of urban governance

The three metropolises function within the structures consisting of three public administration tiers. Relationships among the actors from different tiers depend on political context of urban governance in every case. In case of Berlin, the regional tier posses strong competences concerning development planning and management and a crucial factor for metropolis' development are relations between the region and city of Berlin. In Paris, the regional government of Ile-de-France has strategic competences concerning planning, however the impact of the central government on development at metropolitan scale is still very important. In case of Warsaw division of competences between the city and the region is very distinct: legally it is a duty of regional government to prepare a plan of development for metropolitan area. The central government does not interfere into relationships between autonomous territorial self governments.

Territorial administrative sub-division in France is unique at the European scale and characterized by local fragmentation. Devolution of state power started in 1982 and competencies have been gradually transferred to municipalities or municipal associations (inter-municipalities established in 1999). Paris has not been affected by territorial reforms since 1999, although there were some attempts made to facilitate cooperation within other functional urban areas.

In the German federal system (16 Länder), the capital city of Berlin (LandStadt as Hamburg and Bremen) functions within a network of other European metropolitan cities. The administrative system is decentralized and stable. Inter-municipal cooperation is formalized and plays important role in guiding development processes within functionally integrated areas.

Since 1999 Poland is divided into 16 regions with extensive competences concerning regional development and numerous planning responsibilities, including preparation of spatial development plans for metropolitan areas. Although the public administration structure is relatively new territorial self governments operate quite efficiently. This is the result of gradual devolution of power exercised in Poland for last several years. Legal regulations secure autonomy of municipalities, providing them also with opportunities to establish voluntary special purpose associations that may cooperate in solving problems, which cross the municipalities' boundaries. Thus the institutional landscape has changed substantially since the end of the socialist era. In 1990 municipalities were empowered by the first, after the war, free elections

to local governments. In 1999 a three-tier system of decentralized administration was introduced (Region/Voivodship, County/Powiat, Municipalities/Gmina). These major administrative changes were important in preparation of Polish accession to the European Union in 2004.

Metropolitan administrative structure and political scene

Paris Metropolis is divided into 8 districts and 1281 cities. First inter-municipalities were created in 1999; in 2011 56% of inhabitants lived in 112 inter-municipalities (the biggest was Plaine Commune, 350 000 inhabitants in 8 cities near Paris). Both the city of Paris government and regional government have competencies of strategic importance for future development of the metropolis. Also central government has been present at the metropolitan political scene. In 2001 Paris initiated a bottom up cooperation at the metropolitan scale among municipalities; the central government returned to the metropolitan political scene in 2008 with new concept plan for future development.

The metropolitan area of Berlin covers the Land of Berlin (12 Boroughs) rural districts, and Potsdam city-district in Brandenburg Land. Berlin has been divided since 1948 and, between 1961 and 1990 governed by two separate East and West administrations. After the reunification, Berlin has been organized in 23 boroughs, reduced to 12 after the administrative reform in 2001. The regional framework stands rather stable, with a large autonomy and low interference of the federal State. Berlin suffered from a long isolation and started cooperation with Brandenburg in 1990, as the capital city. In 1990, the 2 Länder established a common provisional board, and then in 1995 decided to start cooperation on development planning and spatial development policies. A merger of Berlin and Brandenburg has been rejected in 1996 in referendum, leading the two Länder to establish a Joint Spatial Planning Department, which is in charge of preparing development strategies and planning for the entire administrative area.

From 1990 till 1994 Warsaw legal status was an association of eight municipalities called districts (with competences like other municipalities in Poland). In 1994 administrative subdivision was modified and the city was divided into 11 municipalities called traditionally districts. A fundamental reform took place in 2002, when Warsaw became an urban municipality (with additional competences of an urban county) divided into 18 subsidiary units (called districts). The city has a centralized budget, development strategy and spatial development concept for the whole area of the city. Districts play active role in plans implementation and have a certain degree of autonomy deciding about local issues. Changes of administrative structure of Warsaw (legal status, governance arrangements) might contribute to certain instability of the management system. However, since 2006 Warsaw has had the same mayor and the same political coalition in power. Thus there is an opportunity for implementation of long-term plans and continuous development. One may also state, that different actors from metropolitan scene shall be more proactive and that mayors from suburban municipalities have important task of self-organization and involvement in constructive metropolitan debate (Zegar 2003, P. Swianiewicz, 2008). Warsaw dominates in the metropolis as the main place of location of investments, including foreign ones, in Eastern Europe. This fact may have impact on development of the central city and the metropolitan area around Warsaw and stimulate cooperation with surrounding municipalities. Economic interests might be good argument to convince for cooperation in other fields.

8.4. Emergence of metropolitan dimension of development problems

Concentration of inhabitants and economic activities in metropolises contributes to multidimensional changes of social, economic and spatial nature. These changes bring, or are related to the main problems, which have to be dealt with and which are challenges for metropolitan governance. Among the most important problems are:

- *uneven distribution of workplaces within metropolises,*
- *changes in demographic structures leading to aging of some areas,*
- *uneven development between core city and surrounding urban centers,*
- *increase in consumption of land and other resources,*
- *increase of work-related commuting,*
- *deepening social segregation,*
- *uneven provision of public transport, particularly detrimental for peripheral areas.*

These problems cannot be addressed and solved by individual local government. They must be addressed from broader perspective which is offered by metropolitan governance. The importance of metropolitan governance is commonly recognized and acknowledged, however, we are still far from consensus on how metropolitan governance should be organized. This issue bring conflicts because metropolitan governance is against routine of governance by government, changes existing frames of competences and powers ascribed to different tiers of public administration.

In France the metropolitan governance issue has been raised by the DATAR since the 1960s. In years 2004-2005 a new vehicle in forms of projects aimed at increasing metropolitan cooperation to enhance their international competitiveness were introduced. The debate on how to improve governance in Paris metropolis has started recently. In Germany the issue has been raised by governments both from the local and federal level. Innovative tools of spatial planning worked out at he lower levels were supplemented by the federal initiative “Regions of the future”. In Poland, the metropolitan dimension of development was raised in 1997 by the Union of Polish Metropolises (UPM), the association with 12 members – the biggest cities in Poland. The UPM lobbied actively to establish special metropolitan development program funded by EU resources. This idea still waits for implementation. However, the metropolitan development issues are now perceived as an important problem that needs coordinated interventions at different levels of policy making. The law on spatial planning enacted in 2003 calls for preparation of spatial development plans for metropolitan areas (P. Swianiewicz, 2008). Additionally, there is an initiative to create a task force dealing with metropolitan areas and urban functional areas development problems, within the structure of the Common Commission of Government and Self Government

Debate on metropolitan issue

The metropolitan debates reveal diverging views of central and regional governments and local authorities on strategic political solution shaping metropolitan governance structures and the way they influence metropolises’ development.

In Paris metropolis governance is a conflicting issue since 1910. Suburbs organized themselves against a Paris’ annexation historical trend (Bellanger 2006). Paris eventually ended this “dialogue of the deaf” in 2001 and started cooperation with suburbs, which resulted in organization in 2006 an informal metropolitan conference and after that in 2009 in establishment of organization called Paris Métropole, that

groups most of territorial governments from the area. Along this bottom-up movement, two top-down initiatives influenced the metropolitan scene. In 2004 the Region launched the 1994' revised SDRIF (regional planning scheme). Just after approval in 2008 it was replaced by the central government by the Grand Paris Project, with a dedicated law introducing specific tools for the project implementation. In 2011, Region and the central government negotiated arrangements concerning common transport scheme and a SDRIF. After presidential elections in June 2012 metropolitan debate has acquired a new dimension. Paris Métropole contributed to the debate preparing a "Green Book" on metropolitan governance. Review of plans and strategies is now taking place since the political climate of the metropolitan debate has changed.

Berlin metropolitan area could have been managed through a single large Land consisting of Berlin and Brandenburg, as proposed in a 1996 referendum. Structural differences (urban/rural, economic growth/decline) between the 2 Länder (see Walter at al. 2006) explain why citizens of Brandenburg rejected the idea of amalgamation of Berlin and Brandenburg. The two Länder overcame this hurdle through technical arrangements, which allowed to conduct pragmatic planning activities. Together with local stakeholders and communities, the Joint Spatial Planning Department manages further social and economic development of the metropolitan region.

In Warsaw metropolis, the metropolitan debate began in the 1990s. The debate was initiated by municipalities surrounding Warsaw and Warsaw's districts, which had that time the legal status of municipalities. In 2000, the association "Warsaw Metropolis" prepared a proposition of metropolitan organizational structure and governance solutions. Propositions prepared were not welcome by other actors including regional government.

Metropolitan governance has always been and will be a controversial issue. There are different initiatives that are supposed to contribute to the ongoing debates in Paris and Warsaw. Among them are conferences, seminars and workshops where different options are presented and discussed. It seems, however, that more structured discussion is needed and more decisive action from the side of the central cities of metropolises and central governments is required.

Technical devices, tools and experiments in metropolitan planning

In Paris metropolis, the State - Region technical cooperation has a long history. Regional planning schemes under the State leadership were prepared in the 1960s'. From 1990 IAU (managed by the Region since 1983), APUR (Paris planning agency) and the regional State agencies have cooperated producing common vision and delineating strategic development areas (National Interest Areas, OIN). Two planning and urban management agencies (IAU/Region, APUR/Paris) and two recently created public suburban planning agencies facilitate technical cooperation within the Paris metropolis. Cities and inter-municipalities often implement their projects using so called semi-public companies (SEM).

The Grand Paris project that is focused on development of transport system and activities that will lead to improvement of metropolis' competitiveness is accompanied by special means of its implementation: a Grand Paris Society to implement the Grand Paris transport project and CDT (contracts for territorial development) in areas around stations. In 2011, Region and central State entered into an arrangement with a common transport scheme (Grand Paris Express) and a regional planning scheme coherent with the Grand Paris project.

In Berlin Metropolis, the 2 Länder (the Berlin Senate for Urban Development and the Brandenburg Ministry for Infrastructure and Agriculture) have implemented projects resulting from activities of the Joint Spatial Planning Department for Berlin and Brandenburg. This body is responsible for development of strategies and instruments for the entire area, as well as for the smaller areas within the two federal states. The Department together with local stakeholders and communities also develops a pragmatic framework for the further social and economic development of the region, with a LandesEntwicklungs Programm - State Development Program - (2007 LEPro, objectives and principles for regional planning and polycentric development), a State Development Plan of Berlin and Brandenburg (LEP BB, regional centers, infrastructure planning, growth and innovation) and a State Development Plan for the new Airport location (LEP FS, from 2006), referring to the label ”German Capital Region” of Berlin-Brandenburg.

In Warsaw metropolis planning documents are prepared by appropriate planning offices and institutions at the city and regional levels (by Mazovian Office for Regional Planning). To help to exchange ideas and information and also for consulting purposes, a Regional Commission for Urban and Architectural Development has been established. The Commission consists of representatives of the City of Warsaw, regional authorities, representatives of researchers, other experts, and representatives of NGOs. Among different tasks the Commission is in charge of the evaluation and formulation of recommendations concerning the most important planning documents for the region (Development Strategy, Concept of Spatial Development, Spatial Development Plan, sectoral strategies). The first Warsaw metropolis’ planning document is the study for spatial development of the Warsaw metropolitan area. This document was approved in 2011 by regional authorities, but has no binding power. The success of its implementation depends on new development strategy for the whole region of Mazovia and on ability of self-governments from the metropolitan area to reach consensus on development goals and their political will for cooperation.

Informal cooperation and social participation

In Paris Metropolis, citizens widely participate in decision making processes at the local level. At a larger scale, according to the law, public inquiries and debates must be organized. Local consultation is a common habit in urban management but often it takes a form of rather formal meetings and its impact on decision making processes might be questioned. Some consultations however are quite innovative and successful (like website debates on Grand Paris by Plaine Commune inter-municipality, Paris city’ Pavillon de l’Arsenal’ exhibitions and website).

Berlin metropolis has a long tradition of social participation in public life. The Stadtforum and citizen’ participation in IBA’ “cautious urban renewal” enabled an active dialogue on urban reconstruction with citizens and stakeholders. It has become a model for local project governance used all around Germany and in other European countries. The recent example of citizens participation is consultations devoted to the flight routes for the new airport.

In Warsaw metropolis, the socialist period left a tradition of centralized management and a little experience concerning social participation or local autonomy. Citizen participation or collective associative involvements are not cultural habits. According to international surveys (OECD Eurobarometer 2004), Poland at that time was 21st among 25 EU countries, with 25% of citizens being members of voluntary organizations. However, the situation in this respect is evolving quickly. New institutional solutions were implemented to increase citizens’ involvement in public

life. In the case of Warsaw the Center of Social Communication has been operating for a couple of years with very good results. Public consultations are becoming widely used by public authorities to share information, collect opinions and listen to citizens to learn about their needs, preferences and expectations. Electronic media are widely used by the city's authorities to facilitate contacts with Warsaw' inhabitants. The process of preparation of the Social Strategy for Warsaw or work on a new edition of urban renewal program for Warsaw are examples of very intensive social participation. In case of the currently implemented urban renewal program social participation is a key to success of many projects. Civil society in Poland needs definitely support and the democratic culture is still under reconstruction. Paradoxically, it might be a historical handicap for inventing new model of metropolitan governance that fits specific Warsaw metropolis conditions.

8.5. Main thematic issues of metropolitan governance

Transport governance

Paris has a multi-modal but unevenly, in terms of spatial coverage, developed transport network. Renewing older transport lines, improving the service quality and extending the network are the main objectives of transport policies. Regional agency - the STIF, managed by the President of the regional Council since 2006 (formerly by the State) is in charge of this policy. 8 Districts and transport operators (RATP, SNCF and Optile, the bus companies) cooperate in order to implement plans and secure transport networks' appropriate functioning. However, some parts of the transport network are not within its competencies: the RATP underground system, the suburban railway system (RATP, SNCF), Velib and Autolib (Paris City), taxis (Police Prefect), highways (State) and, recently, the Grand Paris project.

Berlin has well performing and multimodal transport network, suitable to current needs. This network is managed by the VBB (Verkehrsverbund Berlin -Brandenburg), cooperation in planning is an ongoing process leading to increased efficiency of the system.

The city of Warsaw is relatively well served by public transportation system. The city is equipped with an extensive tramway network, there is one underground line, and the second one is under construction. Metropolitan transport services are of much poorer quality. The metropolitan transport system is fragmented. Central city and suburban municipalities have their own bus transport companies. Warsaw Transport Authority (Zarzad Transportu Miejskiego) manages the underground system, Warsaw buses and streetcars. Private firms manage Warsaw, regional and long distance busses.

Housing and urban renewal governance

One of the serious development problem of Paris metropolis is a shortage of affordable housing. Increased delivery of housing is the biggest metropolitan challenge. Public housing policy is designed and implemented with involvement of different tiers of administration and as such might be recognized as a multi-level process (State subsidies, linked programs from SDRIF to district and inter-municipality plans, PLH). However, final decisions concerning location, standards, and size of housing developments depend on local governments. Their specific policies and often lack of recognition of the housing problem lead to uneven distribution of housing and other disparities among different parts of metropolis.

The 2000 Solidarity and Urban Renewal Law (SRU) was aimed to improve the spatial distribution of affordable housing (minimum 20% of affordable housing in the new housing stock and fines for municipalities which do not meet this criterion). The regional council created in 2006 a regional public body (EPFIF) responsible for buying land for housing development. Three other Districts (Hauts-de-Seine, Yvelines, and Val d'Oise) worked out their own instruments in order to secure provision of affordable housing. However, the latest discussions on affordable housing have ended with conclusions, that the housing problem can be solved only at the metropolitan level. Just after 2012 presidential elections, in August 2012, a "rent freezing" tool was used in Ile-de-France to make housing more affordable. A new housing law is under preparation and it will set the lowest rate of municipal social housing at the level of 25% (the 2012 SDRIF suggests to go up to 30%).

The city of Berlin has an efficient management system of housing delivery and generally succeeds in providing affordable housing through both public and private (but also with regulated rent payments) available assets. Relatively low rent's levels and good quality of housing make Berlin attractive place to live despite presence of some deteriorated residential areas. In the case of Berlin the housing problem is managed by the city authorities, no other governments' involvement is needed.

Warsaw is the worst situation while comparing the three metropolises. The housing needs are far from meeting. This is partly because of a general shortage of housing, and partly because of the situation on housing market (costs of land acquisition, cost of new apartment / houses, careful banks' policies that make mortgage, especially for young people, hardly available). During the socialist period urban developments focused on new settlements units more than old neighbourhoods. Renewing these deteriorated urban areas is a challenge.

Programming and managing social services

Paris metropolis has a stable territorial multi-tier framework, which allows effective delivery of basic public services. Slowly progressing process of inter-community establishment makes difficult sharing of local sport or culture facilities. There is a strong tradition of culture and sport related public investment in suburban cities starting from the 1930s. Presently district and regional subsidies support these facilities and new investments. This situation could, however, change because of decreasing public resources and increasing poverty level. Public regulations are less efficient in private service, for instance in the health sector. Strong national restrictions of hospital budgets led to closure of some units, while the medical geography (location of private doctors) shows, that location pattern of medical services follows incomes' spatial distribution.

In Berlin metropolis, social services are delivered at the local level, by municipalities and counties. In this polycentric and mixed urban area, social services are relatively well distributed. Access and availability of services might be changed if the financial situation of the city declines.

Warsaw metropolis suffers from an adopted devolution framework, which results in location of many competences at the local level which causes disparities in accessibility of public services. Counties or municipalities in charge of these services are often smaller than the catchment area (secondary schools, water supply or sewage treatment services). The only regional competences are regional roads and provision of regional railway services. Thus the challenge for Warsaw metropolis is better spatial distribution of these services, especially those of social nature (schools, sport facilities, elderly nursing home, etc.).

Other urban technical network services

In Paris metropolis there are many examples of inter-municipal technical cooperation in provision of services of general interests like water supply, sewage treatment, waste collection or electricity supply. This cooperation is dated back to the 1920'. Paris often contracts directly private firms (water supply, electricity, solid waste in some boroughs) to deliver services. However, in the case of water supply there is a national trend in big cities (in particular in Paris) to come back to public providers. This is because of lower costs offered by public companies. Other networks (phones, Internet) are operated usually by private companies and costs of services are regulated at the national level.

Berlin Metropolis has a tradition of decentralized management of public services in former Eastern regions (water supply and treatment). Water delivery service system is fragmented, but efficient. The public firm BWB entered in 1999 into a public - private partnership with Veolia. EWP (Energie und Wasser Potsdam) had experienced the same evolution. Many French private firms are present on these new markets.

Warsaw metropolis (as Berlin) has a decentralized and fragmented system of urban technical services, generally at municipal and rarely at regional level. The heritage from the end of 19th century is a large water supply network, as well streetcars, public lighting network and gasworks plants. An important socialist technical heritage is a large heating network (1700 km, delivering heat to 80% of buildings in the city). This public network is private since October 2011 and managed by a subsidiary of Veolia and EDF.

Financial issues

Paris metropolis experiences problem of unequal distribution of public resources. This rich region has no proper instrument of financial adjustments between very rich and very poor cities. The Region procures subsidies for local facilities, usually inter-municipal. In 2011 Paris Métropole elaborated a proposal how to manage efficient redistribution of financial resources at the metropolitan level. Tax instrument used at the national level and allocation of financial resources based on social situation of specific localities are more efficient than current regional solidarity tools. The national reduction of public expenses has forced self governments to experiment with private financing instruments to be used in different projects implementation.

Berlin is a socially balanced and affordable metropolis. This economically active capital city has a low budget and a high debt and is surrounded by the rural Land Brandenburg. Within the borders of the FUA public resources cannot address all needs of urban and technical renewal. Thus public - private partnerships are necessary to face development challenges, especially after closing the 2002-09 Stadtumbau Ost Program.

Warsaw metropolis faces many challenges that require new investments in housing and technical infrastructure. Limited public financial resources are completed by European subsidies and foreign investors. Private funds (European Economic Area – EEA - Grants and Norway Grants in Poland) support NGOs in the enlarged EU (mainly Spain and Eastern countries) and procure subsidies for civil society organisations. The urban renewal tasks have been managed because of presence of foreign investments.

8.6. Metropolitan governance in Paris, Berlin, and Warsaw metropolises – experience and prospects

Analysis of the situation of Paris, Berlin, and Warsaw described above allows to draw some general conclusions on metropolitan development and metropolitan governance. The situation might be seen within a scheme of three dimensions: political, procedural, and formal (table below). In every dimension metropolitan and municipal agendas differ, reflecting specific tasks and responsibilities ascribed to different tiers of administration. At the same time it is clearly visible, that these agendas are linked and developments at the metropolitan level determine conditions of operation at the local level.

Table A8.1. Dimensions of metropolitan governance

Dimension	Metropolitan agenda	Municipal agenda
Political	Efficiency of investment	Conformity to market dynamics, community needs
Procedural	Legal and institutional framework	Land use control
Formal	Coherence of infrastructural networks	Conformity between land use, property rights, public and private investments

Source: own elaboration

Referring to the three types of governance models described earlier in this chapter one may state, that Berlin and Warsaw represent unitary metropolitan governance model, while Paris metropolis can be seen as an example of the mediating meso-level governance model. However, in the first two cases “metropolitan power” covers with its jurisdiction only part of metropolis. It means that comprehensive thematically and spatially approach to metropolis’ development is not possible. The same concerns the case of Paris, since “metropolitan power” resulting from the mediating meso-level governance model operates only in selected areas of the metropolis. Important feature shall be pointed out in the case of mediating meso-level government: this approach aims for structured, pre-defined fixed boundaries, even if they do not coincide with boundaries of the entire metropolis. This approach and solution in Paris metropolis takes a form “communauté urbaine”. These structures were created by the French Parliament in 1966 as compulsory associations of municipalities, with a formal administrative status, a specific type of local authority called EPCI (acronym for public authority for inter-municipality cooperation). Originally there were only four (around Bordeaux, Lille, Lyon and Strasbourg), later others were also created, sometimes in much smaller urban areas. The purpose of the urban communities is to achieve cooperation and joint administration and investment between large cities and their independent suburbs. The status of the urban communities was modified and the range of their competences enlarged by the Chevènement Law of 1999. The emphasis changed from top-down compulsory creation to a framework-legislation: if municipalities decide under given conditions to form an association, then this association has to fulfill obligations by the law while getting some additional financial resources for development. All urban areas in France with more than half a million inhabitants became urban communities, except for Paris. As the French local government system is the most fragmented in Europe,

this created settlement associations that are sometimes closer to the morphological area than to any broader meaning of metropolitan areas. They do not necessarily cover, as pointed out above, the whole functional urban area where the most serious externalities of metropolitan development emerge, and are smaller than what may more commonly be understood as metropolitan areas. This solution necessitates formation of a council at the urban community level (consisting of delegated members from all municipalities; the council makes decisions in a similar way to municipalities) and transfer of some important for development of the whole area functions from municipality's to the association level is compulsory (other functions might be transferred on a voluntary basis).

Illustrative Example 8: Paris Metropolis / Plaine Commune' governance – example of meso-level governance model

Plaine commune, near Paris in the north suburb, has been created in 2000 as agglomeration community and is still the biggest one in Paris Region with 9 municipalities, 390 000 inhabitants, 156 500 dwellings, 173 500 jobs, 180 000 active people, and 2 universities.

In Ile-de-France, it is the most innovative inter-municipality. The Plaine Saint-Denis was in the 1970s the largest and devastated industrial area, surrounded by residential poor areas for workers. Designed in the regional planning scheme as a potential strategic area (between Paris, La Défense and Roissy), it has become in the 1990' a new tertiary sector center and a dynamic urban renewal area, keeping mixed population (the poorest area in the region).

