Prague

Urban Growth and Regional Sprawl

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Introduction

The main aim of this chapter is to provide a comprehensive discussion of suburbanization in Prague's city region since the collapse of communism. Our discussion begins with a general historical overview of urbanization processes and patterns. Suburbanization in metropolitan Prague developed initially under capitalist conditions, during the interwar period, when the city became the capital of the newly established state of Czechoslovakia. Suburban growth was halted during communist times by the state's central planning urbanization policies, which channeled investments to urban centers and high-density, high-rise housing estates erected at the edges of the city. The concentration of urban growth in Prague's core became a dominant pattern of metropolitan development under communism (Posová and Sýkora, 2011).

After 1989, the re-establishment of a capitalist system based on the principles of decentralized decision making within a free market economy and a democratic political system brought radical internal transformations to social practices and social structures (Sýkora and Bouzarovski, 2012). The urban landscapes of Prague formed under communism began to be adapted to the new conditions developed during the political, economic, and cultural transition to capitalism. While most of these changes benefited society as a whole, some urban reconfigurations presented new problems and challenges for the management of urban

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growth. One of the key challenges is related to the processes of rapid suburbanization, which is changing the spatial structure of Prague's city region and is giving rise to concerns about the negative consequences of urban sprawl.

This chapter discusses the problems of suburbanization and sprawl in metropolitan Prague in four parts. First we describe the initial period of Prague's housing boom, which peaked between 1996 and 1998. During this time, while housing was developed intensively in both the central city and its suburbs, house-building activities concentrated in the suburban zone, with an emphasis on the construction of single-family dwellings. The second part of the chapter documents the changing balance in the distribution of residents within the city region – a dynamics driven by the explosive growth of suburban zones and by the subsequent increase in the percentage of metropolitan population residing in those areas. The third part addresses the growth of suburban jobs related to the development of new shopping, warehousing, distribution, and logistic centers around Prague. In the final part we discuss the highly fragmented character of decision making related to land development and urban planning in Prague's city region, which is administratively split into over two hundreds independent municipalities in eager competition with one another for attracting new jobs and residents.

A Historical Account of Urbanization and Suburbanization in Prague

As in many other major Central European cities, the contemporary urban pattern of Prague as a modern metropolis began to take shape during the second half of the nineteenth century, in conjunction with the expansion of industrialization and urbanization. Furthermore, the spatial structure of Prague was shaped and reshaped in consecutive waves, under the influence of the two contrasting political regimes of capitalism and socialism. The city grew through concentric additions, and by the late twentieth century it was composed of five zones: (1) the historical core; (2) the inner-city blocks of apartment houses; (3) the belt of villa neighborhoods and garden towns; (4) the ring of communist housing estates of prefabricated high-rise buildings; and (5) the outer zone of rural land-scapes interspersed with small towns and villages (Sýkora, 1999).

Despite the fact that the historical core accounts for only 2 percent of the city's area and contains only a fragment of the total population, this zone has continuously served as the country's political and business command and control center, and also as a major tourist destination. The historical core is encircled by a belt of inner-city neighborhoods

built from the mid-nineteenth century until the beginning of World War II. It is characterized by blocks of four to five story apartment buildings, which are organized within a regular street pattern. During the last few decades, these neighborhoods, which accommodated residents of various social backgrounds, have experienced diverging trajectories of gentrification and regeneration, as well as stagnation and decline. Smaller old industrial districts, which penetrated this zone until the 1990s, have been converted recently to new commercial centers and residential districts, while some patches of land still remain as brownfields. Around this second zone of the compact inner city lies a belt of villa neighborhoods and suburban garden towns dating back to the 1920s and 1930s. Unlike some of the areas of the compact city, these neighborhoods have maintained their high social status since their origin. The inner zones of Prague, which developed under capitalist conditions, were encircled during communism by a ring of massive housing estates consisting of prefabricated 4- to 12-story high-rises; these housing estates were concentrated in residential districts and housed up to 100,000 inhabitants. Prior to the 1990s, there stretched beyond them a rural landscape dotted with small towns and villages that had been annexed to the territory of Prague in the late 1960s and early 1970s. Since the 1990s, this outer zone of Prague's administrative territory has attracted housing and nonresidential construction with typically suburban characteristics, often located at some distance from the edge of the compact city. Behind the city's administrative boundary, the rural metropolitan periphery contains hundreds of small villages and towns. During the communist period, most of these settlements were poorly developed and supplied with a minimal level of infrastructure, while most of their population was dependent on commuting to the capital city for jobs, schools, and services. Since 1990, when these municipalities gained autonomy in decision making concerning physical planning and development, they became a focus of investors' interests, fuelling a wave of massive suburbanization in Prague's metropolitan periphery.

The origins of the first suburbs in Prague's city region date back to the 1920s. After World War I Czechoslovakia was established as an independent state with Prague as its capital. Beside the densification of the city center and inner urban quarters, most of the growth during the interwar years concentrated on greenfield sites at the edge of the city, predominantly in the form of residential villa neighborhoods and garden towns. This decentralization was supported by public investments in new roads and tram lines, which facilitated the commuting of the inhabitants of these peripheral neighborhoods to Prague's center. The city population increased to nearly 1 million just before World War II. New residential areas were also springing up behind the city boundary,

around rail tracks radiating from the city center. They included lower income working-class additions to rural villages, as well as middle- and upper-class settlements with expensive modern villas. The process of spatial deconcentration during that time did not extend to economic functions. In the interwar period, Prague and its hinterland experienced a kind of suburbanization whose sociospatial characteristics were typical for most of the Central and Western European countries at the time (Ullrich et al., 1938).

During the period of communist regime (1948–1989) the city was shaped under the dictates of a centralized planning system. The socialist ownership over production and services and the administrative allocation of resources by the ruling communist party made location an irrelevant economic variable (Musil, 1993). While Prague's inner city suffered from disinvestment, it was encircled by massive socialist housing estates and newly established industrial districts (Musil and Ryšavý, 1983). The estates were served by local commercial centers that provided basic retail and services, while the majority of the population commuted by public transit to industrial zones and to the city core. Some scholars consider these estates to represent a socialist version of suburbanization. However, their high-density urban characteristics, functional interrelation with job centers, and morphological coherence with the remaining parts of the city represent a direct application of functionalist city-planning principles. The socialist housing estates maintained a compact city structure and sharply demarcated the external boundary of the urbanized area, clearly dividing the city from its rural hinterland.

The communist urban policy of concentrating investments in industrial development and production in the cities, while avoiding rural and suburban areas, was not accompanied by a comparable (and adequate) investment in housing and service provision. This phenomenon is known in urban literature as under-urbanization (Szelenyi, 1996). While suburban expansion was avoided through a state-controlled spatial allocation of investments, a faster urbanization of the core was replaced by the massive commuting of populations from rural villages and older, pre-communist suburbs to Prague for work, schools, and services; thus these rural settlements were functionally tied to the central city. At the end of the communist period, the overwhelming majority of the population residing in the city region was concentrated in the compact city. By 1991, out of the 1.4 million residents of the city region, only 272,000 inhabitants lived outside the compact city and less than 170,000 lived outside of Prague's city boundary.

