

Suburbs around the Czech provincial city of České Budějovice – territorial arrangement and problems

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Abstract

The article is a contribution to discussions about the territorial arrangement of suburbs, their types and other settlements in suburban zones around post-socialist CEE provincial cities, based on the example of the South Bohemian “one-hundred-thousand” city of České Budějovice, including territorial development problems of suburbs and other settlements. Suburbs, separated from the city by free space, originate there from the original villages. These suburbs are population-growing settlements with the majority of flats in newer houses, immigrants from the city and economically active people working in the city (based on census data and ongoing registrations). Nearby, moderately distant and more distant suburbs occur in three concentric suburban sub-zones around the examined city, in which the population and spatial size of the suburbs gradually diminish. Semi-suburbs with partial suburbanisation and small towns also occur there. The territorial development problems of some suburbs are mainly associated with the disordered (sub)urban sprawl, the inadequate architecture of new houses, the poor quality and capacity of the technical infrastructure, the lack of public transport connections to the city, the absence and low capacity of kindergartens and elementary schools, clashes with recreational second homes, the lack of greenery and the losses of agricultural land.

Keywords: suburbanisation, suburbs, small towns, suburb zone, post-socialist city, Czechia

Introduction

While strong residential suburbanisation in Northwest Europe occurred after World War II, this was not the case in the socialist part of Europe (MUSIL, J. and RYŠAVÝ, Z. 1983; SZELÉNYI, I. 1983; BERTAUD, A. and RENAUD, B.M. 1997 and others). The construction of prefabricated housing estates on the edges of socialist cities, especially for people coming from rural areas, cannot be considered as suburbanisation. It was the territorial and population growth of these cities in urbanization. The expansion of the second home recreational cabins and cottages to the hinterlands of Czech and other CEE socialist cities is sometimes referred to as “second home” or “seasonal suburbanisation” (OUŘEDNÍČEK, M. 2007; VÁGNER, J. *et al.* 2011; МАХРОВА, А.Г. *et al.* 2016). Real

residential suburbanisation did not have favourable conditions in the period of socialism in this region. People did not have enough money to build a new family house, there were no developers and construction companies focused on this type of individual construction, there was a lack of building material and the level of car was low (KUBEŠ, J. 2015a and others). The only scholars who confirmed the weak socialist residential suburbanisation around larger CEE cities were TAMMARU, T. (2001) around Tallinn, BRADE, I. *et al.* (2009) near Budapest or MANTEY, D. and SUDRA, P. (2018) around Warsaw.

Since the second half of the 1990s, the situation has changed – suburbanisation became the most significant process transforming settlement system in post-socialist CEE countries (BORÉN, T. and GENTILE, M. 2007,

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and others). SÝKORA, L. and STANILOV, K. (2014) described this process of the massive construction of suburban family houses in the hinterlands of the larger post-socialist Central European and Baltic cities after 2000 as a “post-socialist suburban revolution”. Commercial suburbanisation began in the mid-1990s (NUSSL, N. and RINK, D. 2005 – Leipzig; SÝKORA, L. and OUŘEDNÍČEK, M. 2007 – Prague and Brno). The process of residential suburbanisation started shortly afterwards in the hinterland of Budapest and big East German cities (see KOK, H. and KOVÁCS, Z. 1999, or BROWN, D.L. and SCHAFFT, K.A. 2002). In the Eastern part of Germany, this was accompanied by a marked fall in the population of cities (also due to migration to the western part of Germany; BONTJE, M. 2005; NUSSL, N. and RINK, D. 2005). Only since 1997 has residential suburbanisation begun to appear in the hinterlands of other Central European post-socialist big cities and at the time of the turn of the millennium around CEE provincial cities (HARDI, T. 2002 – Hungarian Győr; MATLOVIČ, R. and SEDLÁKOVÁ, A. 2007 – Slovakian Prešov; HALÁS, M. *et al.* 2012 – Moravian Olomouc; SZCZEPAŃSKA, A. and SENETRA, A. 2012 – Polish Olsztyn; NOVOTNÝ, L. 2012 – Slovakian Košice). After the strong development of the first decade of the new millennium, residential suburbanisation has weakened somewhat in this region due to the previous strong development, the ongoing economic crisis and the ending population shrinking of cities (HAASE, A. and RINK, D. 2015; KUBEŠ, J. 2015a).