They succeeded in economic redevelopment through a large cooperation with territorial actors (standing big firms and R&D departments, territorial authorities, citizen, associations) from 2 cities to 8 in the 1980', with yearly public conferences. They launched a spatial planning document with a group of architects and landscape architects which was finally agreed and supported by the central State alongside the 1994 SDRIF, with the Stade de France and new RER stations: conditions have been fulfilled for investor's trust and economic recovery.

The inter-municipality was first chaired by the mayor of a small city and then by the mayor of the biggest one. They implemented innovative planning tools, inter-municipal cohesion scheme, housing program, environment plan and now Climate & Energy plan and Agenda 21 (since 2012 linked with economic purpose). Facing acute inner contradictions between winning and relegated territories, they lead strong efforts for renewal and housing along SDRIF' objectives.

In the Grand Paris project, Plaine commune was designed as a multimedia and creative cluster (existing efficient network of small firms) and should have a new underground station. Plaine commune signed the first CDT (in January 2012) with the Prefect. In 2011, Plaine Commune created a Northern metropolitan association with 3 other inter-municipalities. A 9th municipality will enter Plaine Commune in Januar 2013.

Solution used in the Paris metropolis case results from assumption (related to practical experience) that a complex system of voluntary agreements will never achieve real or effective enough results at the metropolitan area level. French approach tends to favor coordinated, formal cooperation bodies that cut across political entities, with the main aim of strengthening the metropolitan level. Metropolitan areas need competencies (authority to adopt, implement and safeguard a metropolitan spatial strategy); capabilities (knowledge and understanding to take informed decisions); and processes (means to regularly monitor, review and update the strategy) for effective integrated economic, social, environmental and spatial planning to take place.

Berlin metropolis, because of administrative structure and formal relations among tiers of administration, exercises a flexible approach, aiming for formal and informal cooperation in flexible spatial structures. This is German approach promoting

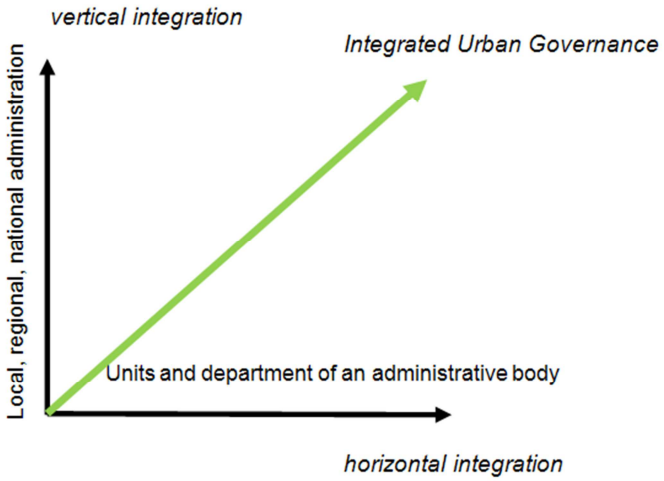
pragmatic combination of top-down and bottom-up elements. This approach is usually based on informal and voluntary cooperation in varying, not necessarily pre-determined, spatial structures. Sometimes national governments provide a framework for such cooperation to develop, sometimes nothing of this kind exists and cooperation is totally dependent on the initiative of local authorities. The German *Metropolregionen* form a transition between the formal and the flexible approaches. The idea of *Metropolregion* was first developed around 1995. After officially adopting the idea as part of the German spatial development strategy in 2005, their number increased to 11 regions. Metropolitan regions are designated by the German Ministerial Conference on Regional Planning. Beyond certain basic structures concerning population and economy – where there is a high variation among the 11 assigned regions – metropolitan regions have to fulfill specific functions. The three most important functions are: decision making and control function, referring to the spatial concentration of political and economic centers, in which financial and information flows are being controlled; innovation and competition function: high density of scientific as well as research and development facilities and the presence of creative milieus; gateway function: good accessibility from international locations and multiple options for 'face-to-face contacts' are essential factors for the exchange of knowledge and information.

The Joint Spatial Planning Department of the Länder Berlin and Brandenburg is a good example how cooperation in the spirit of partnership between politics and administration can be implemented. It promotes growth and infrastructural development in the entire region and thus contributes to strengthening the competitiveness of the metropolitan region within the national and European context.

Looking for a model of governance that fits Warsaw metropolis situation one may propose another approach to and model of governance that does not concentrate on the institutional forms but on the content and suggests strategic planning as the key mechanism for strengthening the metropolitan governance. The starting point for this approach is a view that the current challenges in society and cities are structural and cannot be tackled by traditional means, especially not within the existing institutional frameworks, or by adapting these frameworks. New ways of thinking that change the way resources are used, distributed, and allocated and the way the regulatory powers are exercised, take decision makers, planners, institutions, and citizens out of their comfort zones and compel them to confront their key beliefs, to challenge conventional wisdom, and to look at the prospects of new ideas. Strategic spatial planning is the best way to perform the needed transformative practices. A major challenge for this approach is that, to be effective, strategic planning has to have political support (especially when the planning seeks to work beyond - and across - traditional boundaries of territory and themes). Political support comes from elected representatives who represent specific institutional, territorial bases. Strategic planning can be considered as a separate approach in the sense that the planning process takes the lead, irrespective of the territorial structure. As was mentioned in the text above Polish Ministry of Regional Development worked out an instrument called ITI – Integrated Territorial Investments. To use this instrument (and obtain financial resources for specific investments important for functional urban areas) cities have to look for partners (usually neighboring municipalities) and must have development strategies for functional areas prepared. It is up to cities and their partners how to delineate functional urban areas. It may happen that their borders will coincide with borders of metropolises. If this is the case strategic planning will be the first instrumental step to coordinated actions at the metropolitan level.

Looking at solution used (or to be used like in the case of Warsaw) in the three metropolises one may state, that in all cases conditions for integrated metropolitan governance have not been met yet.

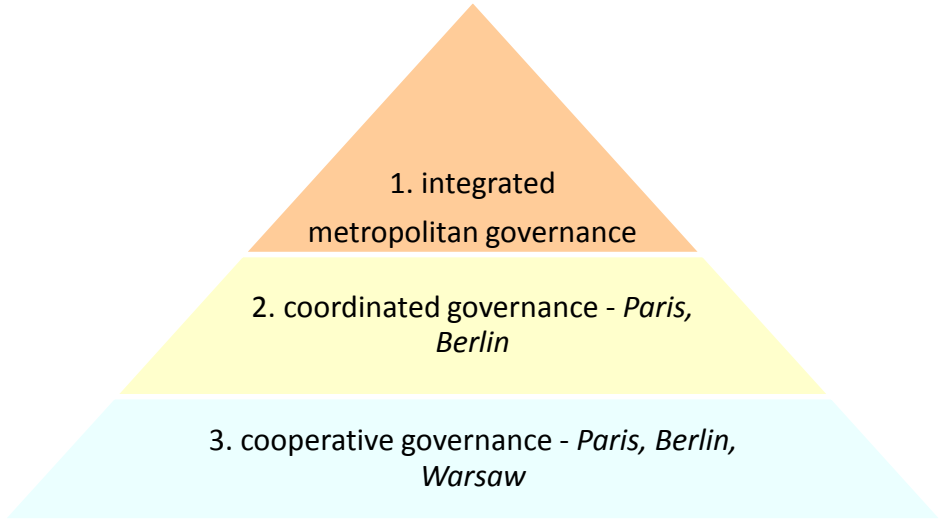
Figure A8.3. Integrated Urban Governance



Both horizontal and vertical integration are weak. If relationships are relatively strong and well structured (like in Paris and Berlin cases) the “metropolitan power” does not embrace the entire area of metropolis. Each of the three approaches to metropolitan area governance outlined above will only succeed when they are adapted to work in combination with existing political and administrative structures. All approaches are challenging for established territorial authorities, but none of them should be viewed as an attempt to unravel or undermine the elected national and regional authorities.

While analyzing the practice of cooperation that takes place within metropolises and the way that so called technical governance is performed one may state, that in all three cases a sort of cooperative governance might be identified (see diagram below). This governance at the lowest level simply implies dialogue among different actors and information exchange. More sophisticated is coordination that leads to policy coherence and consistency. Coordination implies cooperation and transparency, and its main goal is to avoid development policies conflicts. On the very top of the diagram is policy integration i.e. joined-up policy and common decision making. This advanced type of governance includes dialogue, information exchange, transparency, and avoidance of policy conflicts but also embraces joint working, creating synergies and using common policy goals. Joint new policies are formulated and consensus on their implementation exists. Cooperative governance helps to make sectoral policies more efficient, while coordinated governance contributes to their adjustment to specific metropolitan conditions.

Figure A8.4. Cooperative governance



Source: own elaboration

8.7. Efficient metropolitan governance – challenges and solutions

In metropolises, cooperation among different actors should be based on a shared development vision, on a win-win basis. This is especially important in the situation, when a number of municipalities that surround the central city experience economic difficulties, and may be dependent on the core city. In terms of access to a wide range of resources, local food chains, natural heritage, sports, leisure and recreational facilities, areas surrounding the central city contribute enormously to the sustainability and overall quality of life for everyone. Thus, cooperation is essential both for cohesion and competitiveness of a metropolis. Cooperation can succeed without formal structures and voluntary arrangements are often more likely to succeed, as they are usually based on shared trust and joint identification of the needs of a particular areas.

However, results of studies of the three metropolises prove, that both external and internal circumstances that determine development options call for formalized governance structures. They are needed to bring together complex groups of actors. Experience of Paris, Berlin and Warsaw metropolises in terms of development challenges and governance practices might be summarized as it is presented in table A8.2.

Table A8.2. development challenges and governance practices

Challenges endogenous and exogenous factors have impact on development determinants, development paths, administrative structures, institutional frameworks and organizational solutions	**Paris**: global city, challenges: internal - cohesion, external - competitiveness **Berlin**: capital city, European metropolis, shared development visions support inner convergence, external development challenges of lower pressure **Warsaw**: capital city, dynamic economic development centre, needs for infrastructural investments, disparities: central city – metropolitan area
Ability of institutional system and usefulness of tools to perform metropolitan governance functions efficiency of institutional framework depends on: strong vertical links, existence of leadership, inter-municipal cooperation, suitable financial measures, citizenry legitimacy, mobilization of other actors	**Paris**: comprehensive but complicated framework and mechanisms, conflicting leadership, weak cooperation, medium legitimacy and professional mobilization, needs to simplify its administrative framework, clarify issues of competences **Berlin**: strong FUA institutional leadership and citizens' legitimacy, thematic approach to planning and management, no comprehensive policy making, seems to be the most adaptable to new metropolitan governance scheme when it is proposed **Warsaw:** weak framework for cooperation at metropolitan scale, lack of leadership, weak mobilization level, needs improvement of organizational framework for better cooperation,
Phenomena and processes leading to a change debates, innovative initiatives and experiments are crucial for searching better governance modes	**Paris**: involved in a strategic debate among administrative bodies on main challenges; appearance of growing ability to generate common development visions (Paris Métropole) and use comprehensive approaches to manage large projects **Berlin**: involved for two decades in institutional cooperation, lack of debate on global metropolitan challenges **Warsaw**: still no solutions worked out, debate on metropolitan governance at initial stage

While searching new modes of metropolitan governance one should not look for just single, the best and definite model of governance. Changing metropolitan environment requires creative approaches to governance and flexibility when it comes to designing institutional solutions and introducing organizational schemes, mechanisms, and instruments. Management style must be in favour of cooperation. If new metropolitan governance structures are to be implemented then they have to be accompanied by appropriate changes in the system of financial intergovernmental transfers.

Results of studies bring arguments to state, that governance is fundamentally shaped by its contexts i.e. "path development" of metropolises (drivers for development and their effects in economic, social, and spatial dimensions will be different for global, European or regional type of metropolis). Organization of informal or formal structures and other collective actions presuppose the recognition of a need for such an action. Recognition of a need for action depends on metropolitan actors willingness to learn more about development processes that take place not only in areas under their jurisdiction. Learning processes are related to changes of

orientations of actors (from egoistic to general interest) and to change of orientations of interactions (from competitive to cooperative). Collective learning processes can be considerably stimulated by appropriate “opportunity structures”, created at the supra-local or regional levels.

Actors are taking part in metropolitan governance with different interests and logics of action. They are also unequally equipped with economic and social capital and enter metropolitan cooperation with different power resources. These differences have to be taken seriously and need forms of mediation, which have the power and competences to realize conflict resolution.

Governance is strongly dependent on metropolitan leadership and the existence of organizational cores for strategic, operative and process-orientated management. Collective actions need rules, which can be informal, based on loyalty or solidarity, or more formalized.

8.8. Lessons from and for Berlin, Paris and Warsaw

Lessons from other metropolises might be important messages but they do not offer specific and detailed recipe on necessary changes. Fragmentation, complexity and growing disparities within metropolises are their main development problems.

The cross-border formal cooperative arrangement in Berlin metropolis is an interesting example of efficient technical cooperation, which, however, does not reduce disparities between the two Länder. This cooperation does not result in deep changes in development paths, but may be instrumental in triggering new forms of consultations or more concrete future cooperation. Paris is on its own way to experiment with metropolitan governance; the metropolitan dialogue has started and innovative solutions are contemplated by actors from different tiers of administration.

Reforms in favour of a new metropolitan governance system are not a subject of wide public interest. Since new solutions require political legitimization social participation must be strengthened. Clear messages should be send to citizens to help them to understand the nature and costs of problems as well as the nature and benefits of proposed solutions related to modes of governance. Social trust and involvement are needed to proceed with necessary amendments and changes of governmental structures.

Shrinking financial resources impose necessity of searching new ways that enable financing investments in metropolises. Public-private partnership or ecological conversion will lead to establishment of new relations among actors from metropolitan scene. Concepts of metropolitan areas development should incorporate innovative approaches that will contribute to reduction of costs of metropolises functioning. Cooperation between public authorities and R&D sector is needed to work out basis for post-carbon city / metropolis development.

Institutional capacity of public authorities should be strengthened. Knowledge, skills and attitudes of policy makers and managers is crucial for introduction of even small changes. Political will and declaration of readiness for cooperation must be accompanied by organizational strength and human capital.

8.9. Final conclusions

The course of metropolitan debates and experience with metropolitan governance gathered so far in the three metropolises strongly suggests, that integration of different policy areas can be better achieved at this stage by using new organizational solutions that facilitate cooperation, and not by creating new administrative body. Although creation of such a body has been contemplated and discussed and still is possible this would not be a practical solution for several reasons. To change the present structure of local governments or add a new level to the system is a cumbersome process that would take many years in most cases. By the time a new solution has been agreed, the functional geographies may well have changed again. The new created metropolitan government would soon have to recognize that the area it covers no longer corresponds to the real metropolis in a functional sense.

To avoid this problem, ideally metropolitan areas should not be formally changed to become, or even addressed as, fixed-boundary administrative units, but should rather be considered as flexibly defined levels for action, where important, strategic activities should be carried out within less formal structures of governance. Tthe functional area approach does not replace the traditional fixed area government approach: these two hierarchies can and should exist at the same time as they have different tasks and legitimacy. The entities of the functional logic do not turn into fully institutionalized forms, therefore these new spatial levels have a better chance to be accepted by the administrative levels.

In the process of metropolitan governance there is a need to develop mutual trust among different actors. Experience shows that cooperation in metropolitan areas is easiest for issues that do not create major political challenges. Examples of this can be developing and exchanging information, or developing strategies for joint service provision where it is clear that all parties will gain directly. Partners should be aware of and find good solutions to issues of asymmetry; while the core city may have more capacity, more expertise and more economic flexibility to contribute in cooperative actions than its neighbors, the need to maintain balance between partners is often challenged by the risk of being seen as a threat. This emphasizes the importance of carefully negotiated arrangements for cooperation in each case, so that all parties' interests can be voiced and joint decisions are transparent and accountable. Costs and benefits must be allocated fairly to all participants.

Establishing cooperation assumes that the partners will be able to jointly identify and agree on their common interests. This leads to the development of mutual trust between the partners. Such processes are often very challenging and require considerable effort, time for discussions and studies. However, acting in common is probably the best way of developing and securing cooperation. Mutual trust between the actors in the metropolitan areas has to be assured before entering discussions on specific metropolitan problems.

Social participation is an essential part of the process for developing a shared knowledge base for good decisions. Involvement of stakeholders will also encourage commitment in supporting and implementing joint decisions. The challenge at the level of metropolitan areas will often be in selecting which groups should be involved and how to involve them. A particular challenge for metropolitan areasis that private and voluntary sector organizations may already have a stronger voice in the core city than outside and therefore be perceived as unbalanced. Citizens often feel excluded from processes relating to regional, strategic issues that seem distant from their daily concerns. However issues such as traffic congestion and public transport, housing,

access to leisure, sport and culture facilities, are more tangible and important and to citizens experience. By focusing on specific issues, more people should be able to understand the importance of efficient governance of metropolitan areas.

Central cities of metropolises are the economic, cultural and political driving forces in development of the entire metropolitan area. While this fact is widely acknowledged, the specific role for core cities in cooperation within metropolitan areas is not always clear for other potential partners. Central cities must be prepared to take responsibility in mobilizing a local partnership to develop metropolitan-area cooperation. It is up to these cities to demonstrate their strong commitment to the process, by sharing with neighboring municipalities some of their advantages.

9. Development visions and strategies

9.1. Introduction

Urban development visions are structural pictures of how the territory of a city should look and function ten, twenty, thirty or forty years into the future. In the ideal case, urban development visions are not just ‘dreams’ of the future spatial development but present as concrete as possible directives as to how such spatial development can be achieved. In technical terms, visions are roll-back or backcasting scenarios which answer the question: What needs to be done to achieve the desired spatial development?

In planning theory, urban development visions are associated with synoptic rationalism, i.e. the belief that a comprehensive list of goals and objectives consistently leads to the rational selection of actions that eventually achieve the initially set targets. The rationalist school of planning dominated since the beginning of urban planning in the 19th century till the 1960s, when it was attacked as technocratic and replaced by more small-scale, incrementalist models of planning thought to be more realistic and democratic. Incrementalist planning is concerned with day-to-day small-scale decisions and therefore requires no long-term visions.

The debate between the rationalist and incrementalist schools is still going on, not only in planning but also in politics, with a tendency towards pragmatist, incremental decision-making, as expressed in a famous quote by former German Chancellor Helmut Schmidt: “People who have visions should go see a doctor.” However, there are “big” decisions both in politics and in urban planning that cannot be subdivided into many small, piece-meal decisions: to build a new metro system, such as the Grand Paris Express in the Paris metropolitan area, is such an example.

In this respect the question should be formulated, which of the three cities has in the past applied and is still applying the best combination of long-term strategic planning and short-term decision-making to achieve the desired spatial development? While posing this question, the chapter reviews and compares long-term urban development visions and strategies for the three metropolitan areas. The review includes both visualisations and political documents outlining the objectives to be achieved, as well as the political instruments and strategies how to get there. The chapter closes with a comparison of urban development visions and strategies in the three metropolitan areas.

9.2. Methodological approach

According to the project specification, strategic documents in the three cities are to be analysed "to provide methodological support for strategic processes, including visions and scenarios for spatial development and planning" and "to contribute to strategic planning process by revising (updating) and creating strategic documents especially in the fields of settlement, housing policy and transport". Therefore "social, economic, and spatial development processes will be analysed in the context of strategic documents that set development goals in order to compare how development potentials are being perceived and utilised". The criteria according to which the strategic documents are compared are as follows:

- Which strategic documents exist?
- Do the strategic documents have a long-term perspective?

- Are there contradictory issues presented in the respective strategic documents?
- Do the strategic documents address housing, transport and governance issues?
- Do the strategic documents address European dimension?
- Do the strategic documents deal with goals and goal conflicts?
- Are the policies envisaged in the strategic documents innovative?
- Are the policies envisaged in the strategic documents operational and feasible?
- Have the strategic documents been publicly discussed?

As requested by the stakeholders, the themes housing, transport and governance receive particular attention. The review of each city starts with a short history of strategic visions in the city and ends with the most recent strategic documents.

9.3. Sources of data and information

The analysis of development strategies and visions does not require data but access to existing strategic documents.

All three metropolitan areas are equipped with strategic documents that present their development goals in the context of the regional, national, and European scale of development processes. The strategic documents examined for this study are listed in the Annex "Strategic Documents".

9.4. Results

The three metropolitan areas Paris, Berlin and Warsaw have a long tradition of cultural connections dating back to the 19th century when Polish emigrants added important elements to the cultural life of Berlin and Paris. On the other hand, the three cities have experienced very different paths of development due to their different roles as national capitals: Paris as the dominant capital of a centralised France, Berlin as the rather provincial capital of Prussia, the isolated outpost of West Germany and today the capital of a federalist country, and Warsaw, as the capital of a many times divided and re-created Poland.

Moreover, the three cities face quite different future prospects. While Paris expects to continue its growth as the only global city of the three analysed, de-industrialised Berlin sees its future as a non-growth city benefiting from its cultural diversity, and Warsaw is likely to experience rapid growth as Poland economically catches up with its western neighbours. It is necessary to consider these differences between the three cities as theoretical framework to analyse the historical development, present situation, expected future trends, challenges and risks, which constitute a departure point for the development of strategies and policy recommendations.

The three cities also differ with respect to the way they have planned their future development, all having a history of visions in which they deliberated and discussed in public their future spatial development. The processes within which the visions were generated and the strategic documents resulting from them reflect the different perceptions of the role of government and the role of planning of the respective time and therefore differ in terms of goals and proposed ways of their implementation.

Paris

Among the three studied cities Paris was the first to introduce a strategic plan to fundamentally change the irregular medieval structure of the city. In his grand plan for the reconstruction of Paris (1853-1870) Baron Georges-Eugène Haussmann adopted both Baroque ideas of broad spectacular avenues and the rational grid layout of North American new towns implemented in the 18th century – a spirit later taken up and exaggerated to the extreme by Le Corbusier in his utopian *Plan Voisin* of 1925. Figures A9.1 and A9.2 show visualisations of these strategic visions for Paris.

Figure A9.1. Haussmann's Paris (1853-1870)

Figure A9.2. The Plan Voisin (Le Corbusier 1925)

In 1960 the *Plan d'Aménagement et d'Organisation Générale de la Région Parisienne* (PADOG) initiated by President de Gaulle aimed at easing the congestion in the central city by restructuring the disorganised settlement system in the region. It was replaced in 1965 by the much more ambitious *Schéma Directeur d'Aménagement et d'Urbanisme* (SDAU) which, to cope with the rapid population growth, structured the region by the new business centre *La Défense* west of the old city and eight new towns linked by fast commuter rail lines (RER) and radial and circular motorways. As the actual economic and population growth was slower than expected after the first energy crisis, in 1976 the scheme was downscaled to five new towns, and an environmental protection (green belt) strategy was outlined. Map A8.1 shows the spatial layout of the SDAU of 1965.

The first *Schéma Directeur de la Région Ile-de-France* (SDRIF) of 1994 dealt with reappearing growth and its consequences, which require improving public transport, constraining urban sprawl and protecting the environment. This document was revised in 2008 because of continuing urban sprawl and new challenges, such as climate change, energy scarcity and growing social disparities and rising house prices in the suburbs. The 2008 SDRIF formulated three challenges:

3) to support social and territorial equality to contribute to social cohesion in the region,
4) to anticipate environmental crises in particular linked with climate change and depletion of fossil resources and to organise proactive and flexible reactions for a compact and energy-conserving city,
5) to develop a dynamic Paris region, to consolidate its territorial structure and to strengthen its position in the global economy.

The SDRIF is managed by the *Institut d'aménagement et d'urbanisme Ile-de-France* (IAU). Map A9.2 summarises the spatial strategy of the SDRIF of 2008.