It has to be noted, however, that nearly one third of Prague's households owned small second homes and weekend houses in the city's hinterland or in more remote country regions (Vágner, Muller, and Fialová, 2011). These houses were concentrated in the southern part of Prague's city region – an area characterized by magnificent landscapes of rolling hills and woodlands. The second homes were either simple cottages clustered in districts in the woods or village houses converted for weekend or seasonal use. For many residents who had moved from the countryside to the city in search of jobs and had settled in prefabricated flats in the housing estates, these second homes served as a corrective to lack of land and home ownership.

By the end of the communist regime, Prague's hinterland was a place of predominantly rural settlements of lower social status, with a population strongly dependent on jobs and services available in the capital city. Thus Prague's metropolitan periphery differed substantially from the suburbs that developed around North American and Western European cities in the decades following World War II.

After the fall of the communist regime, the establishment of democratic, market-based decision-making principles of resource allocation, together with growing exposure to an international economy, created conditions for the spontaneous transformation of social practices. Urban change has been especially influenced by processes of globalization, economic restructuring (in terms of deindustrialization and growth of producer services), increasing social differentiation, and establishment (even entrenchment) of neoliberal political practices that favor unrestricted market development (Sýkora, 2009). The ensuing political, economic, and social transformations have influenced significantly the evolution of settlement systems, and in particular the processes of spatial restructuring within urban areas.

During the period of transition, the spatial structure of Prague and its region was reorganized through the influence of several simultaneously developing processes: the commercialization of the historic core and adjacent city areas; the selective revitalization of specific inner-city neighborhoods; and the commercial and residential suburbanization of the outer city and metropolitan hinterland (Sýkora, 1999). While most of the 1990s were characterized by the inflow of investments to the city center - a phenomenon that led to the center's rapid commercialization and revitalization - suburbanization became the most dynamic process to change Prague's metropolitan landscape since the late 1990s (Sýkora and Ouředníček, 2007). A specific characteristic of Prague's suburbanization is that it developed not only outside the city's boundaries, but also in areas within the city's administrative territory that lie far beyond the edge of the compact city. While these territories, which cover approximately half of the city's jurisdiction, remained largely undeveloped until 1989, they provided ample amounts of land for development in the postsocialist years.

In the remaining parts of the chapter we concentrate our discussion on the explosive growth of Prague's periphery during the postsocialist decades. Our analysis covers both the outer edges of the capital city's territory and its surrounding municipalities. Prague has been the country's main growth pole during the postsocialist period, attracting the majority of investments and firms, as well as domestic and foreign migration inflows. The Czech capital concentrates 12 percent of the national population and generates over 25 percent of the national gross domestic product (GDP). The city is surrounded by Central Bohemia, a region with a population roughly equal to that of the capital and generating 11 percent of the national GDP. The territories of Central Bohemia that are adjacent to Prague currently constitute the fastest growing areas of the whole country. The city of Prague and its surrounding municipalities form a functional urban region, tied together by its spatial division of labor and intensive commuting patterns. In this chapter we focus our discussion on Prague's city region, which consists of (1) the capital city

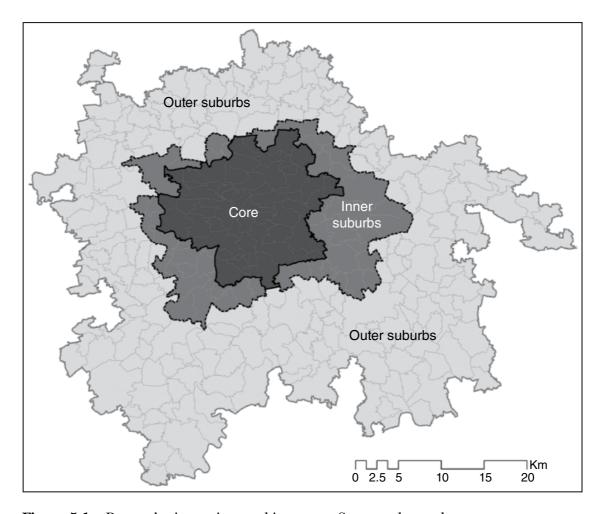


Figure 5.1 Prague's city region and its zones. Source: the authors.

and (2) the surrounding municipalities where a minimum of 25 percent of the economically active population commutes daily to Prague for work (for details, concerning the method of delimiting city regions in Czechia, see Sýkora and Mulíček, 2009). Within the city region we distinguish three major zones: the urban core, which encompasses the compactly built-up urban area; the inner suburbs, defined as the Prague's territory located outside the compact city but still within the city's administrative boundary; and the outer suburbs, which consist of municipalities in the Central Bohemia region that meet our threshold for commuting (the 25 percent criterion specified above) (Figure 5.1).

The Housing Boom: Compact City and Suburban Sprawl

From the collapse of the communist regime in 1989 until the mid-1990s, there was very little development activity in Prague and its suburban periphery. The volume of construction of new housing declined sharply after the withdrawal of the state from its role as a main housing provider. Due to general decline in the Czech economy and to the low purchasing power of the country's population, new housing construction starts in the private sector were limited to a small number of people who benefited from the privatization of the state's assets and from the newly emerging economic opportunities. In Prague and its city region housing development began to rise quickly in the second half of the 1990s, with the gradual recovery of the economy and the subsequent growth in household incomes, coupled with an increase in the flow of migrants from the other, less quickly recovering Czech regions. Thanks to the establishment of the banking sector and the launch of the housing mortgage system, loans for residential construction became available in the second half of the 1990s. The growth of the housing construction sector was further supported by national housing policies that offered state subsidies for the provision of low-interest mortgages and for the construction of municipal housing (Sýkora, 2003). After housing production reached record low levels in the first half of 1990s, housing construction increased steadily, culminating in a major housing boom, which lasted from 2004 to 2008. By the turn of the twentieth century suburbanization became the most important process of urban change in Prague. New residential districts sprung up in hundreds of locations scattered throughout the metropolitan hinterland; they were accompanied by the emergence of new shopping and warehousing clusters strung along highways and major intersections.