The above and further studies on CEE suburbanisation have focused on suburban migration (1), the population growth of suburbs and suburban zones (2), also in comparison with the population development of cities in the background of the processes of urbanisation, suburbanisation and reurbanisation (3), the demographic and social structure of residents in suburbs (4), the daily mobility of these residents (5), the residential satisfaction of immigrants in the suburbs and their coexistence with native inhabitants (6), the development of suburban house construction

(7), commercial suburbanisation (8) and the transformation of land cover in connection with suburbanisation (9). Studies on the territorial arrangement of suburbs and other types of settlements in the suburban zones (10) and the territorial development problems of these types of settlements (11), which are important for this article, are discussed in the third and fourth chapter.

This article is a contribution to discussions about the *delimitation and territorial arrangement of suburbs, their types and other settlements in suburban zones around post-socialist CEE provincial cities* based on the example of the South Bohemian “one-hundred-thousand” city of České Budějovice. Attention is also paid to the *territorial development problems of the suburbs* and other settlements around this city. The article deals with “outer suburbs”, which are separated by open space from the continuously urbanised city area (hereinafter referred to as “suburbs”). The need to clarify the post-socialist CEE suburbanisation, specifically in the hinterland of provincial cities, comes in the first step. The next step is to investigate the territorial arrangement of types of suburbs and other settlements around that city. The reason is also the fact that the territorial development problems of settlements located in the suburban zone (the last step) are related to their type.

Suburbanisation around large and provincial cities in post-socialist CEE

The post-socialist CEE residential suburbanisation is perceived as a process that began in the second half of the 1990s (after a long socialist period with no or little socialist residential suburbanization) in the course of which some inhabitants from the continuously urbanised area of the city (hereinafter referred to as “*the city*”) began to migrate into villages, small cities and other enclaves in the near hinterland of this city. It is especially new suburban family houses that are being built for these mostly younger

middle-income incomers forming families with children. They and other inhabitants of suburbs are connected with the city by daily commuting for work and services. The aforementioned villages and other settlement enclaves are gradually becoming (outer) *suburbs* in this way. Due to the described suburban migration, the population of suburbs is growing and rejuvenating while it is decreasing and aging in the city. Authors from post-socialist CEE define post-socialist CEE residential suburbanisation and suburbs similarly (OUŘEDNÍČEK, M. 2003; TAMMARU, T. *et al.* 2009 and others).

In the hinterlands of large post-socialist CEE cities, suburbs are growing mainly from villages, but also from small towns, pre-war or socialist suburban enclaves and socialist recreational cabin settlements. Only sometimes do new suburbs arise as new settlements on “greenfields”. Particularly in the closest suburban sub-zone of these large cities, the transformation of the landscape is very strong, sometimes chaotic, creating partially interconnected “carpets” and belts of new solitary and row family houses, less often multi-apartment houses and commercial areas (see HIRT, S. 2007 – around Sofia; MANTEY, D. and SUDRA, P. 2018 – Warsaw). Commercial suburbanization is strengthening there after the completion of the motorway network (SÝKORA, L. and OUŘEDNÍČEK, M. 2007).

Around the smaller provincial CEE cities, the post-socialist suburbs gradually grew out of the near lying villages (derived from maps in MATLOVIČ, R. and SEDLÁKOVÁ, A. 2007; CZAKOVÁ, G. 2009; HALÁS, M. *et al.* 2012; NOVOTNÝ, L. 2012; REPASKÁ, G. *et al.* 2017). The emergence of suburbs as new settlements is the exception here (KUBEŠ, J. 2015b). New family houses for migrants from the provincial city are built in smaller groups at the edges of former villages or on open plots inside them (ZĘBIK, G. 2011); less often these are significantly reconstructed village houses. In these suburbs live the original rural inhabitants which work mainly in agriculture, original rural inhabitants who are commuting to work to the city and new incomers

from the city commuting to work to the city. Non-residential suburbanisation is usually weak around provincial cities, because in the fringe parts of these cities, there is enough space for the development of commercial and industrial activities.