The present situation of the Paris region is quite unusual because of a disagreement between two major plans. The SDRIF approved by the Regional Council in 2008 is conflicting with another master plan, the *Grand Paris* project. The *Grand Paris* project was initiated by the French President Sarkozy in 2007 to generate a new global plan for the Paris metropolitan region. The project increased the growth targets for the Ile de France of 12 million inhabitants and 6 million jobs in 2030 and 60,000 new dwellings per year to 13.5 million inhabitants and 7 million jobs in 2030 and 70,000 new dwellings per year. At the core of the project is the new regional rail system *Grand Paris Express* with about 150 km of new automated regional metro system linking the major centres in the region and nine planned new development clusters. In 2008 ten international multi-disciplinary teams were invited to present their visions for the future spatial structure of the Paris metropolitan area. Map A9.3 shows the master plan of the Grand Paris project, and Figure A9.3 presents one of the ten architectural projects (Nouvel 2008).

A convergence between the two documents, the SDRIF and the Grand Paris project, is currently being discussed, and aims at establishing a renewed SDRIF until 2013. Nevertheless the observing competition between state and regional planning gives rise to important open questions.

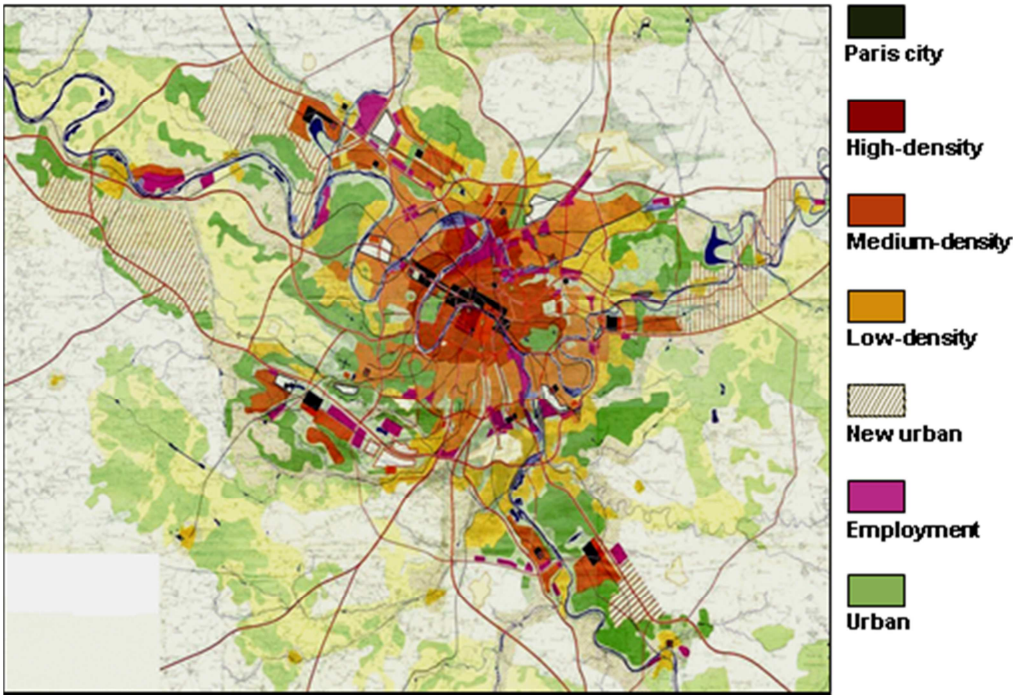
In addition, but fully compatible with the SDRIF, there is the *Plan Local d'Urbanisme de Paris of* 2006 according to which the following issues are of strategic importance for urban development:

1) improvement of the quality of life of citizens through incorporation of principles of sustainable development into planning procedures: to reduce energy consumption and greenhouse gas emissions, water, air and soil pollution; to

prevent noise, to provide more green space, to protect the cultural heritage and to reduce social inequalities

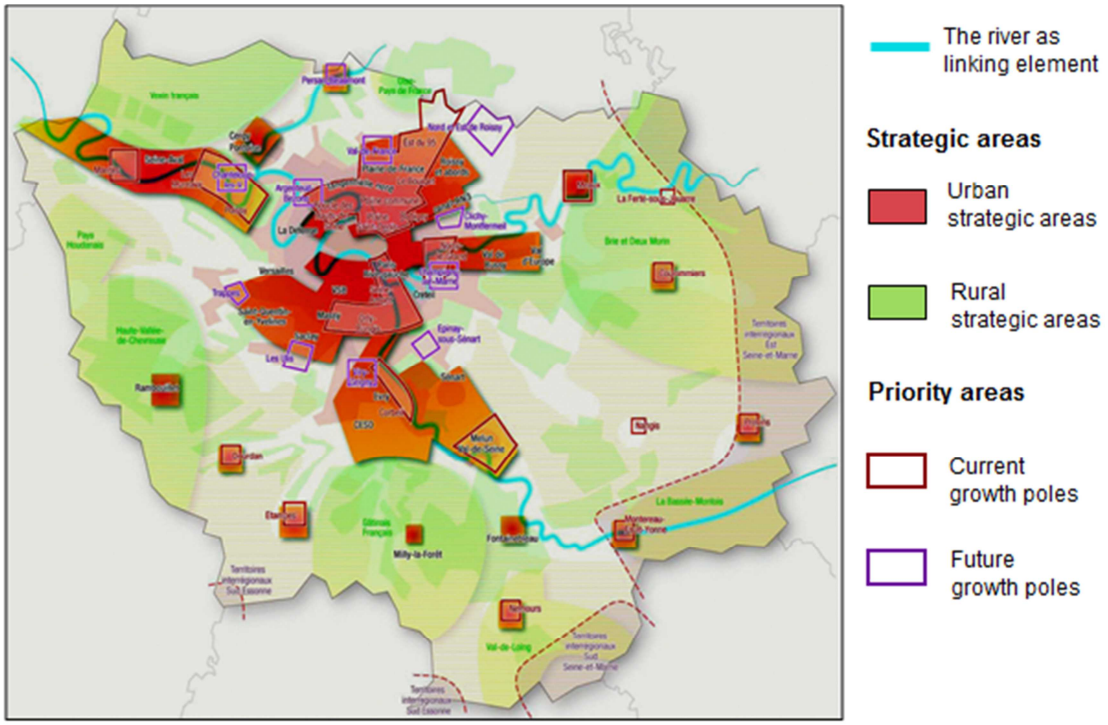
2) establishment of cooperation among local authorities to support the development of Paris as the heart of the agglomeration.

Map A9.1. Schéma Directeur d'Aménagement et d'Urbanisme.



Source: SDAU 1965

Map A9.2. Schéma Directeur de la Région Ile-de-France: La géographie stratégique et prioritaire.



Source: SDRIF 2008, 170

Map A9.3. Grand Paris project: development clusters (Societé de Grand Paris, 2012).

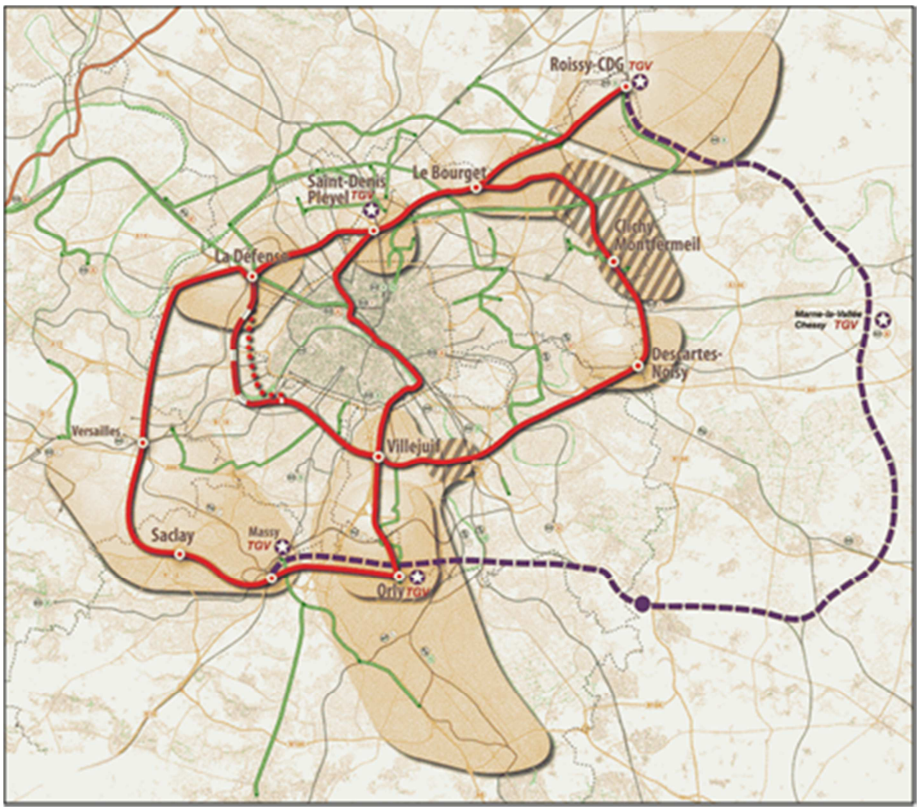
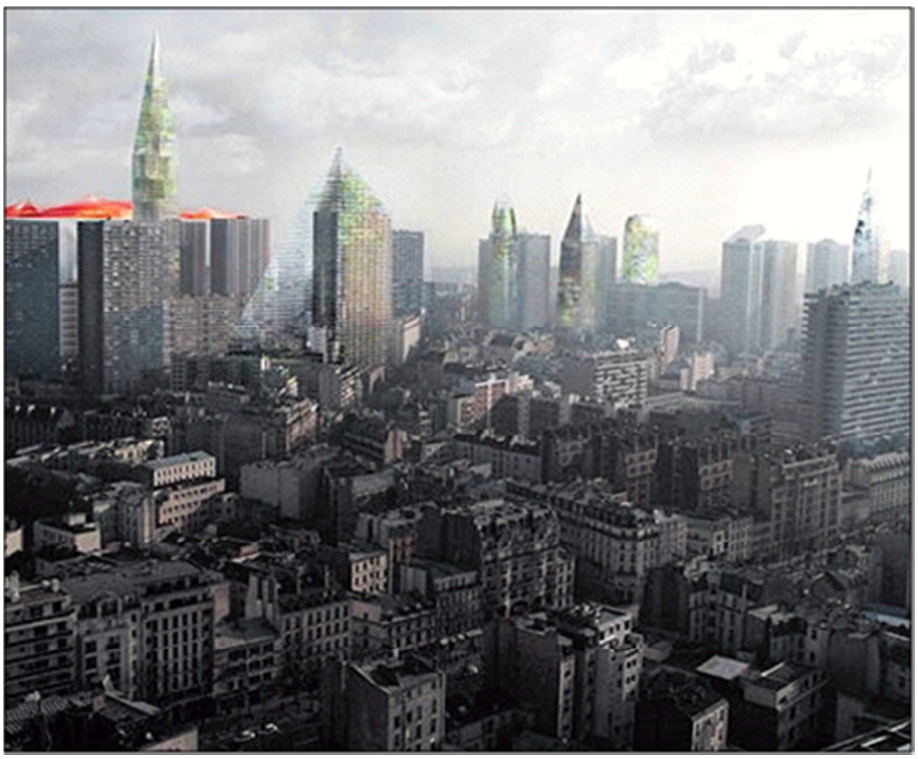


Figure A9.3. Grand Paris: Éco-villes verticales (Jean Nouvel, 2009)

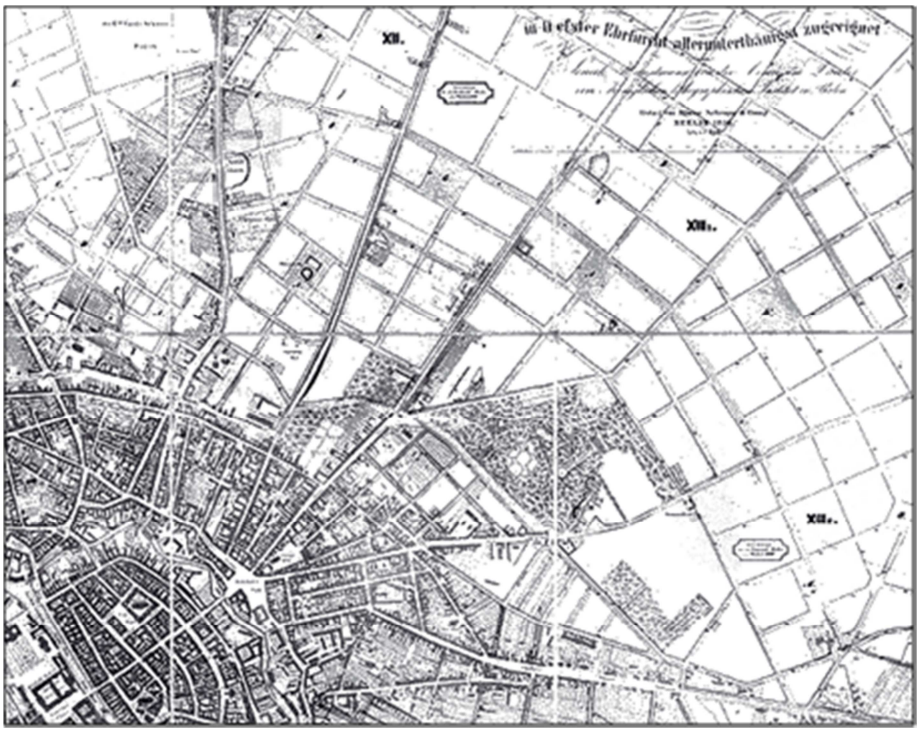


Berlin

Similarly as Paris, Berlin has in the 19th century made efforts to modernise its historically overcrowded and unhealthy urban fabric by means of advanced

engineering principles. In 1862 the city commissioned the civil engineer James Hobrecht to prepare a visionary plan for the fast growing Prussian capital, a plan which has determined the growth and layout of Berlin's inner suburbs until today. Figure A8.4 shows a section of the Hobrecht Plan of 1862.

Figure A9.4. The Hobrecht Plan for Berlin (1862)

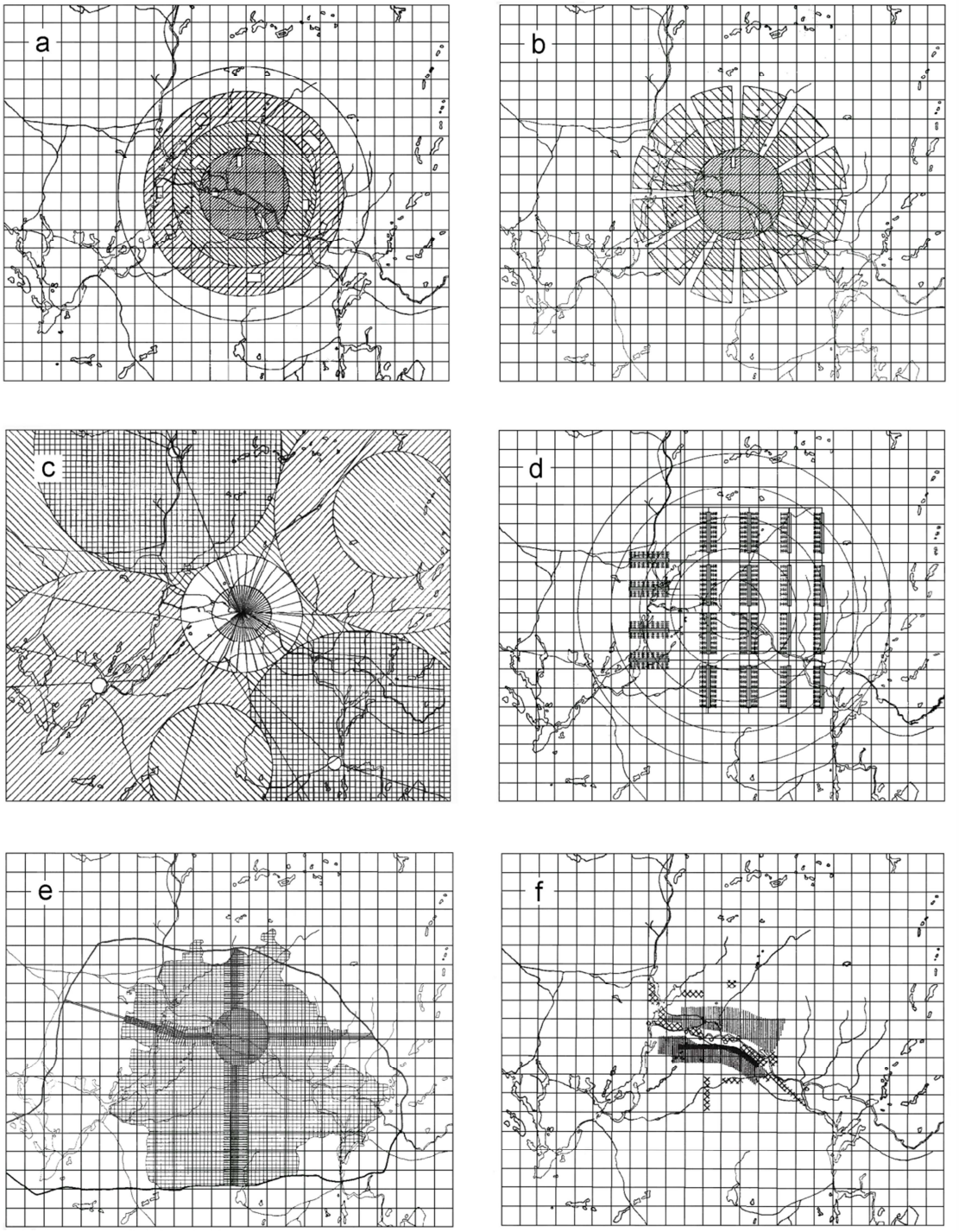


At the occasion of the first international urban planning conference in 1910, the city opened the Greater Berlin (Groß-Berlin) competition, yielding radical plans for the growing metropolis, such as the circular belt or radial sector plans by Eberstadt et al. (1910). Since then there has been an almost continuous sequence of visionary planning for Berlin, such as the regional plan by Mächler (1919), the decentralised plan by Hilbersheimer (1933), the axial plan for the Nazi capital Germania designed by Speer (1938) or the linear plan by the Planungskollektiv (team of planners) led by Scharoun (1946). Figure A9.5 shows a selection of these spatial visions for Berlin drawn by architectural students of the Technical University (Seminar Ungers 1969).

Only few of these plans were officially commissioned or endorsed by the city government. However, in 1958, more than thirty years before Berlin was reunited, the City of West Berlin launched an international urban planning competition Berlin Capital (Hauptstadt Berlin) in which 150 international architectural teams produced their visions of a reunited Berlin as the capital city of Germany. Figure 3.9 shows the entry of Hans Scharoun linking back to his linear plan of 1946.

A few years later, in 1961, the Wall separating East and West Berlin was built and made all plans for a reunited city illusionary. Irrespective of this, the architectural students mentioned above designed bold linear and matrix mega-structures in the spirit of the architectural movement of metabolism for the whole city. Figure A9.7 shows the two schemes (Seminar Ungers 1969).

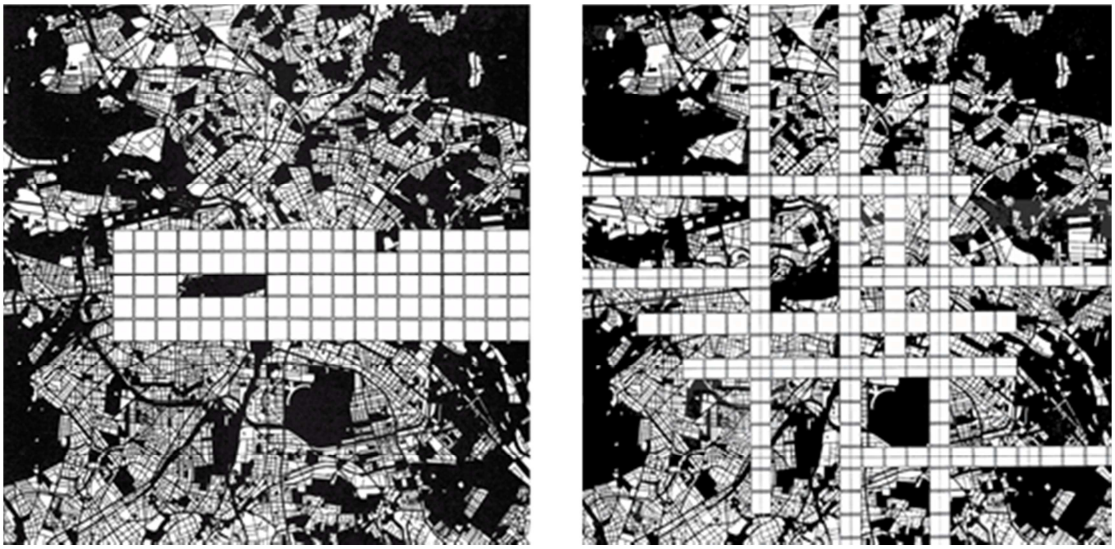
Figure A9.5. Visionary plans for Berlin: (a) belt plan (Eberstadt et al. 1910), (b) radial plan (Eberstadt et al. 1910), (c) regional plan (Mächler 1919), (d) decentralised plan (Hibersheimer 1933), (e) axial plan (Speer 1938), (f) linear plan (Scharoun 1946)



Source: Seminar Ungers 1969

Figure A9.6. Competition "Capital Berlin": Hans Scharoun (1957)

Figure A9.7. Berlin 1995: Linear and matrix plans for Berlin (Seminar Ungers 1969)



In 1987, in the final period of the German Democratic Republic, the City of East Berlin published a strategic plan for the development of the socialist capital and its wider hinterland (Magistrat von Berlin 1987). Figures A9.8 and A9.9 show the radial structure proposed for East Berlin and the envisaged structure of the city centre.

This was the last time that long-term strategic planning for the spatial development of the whole metropolitan area occurred in Berlin. In 1999 a master plan for the inner parts of the reunited city (*Planwerk Innenstadt*) proposed a return to traditional forms of urbanism by the reconstruction of 19th century city blocks.