Housing completions continued at relatively high levels even in 2009 and 2010, the initial years of the current economic crisis; this was due mainly to the impetus gained during the preceding years of the

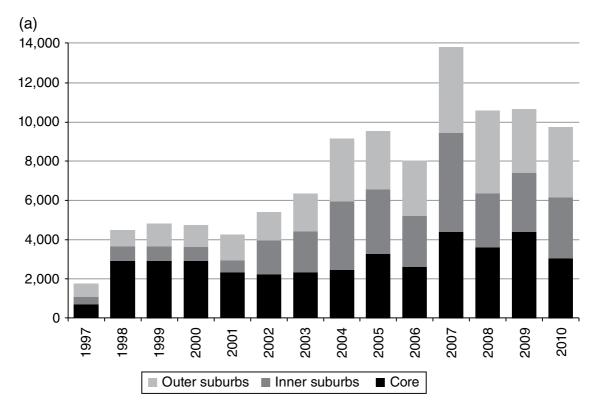
housing boom. Nevertheless, housing starts registered a sharp decline, reflecting the effect of the economic crisis on housing demand and on the house-building industry. However, this decline is also an outcome of specific fiscal policies carried out by the Czech government that, in 2008, led to an increase in VAT on newly built housing; and there were further increases in 2010 and 2012. These VAT increases had been predicted, therefore stimulating demand in the years before 2008. By 2009, however, housing starts in the city of Prague dropped to only about a third of the 2005–2006 levels. After a two-year lag, this drop affected housing completions in 2011, which halved by comparison to the level achieved in the peak years, from 2004 to 2008; and it is quite likely that the slump will continue in next few years. The dramatic up and down swings of the housing market have been reflected in the dynamics of housing prices, which experienced a sharp growth until 2008 and considerable decline thereafter. In 2011 housing prices in Prague became stable at a level below that of 2008 by 18 percent; since the beginning of 2012 they started rising again. The value of single-family homes has dropped by only 5 percent since the end of 2008, while no decline has been registered in the price of land for construction. For the whole Czechia, housing starts have dropped by about one third, the lowest decline (about one fourth) being registered in two suburban districts around the capital city. Unlike Prague, which was strongly affected by the economic crisis, its outer suburban zone has been least impacted. At the national level, the decline in house building affected most strongly the multi-family sector; single-family housing starts registered only a very moderate decline. It seems that the recent economic crisis has not impacted significantly the suburbanization of the wealthier parts of the population. Combined with the effect of the VAT increase, however, the crisis derailed the realization of the housing dreams of younger middle-class and lower middle-class households.

It should be noted that the trajectory of Prague's suburbanization differs from the dynamics displayed by the housing sector in the rest of the Czech Republic. Since 2000, Prague and its metropolitan periphery experienced a threefold increase in housing construction. By comparison, housing construction levels in the rest of the Czech Republic grew only by one third. Furthermore, while housing production in metropolitan Prague steadily increased from 1997 through 2007 (see Figure 5.2: a), housing completions in the rest of country increased only during the 2007–2010 period. These statistics underscore the importance of Prague for the country, the time lag of urban and suburban growth in other Czech cities and towns, and the effect of VAT changes, which stimulated the housing boom of 2006–2008. Between 1997 and 2010, Prague's metropolitan area registered an

annual average of 4.9 newly built dwellings per 1,000 residents, far above the average of 2.5 for the rest of the country. However, there were major differences between Prague's core (2.5 dwellings per 1,000 residents), the inner suburbs (16 dwellings per 1,000 residents), and the outer suburbs (9 dwellings per 1,000 residents). From the total of 103,203 dwellings built in the Prague region between 1997 and 2010, 39,925 (37.7 percent) were completed in the core, 30,564 (29.6 percent) in the inner suburbs, and 32,714 (31.7 percent) in the outer suburbs (Figure 5.2a). While the core of Prague accommodated a significant proportion of the newly built housing, the greatest part of residential construction took place in the suburban areas.

The location of new residential development relative to Prague's city boundary has been an important factor in determining the type of dwellings built by developers in the postsocialist years. Housing construction in the compact city has taken predominantly the form of multi-family buildings, only a small proportion of it consisting of single-family houses (Figure 5.2b). Single-family housing, however, comprised the majority of new residential constructions built in the inner suburbs from 1997 to 2001 and the lion share of residential developments in the outer suburbs throughout the 1997–2010 period (Figures 5.2c and 5.2d). This fact reflects the pent-up demand for single-family housing inherited from the socialist period, when the overwhelming amount of residential development within urban areas came in the form of multi-family buildings. The structural imbalances between what was supplied – the standardized socialist housing stock - and the type of dwellings desired by large segments of the population were a main driver of the post-1989 housing market, as people could finally realize their long-suppressed dreams of living in a single-family house. It should be noted, however, that since 2002 the trend in the inner suburbs of Prague has been reversed, multi-family buildings representing the majority of the newly built dwellings (Figure 5.2c).

While single-family housing continues to be the preferred residential building type outside of Prague, this type of dwellings accounts for only a small proportion of the new housing built within the capital city itself. This state of affairs can be attributed to policies adopted along with Prague's master plan approved in 1999, which were intended to promote compact development patterns within the city boundaries through a spatial concentration of activities and through higher residential densities. The shift from single- to multi-family housing has also been influenced by a saturation of the housing needs of the more affluent population and a parallel increase in the demand for more affordable housing for residents at the lower spectrum of the middle income – as well as by a growing preference for urban living among



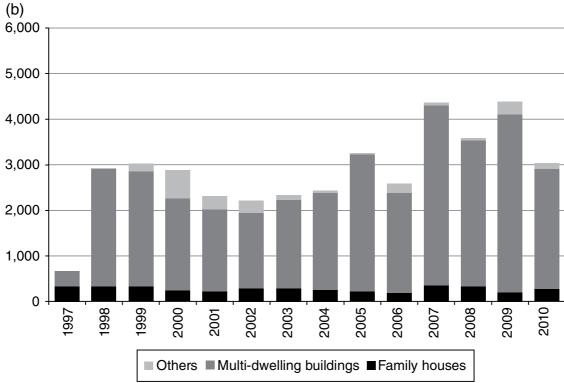
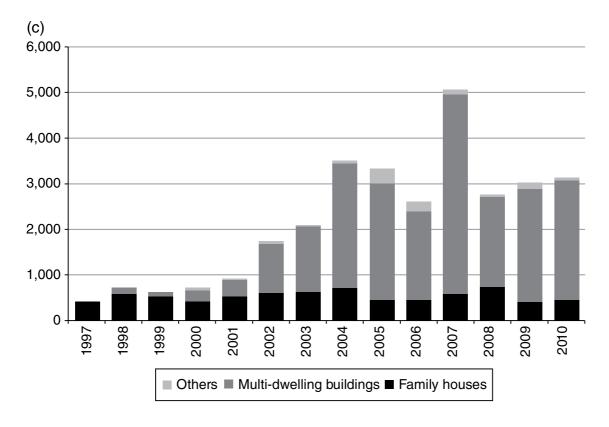


Figure 5.2 Housing construction: number of annually completed dwellings in 1997–2010 according to (a) territorial zones; (b) type of building in core; (c) inner suburbs; and (d) outer suburbs. Based on data from the Czech Statistical Office.