Types of suburbs and the spatial extent of suburbanisation in post-socialist CEE

The intensity of suburban migration was a frequent criterion for “*statistical*” *typologies of suburbs in CEE*. Using suburban migration, LEETMAA, K. and TAMMARU, T. (2007) defined nearby and distant suburbs and also satellite small towns in the hinterland of the city of Tallinn in Estonia. TANAŚ, J. (2013) did it similarly around Poznań. On the basis of suburban migration and also construction of suburban homes, ŠPAČKOVÁ, P. *et al.* (2016) identified 4 zones of residential suburbanization in the hinterland of Prague and other Czech towns. Suburban migrations, prices and the numbers of transactions involving building plots near the Polish city of Olsztyn were input data for the typology of suburban municipalities in SZCZEPAŃSKA, A. and SENETRA, A. (2012). A comprehensive approach was chosen by HALÁS, M. *et al.* (2012), when they identified types of suburban municipalities on the basis of suburban migration, commuting to work and the construction of flats in the hinterland of the Moravian city of Olomouc. MARCIŃCZAK, S. (2012) defines suburban belts around Łódź according to commuting to work. Also in TAMMARU, T. (2005), different intensities of commuting to work from suburbs to the city form two suburban sub-zones around Tallinn. VOBECKÁ, J. and PIGUET, V. (2012) took a similar approach to the hinterlands of the cities in the Czech Republic. The typology of suburban municipalities in ŠVEDA, M. *et al.* (2016) is based on extensive statistics on migration, the construction of flats, their prices and the structure of land-use.

Other authors define *morphological typologies of suburbs in CEE*. ZĘBIK, G. (2011) and REPASKÁ, G. *et al.* (2017) developed a typology of suburbs in Poland and Slovakia on the

basis of the space-structural arrangement of new houses in suburbs formed from earlier villages. DINIĆ, M. and MITKOVIĆ, P. (2016) delineated protrusions of new suburban fabric penetrating from the city to the surrounding landscape and suburban-rural satellites. Existing typologies of suburbs use three alternative approaches: statistical, based on available data; morphological, based on a detailed analysis of spatial structures and genetic; each with certain limitations – MANTEY, D. and SUDRA, P. (2018). The authors created a morphological typology of Warsaw's suburbs, when they first determined the spatial scale (block, neighbourhood, settlement, district or municipality) and then evaluated the period of origin, the prevailing type of investment, access to the city by public transport, and finally determined the morphology of suburbs in the form of the spatial interaction of suburban fabric with the city (linear, leap frogging, etc.) the prevailing type of street layout (street grid, cul-de-sac streets, along a main street). The ground plan, height, volume and shape of the building are evaluated as secondary, as well as the connection to the original settlements.

SÝKORA, L. and OUŘEDNÍČEK, M. (2007) delineated two zones of suburban municipalities in the Prague hinterland, the first is located between the continuously urbanised Prague and the administrative boundary of this city, while the second is defined by surrounding municipalities with a greater construction of suburban houses and a higher level of commuting to work to the city. KOK, H. and KOVÁCS, Z. (1999) identified 4 types of municipalities in Budapest's hinterland from the point of view of their representatives' willingness to construct houses in their area for inhabitants from Budapest.