Figure A9.8. Grundlinie der städtebaulich-architektonischen Gestaltung der Hauptstadt der DDR Berlin: Structure of city centre (Magistrat von Berlin 1987)

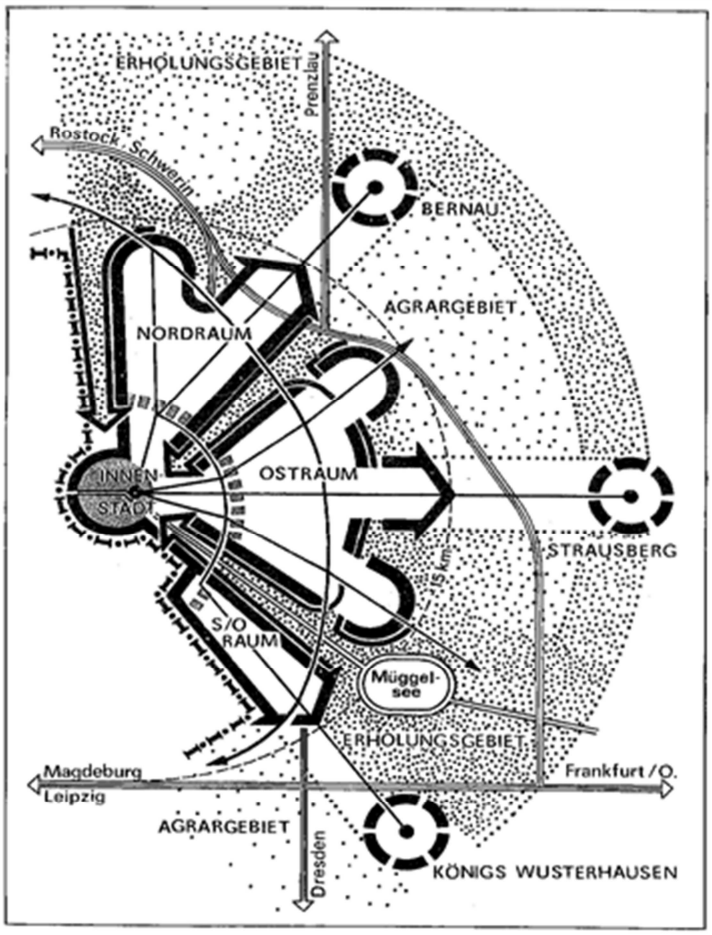
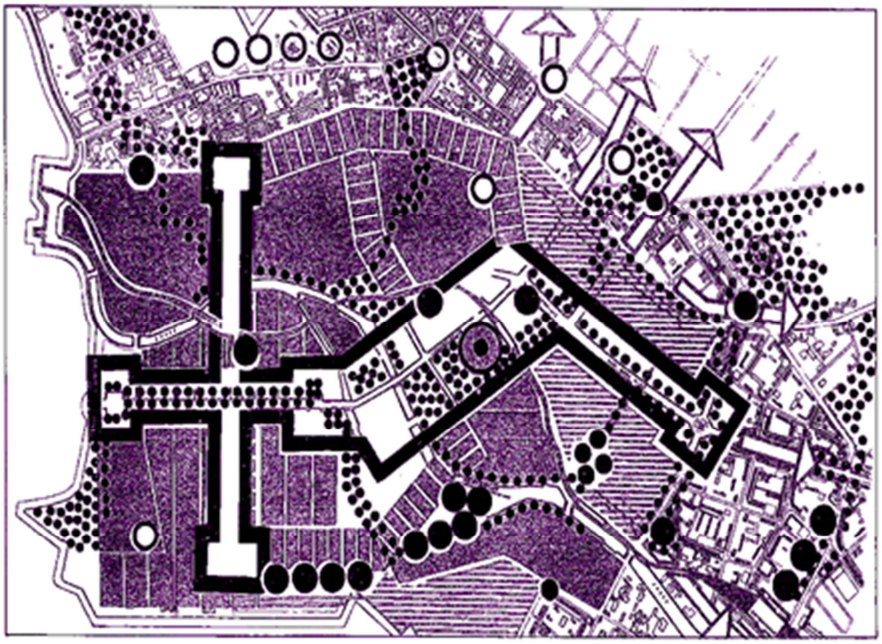


Figure A9.9. Grundlinie der städtebaulich-architektonischen Gestaltung der Hauptstadt der DDR Berlin: Scheme of spatial structure and development of the city (Magistrat von Berlin 1987)



In 2001 the Senate of Berlin commissioned the BerlinStudie to face the challenges of the 21st century. The following strategies were proposed

1) competitiveness: create the preconditions for global economic activity,
2) employment: create jobs to permanently reverse employment decline,
3) knowledge society: become the learning region for continuous innovation,
4) information and communication: enhance access and creative potential,
5) attractiveness for young people: prevent the ageing society,
6) migration: foster targeted management of immigration and integration,
7) social equity: balance opportunities and burdens for social cohesion,
8) environment: reduce pollution and traffic congestion,
9) system transition: move towards social and sustainable market economy,
10) participation: delegate responsibility to citizens and civil organizations,
11) intercity co-operation: integrate into to European city networks,
12) capital city: prepare for new challenges and integrate into the region.

Although the Governing Mayor of Berlin endorsed the BerlinStudie as an "encouragement for action" in 2003 (Brake 2005), it was never declared an official strategic spatial development document of the city government. Berlin does not have and has not had since its reunification a single and comprehensive document that determines its most important government goals and measures concerning spatial development. Instead, its urban development policy is based on strategic concepts and documents that are more or less integrated and binding:

- an open set of long-term forecasts and strategic concepts for the most important urban development issues to publish, discuss and establish guiding principles on the ways of urban problem-solving,
- a set of spatial and/or sectoral long-term development plans on demographic development, housing, industrial and commercial development, climate, transport and utilities, including the re-edition of the Planwerk Innenstadt and its extension by similar plans for the inner suburbs.
- a set of priority urban action areas, containing urban development, urban restructuring, urban regeneration and social development areas, each with its specific spatial action concepts.

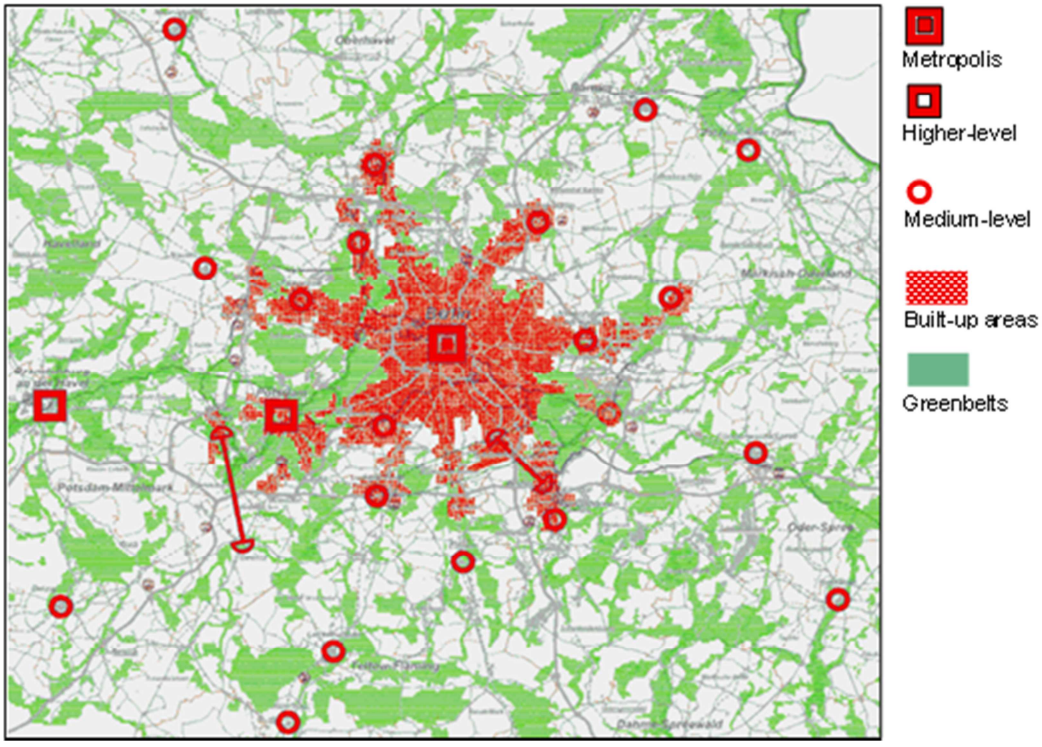
Berlin's government policy guidelines 2006-2011 were declared by its Governing Mayor in 2006. He emphasised promoting tolerance, diversity, integration and equal opportunities in economic development, labour, education and social security as the guiding principles for government activities. Political priority was to be given to job creation, promotion of science, education, and culture, fiscal retrenchment, and social security for people not able to care for themselves.

In 2004 as a result of a broad public discussion the Urban Development Concept for 2020 was implemented, in the form of pilot projects at strategic locations. Recently the planning horizon of the Urban Development Concept was extended to 2030 with first results expected in 2014.

The pragmatic, incrementalist planning philosophy of Berlin is also reflected in the way it collaborates with the surrounding Federal State of Brandenburg. Although there is a Joint Spatial Planning Department (Gemeinsame Landesplanungs-abteilung), which prepared a common State Development Plan (Landesentwicklungsplan or LEP) in 2009, it has not been possible to agree on a common policy to curb urban sprawl in the huge suburban "grease belt"

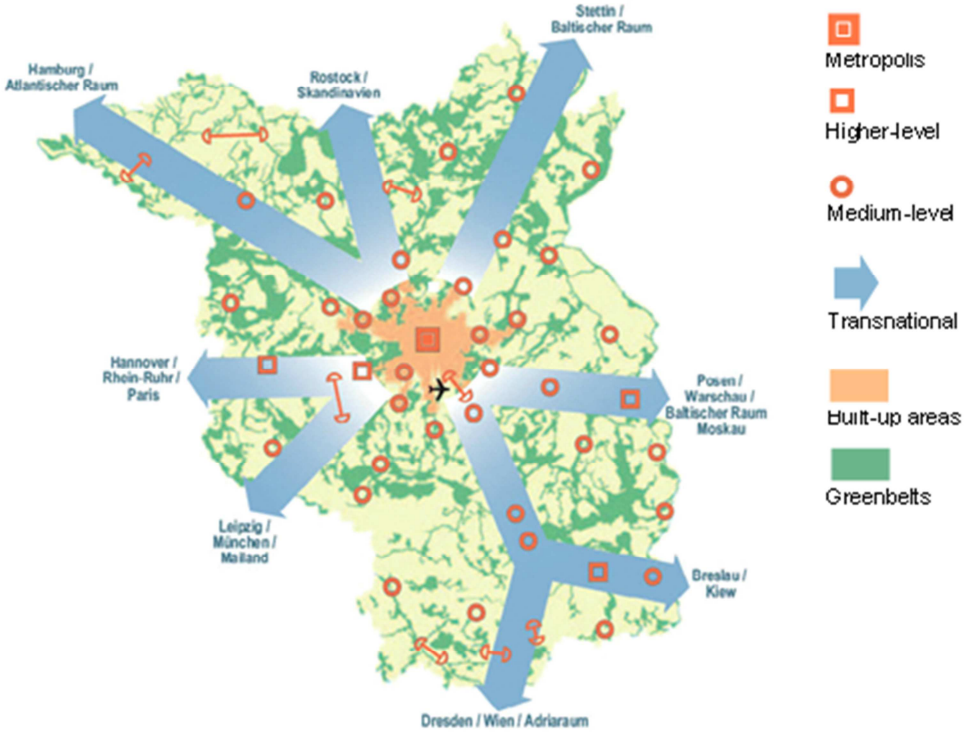
(Speckgürtel) around the capital city. Both Berlin and Brandenburg maintained their own land use or regional plans with detailed binding regulations. Map A9.4 and A9.5 show two examples of the representation of Berlin in the LEP.

Map A9.4. LEP Berlin-Brandenburg: Settlement structure.



Source: Gemeinsame Landesplanungsabteilung der Länder Berlin und Brandenburg 2009: 94-95

Map A9.5. LEP Berlin-Brandenburg: Spatial Vision Capital Region.



Source: Gemeinsame Landesplanungsabteilung der Länder Berlin und Brandenburg 2009: 10

Warsaw

Strategic planning for Warsaw started with the rebirth of the city as the national capital in 1918. Already in 1916, still under German occupation, a first plan for Greater Warsaw was set up (Józefacka 2011). In the interwar period a master plan for the city designed by its chief urban planner Różański (see Figure A9,10) remained unimplemented.

After the destruction of the city by the Germans during World War II, a plan for the reconstruction of the city was proposed in 1949 by the state president and later prime minister Bolesław Bierut (see Figure A9.11).

In 1956 a first General Plan for Warsaw was approved (Ciborowski 1985), while at the same time a new city centre of predominantly Soviet architecture in the convention of socialist realism was constructed – the Marszałkowska Housing District (MDM) with the huge Palace of Culture and Science ruling over the city (Figures A9.12 and A9.13).

After the political and economic transition of 1989 it was hypothesised that the Berlin-Warsaw axis might develop into a high-growth intensity zone by attracting modern economic activity from both West and East (Domański 1999, after Korcelli-Olejniczak 2007). Berlin and Warsaw share a number of common characteristics (Korcelli-Olejniczak 2007): their geographic situation along a major historical West-East axis, their membership in the Baltic Sea Region and their similar position in the eastern peripheral parts of their national territory. Another important common characteristic of the two cities is that they are capitals of the two most polycentric national urban systems with exceptionally low primacy rates in Europe. All these characteristics suggest that there may be a great potential of future collaboration between the two cities, in particular in the fields of science, education and culture.

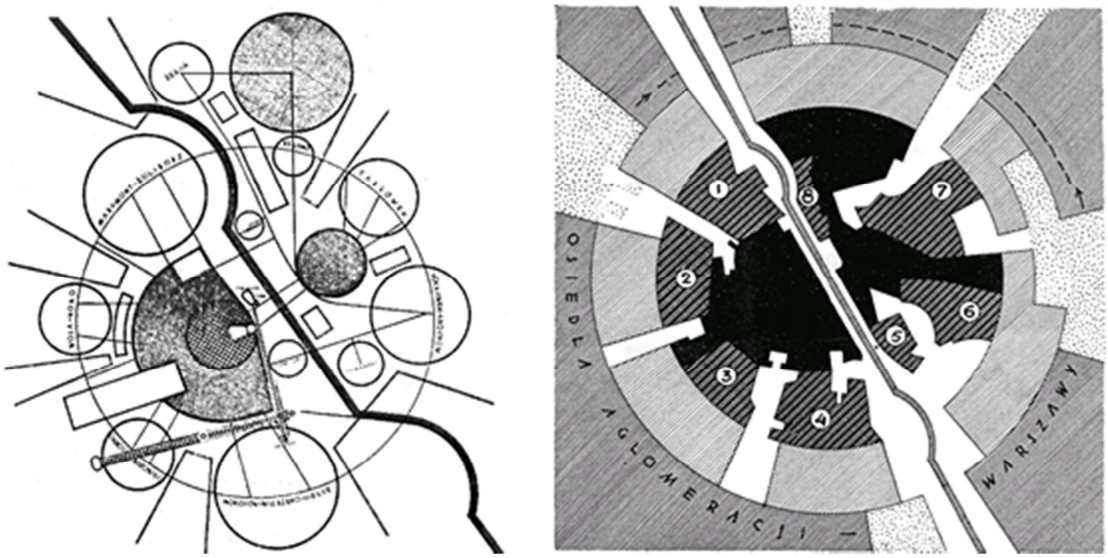
There are two major strategic documents on the future development of Warsaw (Korcelli-Olejniczak 2004): The Warsaw Development Strategy (Strategia Rozwoju) of 1998 was to guide the development of the city until 2010. It postulated the transformation of Warsaw into a European metropolis able to compete effectively with Prague, Budapest and Vienna, but also emphasised the need to sustain its existing metropolitan functions as the national capital. The study pointed to activities that were threatened by destructive competition between the four cities but did not identify functions that could expand as a consequence of inter-metropolitan complementarity and collaboration (Korcelli-Olejniczak 2009).

In 2005 the Warsaw Development Strategy was updated and extended to 2020 (Korcelli-Olejniczak 2006). The new strategy presented a SWOT analysis, a vision and strategic objectives divided into sub-sections and illustrated by a number of detailed programmes. The strategic goals for Warsaw are defined as follows:

1) to improve the quality of life and safety of the residents,
2) to consolidate the residents' sense of identity by fostering tradition, developing culture and stimulating social activity,
3) to develop metropolitan functions by strengthening Warsaw's position at the regional, national and European level,
4) to develop a modern economy based on knowledge and scientific research,
5) to achieve sustainable spatial order.

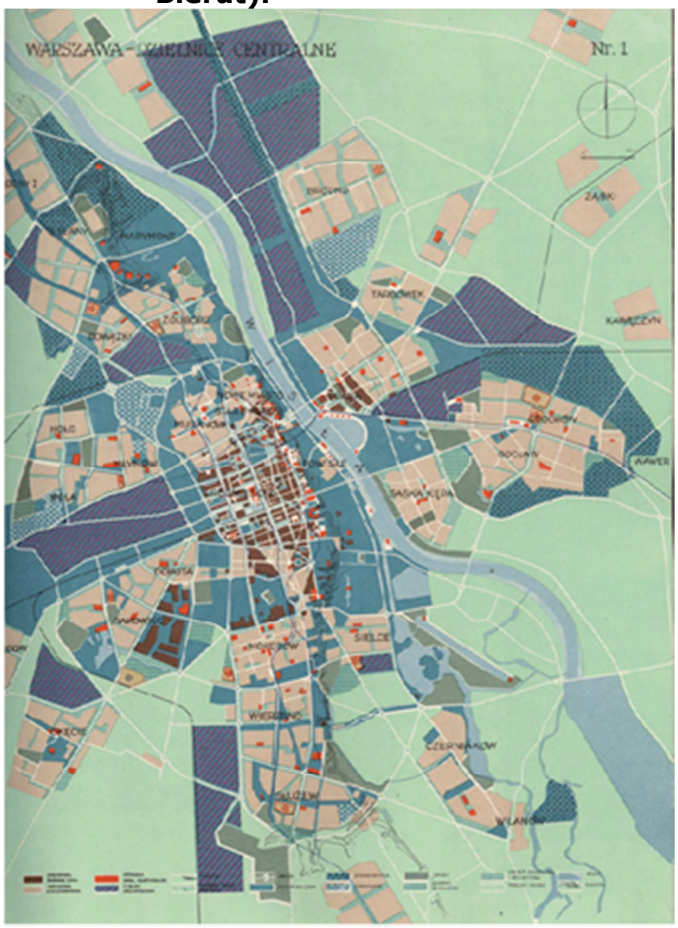
In 2006 the Mazovian Office for Regional Planning developed a structure plan for the Warsaw metropolitan area (see Map A9.6). Also in 2006 the Mazovian Voivodeship published a plan showing the position of Warsaw as node of European transport corridors (Map A9.7).

Figure A9.10. Diagram for Monumental Warsaw plan (Warszawa Monumentalna), 1928-1929 (Stanisław Różański)



Source: Józefacka 2011, Plates 1.15-1.16

Figure A9.11. Six Year Plan for Rebuilding of Warsaw, 1949 (Bolesław Bierut).



Source: Józefacka 2011, Plate 3.12

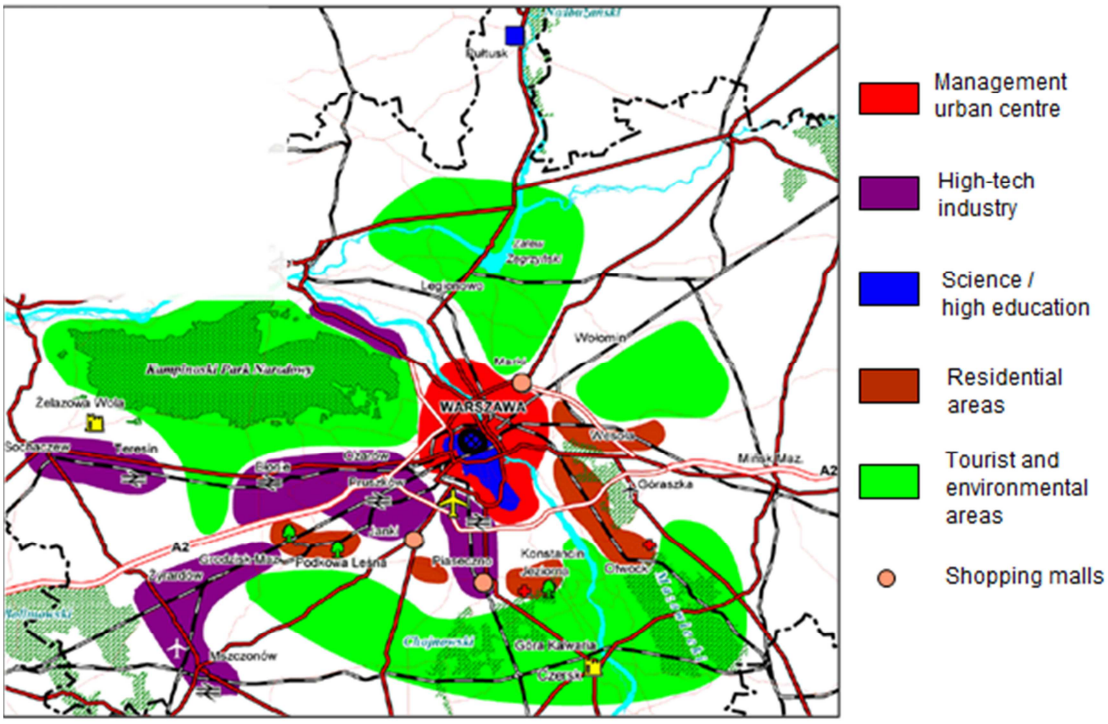
Figure A9.12. General Plan for Warsaw, 1956 (Ciborowski, 1985).

Source: Józefacka 2011, Plate 3.14

Figure A9.13. View of Palace of Culture and Science, 1950-1955 (Lev Rudenv).

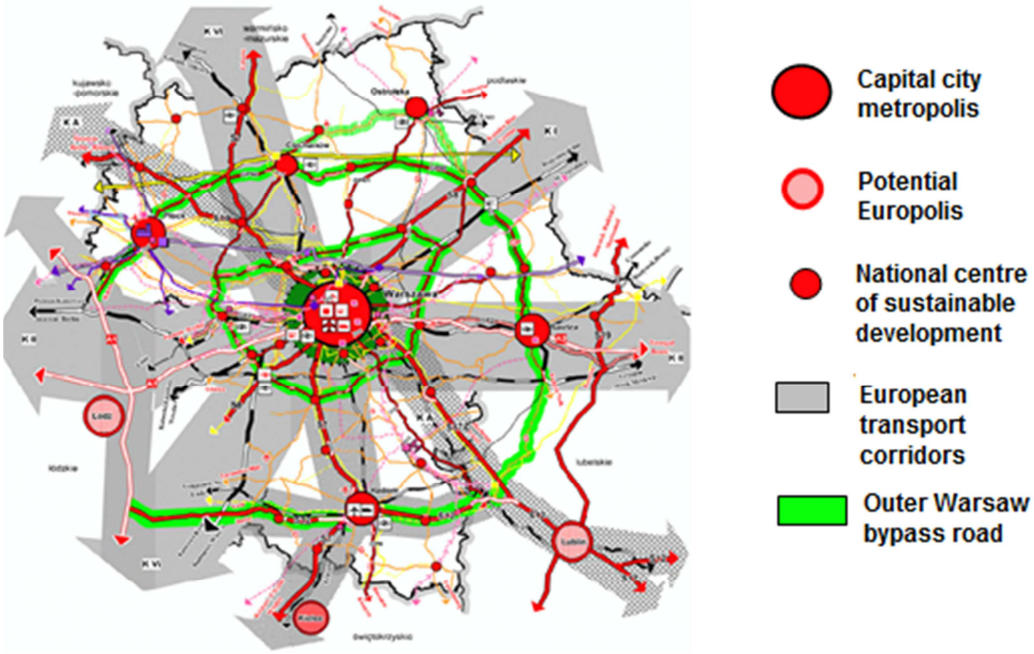
Source: Józefacka 2011, Plate 3.57

Map A9.6. Warsaw metropolitan area development nodes (Warsaw metropolitan area development nodes.



Source: T. Sławiński, Mazovian Office for Regional Planning 2010, with kind permission by author).

Map A9.7. Warsaw as node of European transport corridors (Warsaw metropolitan area development nodes.



Source: Mazovian Voivodship 2006: 68.

Recently new strategic documents were issued by the City of Warsaw:

The Social Strategy of Warsaw for the years 2009-2020: Solving social problems (2008) complements the Warsaw Development Strategy in the implementation of the current social policy of the city. The Social Strategy presents the vision of an open and accessible city of high quality of life – a "City with soul". Next to such common goals as improvement of quality of life and security of inhabitants, strengthening of local identity, development of culture, social activation and metropolitan functions, achieving sustainable spatial order, social and occupational integration and reintegration, increase of social potential, the Social Strategy introduces the goal of an integrated social policy as an answer to current challenges and social issues. The document is built on the idea of creating a "good city" at the local, regional and European scale. It presents a SWOT analysis and very detailed strategic goals, as well as operational and concrete pilot programmes.