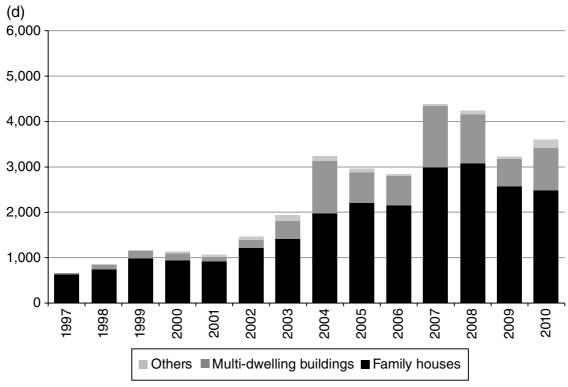


Figure 5.2 (Continued)

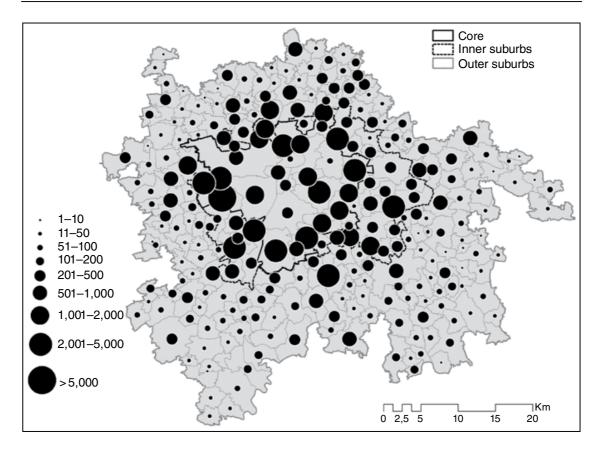


Figure 5.3 Housing construction: number of completed dwellings in Prague boroughs and suburban municipalities in 1997–2010. Based on data from the Czech Statistical Office.

younger households. Shifts in the demographic structure of Prague – such as new forms of partnerships, or the tendency to postpone child-bearing – have also been a contributing factor, along with the fact that developers achieved higher profits from the sale of apartments than from the sale of single-family homes. All of these factors, combined with the effects of VAT increases, led to a surge in the number of multi-family dwellings in all zones of Prague's city region, including the outer suburbs.

The land occupied by the single-family houses built since 1989 is geographically fragmented in hundreds of locations throughout Prague's outer suburban zone, but a distinct concentration of this type of development can be found immediately outside of Prague's boundary (Stanilov and Sýkora, 2012) (Figure 5.3). This spatial pattern can be attributed to differences in the regimes of development established by the city of Prague and its suburban municipalities; to the competition among municipal governments for private investments; and to the neglect, continuously demonstrated by regional and national governments, for the development of adequate urban policies. The concentration of suburban housing developments immediately outside

of Prague's boundary has been stimulated by the availability of land zoned for this type of development by suburban municipalities and by the simplified zoning change and development permit procedures that these governments have adopted. While the city of Prague has pursued a compact development agenda, many small local governments outside of the capital have turned their land into investors' playgrounds, with minimal development controls. Consequently, while authorities in Prague have tried to constrain low-density residential development, single-family homes could be erected with ease just behind the city boundary. Prague's suburban municipalities have been engaged in an intense competition to attract developers' attention – a competition carried by these municipalities not only with the capital city, but also among themselves. Most of the over 200 local governments included in the city region have zoned large tracts of land for development, thus fuelling the processes of urban sprawl, whose primary agent has become the construction of single-family houses. While multi-family buildings absorbed only 7.9 percent of the land developed in the region between 1989 and 2008, single-family houses consumed 54.3 percent of the land converted for urban uses during this same period (Stanilov and Sýkora, 2012). It should be noted that the new patterns of residential suburbanization have been strongly conditioned by the historical settlement pattern of Czechia, which is characterized by a very dense network of small villages. This pattern of growth is distinct from the American-type of urban sprawl and much more similar to the patterns of suburbanization typical of some Western European countries, where old towns and villages served as nodes of suburbanization.

Population Redistribution: Changing the Balance between Core and Suburbs

Housing construction strongly influenced the spatial patterns of migration and population change in Prague's city region (Table 5.1). Between 1991 and 2000, 94,429 people moved to the city of Prague, by comparison with an outmigration of 107,211 residents. During this period, Prague lost 13,440 inhabitants to its suburban hinterland, while also losing population through natural change. As a result of these two processes, the city population declined by 45,068 between 1991 and 2001. This decline was reversed in the subsequent decade, 2001 to 2011, when the city population increased by 103,584. Prague gained 31,423 new residents from the other regions of the Czech Republic, but lost 50,748 to its suburban hinterland. In this decade population growth in the capital was sustained primarily through foreign migration: 148,447

| | To | | | | | | |
|-----------------------------|-----------|-----------|---------------|-----------|-----------------------|-----------|--|
| | Prague | | Outer suburbs | | Outside Prague region | | |
| From | 1991–2000 | 2001–2010 | 1991–2000 | 2001–2010 | 2991–2000 | 2001–2010 | |
| Prague | 315,194 | 290,890 | 25,748 | 69,091 | 81,463 | 113,476 | |
| Outer suburbs | 12,362 | 18,343 | 7,011 | 11,852 | 13,440 | 18,216 | |
| Outside Prague region | 82,067 | 144,899 | 14,039 | 29,494 | | | |

Table 5.1 Migration flows between zones in Prague's metropolitan region (PMR).

Source: Czech Statistical Office.

officially registered foreigners accounted for 11.8 percent of Prague's population in 2010. During the same period the outer suburbs grew by 84,312 residents – a number that included the migration gain of 50,748 residents from Prague and of 11,278 residents from the other Czech regions. These suburbs also experienced positive natural change that was influenced by the influx of new suburban families of child-bearing age.

The suburban boom started to change the balance between the core and the suburban parts of Prague's city region (Table 5.2). During the period 1991–2001 the population of the region decreased by 2.4 percent. This negative growth was a result of the 4.7 percent decline in the population of the core, while both the inner and the outer suburbs grew by 7 percent. According to van der Berg's model of urban stages, this situation would be described as desurbanization (van der Berg, Drewett, Klaassens, Rossi, and Vijverberg, 1982). However, the 1990s was a decade of radical social change, from a communist to a capitalist system, with relatively modest changes in the spatial distribution of population. The situation was altered dramatically in the following decade, which witnessed a very dynamic redistribution of population between the core and the suburbs. While the population at the core increased by 5.6 percent, the suburbs registered a much higher growth, of 44.3 percent (40.6 percent in the inner suburbs and 46.6 percent in the outer). According to van der Berg's model, the 14 percent overall growth of Prague's region, accompanied as it was by a higher growth in the suburbs, would be described as a stage of suburbanization with relative decentralization.