The *spatial extent of post-socialist CEE suburbanisation* mostly depends on the population size of the city. Suburbs can now be found up to 25–30 kilometres from the edge of a city in the case of one-millionth Prague or Warsaw (especially along highways and railroads), 20 kilometres in the case of Czech Brno, Estonian Tallinn or Slovakian Bratislava with

400,000 inhabitants (derived from KÄHRİK, A. and TAMMARU, T. 2008; ŠPAČKOVÁ, P. *et al.* 2016; ŠVEDA, M. *et al.* 2016; WOLNY, A. and ŽRÓBEK, R. 2017) and up to 13 kilometres in the case of the Bohemian provincial one-hundred-thousand city of České Budějovice and similarly sized cities in post-socialist Central Europe (MATLOVIČ, R. and SEDLÁKOVÁ, A. 2007 – Slovakian Prešov; CZAKOVÁ, G. 2009 – Slovakian Nitra; HALÁS, M. *et al.* 2012 – Moravian Olomouc). However, the definition of suburbs in studies is important in this respect.

Western typologies of suburbs reflect several decades of development of suburbanisation. The North American urban scholars have created a number of studies focused on the types of US and Canadian suburbs (see references in BOURNE, L.S. 1996, or MIKELBANK, B.A. 2004). They are coming out of socio-economic, demographic, ethnic, functional, morphological, developmental and positional features of suburbs (BROWN, M.A. 1981; LOGAN, J.R. and GOLDEN, R.M. 1986; ORFIELD, M. 2002; MIKELBANK, B.A. 2004; HANLON, B. 2009; HALL, M. and LEE, B. 2010 and others). Some American and Canadian suburbs are larger than the towns of Central and Eastern Europe. Some suburbs are 50 or more km away from the city (DAVIS, J.S. *et al.* 1994, or MIKELBANK, B.A. 2004). It is a quantitatively, qualitatively and developmentally (historically) different story. In CEE countries, there is not yet experience with the US very far "exurbs" (DAVIS, J.S. *et al.* 1994), very large "super-urbs" (BOURNE, L.S. 1996), "ethnic suburbs" (HANLON, B. 2009) or the suburban "edge cities" (GARREAU, J. 1992) with many job opportunities and services for suburban people.

There are few publications dedicated to the distinction and characteristics of suburbs around Western European cities. BACCAINI, B. (1997) characterizes the demographic types of Parisian suburbs, BONTJE, M. and BURDACK, J. (2005) sought the analogy of American "edge cities" around Paris and in central Holland, MONTAGNÉ VILLETTE, S. and HARDILL, I. (2007) described spatial peripheries, social peripheries or communities with

a cultural identity in the suburban zone of Paris, and MOTTE-BAUMVOL, B. *et al.* (2010) defined variously car-dependent outer Parisian suburbs. Studies on suburbanisation in Great Britain and the diversity of British suburbs, especially in Greater London, are more numerous – VAUGHAN, L. *et al.* (2009) and the literature in this study. The London suburbs have been developing for over 200 years. In recent years, many have been physically and socially transformed.

Study area

The provincial, second- to third-tier, “one-hundred-thousand” city of *České Budějovice* is based on the Vltava River in South Bohemia, 130 km to the south of Prague and 60 km to the north of Linz in Austria. It is the capital of the South Bohemian Region, which had 640,000 inhabitants in 2017. Currently (2017), the city (continuously urbanised area) has 91,978 inhabitants, compared with 98,026 in 1998, when post-socialist suburbanisation began there. The decline is mainly due to emigration to suburbs (suburban migration). The latest data over the past 5 years shows population stabilization. The municipality of the city is slightly larger because it also includes several suburbs and villages near the city.

On the basis of the suburbanisation defined, *the agglomeration of the city of České Budějovice* includes the city, suburbs, semi-suburbs and small towns in suburbanised hinterland, including two villages inside it. Based on the analyses done in this article, at present (2017), about 32,500 people live in 53 suburbs and others in semi-suburbs and small towns. Unlike in other Czech cities, there was weak suburbanisation during socialism between 1970 and 1989. Non-residential suburbanisation is weak in the study area. For a long time, the city has been waiting for the construction of a freeway from Prague to Linz, which is currently being built on the eastern edge of the city and which will attract commercial suburbanisation.