The Local Revitalisation Plan for the years 2005-2013 adopted by the City Council in 2008 is a strategy for the revitalisation of economically and socially degraded parts of the city as well as post-industrial and post-military areas. It covers 11 percent of Warsaw's area and 31 percent of its population. It has four sub-goals: the reinforcement of social-economic development by raising the quality of public spaces, the promotion of entrepreneurship, the development of tourism and culture, the increase of security of the inhabitants, the improvement of transport in housing estates and the integration of the population by counteracting social exclusion. The implementation of the Plan works by so-called micro-programmes in districts diagnosed as critical areas to tackle and solve identified problems.

Another document introduced by the City of Warsaw is the *Strategy of Sustainable Transportation System Development for the years 2007-2015*. The Strategy aims at modernising the existing road and public transport system as well as cycling lanes and walkways. The Strategy proposes a coordinating institution for public transport in the whole of Warsaw agglomeration, stresses the necessity of comfortable intra-city metro and tramway transport competitive over private vehicles. It proposes concrete solutions, including the construction of two new underground lines, the introduction of a common ticket for all means of transport, the development of park-and-ride and bike-and-ride systems, the modernisation of the passenger information system as well as the improvement of road transport through new bridges, viaducts and roundabouts. Another idea, is the introduction of an integrated traffic management system for the whole city which includes restrictions for car traffic and improvement of traffic safety with particular emphasis put on cyclists and pedestrians.

In 2011 a new study on the Spatial Development Plan for Warsaw metropolitan area was prepared and adopted. The study is an impressive multi-disciplinary analysis of social, economic and environmental trends and problems in the Warsaw metropolitan area, which is considered to be one of the fastest growing capital city areas in Central and Eastern Europe but does not seem to come up with a fundamentally new concept for its future spatial development.

9.5. Comparisons

In order to draw conclusions concerning the three metropolitan areas with respect to their successfulness in long-term spatial planning, the strategic documents of the three cities are compared according to nine criteria (see Table A9.1):

- *Which strategic documents exist?* Only Paris and Warsaw have comprehensive plans for the spatial development of their whole metropolitan

areas. Berlin and Brandenburg have land use or regional plans only for their own territories.

- *Do the strategic documents have a long-term perspective?* The Schéma Directeur de la Région de Ile-de-France and the Grand Paris project have 2030 as the target year. The State Development Programme and Plan of Berlin and Brandenburg do not state a target year. The Development Strategy of the City of Warsaw and the Development Strategy of the Mazovian Voivodship indicate 2020 as the target year.
- *Are there contradictory issues/goals presented in the strategic documents?* This is particularly relevant in the Paris region where the SDRIF and the Grand Paris project still exist side by side, although efforts to reconcile them are underway. Similar conflicts can arise in the Berlin region between the separate land use and regional plans of Berlin and Brandenburg. No comparable conflicts seem to exist in the Warsaw region between the city of Warsaw and Mazovia.
- *Do the strategic documents address housing, transport and governance issues?* Population and housing are addressed in the strategic documents of all three cities. All three cities aim at improving the provision of affordable housing. Also transport plays a major role in the strategic documents of all three city regions: most spectacularly in Paris with the Grand Paris Express. Remarkably, governance issues are not treated explicitly, even avoided, in the existing strategic documents.
- *Do the strategic documents address the European dimension?* Neither the SDRIF nor the Grand Paris project address issues of territorial cohesion within France nor Europe at large. For both schemes the further growth of the Paris metropolitan region is an unquestioned goal. In the case of Berlin, its dominance in Germany is not a raised issue, as the urban system of Germany is rather balanced. Of the strategic documents of Warsaw, in particular the first Warsaw Strategy of 1998, refers to the European dimension by postulating the transformation of Warsaw into a European metropolis competing with Prague, Budapest and Vienna. This European orientation is also taken up in the Warsaw Development Strategies of 2005 and 2011.
- *Do the strategic documents deal with goals and goal conflicts?* The revised SDRIF of 2008 deals with new challenges, such as climate change, energy scarcity and growing social disparities, as well as rising house prices in the suburbs. Also the Plan Local d'Urbanisme de Paris mentions several goals: quality of life, sustainability, energy conservation and reduction of greenhouse gases emissions and water, air and soil pollution, protection of the cultural heritage, reduction of social disparities and co-operation among local authorities. The Grand Paris project, however, seems to be only growth-oriented and does not explicitly address goal conflicts, such as the dominance of the Paris region over other regions in France. The Berlin planning documents, in particular the BerlinStudie, propose comprehensive lists of economic, social and environmental goals to achieve, with more emphasis put on social goals, such as tolerance, diversity, integration and equal opportunities, than in the French documents. The Warsaw Development Strategy of 2005 listed a broad range of objectives, such as quality of life and safety, fostering tradition, developing culture and stimulating social activity, developing a modern economy and achieving sustainable spatial order.

However, as in almost all strategic documents reviewed, the conflicts between these goals are not discussed.

- *Are the measures envisaged in the strategic documents innovative?* The Grand Paris project is innovative in the sense that it integrates land use and transport planning based on extensive research and by its sheer magnitude. The Landesentwicklungsplan of Berlin and Brandenburg is innovative in that it downplays the role of the capital city and emphasises the role of secondary urban centres. All other strategic documents aim at well-known practices and solutions.
- *Are the measures envisaged in the strategic documents operational and feasible?* The Grand Paris project has strict operational implementation plans but is built on the expectation of growth of the French economy and the economy of the Paris region; therefore due to the necessity of major investments, its future must be described as fragile. The other strategic documents have a more declamatory character, as they list objectives and targets of varying detail and operationality, but as many of the policies proposed lie in the future, it is difficult to assess their feasibility.
- *Have the strategic documents been publicly discussed?* In all the metropolitan areas the strategic documents have been discussed extensively with the public, in the media and also over the Internet, as all responsible ministries, planning authorities, as well as the Societé de Grand Paris maintain websites from which most of the strategic documents discussed in this chapter can be downloaded.

Table A9.1. Comparison of strategic documents

Issue	Paris	Berlin	Warsaw
Which strategic documents exist?	Schéma Directeur de la Région de Ile-de-France, Grand Paris and Plan Local d'Urbanisme de Paris	State Development Plan (Landesentwick-lungsplan) of Berlin-Brandenburg	Warsaw Development Strategy and Mazovian Voivodship Develop-ment Strategy
Do the strategic doc-uments have a long-term perspective?	2030	---	2020
Are there competing/ contradictory issues presented in the strate-gic documents?	Schéma Directeur de la Région de Ile-de-France and Grand Paris	Co-operation between Berlin and Brandenburg inthe Joint Spatial Planning Department.	The co-operation between the City of Warsaw and the Mazovian Voivodshipis without open conflicts.
Do the strategic docu-ments address housing, transport and governance issues?	Housing and transport are prominent topics.	Housing and transport are prominent topics.	Housing and transport are prominent topics.
Do the strategic docu-ments address the European dimension?	Both the SDRIF and the Grand Paris project address only the development of the Ile-de-France.	The Landesentwick-lungsplan Berlin-Bran-denburg examines the position of the region in European networks.	The Warsaw Strategy postulates the transformation of Warsaw into a European metropolis.

Do the strategic documents deal with goals and goal conflicts?	The SDRIF and the Plan Local d'Urbanisme de Paris address a comprehensive list of objectives. The Grand Paris project is growth-oriented. Goal conflicts are not discussed.	The Berlin planning documents propose economic, social and environmental goals, with emphasis on social goals. Goal conflicts are not openly discussed.	The Warsaw Development Strategy lists a broad range of social, economic and sustainability objectives. Goal conflicts are not discussed.
Are the measures envisaged in the strategic documents innovative?	The Grand Paris project is innovative by its integration of land use and transport planning and by its magnitude.	The policies proposed in the strategic documents are well-known practices.	The policies proposed in the strategic documents are well-known practices.
Are the measures envisaged in the strategic documents operational and feasible?	The Grand Paris project is technically operational but in danger because of the huge investment it requires.	As most policies proposed in the strategic documents lie in the future, it is difficult to assess their feasibility.	As most policies proposed in the strategic documents lie in the future, it is difficult to assess their feasibility.
Have the strategic documents been publicly discussed?	The SDRIF and the Grand Paris project have been extensively discussed in public, in the media and on the Internet.	The State Development Plan Berlin-Brandenburg and the local plans of Berlin have been extensively discussed in public, in the media and on the Internet.	The Warsaw Development Strategy and the more recent strategic documents of the City of Warsaw have been extensively discussed in public, in the media and on the Internet.

9.6. Summary

In summary, Paris has the longest experience with visionary strategic planning, being at the same time the most active area in this field among the studied cities. The historic path of strategic planning in the Paris region which leads from Haussmann's plan to the current strategic documents, displays a consistent, rationalist, top-down planning system which had and is likely to continue to have a major impact on the spatial organisation of the wider Paris region. The drawback of the Paris region is the yet undefined competition between the SDRIF and the Grand Paris project.

The history of Berlin's strategic planning, from the Hobrecht plan to the BerlinStudie is also impressive. However, after the reunification, Berlin has significantly reduced its efforts to formulate long-term plans for the whole city while concentrating on specific parts of the city and specific types of future problems. It remains to be investigated whether this constitutes a disadvantage, or rather, represents a more successful attitude towards strategic planning of a 21st century metropolis.

Since the political and economic transition of 1989, Warsaw has successfully approached strategic planning taking account of the new challenges and opportunities deriving from free-market economy. However, it remains to be explored whether the region and city governments are able to harness the strong economic interests of developers and other economic stakeholders and mitigate urban sprawl.

It may be disappointing that all three cities have paid only little attention to the existing European strategic documents on spatial planning, such as the Europe 2020 strategy (EU2020) or the Territorial Agenda 2020 (TA2020). This may be explained by the fact that these European documents became available only after the most recent strategic documents of the three cities had already been issued. However, it

may simply indicate that the. European documents were not sufficiently consistent with the issues of spatial development at the metropolitan level. For instance, the growth objectives of Paris, Berlin and Warsaw might not be consistent with the cohesion or sustainability goals of the Territorial Agenda 2020, but could easily be defended by its objective of ensuring global competitiveness.

It is now possible to return to the question asked at the beginning of this chapter: Which of the three cities has in the past applied and is still applying the best combination of long-term strategic planning and short-term decision-making to achieve its desired spatial development? It has become apparent that the three cities apply very different modes of strategic spatial planning, from rational top-down planning in the Paris region to pragmatic incremental decision-making in Berlin. Which combination along this spectrum is best for a metropolis of the 21st century depends on the main political goals of the metropolitan region. If world-wide competitiveness - a global city role, should be the most important goal, the Paris solutions seem to be most efficient, though probably at the expense of other, social and environmental goals. If, however, a more complex vision of the metropolis of the 21st century which encompasses social and environmental goals is pursued, probably more bottom-up, participatory planning styles should be preferred, in that case most probably at the expense of economic growth.

Notwithstanding arbitrary decisions concerning the strategy of and for spatial development, a certain recommendation for Berlin and Warsaw is that the cities should pay more attention to their long-term spatial development by following Paris in the process of initiating a broad public debate about the spatial future of their metropolitan area.

10. Benchmarks

The process of identification of evaluation criteria referring to the development state and development potential of a contemporary European metropolis (a *Best metropolis*) which constitutes the point of comparison of Paris, Berlin and Warsaw was based on two ideas:

- their embeddedness in the context of European development tracks and challenges;
- their usability (universality versus specificity, complexity, comparability etc.).

The current European development strategy EU2020 (2010) sets three prior goals regarding the Union's performance: smart, sustainable and inclusive growth. According to these principles European cities, as engines of growth should be carriers of education and innovation, characterized by a strong and sustainable industrial base, offering modern and flexible labour markets, and a business environment which strengthens their attractiveness as locations of workplaces and places of residence. At the same time metropolisation processes should respect the natural environment, which includes the promotion of energy efficiency and the modernization of the transport sector (compare: EU2020: 32). While the EU2020 refers to cities as those subjects which determine (and create) Europe's attractiveness, the Territorial Agenda of the EU (2007) stresses the issue of territorial cohesion, locating its priorities in the development of balanced and polycentric urban systems, securing parity of access to infrastructure and knowledge, as well as sustainable development, prudent management and protection of nature and cultural heritage (TA2020: 3). Although the latter document predominantly addresses a wider territorial dimension than metropolitan areas, the role of cities and city regions is sought in the development of innovative, European-wide networks, which determine their competiveness, understood as individual success in the global scale.

Deriving from the above, the criteria of evaluation address social, economic, infrastructural, political and environmental issues which concern the performance of European cities at various regional scales, as well as the state, the trends and the dynamics of the ongoing processes. The benchmarks identified allow to estimate the position of the respective city in various territorial dimensions, as well as in confrontation with the two other cities.

In order to elaborate a possibly comprehensive and comparable set of measures (criteria) consisting of more detailed components, additional assumptions were followed. The criteria to be identified were to:

- refer both to the spatial structure of the metropolis and its immediate hinterland – metropolitan area, and the type of interactions (linkages) taking place within the areas;
- address the functions performed by the metropolis and the metropolitan area, as well as the way the 'metropolitanised' territories are managed and governed;
- concern both the endogenous and exogenous potential of the metropolis and the metropolitan area;
- include the dynamic aspect of metropolitan development, reflecting both state and trends.

Five of the selected 'yardsticks' are basic components of the projects' analyses. The two additional criteria constitute aspects, which complement the 'requirements' set upon 'best metropolises'. According to the above points of comparison the following seven 'best criteria' were identified:

1. Innovative, knowledge-based economy: highly diversified economic base, with prominent role of creative industries and functions; dynamic and open labour market; key position in the European urban system;
2. Attractiveness in terms of working and living conditions: rational location of places of residence and jobs; polycentric pattern of spatial development – avoidance of urban sprawl; living conditions meet needs and expectations of inhabitants;
3. Labour force potential & diversified socio-spatial structures: balanced demographic structure or rejuvenation; decreasing social segregation in space via integrated local community development;
4. Multi-dimension accessibility: physical accessibility of different parts of metropolis is high because of well-developed system of transportation; intra-metropolitan daily mobility enabled by multi-modal public transit systems; decreasing car dependency and traffic congestion;
5. Multi-level governance: planning in long-term perspective; efficient management of development processes; enabling strategic planning at the scale of metropolitan area, or, preferably, the urban region scale; pro-active, anticipatory and participatory governance approaches;
6. Environmentally sustainable: effective control leading to decrease of environmental conflicts and other dysfunctions; protection and improvement of green infrastructure as well as of landscape quality; resource efficiency;
7. Adequate availability of services of general interest due to long-term pragmatic spatial planning which complies with the location of residential areas and other functional areas within the metropolises' boundaries.

The identified criteria allow for an evaluation of the metropolitan areas with respect to development goals often considered as opposed to each other, e.g. the strengthening of growth engines and polycentric development, while referring to the components of urban development and metropolisation processes in terms of their sustainability, which combines economic, social and environmental objectives in the shorter and longer perspective.

The first two criteria address the attractiveness and competiveness aspect of the metropolis in the broader: national and international (1) and more narrow: local and regional (2) territorial dimension, issues focused on in EU2020 and the Territorial Agenda. At the same time, criterion 1 constitutes the level of overall metropolis' evaluation. It refers to the economic performance of the metropolitan area (reflected by GDP level, distribution of workplaces, structure of the economy – share of the creative sector), the type and range of its metropolitan functions (specialization and specificity), and simultaneously, to the effect of this performance as reflected in the position of the city in the European urban system. The distinguishing of the current state, development trends and development potential allows for an evaluation in the dynamic sense, i.e. including historic conditions, present performance and perspectives.

Criterion 2 addresses the local and regional aspect of the city's attractiveness as a place of residence and work, as well as the development of its metropolitan area. As to the latter respect it allows for the evaluation of the area in terms of its spatial

structure (level of morphological polycentricity) and linkages (functional polycentricity). The point of comparison refers to the positives of suburbanisation, and the negatives of urban sprawl – evaluating the processes, their consequences, as well as the way they are coped with by the existing urban policy and programs. This criterion also relates to the phenomenon of the affordability of housing; the distance between needs, possibilities, demand and supply, as well as programs supporting the sustainable development of the housing market.

The third criterion refers to the development of socio-spatial structures within the metropolitan areas; population trends, diversity versus homogeneity, economic performance and the emergence of new social categories, intra-metropolitan migration patterns. In general, this predominantly qualitative measure defines the place of the respective metropolis with regard to global trends in terms of population development.

The fourth 'yardstick' allows for an evaluation of the metropolis with respect to the efficiency of its transportation system and transportation infrastructure at the local and regional scale. The criterion constitutes a point of comparison with regard to daily-basis linkages within metropolitan areas; their duration, range and character.

The criterion referring to governance practices and policies allows for a comparison of policy-making and strategic planning, also being a point of reference for the evaluation of governance directed at an integrated development, understood as a manifold idea.

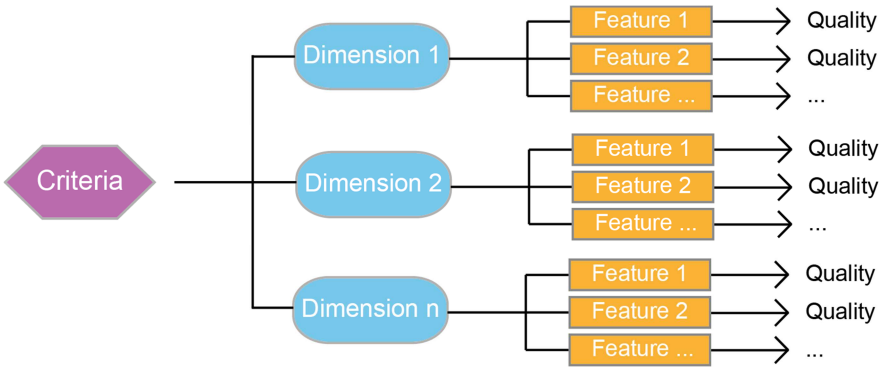
The inclusion of the last two criteria identified is critical from the long-term development perspective. Quality of the natural environment and lack of conflicts between diverse land-uses are necessary conditions for sustaining the adequate level of attractiveness and, hence, the competiveness of metropolises and metropolitan areas. It may be assumed that the role of environmental resources as accessibility to services of general interest will be subject of steady growth in the foreseeable future. It is therefore strongly recommended to embrace these issues in the benchmarking analysis in the future studies.

Criteria for best metropolis' evaluation

The aim of this chapter is: (1) to present the specific features of "the best metropolis" referring to the selected criteria, (2) to position the three metropolises of Paris, Berlin and Warsaw with regard to these criteria (benchmarking), and (3) to indicate their capacities to maintain their position as well as potentials for improvement of current situation.

In order to elaborate benchmarking for the best metropolises, a top-bottom approach was formulated (Figure A10.1).

Figure A10.1. Conceptualization of benchmarking approach.



The specific features which serve the assessment of "the best metropolis" are selected in line with the following dimensions which correspond to the criteria listed (Figure A10.2).

Figure A10.2. Benchmarking criteria and specific dimensions.

CRITERIA	DIMENSION
Strengths of base for economic development	Economic base and functions
	Position in urban systems
Attractiveness in terms of working and living conditions	Intra-metropolitan polycentricity
	Spatial structure and land use
	Housing affordability and life quality
Labour force potential & diversified socio-spatial structures	Demographic trends
	Socio-spatial structures
	Intra-metropolitan migration
Multi-dimension accessibility	Transport efficiency
	Commuting / daily mobility
Multi-level governance	Strategic planning & policy making
	Governance efficiency

Position of the three metropolises of Paris, Berlin and Warsaw with regard to the "best metropolises" criteria (benchmarking)

The quantitative and qualitative analyses performed during the project aimed at providing an evidence for current state and evolution paths of metropolitan structures, as well as at the identification of potentials and challenges for their development. In order to assess and to position the three metropolises, the aforementioned dimensions of "the best metropolis" were classified, using a set of features (Figure A10.3). As quantitative measures cannot be used to assess the performance in most cases, the qualitative assessment was used on the basis of research outcomes. This operationalisation of "the best features" allows to indicate the position of metropolises, however, prevents indicating sharp / exact limits and precise numbers of what is considered as best.

Figure A10.3. Benchmarking dimensions and features.

DIMENSION	FEATURE	QUALITY	
Economic base and functions	GDP per capita[27]	High	Low
	GDP	Growing	Declining
	Distribution of working places	Dispersion	Concentration
	Role of creative industries	Important	Low
Position in urban systems	Position in European urban system	Global city	European City
	National urban system*	Equal position	Dominant position
Intra-metropolitan polycentricity	Level of polycentricity	Polycentric	Monocentric
Spatial structure and land use change	Urban pattern	Concentration	Sprawl
Housing affordability	Living conditions	High	Low
Demographic trends	Population	Growth	Decline
	Demographic structure	Labour force potential	Ageing
	Evolution of demographic structure	Stable	Change
Socio-spatial structures	Social differentiation	High	Low
	Socio-spatial segregation	'Mixity'	Segregation
	Ethnic diversity	Low	High
Intra-metropolitan migration	Relation between inflows and outflows**	Inflow	Outflow
	Spatial distribution	Dispersion	Concentration
Transport efficiency	Pattern of technical transport infrastructure	Spiders web	Radial
	Public Transport	Good	Poor
	Share of car trips	Low	High
	Congestion level	Low	High
Commuting / daily mobility	Commuting flows	Spiders web	Radial
	Distances of daily mobility	Short	Long
Strategic planning & policy making	Strategic plans and their content / scope	Many / complex approach	Few / cover only few themes
	Level of strategic planning	Metropolitan	City
	Policies supporting innovation	Many	Few
	Policies for urban renewal / regeneration	Many	Few

[27] GDP *per capita* and GDP change were assessed on the basis of common (for three cities/metropolitan areas) statistics (Gross domestic product (GDP) per inhabitant, in purchasing power standard (PPS), by NUTS 2 regions, 2008 (in percentage of EU-27=100), Eurostat regional yearbook 2011).

	Policies affecting affordability	Many / complex	Few
	Urban policies to reduce disparities	Many	Few
	Policies supporting reduction of use of car	Many	Few
Governance efficiency	Level of horizontal cooperation	High	Low
	Level of vertical cooperation	High	Low
	Level of inhabitants' participation	High	Low

*Two extreme types of the position within the national urban system were distinguished: equal position (which corresponds to more polycentric urban system) and dominant position (which corresponds to more monocentric urban system).
**Predominance of inflow or predominance of outflow.

The position of the metropolises of Paris, Berlin and Warsaw in relation to selected five themes is presented in the subsequent sections of this chapter. Each of the three metropolises was assessed in relation to the features listed using three separate scales: core city, metropolitan areas without core city and the entire metropolitan area. These three spatial scales enabled us to look carefully at the differences and disparities (in selected themes) between the core cities and their surroundings which was crucial for the elaboration of the set of policy recommendations. In some cases, certain features were not applicable and therefore omitted (i.e. position in the European urban system of the metropolitan area without the core city). The results of this assessment are displayed in the following figures which aim at presenting the main features of metropolitan areas with additional remarks related to the core cities.