The detailed mapping of population change shows a clear pattern of decline in most of the region's core between 1991 and 2001

Table 5.2 Population change, 1991–2011.

| | Population | | | Proportion in the Prague region | | |
|------------------|------------|-----------|-----------|---------------------------------|--------|--------|
| | 1991 | 2001 | 2011 | 1991 | 2001 | 2011 |
| Prague | 1,214,174 | 1,169,106 | 1,272,690 | 87.8% | 86.6% | 82.8% |
| Core | 1,111,003 | 1,058,752 | 1,117,592 | 80.3% | 78.4% | 72.7% |
| Inner suburbs | 103,171 | 110,354 | 155,098 | 7.5% | 8.2% | 10.1% |
| Outer suburbs | 168,916 | 180,992 | 265,304 | 12.2% | 13.4% | 17.2% |
| All suburbs | 272,087 | 291,346 | 420,402 | 19.7% | 21.6% | 27.3% |
| Prague region | 1,383,090 | 1,350,098 | 1,537,994 | 100.0% | 100.0% | 100.0% |
| | | | | | | |

| | Population change | | | Change of proportion in the Prague region | | |
|------------------|-------------------|-----------|-----------|--|-----------|-----------|
| | 1991–2001 | 2001–2011 | 1991–2011 | 1991–2001 | 2001–2011 | 1991–2011 |
| Prague | -45,068 | 103,584 | 58,516 | -1.2% | -3.8% | -5.0% |
| Core | -52,251 | 58,840 | 6,589 | -1.9% | -5.8% | -7.7% |
| Inner suburbs | 7,183 | 44,744 | 51,927 | 0.7% | 1.9% | 2.6% |
| Outer suburbs | 12,076 | 84,312 | 96,388 | 1.2% | 3.8% | 5.0% |
| All suburbs | 19,259 | 129,056 | 148,315 | 1.9% | 5.8% | 7.7% |
| Prague region | -32,992 | 187,896 | 154,904 | _ | _ | _ |

Source: Czech Statistical Office, Census (SLDB) 1991, 2001, and 2011.

(Figure 5.4). The population growth recorded in some inner-city areas was a result of the completion of housing estates on the eastern and western edges of the compact city, whose construction started under the communist regime. The completion of the first suburban residential districts in the late 1990s contributed to a relatively modest overall increase of population in suburban areas, both in the outer reaches of Prague's administrative boundaries and in the suburban municipalities outside it. Despite the small increase in absolute numbers, however, this influx of new residents to the suburbs produced a significant relative increase in the suburban municipalities, due to the small original size

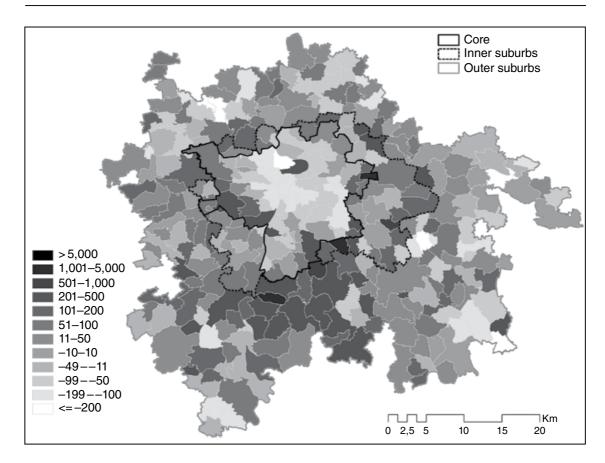


Figure 5.4 Population change, 1991–2001 (relative increase per 1,000 inhabitants). Based on data from the Czech Statistical Office.

of the population in these areas. Most of the growth was concentrated within the outer areas of Prague and in municipalities adjacent to Prague's administrative boundary, particularly in the southern sector of the region, which featured some of the latter's most attractive natural landscapes. During the period 2001–2011 the population increased in virtually all suburban areas – both within the capital city and in municipalities outside – as well as in many areas within the core. As in the previous decade, the highest intensities in population growth were concentrated along Prague's administrative boundary, but they spread to greater distances toward the edge of Prague's city region (Figure 5.5). Population growth in suburban Prague followed the sprawling pattern of house building.

The processes of suburbanization, which led to an unprecedented redistribution of population within the Prague metropolis, contributed to significant changes in the sociospatial pattern of the city region. The suburban zones have experienced an influx of younger and better educated households, with much higher incomes than the original population (Ouředníček, 2007). The two population groups are spatially quite distinct: the residential districts of the prosperous newcomers are

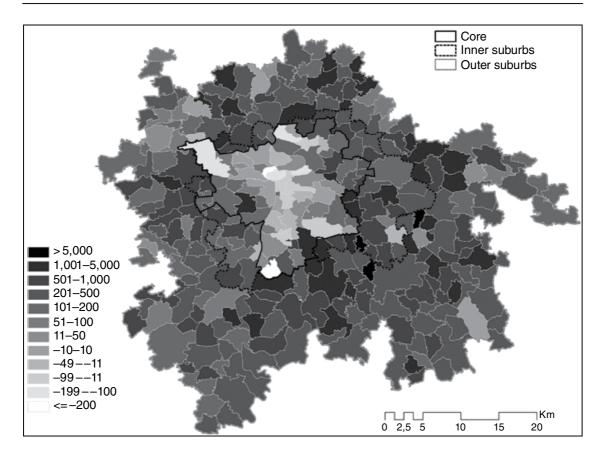


Figure 5.5 Population change, 2001–2011 (relative increase per 1,000 inhabitants). Based on data from the Czech Statistical Office.

located at the edges of settlements and often contrast sharply with the older parts of the village core. While suburbanization has lifted the social status of the population in the metropolitan periphery, it has contributed to a decline in social status for the population residing in the socialist housing estates. These trends have led to a reversal of the traditional sociospatial pattern of the socialist city, in which socioeconomic status decreases with distance from the center (Sýkora, 2007a).

Nonresidential Growth and Suburban Jobs

In 2001 Prague's metropolitan region concentrated 17.1 percent of the country's jobs, while it only represented 13.2 percent of the country's population. From the total of 819,095 jobs in the city region, 91.1 percent were located in the city of Prague, reflecting a high level of centrality of the Czech capital. However, between 1991 and 2001 Prague's suburban belt experienced the highest job growth in the country, namely a growth of 21.5 percent, compared with a modest growth of 3.6 percent in the city of Prague and a decline of 9.3 percent in the

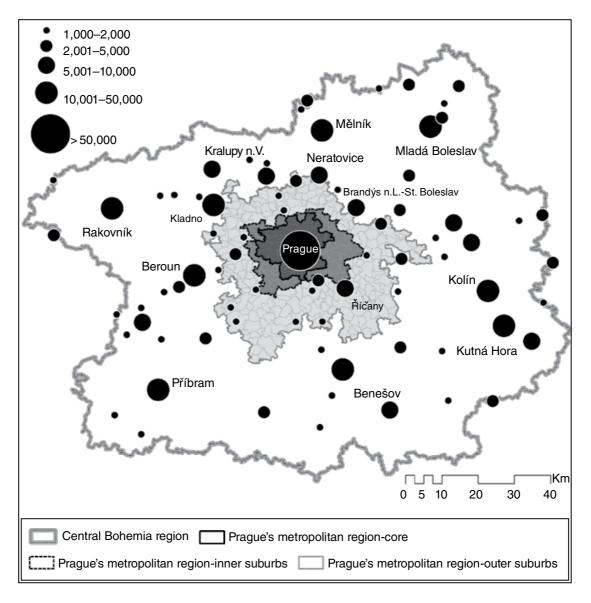


Figure 5.6 Number of jobs in towns and cities in Prague and Central Bohemia in 2001. Based on data from the Czech Statistical Office.