Methodology of delimitation, typology and analysis of suburbs around the provincial city of České Budějovice

Delimitation of suburbs

The delimitation and typology of suburbs around the (smaller) provincial city of *České Budějovice* is based on the characteristics of post-socialist CEE suburbanisation and suburbs around provincial cities (Chapter 2), the above-mentioned typologies of suburbs (Chapter 3) and from experience with gradual suburbanisation research around the study city (KUBEŠ, J. 2009, 2015b). The following *criteria for delimitation suburbs* used in the study area can be applied to similar Czech and possibly CEE provincial cities and their hinterlands. The criteria can be divided into positional (a–d), population-social (e–g) and morphological (h).

The suburb is a geographically delineated mostly compact settlement (criterion a), which emerged from the original village (b; exceptions exist) and which is territorially separated from the city and from other settlements (c). The suburb is an administrative part of a municipality (d; exceptions). Commercial areas and buildings may be located in suburbs (old or newer thanks to commercial suburbanization), but territorially separated commercial areas without residents are not considered as suburbs in this study.

The suburb should grow in terms of population (e), mainly due to suburban migration. At least half of the population of the suburb has come from the city (and other towns) to the suburb since 1970 (f). Czech migration data has only been available since 1990 (however, KÁRA, J. and KUČERA, T. 1986 describe the socialist migration from *České Budějovice* to the near suburbs), so it was necessary to set a criterion to 40 per cent +. Suburb residents should be closely connected with the city through commuting for work and services. Most economically active residents in suburbs commute to work to the city (or to the surrounding suburbs; g). It was necessary to set this criterion to 40 per cent + because the

Czech 2011 census was not complete in this regard (ŠPAČKOVÁ, P. *et al.* 2016). Most of the flats (50%+) in a suburb should be relatively new – built since 1970, when family houses of suburban type (unconnected with farming) were built in the village/suburb later (h). This criterion ensures the presence of new non-farm houses in the suburbs. New houses can take the form of individual or row family houses of a suburban type or, rather rarely, smaller multi-apartment houses. They mostly grow up in groups at the edges of the original village/suburb later (KUBEŠ, J. 2015a). Criteria “e” and “f” apply only during the development of suburbanisation.

Typology of suburbs and other settlements

The *concentric-genetic typology of suburbs* in suburban zone of the provincial city of České Budějovice takes into consideration the distance of the suburb from the city (by road) and the related time of origin of the suburb from a village. The location and time of emergence of the suburbs is reflected in other features of the suburbs. The concentric chain of large *nearby suburbs* is located in the first suburban sub-zone of the semi-urban landscape. Weak residential suburbanization began here in the 1970s and 1980s under socialism. The concentric chain of post-socialist *moderately remote suburbs* forms the second suburban sub-zone of the semi-rural landscape from the new millennium. *More distant suburbs* appear after 2005 in the rural landscape.

There are also settlements in the suburban zone where suburbanisation is beginning to develop but they still do not meet the criteria “f” (suburban migration) and “h” (new flats) for suburbs. These settlements can be considered as *semi-suburbs* (KUBEŠ, J. 2015b). Criterion “f” is reduced to 25 per cent for them, “h” to 30 per cent, while other criteria remain. *Small towns* with 1,500–5,000 inhabitants and with the majority of indigenous inhabitants have also existed for a long time. These small towns around a provincial city are not suburbs because only a few migrants from the city come

to them. A suburban-defined *agglomeration of the provincial city* will be delineated through the city, suburbs and semi-suburbs, including small towns and residual villages lying within the agglomeration.

Initial data for the delimitation and typology of suburbs and other settlements around the study city was taken from Czech censuses (1970, 1980, 1991, 2001 and 2011) – the number of inhabitants, the age of flats and the number of commuters to work from Czech continuous registration – the number of inhabitants (2017), new flats (2011–2017) and migrants (1990 – 2017). Commuting and migration data for municipalities are recalculated to data for individual settlements. Analyses of suburbanisation using municipalities are not appropriate because the municipality of a city includes not only a city but also several of the nearest suburban municipalities are often made-up of different settlement types – of suburbs, semi-suburbs or villages.