Strengths of base for economic development		
	Economic base and functions	Position in urban systems
PARIS	diversified tertiary sector for 40 years, stands as a main worldwide business and travel spot; the highly qualified jobs (including working places in creative industries) are concentrated in the central area and the South West suburbs whereas only some outer suburban centers possess highly qualified metropolitan functions; nevertheless the weight of creative industries is minor when compared to the whole economic structure.	one of Europe's few World / Global Cities; big metropolis which gathers high share of high level functions (FOCI); metropolitan area with a great variety of functions (BBSR, 2011); rank 3 in 'global management consulting network connectivity' (2008); rank 7 in 'global accountancy network connectivity' (2008); rank 3 in 'global advertising network connectivity' (2008); rank 6 in 'global financial network connectivity' (2008); rank 4 in the world in terms of GNC (Global Network Connectivity) in 2010; national urban system: monocentric structure of the French national urban system (dominant capital city), due to the significance gap to the second or third national city (Lyon and Marseille) as well as other cities (such as Strasbourg, Nantes, Bordeaux and Lille;
BERLIN	focus on the development of few services' industries, including creative industries; growing role of the health care industry, R&D activities as well as cultural and media industries;	specialized metropolitan area in the European context (politics and culture); city characterized by high share of non-market services (FOCI); metropolitan area with a great variety of functions (BBSR, 2011); not to be found among the listed Top 50 in 'global management consulting network connectivity' (2008); rank 25 in 'global accountancy network connectivity' (2008);

		not to be found among the listed Top 50 in 'global advertising network connectivity' (2008); not to be found among the listed Top 50 in 'global financial network connectivity' (2008); rank 56 in the world in terms of GNC (2010); national urban system: polycentric, other cities show almost similar GNCs as Berlin (i.e. Munich, Hamburg and Düsseldorf); in terms of critical mass, Berlin is the biggest 'city' in the urban system; but in the case of Frankfurt and Düsseldorf, they are embedded within larger polycentric urban configurations; the assessment of the position of Berlin in the national urban system might vary considerably: with regard to cultural and creative services as well as in term s of population, Berlin city dominates; with regard to economic performance; producer services, industry etc. the role of the city in national urban system is lesser.
WARSAW	new trend in development of city's economy; major investments take place in a booming tertiary sector; innovative sectors of the city's economy are still poorly developed but a creative milieu appeared in the central area of the city;	specialized metropolitan area in the European context with global connectivity regarding APS firms (i.e. finance, law and advertising firms) much higher than that of Berlin's; nodal function for Eastern Europe in this particular respect; peripheral capital city with high share of basic market services (FOCI); metropolitan area with a limited variety of functions (BBSR 2011); not to be found among the listed Top 50 in 'global management consulting network connectivity' (2008); not to be found among the listed Top 50 in 'global accountancy network connectivity' (2008); rank 9 in 'global advertising network connectivity' (2008); rank 28 in 'global financial network connectivity' (2008); rank 37 in the world in terms of GNC (2010); Warsaw gains the first place among the Eastern European cities in the 2008 and 2010 rankings of the GNC; national urban system: regular system with visible hierarchy of cities and towns; Warsaw plays important role and gains the first position but is not a primate city as in other urban systems (i.e. France) since regional capital cities play important role (Kraków, Poznań, Wrocław, Gdańsk, Łódź, Katowice),

Attractiveness in terms of working and living conditions			
	Intra-metropolitan polycentricity	**Spatial structure and land use**	**Housing affordability and life quality**
PARIS	Attempts to develop polycentric metropolis but the position of the core city is still not counterbalanced. However, distribution of working places (regardless their quality) is getting more polycentric (many dispersed centers).	Core city and inner suburbs: high level of urbanisation; redevelopment of formerly used terrains; periurbanisation since 1970s; dense and more dispersed suburbs (up to outer fringes of the region) are mostly served by roads and radial rapid public transport lines.	A set of policies to tackle the socio-spatial segregation, rehabilitation, urban renewal and construction of new social dwellings. Division of the core city and suburban area in terms of living conditions; segregation of socio-economic groups situated on the opposite axes of economic ladder; still uneven distribution of social dwellings; unsatisfied demand for social dwellings; important growth of prices and rents. The overall rates for life quality are high but the acute housing crisis contributes to worse

			performance of the core city in terms of housing affordability (due to growth in prices and rents).
BERLIN	Monocentric but not very hierarchical relations between the core city and the sub-centres. Concentration of working places in the core city.	Close inner and outer suburbs are still extensively used; less severe urban sprawl, the process is better steered by municipal development plans.	Special focus on "soft" measures building on a socially participative approach which aims to improve the living and working environment of selected areas, complemented by corresponding federal policies. Provision of affordable housing focused on low income inhabitants; socio-spatial division of the core city (well-off and bourgeois areas scattered on the core city's outskirts, disadvantaged areas closer to the CBD), important growth of rents in the centre, gentrification and possible conflicts between former and new inhabitants.
WARSAW	Monocentric structure despite the localization of several medium-sized & small towns, the core city is not counterbalanced. Rather hierarchical relations between the core city and the sub-centres. Concentration of working places in the core city.	Rapid current suburbanisation: expansion of residential function & urban sprawl; fast development of suburban greenfields. Poor regulations and control of newly built-up suburban areas which causes inefficiency of existing infrastructure, mostly transport system (both public transport and private).	Construction of new social dwellings, urban renewal programme, modernization of existing stock. Social segregation, enclaves of wealth and poor areas inhabited by lower classes; possible conflicts between older and new inhabitants in dynamically changing areas. Unsatisfied demand for municipal dwellings; more complex provision of affordable housing (i.e. covering all population groups) is needed.

Labour force potential & diversified socio-spatial structures			
	Demographic trends	**Socio-spatial structures**	**Intra-metropolitan migration**
PARIS	The metropolitan area of Paris belongs to the young and growing regions described as "family potentials". The core city represents a slightly different model of demographic evolution, with overrepresentation of older population	Recent migration patterns have contributed to the deepening of internal socio-spatial disparities in Paris metropolitan area (stretched social spectrum). As a consequence of migration movements spatial specialisation of residential mobility, socio-spatial disparities increase in a twofold way: firstly, as residential mobility is limited to few groups and secondly, because of a continuing geographical isolation of low income	In Paris various migration flows can be observed. Firstly singles, childless couples, and more generally young people looking for studying and working opportunities move to the metropolitan area. These population groups are complemented by relatively poor households from abroad. Secondly at the same time, especially families and pensioners move away from Paris in the search for better and more affordable living

	in the south-west and west part of the city, where the aging process continues (stable structure between 1999 and 2008). Northern and eastern part of the city undergo rejuvenation and are overrepresented by the population in working age.	households. Conflicts between different social groups have already taken place in the suburbs. It should be stressed that ethnic diversity is considered as a historical tradition and a feature of any global city. What is more, the immigrants issued from other countries constitute largely diversified group composed of both very qualified and very poor workers. As a result, they may contribute to social mixing and dynamism (which is regarded as positive process) or to social segregation.	conditions. Decline in the residential mobility in the recent years because of housing crisis, especially in the core city.
BERLIN	Berlin metropolitan area represented the "challenge of decline" demographic type. In case of metropolitan area, two opposite demographic structures are observed in its south-eastern (overrepresentation of older population) and western part (overrepresentation of youngsters and working age population). The core city possess a demographic potential, as pre-working and working age population is overrepresented and this structure was stable.	The share of foreign migrants and population is particularly high in some central areas of the city, which contributes to social differentiation, spatial segregation and the emergence of social disparities. Simultaneously, other central areas develop to be particularly attractive to young and creative inhabitants. Thus, growing diversity in the core city might be threatened by possible conflicts between old and new inhabitants (i.e. gentrification and growing dwellings prices).	In Berlin, residential mobility is particularly high with two principal directions of migration – a process of concentration in the central districts is accompanied by suburbanisation, which take place around the border of the core city as well as within it (filling empty spaces especially in fringe districts).
WARSAW	Warsaw was classified as "challenge of labour force" demographic type.	The processes of increasing housing affordability due to growing labour incomes refer only to part of the society and increasing polarisation is visible. Declining possibilities for low income households to move in the core city. Socio-spatial segregation is further stimulated by the continuous migration of people from regions other than Warsaw. The growing share of inhabitants who were not born in the region may contribute to problems of social integration and the growth of alienation. This is also reinforced by the	In Warsaw, positive net migration was characteristic for the municipalities located around Warsaw (in the literature is called "a Warsaw ring"), decreasing towards both external borders of the region and to the center of the city. On the other hand, the outflows from Warsaw are related to the spatial proximity of current and previous places of residence which is similar to the trends observed in Paris metropolis. In addition, due to high housing costs, commuting represents a substitution for residential

		growing number of gated housing estates which contribute to limited interactions between their inhabitants and the other neighbours.	mobility in Warsaw.

Multi-dimension accessibility		
	Transport efficiency	**Commuting / daily mobility**
PARIS	Paris suffers from high congestion rates. Public transport system is well-developed in the core city and good enough when connecting suburbs to the centre, but lacks of additional links between suburban areas. The situation should change when long-term, infrastructure-developing project of Arc Express will be finished.	Commuting flows has rather matrix configuration and the average commuting distance is at relatively high level.
BERLIN	Public transport is very well-developed, allowing to travel between suburbs and core city, as well as between neighboring suburbs. The share of public transport is high, and congestion level is relatively low.	The image of commuting flows are close to the ideal matrix configuration. Commuting distances are at relatively low level.
WARSAW	Transport infrastructure (especially for public transport) has a radial configuration. Although public transport (bus and tram) accessibility is at the moderate level, Warsaw suffers from the lack of metro lines and motorway ring-roads. The share of private car trips is very high, what causes one of the highest level of congestion within all European cities.	Commuting flows present almost pure radial image, and daily commuting distance are at moderate level.

Multi-level governance		
	Strategic planning & policy making	**Governance efficiency**
PARIS	Visionary strategic planning exercised by public authorities; comprehensive plans for spatial development, different initiatives undertaken to address future development, incoherence of major development plans, top-down approach in plans preparation, ongoing attempts to facilitate inter-municipal cooperation, ongoing debate on metropolitan development and governance, fragmented responsibilities for metropolis development, limited cooperation among municipalities concerning specific infrastructure development and services	Proactive planning approach to metropolitan development problems, effective management securing functioning of technical infrastructure, innovative approach to problems solving, lack of efficient multilevel governance system securing sustainable development of the metropolis, unsolved problem of urban sprawl and city's congestion
BERLIN	Pragmatic approach to planning for the future, indicative plan for spatial development, coordination of planning activities performed by Berlin and Brandenburg, dominant sectoral planning, fragmented responsibilities for metropolis development, limited cooperation among municipalities concerning specific infrastructure development and services	Pragmatic sectoral planning activities contributing to efficient land use and provision of services within Berlin, effective management of technical infrastructure functioning at the metropolis scale, lack of efficient multilevel governance system securing sustainable development of metropolis
WARSAW	Strategic plans prepared separately for Warsaw and Warsaw Metropolitan Area, no contradictory goals, fragmented responsibility for metropolis development, lack of debate on metropolis development, limited cooperation among municipalities concerning specific	Comprehensive development planning at the city level, new initiatives for improvement of living conditions, new initiatives concerning cooperation in provision of services (transport) at the scale of metropolis, lack of lack of efficient multilevel governance system securing

	infrastructure development and services	sustainable development of metropolis Proactive planning approach

The positioning of each metropolitan area was then assessed from another perspective in order to indicate how much effort is needed so that the metropolitan maintain the current position within each thematic field (dimension) or to improve their position. This assessment embraces two parts: (1) positioning for each metropolitan area divided into core city, metropolitan area without core city and the whole metropolitan area (Figure A10.4, Figure A10.5, Figure A10.6), and (2) benchmarking to compare the position between the three metropolitan areas (Figure A10.7), as well as between the three core cities (Figure A10.8). Considering the fact that important disparities in performance do exist between metropolitan area (as a whole) and the core city, the comparisons are presented on two separate diagrams.

Figure A10.4. Benchmarking for Paris metropolitan area.

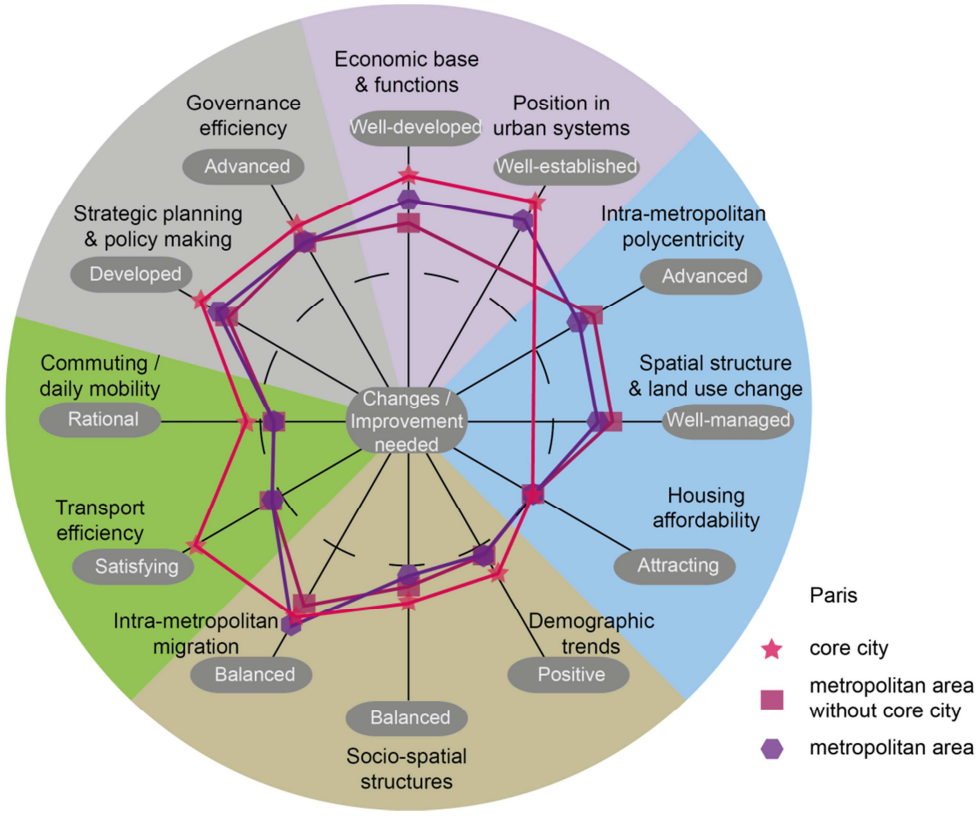


Figure A10.5. Benchmarking for Berlin metropolitan area.

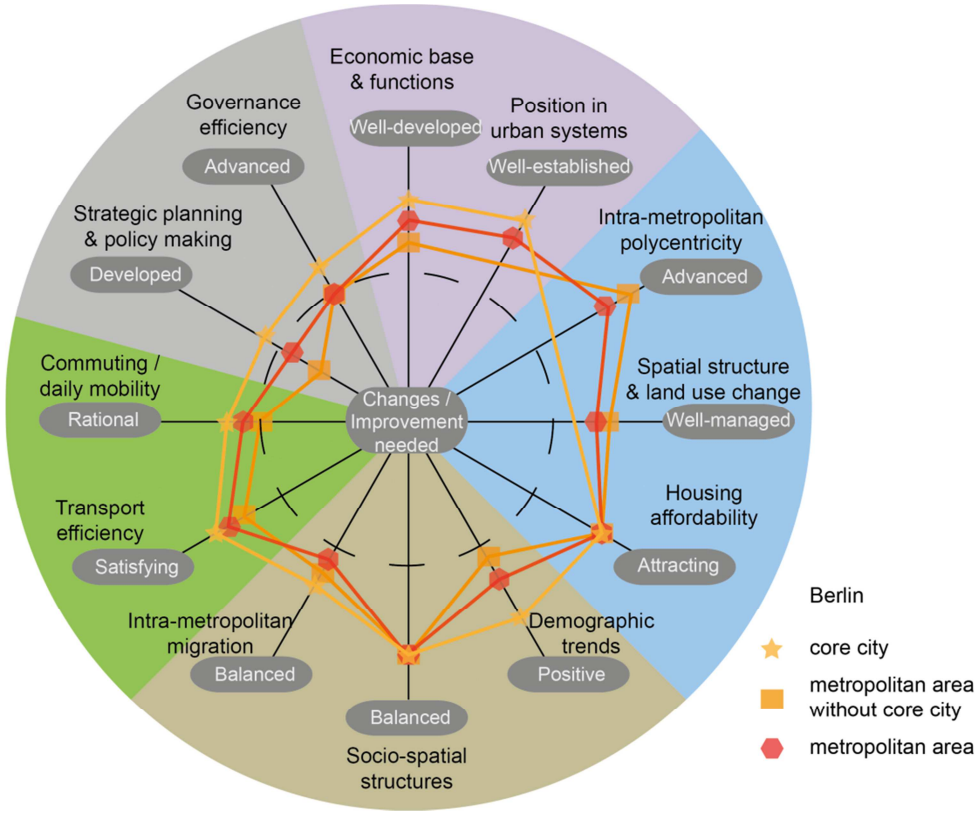


Figure A10.6. Benchmarking for Warsaw metropolitan area.

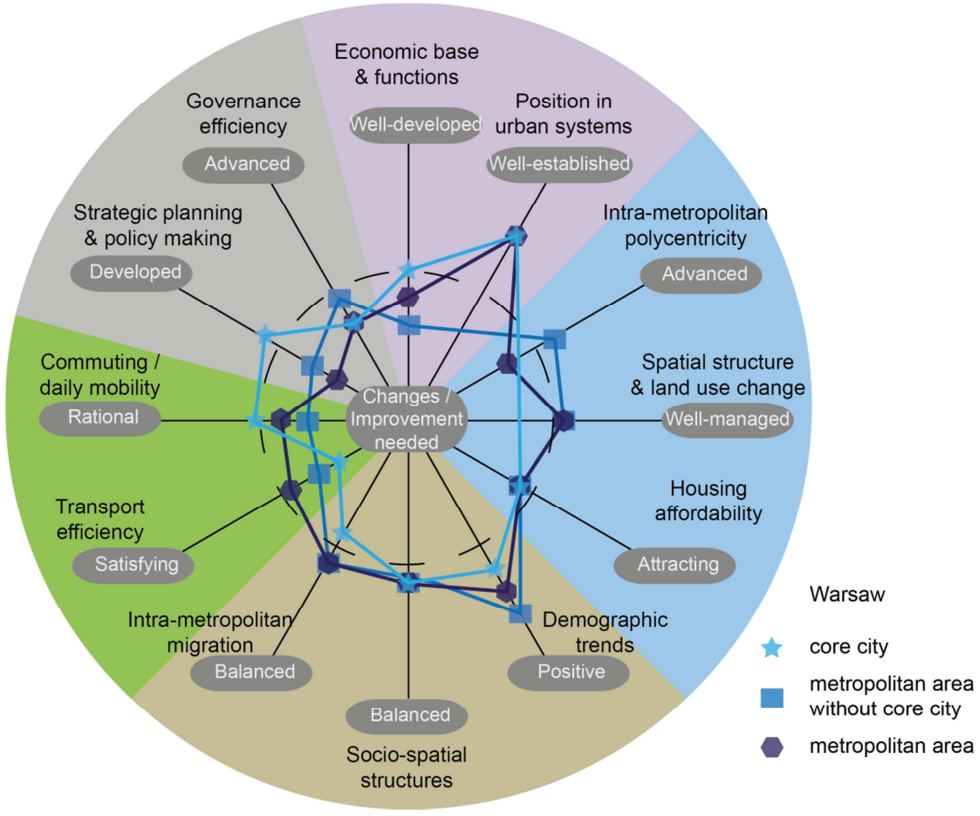


Figure A10.7. Benchmarking for the metropolitan areas of Paris, Berlin and Warsaw.

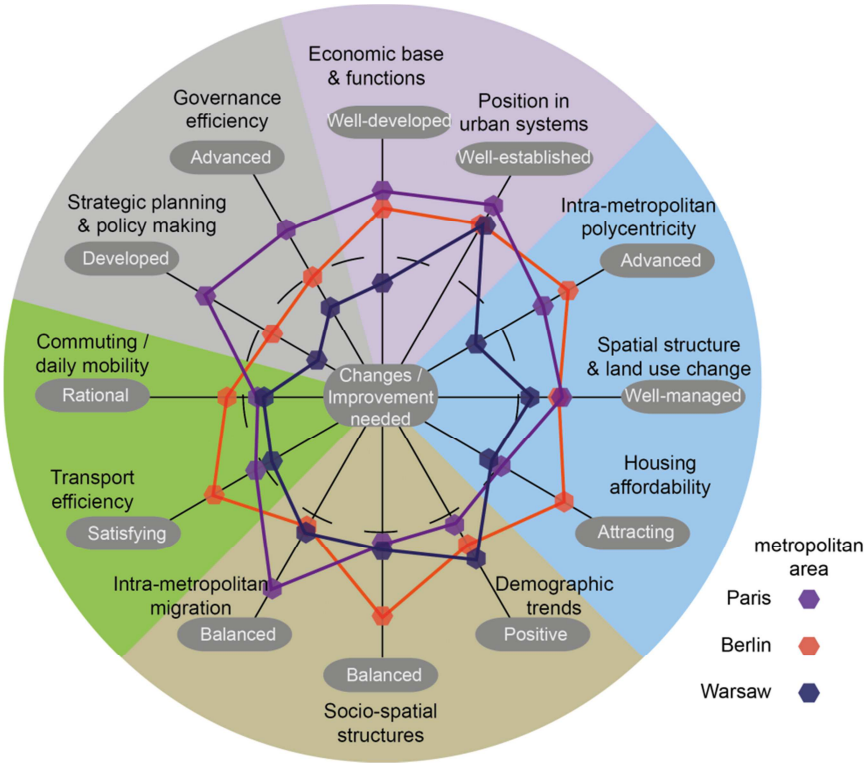
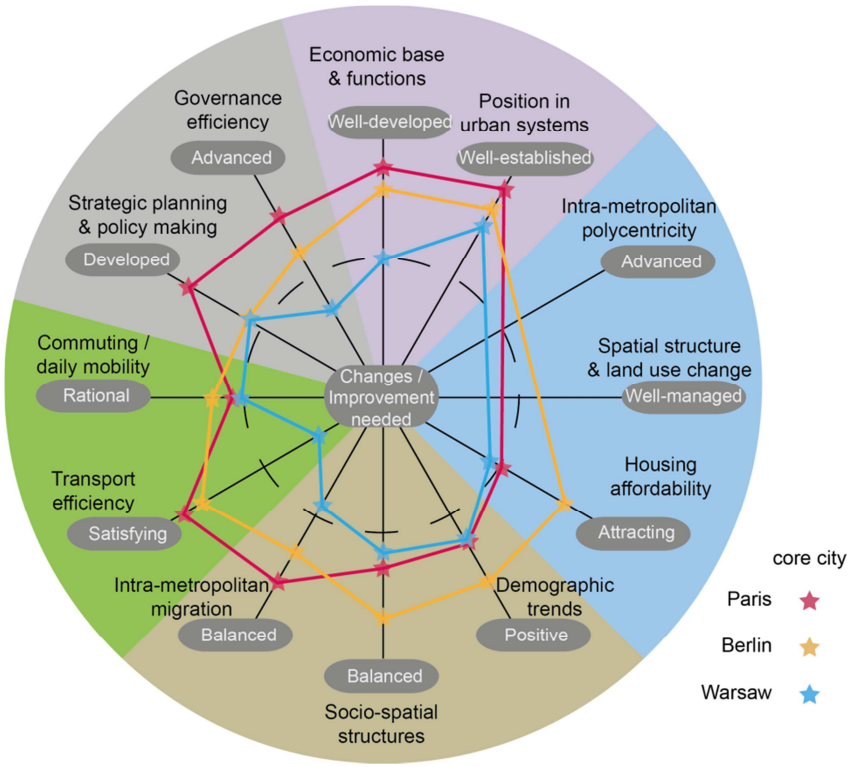


Figure A10.8. Benchmarking for the core cities of Paris, Berlin and Warsaw.