whole of the Czech Republic. By comparison with this concentration of employment in Prague's city region, in 2001 the Central Bohemia region, which surrounds it, had a population of 941,160 residents and only 411,714 jobs – that is, nearly half of the residents-to-jobs ratio of the capital region. The Central Bohemia region contains an archipelago of smaller job centers, nine of which offer 10,000 to 50,000 jobs while another nine clusters feature 5,000 to 10,000 jobs (Figure 5.6). These job centers have formed their own local labor markets, which are to some extent autonomous and independent of Prague (Sýkora and Mulíček, 2009); yet the dominance of Prague's job market is reflected in the number of commuters from these towns and their regions who travel the longer distance to Prague.

The strong centrality of Prague within the city region – a characteristic it inherited from the communist period – has been challenged by the growth of jobs since the mid-1990s in an increasing number of suburban retail and warehousing clusters. The period at the beginning of the new millennium was marked by a rapid growth in nonresidential developments, which was fueled by the demand of international firms that expanded on the Czech markets. At that time it seemed that nonresidential suburban growth was more dynamic than the expansion of the residential sector. However, by the middle of the first decade of the new millenium residential suburbanization reached massive proportions, prompting a 44 percent growth in the suburban population between 2001 and 2011.

A specific characteristic of nonresidential suburbanization in Prague's city region is that the processes of deconcentration have been limited to the retail and warehousing sectors. Office developments have been confined to Prague's urban core since the early 1990s (Sýkora, 2007b), and no new industrial zones have emerged in Prague's hinterland. This phenomenon highlights a major difference between the growth of Prague, which is driven by its role as a national command and control center, and the growth of medium- and small-size towns across the Czech Republic, which is driven by reindustrialization. The development of new suburban shopping, leisure, and logistics centers has been concentrated on greenfield sites along major highways and important transport intersections. Another important locational factor in Prague has been the underground transport system, which extends to the outskirts of the capital, thus providing greater accessibility to a number of areas at its urban edge.

The most important shopping centers located at the edge of the capital city and further out in the suburbs are Zličín (west), Ruzyně (nortwest), Letňany (north), Černý Most (northeast), Štěrboholy (east) and Průhonice/Čestlice (southeast) (Figure 5.7; see also Pommois, 2004; Garb, 2007; Spilková and Perlín, 2010). All but one of these centers are located just at the edge of the compact built-up area and are served directly by underground lines or by bus lines linked to underground stations. Only the Průhonice/Čestlice area is located outside the city of Prague, being situated at the beginning of a major ribbon development that contains warehousing, distribution, and logistic parks along the major national highway D1, which links Prague with Brno.

The deconcentration of retail has been fuelled primarily by the expansion of international firms on the Czech markets. The availability of many greenfield sites for development at the edges of Prague and in its suburbs allowed retailers to establish quickly their presence in the region. In addition, the development of edge-of-city shopping schemes

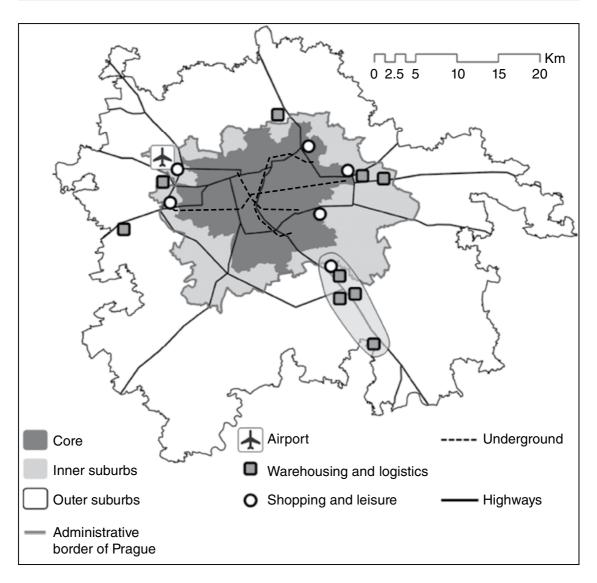


Figure 5.7 Nonresidential suburbanization in the Prague city region. Source: the authors.

was supported by the city of Prague. Three locations (Černý Most, Zličín, Letňany) out of five were designated in the city's strategic and master plans for development as regional commercial centers. The fourth location, initially planed in the southeast of Prague, was abandoned as controversial and alternative retail areas have been developed in Čestlice/Průhonice (out of Prague) and in Chodov (in the inner city). The location of new retail areas at the edge of the existing compact city – that is, in a zone of contact between the population of the urban core and the expanding population of the new suburbs – strategically enlarges the catchment areas of these retail hubs. Since the completion of these retail centers in the periphery of Prague, new shopping malls have been developed in several inner and central-city locations (Spilková and Perlín, 2010).

Prague has benefited from its positional advantages as a regional center situated in the middle of Bohemia. This geographic location combines the benefits of a central place from which the country markets can be reached with the capital's designation as a seat of major command and control functions. The availability of land in accessible locations around the Czech capital and the relaxed development procedures in municipalities outside of Prague have led to the proliferation of new warehousing and distribution facilities along all major highways radiating from the city. Major logistic clusters are now found along the D1 highway to Brno and Southeast Europe (southeast), along the D5 highway to Pilsen and Bavaria (west), along the D11 to Hradec Králové and Pardubice (east), along the R10 to Mladá Bosleslav and Liberec (northeast), and along the D8 to Ústí na Labem and Dresden (north) (Figure 5.7).

Metropolis and Localities: Urban and Regional Planning in the Prague City Region

The political landscape of metropolitan Prague is extremely fragmented. The capital city, which is both a city and a region, is subdivided administratively into 57 boroughs that are subordinated to the city government. Prague is surrounded by the Central Bohemian region, which is comprised of hundreds of administratively independent municipalities, each with its own power to regulate land development. The functional area of Prague's city region is divided between two regional and over 200 local governments that do not share the same priorities and whose interests are often contradictory.

A common strategy for Prague and its surrounding region is currently missing. The last plan covering both Prague and the Central Bohemian region was adopted back in 1976. A new land use plan for Prague's region, which was under preparation in the 1990s, exists only as an unofficial draft version (Maier, 2003; Sýkora, 2006). This plan specified the development of main transport and infrastructure corridors and proposed to direct development toward selected areas with good transport infrastructure, toward areas adjacent to the compactly built-up zone of the capital city, and toward larger settlements in the suburban zone that had sufficient social infrastructure such as education, health, and cultural facilities. Initially the elaboration of the plan was under the supervision of the Ministry of Regional Development, but with the establishment of regional governments in 2000 the responsibility for metropolitan planning was transferred to regional authorities. The preparation and adoption of the plan depends now on the willingness of the regional governments of Prague and Central Bohemia to negotiate mutual agreements.