Analysis of territorial development problems of suburbs and other settlements

The authors of many studies mention territorial development problems caused by strong post-socialist CEE suburbanisation, but only some of them deal with these problems primarily. HAASE, D. and NUISSL, H. (2007) evaluated Leipzig’s suburbanisation in terms of its impact on the water environment in the suburban landscape (reduced water retention, increased flood hazard, water quality degradation). PETROVA, S. *et al.* (2013) discuss issues of low carbon satellite settlements in Czechia and KROLL, F. *et al.* (2012) assessed the supply and demand of different ecosystem services in the suburban zone of Leipzig. A number of articles specify agricultural land losses due to suburban construction (SPILKOVÁ, J. and ŠEFRNA, L. 2010; GRIGORESCU, I. *et al.* 2012; STANILOV, K. and SÝKORA, L. 2012; ROOSE, A. *et al.* 2013). HIRT, S. (2007) draws attention to the blurring of Sofia’s urban edge due to poorly regulated suburbanisation and

to the architectural problems within Sofia's suburbs. MANTEY, D. and SUDRA, P. (2018) emphasize the need to create public spaces in new suburban areas in Warsaw's suburbs. The intrusion of residential suburbanisation into recreational cabin settlements is a current spatial planning problem (VÁGNER, J. *et al.* 2011; LEETMAA, K. *et al.* 2012, OF NUGA, M. *et al.* 2015). OTT, T. (2001) points to the monotony of construction forms and styles of new constructions around the East German provincial city of Erfurt. According to PALANG, H. and PEIL, T. (2010), SPILKOVÁ, J. and PERLÍN, R. (2010), HALLEUX, J.M. *et al.* (2012), KLADIVO, P. *et al.* (2015) or MANTEY, D. and SUDRA, P. (2018), post-socialist spatial planners and building officials should regulate the construction of houses in individual suburbs on the basis of the spatial plan of the entire agglomeration and adhere to the regulations of construction contained in the spatial plans of individual suburban municipalities.

The simple assessment of *territorial development problems of individual suburbs*, other settlements and their types in the study area is carried out on the basis of field surveys, aerial photographs, municipal spatial plans and interviews with local experts. Specifically, settlements with disordered (sub)urban sprawl in the form of poorly organized built-up areas, streets and roads (U), the inappropriate and monotonous architecture of new (suburban) houses and their inconsistency with original houses (A), the insufficient quality and capacity of technical infrastructure in connection with a new (suburban) development (T), previously created recreational cabin areas and with the negative impacts of suburban development on them (R), a lack of woody greenery inside new (sub)urban areas (G), few connections of public transport into the city (P), the absence or small capacity of kindergartens and schools in connection with the increase in the number of children due to suburbanisation (S) and with a large devouring of quality agricultural land in connection with suburban construction (L) will be searched for. Based on the occurrence of these territorial development problems, further suburban develop-

ment in the form of the construction of new houses in individual settlements (and their types) is proposed in a moderate (++) , small (+) or near zero (–) range.

Delimitation and types of suburbs around the provincial city of České Budějovice

If the *agglomeration of České Budějovice* is defined as the sum of the city, its suburbs, semi-suburbs and also small towns between them (+ two villages inside) (*Figure 1*) then it currently (2017) has about 147,400 inhabitants (*Table 1*). Most inhabitants still live in the city (92,000 – 62.4%), less in growing suburbs (32,500 – 22.0%), stabilized small towns (18,300 – 12.4%) and the least in semi-suburbs (4,500 – 3.0%). Due to the gradual transformation of villages and semi-suburbs to suburbs, the number of suburbs rose from about 13 (1989), to 41 (2008) (KUBEŠ, J. 2009) and to 53 (2017). Since 1970, the population of contemporary suburbs has doubled (*Table 1*) and their area has increased by 75 per cent (*Table. 2*). There is a relatively mixed set of suburbs and other settlements with regard to the timing of suburban migration, home construction, population growth, with regard to distance from the city, current size by population and area and with regard to territorial development problems in them.