Results of the project prove that there are some similarities of the paths of the three metropolises development, although both their central cities and surrounding areas

are very different. Further population growth is observed in all three metropolises, however, the suburban areas grow much faster than the other parts of metropolises. There are common features of migrations' pattern with centrifugal population displacement direction prevalence, strengthening the classic process of residential suburbanisation. The differentiation of socio-spatial structures is increasing within metropolises, which is especially visible in case of concentration of aging population. Differences between metropolises, if exist, result from the history of development, level of socio-economic development, as well as from the traditional pattern of migration processes.

The comparison of the three metropolises was a challenging task due to their internal differentiation and differences between the core cities and surrounding areas. The positioning of the metropolitan areas was determined to a large extent by the characteristic features of the core city. However, other factors also played an important role in the process of assessment of specific dimensions used for benchmarking.

In the case of **economic base and functions**, Paris holds a leading position, followed by Berlin and then Warsaw. The position of Warsaw is relatively low because of the lower level of development of the area surrounding the central city. Warsaw is a growth pole metropolis with almost all metropolitan and other economic functions located in the city. It had crucial impact on Warsaw's position on the scale. Although all three metropolises play important roles in the urban systems, the internal patterns of settlement within borders of metropolitan areas are substantially different.

In spite of the fact that attempts were made to develop more a **polycentric metropolitan area**, the position of the core city of Paris is still not counterbalanced. However, the distribution of working places (regardless their quality) is getting more polycentric. Berlin metropolis represents a rather monocentric structure but the relations between the core city and the sub-centres are not as hierarchical as in case of Warsaw. The level of polycentricity in the case of Warsaw is relatively low mainly due to settlement units outside Warsaw which are too small and weak to play a role of urban centres complementing Warsaw's functions. It is also reflected by the attracting power of Warsaw in contrary to the surrounding area. Considering higher living costs in the core city together with an increased level of housing prices since 2006, many newcomers choose less expensive suburban settlement which in addition triggers the process of urban sprawl. Among the three metropolises studied, only Warsaw received the worst notes in terms of efficiency of policies to tackle the question of growth and sprawl in suburbs.

The attractiveness of metropolises as places that offer good working and living opportunities changes within metropolitan borders. It ought however be highlighted that the benchmarking assessment, which is based on average notes and measures, mitigates this intra-metropolitan diversity. The nature and scale of housing problems differ between Paris and Warsaw metropolises, nevertheless, both of them have to cope with provision of affordable housing but for different target groups. It is definitely a more difficult challenge for Warsaw metropolis, since the set of available instruments to deal with this problem is relatively limited in comparison to Paris. The provision of affordable housing is limited in Warsaw to municipal dwellings, whereas other types of programmes with diversified rent levels are developed in case of Paris metropolis. On the other hand, Paris metropolis struggles with a growth in prices and rents on the housing market which severely limits the residential choices even for middle-income groups (in particular to settle down in the core city).

Regarding the **potential of the work force**, Berlin and Warsaw metropolises are characterised by the best demographic structures, with an overrepresentation of population in working and pre-working age. However, the problem of aging population is also present, particularly in the core city of Warsaw and in certain districts in Paris. These demographic structures undergo changes due to natural change as well as **intra-metropolitan migrations**. The latter should be analysed from the two perspectives: as the exchange between the core city and its surrounding areas, and as migrations among urban sub-centers within the metropolitan area. Adapting this approach, a crucial issue is to ensure balanced migration between the areas considered. This tough task is achieved mostly in the case of Paris, whereas Berlin and Warsaw share almost the same, lower position. In every case detailed analysis is needed to identify the nature of intra-metropolitan migrations and to assess not only the volume but also reasons and rationality of people's movement. The aforementioned mobility induces the modification of existing socio-spatial structures and is seen to generate socio-spatial segregation. In the case of Paris residential mobility is limited to few groups and geographical isolation of low income households continues which might be regarded as two basic reasons for growing segregation. Additionally, the immigrants coming from other countries constitute a largely diversified group composed of both very qualified and very poor workers. As a result, they may contribute to such positive processes as social mixing or to social segregation. The same issues might be seen in the case of Berlin where an increase in the attractiveness of the core city encourages important numbers of newcomers of different origins. As a consequence, the rehabilitation of dwellings, together with a rise in prices and rents, triggers gentrification and displacement of former, less affluent inhabitants and results in conflicts between these two groups. These processes are not visible at the same scale in Warsaw, where urban renewal is much less advanced than in the two other metropolises. However, another type of segregation related to the gated and guarded housing estates appears in different districts as gated housing estates become a standard mode of housing production both in the core city as in the suburban area. Thus, all three metropolises struggle with unbalanced socio-spatial structures and different scale of social segregation although shaped by different, local circumstances.

Among the three metropolises studied, Berlin could be regarded as the best example of efficient transport infrastructure that ensures **multi-dimension accessibility** both at the scale of the core city as well as at the metropolitan level. The high position of Berlin in terms of transport efficiency results from well developed transport infrastructure, integration of transportation systems and coordination of transportation systems management. Rationality of daily mobility is at approximately the same level in all three metropolises. The highest position of Berlin reflects internal economic structure of metropolis. Paris suffers from high congestion rates and lacks of additional links between suburban areas but this situation is expected to end with the completion of Arc Express infrastructure. The lowest position of Warsaw is associated with extremely radial configuration of transport infrastructure (especially for public transport), moderate level of accessibility of public transport, lack of additional underground lines and motorway ring-roads. Moreover, Warsaw is positioned at the top of the list with the highest level of congestion within all European cities.

In the case of the **multi-level governance** described through strategic planning and policy making as well as governance efficiency, the evaluation is in all cases lower compared to the assessment of the same dimensions for the central cities. This fact illustrates the essence of the problem: there is still a lack of effective mechanisms which bring together governments from the central cities and surrounding municipalities. Despite proactive planning approach to metropolitan development

problems and effective management securing functioning of technical infrastructure, Paris metropolis lacks a efficient multilevel governance system securing sustainable development of the metropolis. Similar disadvantages may be listed in the case of Berlin which however succeeded to develop pragmatic sectoral planning contributing to efficient land use and provision of services within the core city, as well as to the effective management of technical infrastructure functioning at the metropolis scale. Warsaw attempts to undertake new initiatives concerning cooperation in provision of services (transport) at the metropolitan scale, however, most of other plans and strategies deal with problems diagnosed only at the city level.

Comparing the three core cities - according to distinguished dimensions - one may state that in case of the economic base and functions the dominant position of Paris as a global metropolis is an undisputable fact. The results of studies confirm results of other classifications and typologies, which place Berlin a little lower on the scale and Warsaw at the position of a metropolis of regional importance. However, when it comes to the position in the urban system, Warsaw ranks much higher, due to the city's dominant position in the national scale. Its development potential should be treated as a positive factors that might have a decisive impact on the future development, however, considering all circumstances.

The **attractiveness** of the core city in terms of working and living opportunities varies. The position of Warsaw in the dimension "housing affordability" ought to be treated as a warning for policy makers because the city should focus more on the provision of dwellings for rent dedicated also to the young inhabitants or newcomers. More proactive and efficient policies are needed to deal with this problem. In terms of housing, Berlin's position is rather satisfactory when compared to two other metropolises. More attention and interventions might be necessary in Paris.

As it has been already claimed, **labour force potential and diversification of socio-spatial structures** is mainly shaped by the volumes of migration, its quality and distribution. Thus, the dimension "intra-metropolitan migrations" cannot be interpreted without considering the pattern of settlement within the metropolitan area, its size, quality of public transportation and transport infrastructure generally, as well as the location of jobs and places of residence. The historical heritage comes also as an important factor that shapes current socio-spatial structures and hampers their change, as for instance traditionally wealth areas continue to gather rather affluent inhabitants. On the other hand, more dynamics in the social composition appears in the districts which are subject to changes of living conditions (i.e. through urban renewal projects, up-grading, construction of new estates or other functional conversions) which make them accessible to a wider group of population.

The disparities among the three core cities are even better pronounced in case of the **multi dimensional accessibility,** as Paris and Berlin are much better equipped with functioning public transportation systems. These systems have been developed through decades and integrated with transportation systems from areas surrounding central cities. The underdevelopment of the transportation system in the Warsaw case is an inheritance from the period before 1990 and many undertakings have been initiated to improve the situation which explains the position of Warsaw on the next axis describing transport efficiency. However, time is needed to achieve significant improvements. In the case of commuting and daily mobility all three metropolises are positioned in a similar way. It results from the distribution of places of residence and the location of jobs.

It was difficult to assess the last two dimensions: strategic planning and policy making and governance efficiency within criteria of **multilevel governance**. In the

first case, there is a clear discrepancy between legal framework for strategic planning and policy making and the practice that is translated into decisions and their implementation. Paris and Berlin are positioned in the same way, Warsaw is located much lower on the scale. There are many reasons for the observed situation in different cities and most of them are deeply rooted in the history of the three metropolises, their role in European and global settlement systems, and the political system they have functioned under. Paris and Berlin have exercised for decades democratic rules of governance despite changes of specific regulation concerning planning and management systems. In the case of Warsaw metropolitan dimension of development has become an important issue during the last couple of years. Additionally, as in the case of other post-communist countries, territorial self-government has a relatively short history after its re-birth. New administrative structures established after 1990 must be complemented with culture of cooperation among different tiers of government and among municipalities from the metropolitan area. Examples of Paris and Berlin prove that cooperative planning and reaching consensus are not easy tasks.

In conclusions, it might be stated that in the case of Paris, housing conditions play an important role as a factor that has an impact on directions of migrations. The process of de-concentration of population, causing relatively long (on average more than 40 km) commuting to work is detrimental to the efficiency of transport and settlement patterns. This creates numerous challenges for transport policy and development of service infrastructure. In the case of Berlin, migrations are of selective nature and result in the formation of distinct neighbourhoods, which in the future may become ethnic neighbourhoods, as it is in the case of Paris. The ethnic structure of Berlin's population might be a challenge from the point of view of social policy. Warsaw is the most "stable" in terms of international migrations, although it is still a place of destination for migrants from the former Soviet Union republics, Asia, and from different parts of Poland.

Paris and Berlin share more common features. Warsaw still suffers from the period of communist regime which is especially visible in the case of technical infrastructure development. Nevertheless, development processes are much more dynamic in their social and economic dimensions. The urban fabric, although evolving, still bears inheritance from the past. It should be stressed, however, that in the field of policy making (including participatory process of planning) Warsaw has made enormous progress.

The analysis conducted has provided arguments that spatial regional context of metropolises' development plays a very important role in the functioning of the metropolises. Social and economic phenomena and processes are results of historical development of regions (bigger than FUAs) and central cities and the relations between them. Areas surrounding central cities have emerged as a result of inter-relations at city – region level. In the contemporary situation these relationships are becoming less important since central cities are engaged in supranational networks and the performance of metropolises depends on appropriate solutions that enable coherent management of functionally integrated central cities and areas surrounding them.

11. Toolbox

The aim of the toolbox is to provide policy makers with ideas on mechanisms and instruments to deal with problems of metropolitan development. The use of policy tools has become more frequent and every strategy or master plan typically identifies a set of policy actions to cope with problems. Building the toolbox is as a heuristic method to recognize policy goals, policy coalitions, and mechanisms of decision making, and governance solutions of specific problems.

The toolbox is composed of three sections. The first one provides information on contemporary determinants of metropolitan development; the second is devoted to the assessment of the selected tools toward sustainable development; the third one contains policy recommendations and specific measures that might be used to deal metropolitan development challenges.

11.1. Megatrends and main drivers

The development of metropolises is a sophisticated and multidimensional process. However, in all cases one may distinguish a set of common, main factors that stimulate their development. Regardless of their history or other geographic, economic or social determinants the reasons of their development are: ongoing urbanisation, globalization of economic development, changes in modes of governance and management, innovations in the sphere of urban life i.e. changes in technologies used to serve cities and their inhabitants.

Metropolitan development is determined both by endogenous and exogenous factors. The impact of governments from different tiers of governance on exogenous factors is very limited. In case of endogenous factors this impact might be bigger and may bring a difference. There are various tools that might be used by governments (central, regional, local or metropolitan – if such government exists) to guide development processes or at least to have impact on them. What tools are available and how they can be used depends on the system of governance and the structure of public administration. They determine allocation of powers and responsibilities and are being translated into regulations concerning inter-governmental financial transfers. Additionally, specific national legal regulations limit or broaden the scope of activities of governments from different tiers. Although metropolises are self-governing entities in some cases central governments see the necessity of intervention, regardless whether the national urban policy exists or not.

Although simple transfer of experience from one institutional setting to another is not possible it is worth mentioning, that in most cases normative tools are being used to deal with development problems (Table A11.1), based on the analyses performed in the previous chapters). These tools are laws and regulations concerning functioning of self-governments and the way they perform their functions. One of these tools consists of spatial planning, as well as programs and projects that serve development purposes. These tools have been identified as widely used in the case of the three metropolises. The set of “soft tools” that are predominantly used for communication / information exchange is also popular, however, its use in Warsaw metropolis was rather limited. This statement might be justified by the state of metropolitan debate in Warsaw metropolis. The use of economic tools (common funds, grants, tax incentives) or institutional tools (agencies providing technical services) is more common at the level of municipalities. Metropolitan level is an “abstract level” as long as there is no legal entity that might be responsible for funds’ management. This brings back the fundamental question of facilitating a whole-of-governments approach. According to this approach better results can be achieved if

goals, objectives, and funding are aligned across jurisdictions and agencies, and between different tiers of government.

Table A11.1. Metropolitan development: main drivers, effects and possible solutions

DRIVER	PRESSURE	STATE	IMPACT	RESPONSE
ongoing urbanisation, population growth and increasing attractiveness of metropolises as locations of residential and economic functions	increased migration flows, rising demand for land development, rising demand for housing and social services, necessity of technical infrastructure development	functional urban areas established, high intensity of land use; functional conflicts in peri-urban zones, mixture of functions with dominance of specialized functions, social mixture, new socio-spatial structures	increased population density, complex spatial and functional structures, spatial and functional conflicts	predominantly normative tools – laws and rules to guide development processes in usually fragmented - in terms of allocation of competencies and responsibilities - environment
globalization and metropolization of the world economy	appearance of DFI, competitive labor market, pressure on undeveloped attractive land to accommodate new investments; migrations	new structure of metropolises' economy; new socio-spatial structures, functioning in metropolitan networks	weak connections of metropolises with regional hinterland, strong impact of exogenous factors on development processes, "metropolitan economy" often not capable to absorb local labor force, development of new housing meeting expectations of metropolitan class (including expats); rising social disparities	limited response; usually normative tools (land use planning), institutional tools (agencies dealing with economic development)
devolution and decentralization	development plans focused on particular interests of actors (local governments, other agents of change i.e. private investors); acquisition of undeveloped land	fragmentation of competencies and responsibilities; uncoordinated development, not rational use of available resources	negative phenomena related to spatial development (urban sprawl); decreasing quality of life, formation of "good" and "bad" areas within metropolis's borders	normative tools, usually planning instruments (including programs and projects), economic regulations (financial incentives)
technologies of "urban life"	urbanisation pressure, concentration of economic activities, concentration of population, wider range of impact of urbanisation on natural resources	rising area of urbanized land, loss of natural environment resources; strong functional relationships among parts of metropolises	new possibilities of using more intensively urbanized area; increased mobility of population and businesses	normative tools: land use planning; management tools: contracting, public private partnerships, local governments agreements, contracting services

Source: Own elaboration

11.2. Assessment of tools towards sustainable metropolitan development

The process of metropolisation affects different kind of spheres and provokes various challenges and/or problems that might be regarded as side effects of metropolitan development. These may particularly encompass: housing and the life quality, socio-spatial structures, transport development, as well as overall spatial and economic growth. Each of the three metropolises studied has elaborated more or less specific set of tools dedicated to tackle the problems evoked due to the metropolisation process. Each chapter in this Report has ended with a set of comparisons aimed to shed a light on the strengths and weaknesses of specific policies and measures on the one hand, and on the other hand, on possible transfer of specific arrangements applied. Most of these policies and measures are however limited to particular administrative levels, namely to commune or region. As it was stated in Chapter 9 (governance), there are rarely specific tools envisaged for management of metropolitan area itself. Lack of tools should be considered as the main obstacle for the management toward cohesive and sustainable development of metropolitan areas.

Considering the aforementioned spheres, the set of tools that can be applied to manage the metropolitan areas can be divided into several groups, characterized by its specific type, scope of influence and modes of operation. Within the framework of the BEST METROPOLISES Project, the following types of tools towards sustainable metropolitan development were distinguished:

Normative tools – which are helpful in the creation of frames, standards and prescriptions for efficient functioning; these tools should be dedicated to metropolitan areas but usually function at the local (e.g. master plans) or regional level;

Management tools – in order to facilitate the cooperation between private and public actors, between different vertical levels (state-region-local), as well as to support the horizontal cooperation (commune-commune);

Economic tools – directly connected with other types of tools, and are dedicated to financially support different actions (e.g. realization of tasks within the current norms and standards, support actions of additional agencies and bodies, cooperation of actors as well as direct support for different kind of projects implemented towards development).

The best examples of the three types of tools were selected on the basis of the studies conducted within the Project, and according to the five broad thematic spheres listed above (Table A11.2). It should be underlined again that some of them are not specifically focused on metropolitan areas as such, but has an important influence and are worth mentioning in this section.

In addition, the level of transferability of these tools to other metropolitan areas (and countries) varies. The normative tools require long-term elaboration and are very context-sensitive, which means that their preparation is influenced by the existing and former legislation at the central level. The economic tools are indispensable, but depend strictly on the (national/regional or local) budget, hence, their transferability is limited due to financial resources owned.

As it was stated in the Chapter 9, new organizational solutions that facilitate cooperation are especially crucial for the integration of different policy areas and for efficient metropolitan governance. Thus, these types of tools should be given particular attention. Management or organization tools are more flexible when

compared to the two other groups listed before, and may be implemented in a slightly different manner according to the available funds possessed. Moreover, the management tools can be more easily adjusted to local conditions and local needs in order to cope with specific problems.

Table A11.2. Examples of the tools

	Examples selected	Thematic sphere	Possible transfer
Normative tools	Spatial development plan of the Ile-de-France region (Schéma directeur de la Région Île-de-France, SDRIF)	The SDRIF is at once the strategic spatial project for the region and a land-use document.	Yes, partially, according to the national legislation
Management tools	VBB – integrated management (Berlin-Brandenburg)	Transport	Yes
	CDT – contracts for territorial development (Ile-de-France)	Cross-cutting	Yes, partially
	Quartiersmanagent - Neighbourhood management (Berlin)	Housing	Yes
	Plaine commune - innovative inter-municipality (Ile-de-France)	Governance	Yes
Economic tools	Housing policy in France: different types of fiscal advantages for private and public investors; personalized help, loans, etc.	Housing (construction, rehabilitation, direct and indirect aid for tenants both in public and private sector)	Yes, partially; special attention should be paid on the transfer of aid dedicated to private sector and rental sector (esp. for Warsaw)

Source: Own elaboration

11.3. Policy options

Position in the national and European (or global) urban systems should be treated as a basic precondition which determines the development of metropolitan areas in various spheres. Thus, the future of metropolises depends to a large extent on their position in the network of cities at the global, national, and regional scale. Metropolises are often capital cities; this fact places them in specific position within a framework of development policies that are formulated at national, regional and local (city) levels. **National policies** shall take into account the unique situation of metropolises and be adjusted to and harmonised with development policies elaborated by the authorities responsible for metropolitan development. In order to maintain and / or strengthen their positions within these networks it is necessary to **efficiently use their specific assets** and specific geographic location. Focus on

metropolitan specificities will be instrumental in reaching comparative advantages and using them as a development stimulus. Evolution of economic base for metropolises' development and changes of functions they perform should be monitored and evaluated on regular basis. Monitoring ought to be an important part of management activities performed at the local, sub-regional and regional level and should be institutionalized.

Economic strength and functional polycentricity

In order to maintain or enhance development potential of metropolises more balanced distribution of economic activities is needed. Such distribution contributes to territorial cohesion and provides development opportunities to peripheral and sometimes neglected parts of metropolitan areas, and chances for their inhabitants. More equal distribution is also necessary for better use of available resources and assets located in metropolises. Rational location of functions contributes to sustainable development of metropolises and should be an objective of all governing bodies that are responsible for the development of metropolises. As it was presented in the report, an improved economic role of close suburbs is a consequence of long-term dedicated policies which are in favour of setting up office/service centres beyond the core city. In this context the issues of polycentricity should be an important part of development policy agenda. Since polycenticity may have a different impact on development processes and phenomena (both positive and negative) it should be treated as a sensitive issue and possible ways of supporting polycentric development, as well as their results should be examined carefully.

How to ensure deconcentration of population?

"Limits to growth" spatial development model should be considered for adoption in development policies of the metropolises. New investments ought to be located next to developed transport routes (priority: high-speed connections for coaxial-radial system, both rail and truck transport). Location of new jobs in the suburban areas should be in line with strategic geography guidelines (already implemented in the IDF region) in order to ensure more polycentric structure for working and living places. Financial tools to encourage more polycentric metropolitan structure are indispensible (possibilities given by the EU funds should also be considered in this context). Functional linkages between nodes and hubs within the polycentric structure should be ensured (see example of Brandenburg with regard to R&D activities and creative industries and the first tentative to provide functional linkages between smaller centres). In addition, the development of public transport in inclusive labour markets should be supported by multi-modal transportation systems.

Compact or polycentric metropolis

Intra-metropolitan polycentricity in development is required to reduce unnecessary movements of people and goods and to create balanced structure of metropolitan areas. Polycentric development shall be part of development policies agenda of authorities responsible for metropolitan areas, including regional and local authorities. However, the level of polycentricity is not strictly defined as it depends strongly on specific, internal conditions. Polycentricity should be considered as a solution to secure the vitality of the whole region and to limit the scale of urban sprawl. Since at the same time, polycentric development may contribute to urban sprawl between the nodes creating polycentric urban structure, spatial development policies at all levels should be accompanied by efficient instruments to combat negative phenomena.

How to tackle the problem of urban sprawl?

The process of urban sprawl, as other processes and phenomena in the three metropolises, has a different magnitude. However, in all three cases urban sprawl constitutes a problem that has impact on the functioning of metropolises. In case of Paris urban sprawl is a question that should be addressed through integrated approach to development of smaller urban centres, location of housing functions, and development of transport infrastructure. Such an integrated approach might be achieved via further facilitation of cooperation at the level of technical management and harmonization of development plans (transport infrastructure might be a good example of efficient integrative efforts). In case of Berlin an opportunity of land availability within the central city borders shall be used to limit sprawl. Also, further cooperation between planning authorities of Berlin and Brandenburg, as practiced so far, might be instrumental in reducing the scale of urban sprawl. The situation of Warsaw seems to be the most complex. In this case a debate on metropolitan dimension of development processes should be initiated and facilitated by representatives of the central city of the metropolitan area. The central city must be involved in this debate as the most important actor and agent of changes ongoing in the metropolitan area. Participation of different groups of stakeholders in this debate must be ensured by making the debate publically open. Establishment of a working group that will be in charge of preparation of concepts how to conduct the diagnosis of current state of the Warsaw Metropolitan Area development, identification of main development bottlenecks and formulation of proposals of future development directions of the metropolises is very needed. The future land use plan for the whole area should be a result of consensus of different stakeholders from the metropolitan area. The problem of urban sprawl itself cannot be solved as an isolated issue. It must be addressed in a systemic way. New plans of development prepared both at regional and local levels should delineate precisely areas that might be used for housing functions. This delineation must be a result of consensus reached among the local government representatives and be based on capacity of specific areas and effective urbanisation pressure.