Urban development in the city of Prague is regulated by two city-wide planning documents. The Strategic Plan, adopted in 2000 and updated in 2008, specifies the long-term priorities of socioeconomic development for the city, while the Land Use Plan adopted in 1999 is a policy document that details the allocation of functions and regulates the development process within the city's territory. The main principles of Prague's spatial development expressed in both plans include:

- maintaining a compact city structure through controlled city growth at the edges of the urbanized area;
- establishing a polycentric spatial structure through deconcentration
 of functions from the city center to secondary centers in the inner
 city and to regional commercial centers in the outer city;
- promoting the development of medium-rise multi-family housing within the compact city and low-rise single-family housing in outer city locations adjacent to the compact city and to existing settlements in the outer zone;
- concentrating new development (a) in areas with good accessibility by public transport; (b) in areas where the extension of the underground system is either planned or currently under way; and (c) in areas where the construction of an inner-city ring road and an outer city express road are being carried out.

A new land use plan for the city of Prague has been under preparation since 2007 and its draft version was approved in 2009. The new plan has been conceived in accordance with the principles of sustainable development, with an emphasis placed on the redevelopment and revitalization of dilapidated areas; the prioritization of development within the compact city; strict regulation of the spatial expansion of Prague into open territory; and the establishment of a green belt around the capital. In 2009 the city government also approved a general planning document called Principles of Territorial Development of the City of Prague. The document places priorities on promoting brownfield redevelopment rather than development of greenfield sites; applying measures for the mitigation of the negative impacts of suburbanization; and developing a mass public transit system in relation to neighboring areas in Central Bohemia. However, the efforts to finalize the new land use plan ceased in 2011, after a change in city government. The new administration blocked the adoption of the earlier draft plan and in 2012 established a wide consultation body to guide the development of a new version of the plan, which should be based on a much simpler zoning code.

The development of the land use plan for the Prague region continued after 2000 under the auspices of the regional government of the Central Bohemian region. The plan, however, covered only the territory of Central Bohemia, taking the approved master plan of the city of Prague from 1999 as a given. This regional plan, prepared by the Central Bohemian government, was approved in 2006. The plan is binding only in the areas of transport and technical infrastructure and protection of the natural environment. It is not indented to impact directly the management of urbanization patterns, which remain under the control of local land use plans developed by each of the numerous municipalities in the region.

While the city of Prague made efforts to keep development within its boundaries compact, urban sprawl started to reshape the landscapes of the Central Bohemian region that lay outside of the jurisdiction of the capital city. The uncontrolled growth of the metropolitan periphery generated tangible negative effects on the functioning of Prague, especially in terms of increased congestion, stress on city services added by users residing in the surrounding region, outmigration of higher income residents from the city, and dispersal of investments beyond the city boundary, diminishing the potential for urban regeneration. Anticipating these problems, the original Strategic Plan for Prague from 2000 called for greater cooperation between Prague and the Central Bohemian governments in regulating the patterns of new development. The updated Strategic Plan of the City of Prague (2008) put an even stronger emphasis on encouraging tighter relationships between the two administrations, declaring the coordination of their development strategies to be a key task for the 2009–2015 planning period. The plan recommended forging stronger links between the two governments through the creation of a joint work department or of a permanent working group for planning and implementation of transboundary development.

The symbiotic coexistence of the two regions of Prague and Central Bohemia is also acknowledged in the Central Bohemia Region Development Program from 2006 (updated in 2009). The main objective of the program is to achieve a well-balanced growth, based on strong and mutually beneficial links to the capital city and other regions. The program's SWOT (strengths, weaknesses, opportunities, and threats) analysis identified suburbanization as a threat in terms of degradation of the natural environment, loss of identity and disruption of traditional settlement structures, higher intensity of car traffic, increased social segregation, and the like. At the same time the analysis pointed out that suburbanization has created opportunities in terms of improvements in human resources, job availability, and infrastructure development. Specific attention is devoted in the analysis to the effects of massive suburbanization on the growing need for social services, schools, sports

fields, and other facilities. The program analysis underscores as particularly acute the problem resulting from the rise in the number of children in suburban places with insufficient capacity to meet the growing demand for nurseries and primary schools. The program gives priority to improvements in suburban passenger transport, declaring that a main common goal of the Central Bohemia region and of the city of Prague is to construct an effective and integrated transportation system within a 50-kilometer radius from the center of the capital.

The establishment of strong linkages between the development of Central Bohemia and Prague is a key point of departure in the Regional Operational Program for the NUTS 2 Cohesion Region of Central Bohemia (2007–2013). The strategy distinguishes two territorial parts for intervention: the suburban area of Prague and the remaining areas outside of the suburban zone. The main problems of the suburban area listed in the program are the high levels of traffic congestion and the unsatisfactory technical condition of the existing road infrastructure; the uncontrolled housing development resulting from weak planning regulation; the neglect of infrastructure development in the smaller municipalities (particularly those that experienced a considerable influx of new residents due to suburbanization); and environmental degradation. The program secures financial support for the development of transport infrastructure designed to meet the growing intensity of trips between the capital and its surroundings, yet it is not clear what the effect of these investments will be on addressing the rest of the problems caused by suburbanization in the region.

In an attempt to reform physical planning, a new Planning and Building Act was passed in 2006, which stipulates that each region has to prepare and approve so-called principles of territorial development as a regionwide statutory planning document. These plans have to be prepared in accordance with the national Spatial Development Policy of the Czech Republic (SDP), which sets national priorities for sustainable development and identifies development areas, development axes, and specific areas of environmental protection. The SDP calls for curbing uncontrolled suburbanization by encouraging the "economical utilization of developed areas, the protection of undeveloped areas, and the preservation of public green spaces" (MMR, 2009: 17). However, the Principles of Territorial Development of Central Bohemia Region (2012), while acknowledging the discrepancies between the new spatial development patterns and the existing infrastructure, mainly focus the attention of public administrators on the development of infrastructure facilities identified by the SDP as being of national and regional significance. The requirement of the new Planning and Building Act for intergovernmental coordination

is applied in reality only to major infrastructure projects that cross municipal borders.

One of the few successful examples of metropolitan cooperation is the establishment of Prague's integrated transit (PIT) system, developed by the regional mass transit system agency since 1993. The system now connects public transit in Prague with 299 municipalities in Central Bohemia, using a unified fare and ticketing system. In 2010, in addition to underground, tram, and bus lines in Prague, PIT included 152 bus routes outside the city and an extensive network of 224 railway stops. PIT also provides park and ride facilities at the city outskirts, to stimulate links between suburban car users and the public transit system in Prague. Its success in facilitating mass transit linkages between places of residence and places of employment in Prague's wider city region is a rare example of metropolitan cooperation between the capital city, a large number of municipalities in the surrounding region, and both public and privately owned transportation companies. Unfortunately this success has not spurred a comparable effort to coordinate land use patterns and investments in residential and commercial development on a metropolitan scale.