Improvement of life quality and differentiation of social composition

The housing policy generally should gain more attention of public authorities. The public debate on housing policy should be initiated and different actors (public authorities, developers, tenants, etc.) ought to participate in this debate. Issues like **development of social housing, provision of land for housing development, financial mechanisms supporting investments in housing** have to be addressed from the perspective of contemporary conditions and current challenges. One common solution in case of housing is not sufficient and specific tools should be adapted to local conditions in order to ensure affordable housing. These specific tools must be worked out through consensus concerning principles that guide housing policies development. For reduction of socio-spatial differentiation of metropolises it is important to ensure that housing for different income groups is distributed in different parts of metropolises. Spatial concentration of only low-cost or high-cost housing should be avoided since it leads directly to spatial segregation.

How to tackle the problem of social segregation?

Housing development policies' key component should be the delivery of apartments for people with diversified incomes in different parts of cities and their districts. Incentives for developers (or strict rules) to differentiate their offer of apartments for different socio-economic groups ought to be introduced both at regional and local level. A more diversified offer of dwellings for rent is needed, especially for young

people (Warsaw could benefit from Berlin's programmes). Additionally, housing policies must be coordinated within a mechanism of horizontal and vertical cooperation among different types and tiers of governments. These policies should be accompanied by programs focused on the improvement of public services. Efficient social segregation counteraction also requires incentives for private businesses to be located in deprived areas. This is mainly local governments' responsibility to create these incentives.

The concentration of immigrants might become a serious but delicate problem in the same time. This issue should be tackled at metropolitan and local scale as well (neighbourhood scale). At metropolitan scale, dedicated programs of social integration should go together with a broader offer of affordable housing in order to promote more dispersed settlement and to reduce risk of social exclusion (see the example of French policy for social mixity). Additionally, urban renewal activities focused on areas with immigrants should be initiated to upgrade living conditions. These activities should be complemented at the local scale by other types of activities that will act against social exclusion of immigrants. These activities might be part of broadly defined social policy of local and regional governments and will consist of programs addressed to immigrants at different age (e.g. educational programs).

In metropolises with need for **additional housing affordable for low- to middle-income groups** the crucial challenge is a spatially balanced provision of necessary housing. When aiming at identifying possible access points for improving the provision of housing affordable for all parts of a metropolitan region's population, a thorough city specific review of the influences should be undertaken. Such a city specific review not only needs to consider the existence of different influences but should also question the direction of influence. This way, the review can be helpful for identifying relevant or even crucial cross-sectoral policies for improving the city's or metropolitan region's housing market. Such cross-sectoral integrated approaches would tackle the affordability of housing via different access points, including e.g. transport efficiency, employment opportunities, education etc.

How to improve attractiveness of living conditions?

This attractiveness is to be understood in two ways. Firstly, if it concerns the areas with lower connectivity – additional investments in infrastructure should be crucial. In the case of poor housing conditions – projects focused on rehabilitation, or new constructions are important. On the other hand, there are also areas struggling with ageing which are well connected and offer good quality of housing in terms of size, maintenance, etc. (e.g. western districts of Paris) but are not accessible (for instance due to prices) to younger population. In this case, the programmes dedicated to increase the volume of affordable housing should be an absolute priority. Moreover, the increasing number of older population poses new challenges in terms of social programmes and services towards this demographic group. Special needs of older population should be investigated in each commune as it may concern both direct and indirect aid (e.g. financial support, special services, infrastructure, etc.). Considering this new demographic trends, the range of health care and social care services (including new location of facilities) should be extended as well as transport accessibility should be improved, in particular by adapting facilities for the disabled persons. Training of social workers to meet the needs of the elderly and promotion of healthy life style ought to be a part of programs dealing with problems of aging population. Incentives for those caring for the elderly (tax deductions, discounts communications, etc.) need to be worked out. The educational programmes that

promote family values and solidarity among generations need to be developed and implemented.

The **innovative projects dedicated to energy-efficiency of newly constructed buildings** and neighbourhoods should become a standard in current construction in order to address the need for high quality of living conditions as well as to ensure territorial cohesion, the diversity of urban functions and compactness. As th development of central cities of metropolises shall be focused on maintaining high living standards, additional urban renewal schemes should be implemented. These projects ought to be an **integral part of development policies** as a measure that may directly and indirectly influence distribution of inhabitants, migrations flows and formation of social structures. Participative approaches to the development of plans, programs, and projects at the local level are highly recommended. The level of social diversity is a crucial question for future development of central cities since the mixture of tenure statuses is the primary factor that has an impact on social diversity in metropolitan areas.The main constraint currently in this case is the lack of more thematically-oriented and cross-sectoral projects conceived commonly by the groups of cooperating municipalities. However, in order to organize such inter-communal renewal projects, specific legislation should be elaborated at the central state level in order to promote intra-metropolitan cooperation between municipalities.

How to ensure efficient regeneration and renewal in metropolitan areas?

Then, the urban renewal policies should be incorporated into development plans of metropolises. The streamlining of policies makes them more efficient. Urban renewal policy should be coordinated closely with other policies formulated by local governments. In order to facilitate such integrative planning policies' cooperation with specialized agencies is useful. The establishment of a coordinating, intermediating across□sector□overseeing agency or individual is highly recommended to assure comprehensive planning and coordinated handling of different actors' interests. Cross□sectoral monitoring is also important for a comprehensive view and assessment of problems and strategic planning. More locally-adapted programmes to deal with particular problems ought to be incorporated, i.e. to make use of potentials and assets possessed by specific areas. These renewal initiatives should be more focused on triggering new dynamics in the area covered by a plan than on simple up-grading of the existing state. The question of public spaces is to be given special attention while elaborating urban renewal schemes, as the quality of places accessible for all inhabitants contributes also to better living conditions and increased satisfaction of dwellers.

Transport management

Further development of transport infrastructure and **integration of different modes of transport** are crucial for sustainable development of metropolises. Especially efficient public transport infrastructure is needed, embracing common pricing. Mechanisms of policy making and legal conditions shall be structured and formulated in a way that enables close cooperation of local governments in preparation of plans and investments and their implementation. Partnership approach is required in order to achieve efficient collaboration. Further development of transport infrastructure is highly recommended in case of Warsaw metropolitan area as Warsaw metropolis is lagging behind the other two metropolises in this domain. Moreover, management modes and common information system are extremely important to make the system efficient and user friendly. Hence, integration of activities of different transport companies (same process, tickets, integrated timetables, websites, single information system) is highly recommended.

How to tackle the problem of rising congestion?

New incentives to relocate jobs outside the crowded city centers should be a key element of economic and spatial development policies. They must be accompanied by improved conditions for the operation of public transport, particularly rail. A further development of the "park & ride" system is needed (especially in Warsaw where the experience of other cities might be helpful). The rule that transport infrastructure planning depends on the settlement policy should be established. In order to achieve not only high levels of accessibility (respectively connectivity) but a smart transport system for metropolitan areas, it is not sufficient to provide good transport infrastructure for individual transport. Instead low congestion and environment friendly transport can only be implemented with a corresponding multimodal public transport network, which is not restricted to the city but includes wider parts of the metropolitan area. Berlin has an efficient public transport network with a modal split of subways, S-Bahn, trams, regional trains and buses which covers not only the city centre but the overall city and which is well interlinked with the neighbouring municipalities and suburbs and their public transport systems which constitute a good example to follow, especially for the Warsaw metropolitan area. In order to establish an efficient transportation system it is not enough to develop transport infrastructure; it is also necessary to introduce an integrated transport management system, which includes both the city and the surrounding suburban areas.

Governance and policy-making

National decision making and the political regulation system (federal, decentralized, centralized, etc.) have influenced the structure of power and institutional competences in dealing with metropolitan development. Furthermore, national programs and national investments might be crucial for development potential of metropolises. Instruments like time□limited grants, subsidies, or programs are appropriate means to give an impulse for development of less attractive parts of metropolitan areas.

New institutional and organizational solutions shall be worked out in order to secure sustainable development of metropolises. Legal framework is needed to clearly define roles and responsibilities of different actors that are active at the metropolitan scene as planners and policy makers. The creative governance approach should encourage flexibility and challenge the status quo. New solutions are necessary to create an opportunity for metropolises to be more inclusive. There is no one model of metropolitan governance. Creative approach to metropolitan governance points out that “one-size-fits-all’ approach does not take account of the social, cultural, historical and economic context of metropolises’ development.

Specific tools and bodies to build **comprehensive development strategies** and set regulation are needed in order to face metropolitan disparities and territorial imbalances. Development processes are not balanced and sectoral policies do not often contribute to building sustainable, common future. Paris experience’ in strategic planning shows that a top down approach – even if collaborative - cannot ensure a practical local appliance. Berlin does not practice comprehensive planning; in case of Warsaw planning efforts are also not coherent. New ways for establishing a common vision may be seen in other metropolises (Lyon, Stuttgart), which involve all the actors (and not only major institutions) in an understanding of metropolitan challenges and dedicated solutions. Depending on the context, it could be supported by a specific arrangement between major authorities or a new metropolitan body, the first step being a common understanding which emerges from an open debate. An official frame may be necessary to ensure in particular financial arrangements.

Metropolitan tools to **coordinate major thematic sectoral policies** should be introduced. These may encompass instruments such as the various types of agreements (contrats de ville, contrat d'agglomération, contrat de plan Etat-Region) and the production of territorial projects (projets d'agglomération), introduced by the central state in France. Or, other tools in order to strengthen institutional and procedural innovations should be considered such as: as the councils for development (conseils de développement) and the councils in districts (conseils de quartier), which were aiming at involving the local population. For main fields of metropolitan policies, such as transport, housing, social or economic development, no long term efficiency may be reached without dedicated instruments. Local appliance of major planning and programming documents has become very uncertain and needs regulation devices, legal rules and global management against territorial selfishness and competition. Dedicated bodies for transport (like VBB in Berlin-Brandenburg) show their efficiency in Paris or Berlin in order to unify ticket prices or timetables, enlarge and program investments and further sustainable developments. It is even more necessary for housing, a big issue with heavy social and territorial consequences. In any case, these metropolitan policies must be designed through large and recurring **local consultation** of local public and private actors in charge of appliance. National rules may also be necessary (for instance, for balanced distribution of social housing).

Efficient **metropolitan distribution of financial resources** is a condition for more balanced metropolitan development. As public resources everywhere decrease, as territories go on various paces of development, a big metropolitan issue is how to ensure a dynamic development, enlarge its territorial basis and help redevelopment of poorer areas. This may be searched through development dedicated policies. A better financial intra-metropolitan redistribution, as searched in Paris metropolis, a better distribution of EU subsidies in favour of metropolitan areas, as asked in Warsaw, are other suitable solutions. Further, in Warsaw, institutional competences could be cleared in order to ensure a better collective support of social services. Everywhere, a growing topic is how to collaborate with private investors to face long term investments and preserve collective interest.

Participatory planning and coalitions for development

To strengthen social participation, the involvement of affected stakeholders from the very beginning can reduce problems with NIMBYs. Since metropolitan development problems are faced by different social groups it is important to involve the key actors and give them all voice. Mechanism of facilitation in this case might also be needed. This might correspond to an adequate hierarchy of objectives and goals listed in the strategic and planning documents which should favor involvement not only of the most powerful actors, but equally local societies. Furthermore, it might have sense for a local government to foster communication with major local private□sector players, both in an ad□hoc and strategic way. Local authorities collectively should use corporate social responsibility (CSR) in their communication with big companies and encourage enterprises to follow the guidelines established by the CSR.

Finally, the creation of **specific platforms and/or agencies that facilitate dialogue** between different actors are highly recommended (see example of semipublic agency Paris Métropole), especially in the case of metropolitan areas and the need of conciliation not only between representatives of the vertical administration (local-regional-central), but also between representatives of different communes and

municipalities that are comprised by metropolitan area. This kind of initiatives strengthens the development of a culture of cooperation. Other useful tool should be dedicated to the inhabitants and their particular involvement in the on-going debates (see example of Social Communication Center in Warsaw) through the organization of consultations and other events involving inhabitants, giving them an opportunity to have influence on things happening in the city and in the metropolitan area.

Comprehensive approach to development

It is important to improve knowledge management in public administration (improve capacity building, communication, information, cooperation etc., foster the integration of different sectors to come to comprehensive thinking). Related to this, it is crucial to integrate policy fields at the local level, this being a recommendation for cases where there is no such thing or cross□sectoral planning is not developed yet. It is also important to stabilize existing or established governance networks and to assure their long□term survival and flexible support; perpetuate structure where it makes sense, support advocacy building for useful governance structures (also in times of financial constraints).

Concluding, no single tool may ensure a practical implementation of general recommendations, even coming from a metropolitan planning document (see Paris regional strategic scheme). Factors which strengthen urban sprawl and movements towards the outer suburban zone are very diverse. Cultural determinants of inhabitants and business behaviour are equally important as institutional or financial determinants (competition for newcomers and new businesses, tax incentives). Solutions may also be diversified: **prescriptive spatial planning** (imposed density of population, criteria for location of businesses, intensity of use of natural resources) **central city areas' renewal**; alternative housing offer (provided through better transport services); policies focused on protection of areas used for agriculture (legal constraints). In order to efficiently guide metropolitan development there is a need of preparation of "packages of action" that will combine different activities and undertakings. Thus, cooperation among different actors and stakeholders from the metropolis is a key factor of success.

12. Research recommendations

Suggested further research activities result from completed studies on the three metropolises. Based on the experience gathered under the Best Metropolises project it can be stated that there is definitely a need for further research on positioning and on the modes of functioning of contemporary metropolises in the European space. Future investigations should focus on the **financial aspects of the functioning of metropolises'**. There are several strong arguments for this type of study provided in our report, e.g. the organisation and cost of public transport service provision, financial arrangements among local governments as an instrument for the implementation of common undertakings. Inter-governmental transfers and financial conditions of municipalities and larger administrative bodies and organisations created for the purpose of development management should be investigated. The efficiency of instruments that could support the common development efforts of both public and private entities could be another topic for future research.

Secondly, it is essential for contemporary metropolis development to adapt proper **modes of devolution of power**, to facilitate decentralisation processes and to create appropriate institutional and organisational arrangements within the public administration structure.

Thirdly, in our analysis we attempted to develop the **typology of living conditions for metropolises.** We faced several problems related to the lack of comparable and essential data (e.g. household incomes in the case of Warsaw). Moreover, some of the basic processes which influence living conditions were excluded from the scope of the Best Metropolises project, namely, the level of environmental quality and availability and accessibility of services of general interest. Therefore, further investigations should be structured in a way that allows for the preparation of a typology including the environmental dimension as well as the level of social infrastructure development. Furthermore, in cases where the data needs were satisfied, the proposed typology under the Best Metropolises should be verified or, based on new, comprehensive data sources, prepared again. These new data sources are, among other things, the results of national censuses, which should allow for the more detailed spatial analysis of processes and phenomena (even at the level of particular census tracts). The second option is to further develop the methodology of the EU-SILC questionnaire in a very detailed, spatially disaggregated manner. Additionally, the original datasets delivered by the EU-SILC survey could be a base for positioning European metropolises in terms of living conditions, which could also be one future direction for the research effort. Therefore, In order to efficiently guide development processes of metropolises, we strongly recommend to establish a reliable, well developed **metropolitan data base**. Available statistics on metropolitan development are of poor quality. Data concerning state of phenomena and processes, as well as functional relationships within metropolitan areas are needed. Information on flows of people, capital, information, and other different resources shall be included in the data base. Main metropolitan actors should be involved in the effort of gathering comprehensive data on FUA development. Cooperation among actors is very needed in order to bring together visions of development presented by main metropolitan actors, involve them into a debate about the current state of development and major challenges and widely distribute the idea of a common metropolitan destiny amongst local actors. Furthermore, it is a strong need for European comparisons in main fields of metropolitan governance in order to analyse efficiency of policies and tools with regard to specific contexts and allow transferability between metropolises.

Moreover, there is a possibility to combine the research fields encompassed by the Best Metropolises and SeGI ESPON projects, particularly as regards comparing European metropolises using methodology developed within the SeGI project. The future research should focus on incorporation of SeGI accessibility indicators to assess the extent to which SeGI services are easy and equally accessible for the inhabitants of metropolitan areas.

Finally, **the impact of ecological conversion** has not yet been analysed in terms of urban management at a practical level. In addition, some crucial questions in respect of metropolis development remain, such as, to what extent the development of renewable energy would contribute to the evolution of contemporary urban structure and what would the likely influence be of sustainable transport on our metropolises' future development paths.

Abbreviations / acronyms used

AIGP	Atelier International du Grand Paris (international Grand Paris workshop)
ANRU	Agence National de Rénovation Urbaine (National Agency for Urban Renewal)
AFL	Allocation de logement familial (housing benefit for families)
ALS	Allocation de logement sociale (social housing benefit)
ANAH	Agence Nationale pour l'Amélioration de l'Habitat (National Agency for Housing Improvement)
APL	Aide personnalisée au logement (housing allowance)
APS	Advanced Producer Services
APUR	Atelier Parisien d'Urbanisme (Paris City Planning Agency)
BBI	Berlin-Brandenburg International (airport Berlin-Schönefeld)
BRIC	Brasilia, Russia, India and China
BVG	Berliner Verkehrsbetriebe (Berlin Transport Company)
CAEE	ESPON project: The case for agglomeration economies in Europe
CDC	Caisse des Dépots et Consignations (public bank)
CDT	Contrat de Développement Territorial (Contract for Territorial Development)
CSO	Główny Urząd Statystyczny (Central Statistical Office)
CTP	Common Transport Policy
DALO	Droit au Logement Opposable (Enforceable Right to Housing)
DATAR	Délégation à l'Aménagement du Territoire et de l'Action Régionale (National Agency for Territorial Management and Regional Action)
DB	Deutsche Bahn (German Railway)
DGCL	Direction Générale des Collectivités Locales (French National Department for Territorial Institutions)
DDR	Deutsche Demokratische Republik (former East Germany)
DTA	Directive Territoriale d'Aménagement (Territorial Planning Directive)
Dz.U.	Dziennik Ustaw (Journal of Laws of the Republic of Poland)
EDF	Electricité de France (French electricity public firm)
ENL	Enquête Nationale Logement (national housing inquiry)
EPA	Établissement Public d'Aménagement (Urban Management Public Body)
EPCI	Etablissement Public de Coopération Intercommunale (Public Establishment for Inter-municipal Cooperation)
EPFIF	Établissement Public Foncier d'Ile-de-France (Ile-de-France Public Land-buyer Establishment
ESH	Entreprises Sociales pour l'Habitat (Social Enterprises for Housing)
EU-SILC	EU-Statistics on Income and Living Conditions
FMI	Fonds Monétaire International (International Monetary Fund)
FRG	Federal Republic of Germany
FUA	Functional Urban Area
GaWC	Globalization and World City Study Group and Network
GDP	Gross Domestic Product
GDR	German Democratic Republic
GHG	greenhouse gas
GNC	global network connectivity
GPRU	Grand Project de Renouvellement Urbain (Large Urban Renewal Programme of Paris city)
HLM	Habitation à Loyer Modéré (low rent social housing)
HWWI	Hamburgisches WeltWirtschafts Institut (Hamburg Institute of International Economics)
IAU IDF	Institut d'Aménagement et d'Urbanisme Île-de-France (Ile-de-France *Institute* of territorial planning)
IBA	Internationale BauAusstellung (international building exhibition)
IDF	Île-de-France
IFTGS	Ile-de-France Transport Global Survey
IKM	Initiativkreise Europäische Metropolregionen (Network of European Metropolitan Regions in Germany)
INSEE	Institut National de la Statistique et des Études Économiques (National Institute for Statistics and Economic Studies)
KM	Koleje Mazowieckie (Mazovian Railways)
LEP	Landesentwicklungsplan (State Development plan) or Landesentwicklungsprogramm (State Development Programme)
MDM	Marszałkowska Dzielnica Mieszkaniowa (Marszałkowska Housing District)
METREX	Network of European Metropolitan Regions and Areas
METROBORDER	ESPON Project: Cross-Border Polycentric Metropolitan Regions
MORP	Mazovia operational regional programme
MOS	Mode d'occupation du sol (land use map)
NIMBY	Not in my back yard
NQU	Nouveau Quartier Urbain (sustainable new neighbourhood, only in IDF)

OIN	Opération d'Intérêt National (national interest area)
ÖPNV	Öffentlicher Personennahverkehr (Public local passenger transport)
OREAM	Organisation d'Etudes d'Aménagement des Aires Métropolitaines (Study agency on metropolitan areas urban management)
ORS	Observatoire Régional de la Santé (regional health observatory)
PADD	Programme d'Aménagement et de Développement Durable (sustainable planning and development programme)
PADOG	Plan d'Aménagement et d'Organisation Générale de la Région Parisienne (urban planning and comprehensive organization document)
PDUIF	*Plan de Déplacements Urbains* d'IDF (Urban Mobility Plan for IDF)
PKP	Polskie Koleje Państwowe (Polish Public Railways)
PLAI	Prêt locatif aidé d'intégration (rental loan aimed at social integration)
PLH	Programme Local de l'Habitat (housing local programme)
PLI	Prêt Locatif Intermédiaire (intermediate rental loans)
PLS	Prêt locatif social (rental social housing loan)
PLU	Plan Local d'Urbanisme (local urban planning document)
PLUS	Prêt locatif à usage social (rental loan for social purpose)
POLYCE	ESPON project: Metropolisation and Polycentric Development in Central Europe: Evidence Based Strategic Options
PPP	public-private partnership
PPS	Purchasing Power Standard
PZT	Prêt à taux zero (free interest loan)
R&D	research and development
RATP	Régie Autonome des Transports Parisiens (autonomous public operator of Parisian transports)
RER	Réseau Express Régional (regional high speed transport network)
RP	Recensement de la Population (population census)
RER	Réseau Express Régional (high speed regional transport network)
RIS	Regional Innovation Strategy
RUL	Région Urbaine de Lyon (Lyon urban regional area)
SCOT	Schéma de cohérence territoriale (intermunicipal strategic planning document)
SDAU	Schéma Directeur d'Aménagement et d'Urbanisme (Strategic Urban and Regional Planning Scheme)
SDRIF	Schéma Directeur de la Région Ile-de-France (Strategic Regional Scheme for IDF)
SEM	Société d'Économie Mixte (public-private society for urban planning management and implementation)
SGP	Société du Grand Paris (Grand Paris Society)
SME	Small and Medium-Sized Enterprises
SNCF	Société Nationale des Chemins de Fer Français (French National Railway Corporation)
SRU Law	Loi Solidarité et Renouvellement Urbain (Solidarity and urban renewal Law)
StEP	Stadtentwicklungsplan Berlin (urban development plan of Berlin)
STIF	Syndicat des Transports d'Ile-de-France (Transport Regional Trade or Syndicate)
TA2020	Territorial Agenda 2020
TRACC	ESPON project: Transport Accessibility at Regional/Local Scale and Patterns in Europe
UMP	Unia Metropolii Polskich (Union of Polish metropolises)
UMZ	Urban Morphological Zone
URBAN	EU programme for revitalisation of cities and neighbourhoods in crisis
URSS	Union des Républiques Socialistes Sovietiques (Union of Soviet Socialist Republics- USSR)
VAT	Value Added Tax
VBB	Verkehrsverbund Berlin-Brandenburg (Transport Association of Berlin-Brandenburgia)
VEFA	Vente en l'état Futur d'Achèvement (housing sale on plans)
VRS	Verband Region Stuttgart (Union of Stuttgart Region)
WKD	Warszawska Kolej Dojazdowa (Warsaw Commuter Railway)
WMS	Wirtschaftsförderung Region Stuttgart (regional economic assistance of Stuttgart Region)
ZFU	Zone Franche Urbaine (Urban Free Zone)
ZRU	Zone de Redynamisation Urbaine (Urban Redevelopment Area)
ZTM	Zarząd Transportu Miejskiego (Public Transport Authority of Warsaw)
ZUS	Zone Urbaine Sensible (Sensitive Urban Area)

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