A good example of this failure of intergovernmental cooperation is the development of single-family housing at the edges of Prague. While the zoning adopted in Prague's master plan of 1999 assigned generous portions of land for single-family development in the outer areas of the city's territory, only a little over 500 ha - which amounted to only a quarter of the allotted land – were appropriated for this type of housing within the city borders between 1989 and 2008. This figure pales by comparison with the 2,600 ha of new single-family housing developed during this period outside of the capital city (Stanilov and Sýkora, 2012). Clearly the suburban municipalities around Prague managed to attract investors' attention away from the capital city by zoning generous portions of land for new residential and nonresidential development. Furthermore, by comparison with the planning procedures adopted by the city of Prague, negotiations between developers and small municipal governments about zoning changes have proven to be much easier and projects are realized more quickly. The developer-friendly climates that characterize suburban municipalities have aligned the interests of landowners (who reap substantial profits from the conversion of their agricultural properties for urban uses) with the interests of developers (who seek higher profits by pursuing opportunities for fast development in areas with cheaper land) and of local authorities (who have followed an economic development agenda at all costs) (Stanilov and Sýkora, 2012). The abundant availability of land designated for development in the suburban municipalities has allowed investors to choose from

numerous possible locations within Prague's city region. The differences between the tighter planning regime that characterizes Prague and the looser rules and procedures adopted by the suburban municipalities fueled the dispersal of development to the suburban belt.

The decentralized and fragmented patterns of the suburbanization of Prague's hinterland have produced some significant negative consequences. They have left the exploding residential suburbs bereft of services such as schools, shops, or cultural facilities. The proliferation of urban sprawl has increased the amount of travel, effectively contributing to greater dependence on private transportation (Garb, 2007; Novák and Sýkora, 2007) and to a steady increase in traffic jams on the major radial roads. The efforts of municipal governments and regional authorities to increase road capacity are likely to support further the processes of suburbanization. The city of Prague is threatened by a loss of firms, employment, and higher-income population. Tax revenues have shifted to suburban municipalities, while the burden of payment for infrastructure and social services remains upon the city. At a first glance, it seems that the winners in this process are the booming municipalities that are blessed with good accessibility and an attractive natural environment. However, many of the new inhabitants have been trapped in small settlements that cannot meet basic daily demands and have poor transport connectivity to places with jobs and services. In the aftermath of this uncontrolled development, several municipalities affected by recent suburbanization recognized that growth requires greater levels of regulation. Newly elected local politicians have started to push for measures designed to halt new residential construction and to provide much needed services. The next logical step would be to arrive at the realization that local efforts are limited in their ability to control metropolitan-wide processes. Suburbanization is a regional process and has to be approached from a regional perspective, by uniting local, regional, and national governments in a joint effort that would distribute benefits more equally and would mitigate the negative consequences of uncontrolled growth.

The Challenges of Suburbanization

Since the mid-1990s, the rapid growth of suburbanization has reorganized the spatial structure of Prague's city region. The suburban zone has increased its weight in the balance of functions within the capital metropolis. While the process has not reached the levels of suburbanization common for cities in North America and Western Europe, the accelerated pace at which suburbanization around Prague has taken

place during the last twenty years is a cause for growing concern. It should be acknowledged, however, that suburban growth and decentralization within the metropolitan area of Prague have been taking place in parallel with another important process: the concentration – on a wider, national scale – of resources, population, and investments in the region of the Czech capital, which has remained the primary growth pole in the country throughout the postsocialist years. Beside the explosion of suburbs around Prague, this channeling of resources has also been reflected in the growing population and housing construction of the metropolitan core. The process of concentration has been especially noticeable in the development of the sector of advanced services, both in terms of jobs and in terms of facilities; this phenomenon has produced the emergence of new office parks, shopping centers, and leisure areas. But, while the majority of these new commercial developments have been relatively contained within, or in the proximity of, the boundaries of the compactly built-up Prague, this has not been the case with single-family residential development.

Rapidly developing suburbanization creates conditions that will influence the life of society for several generations. Therefore the patterns of urbanization in metropolitan areas should be the target of urban policies and planning. Indeed planning has played an important part in setting the patterns of growth in Prague's city region. Here a specific regime of development has been established in postcommunist years – one that has combined neoliberal preferences for free market economic relations with political paternalism on the part of the local government. Under this regime short-term preferences overweigh strategic considerations. Issues of social justice, environmental sustainability, and balanced spatial development have been subordinated to economic growth. The anticipation of possible problems in the future, which should be at the core of effective and sound urban planning, has played a rather marginal role.

The process of suburbanization has been aided by the specific characteristics of the governance system established in the Czech Republic. It is characterized by the strong devolution of control over land use planning to a highly fragmented system of local governments, composed of thousands of independent municipalities. All matters of land development – housing, shopping, entertainment, warehousing or industrial use – are seen primarily as a responsibility of the local authorities, the state and regional governments coordinating only the planning and implementation of major infrastructure projects. Not surprisingly, the lack of coordination of territorial development at the regional level under such a highly fragmented government system has produced equally fragmented development patterns, commonly

recognized as urban sprawl. Despite the recent recognition, in regional planning documents, of the negative impacts of this kind of development, no measures to coordinate urbanization at the regional level have been adopted to this date.

So far, the consequences of continuous sprawl in Prague's city region have elicited only two types of policy responses. First, it has been recognized that sprawl demands an increase in the capacity of existing transport infrastructure. The development of road networks and mass transit systems has become a key priority for the governments of both Prague's and Central Bohemia's regions. Second, some suburban municipalities that have allowed rapid growth to put an enormous strain on their inadequate municipal infrastructure are revising their land use plans, in an attempt to slow down growth in the future. This approach is particularly relevant, because the suburban area of the capital city is the region of the country least affected by the current economic crisis. Recent signs of better economic performance and a noticeable increase in housing prices indicate that the region is climbing back on the growth trajectory.

While increasing the capacity of the transport system and curbing growth could alleviate some of the pressures of suburbanization, the lack of cooperation between local governments remains the biggest obstacle to achieving a spatially balanced and sustainable development within Prague's city region. And, although the management of growth within the city of Prague can be perceived as successful, this success alone cannot address issues related to the lack of coordination between Prague and the municipalities in its hinterland. Unfortunately, it appears that Prague and Central Bohemia continue to act as competitors, forgetting that they share a geographic space integrated into one functional unit via the regional economy and its labor and housing markets. Until the urban and suburban areas of Prague are regarded as two separate and independent areas, there is little chance that the region could meet the challenges it faces today and those it will confront in the future.

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