The most important suburbs are the *nearby suburbs* forming a concentric chain in the first suburban sub-zone of the semi-urban landscape, both in numbers (22 suburbs) and in population (64.2% of population in suburbs). Suburban construction in them and their population growth began in about the 1970s within weaker socialist residential suburbanisation. Over 68 per cent of newer flats (built after 1970) in these suburbs and their population have more than doubled since 1970. Seven of them exceeded 1,000 inhabitants. In the study area, they lie within 4 kilometres of the edge of the city. The concentric chain of post-socialist *moderately distant suburbs* (21 suburbs) and their surroundings forms the second suburban sub-zone with a “semi-

Table 1. Values of selected criteria for suburbs, their types and other settlements in the agglomeration of city of České Budějovice, 2017

Type of settlements	Number of settlements	Share of			Population growth ⁴		Population
		flats in newer houses ¹	immigrants from the city ²	commuters to work to the city ³	1970 = 100	1990 = 100	
The city	1	59.75	–	–	1.21	0.96	91,978
Suburbs	53	67.15	57.30	58.92	2.00	1.65	32,500
Nearby suburbs	22	68.25	59.93	55.83	2.21	1.68	20,896
Moderately distant suburbs	21	66.22	54.88	58.39	1.85	1.72	8,238
More distant suburbs	10	63.79	48.31	71.40	1.45	1.41	3,366
Semi-suburbs	23	48.28	55.79	59.81	1.23	1.37	4,470
Small towns	7	50.28	33.29	42.90	1.34	1.13	18,317
Villages	3	32.69	46.71	59.25	0.77	0.86	167
Suburban zone of the city ⁵	86	62.43	54.27	54.71	1.69	1.45	55,454
Agglomeration of the city ⁶	87	60.74	–	–	1.36	1.09	147,432
Compared villages ⁷	9	32.08	31.15	45.02	0.56	0.87	559

Notes: ¹The share of flats in newer houses constructed in 1970–2017 out of all flats in 2017; ²The share of immigrants from the city (and from other cities, towns and suburbs) migrating in 1990–2017 out of all population in 2017; ³The share of commuters to work to the city (and also to other towns) out of all economically active population in 2011; ⁴Index of population growth 1970–2017 and 1991–2017; ⁵This includes suburbs, semi-suburbs, small towns, and two small villages; ⁶This includes also the city; ⁷These villages lying behind the agglomeration were monitored for comparison. Sources: Censuses and continuous registrations of inhabitants in the Czech Republic.

Table 2. Other characteristics and territorial development problems of types of suburbs and other settlements in the agglomeration of city of České Budějovice, 2017

Type of settlements	distance from the city ¹ , km	Average				distance of nearby settlement ² , km	Territorial development problems of suburbs ⁴	Further construction of new houses ⁵
		number of population		settlement area in hectares				
		2017	1970	2017	1970 ²			
Nearby suburbs	1.9	1,006	454	36	18	1.3	U, A, R, G, S, L	–
Moderately distant suburbs	5.0	392	209	16	10	2.1	A, T, R, G, P, S, L	++
More distant suburbs	10.5	424	288	15	11	2.6	A, T, R, P, S, L	++
Semi-suburbs	7.5	179	145	7	5	2.4	A, T, R, P	++
Small towns	7.7	2,957	2,183	93	82	2.4	U, G, L	+

Notes: ¹From the edges of the city to the centres of the settlements; ²This includes houses, other buildings, communal spaces and gardens around houses; ³Among the edges of settlements in suburban sub-zone; ⁴Selected territorial development problems of types of settlements (more frequent with bigger letters) – the letters are explained in the text; ⁵The possibility of construction of new houses: in a moderate (++) , small (+) or near zero (–) extent. Source: Own research.

rural landscape” usually up to 8 kilometres away from the city. The population of these suburbs increased primarily after 2000. Their current approximate population size is about 392 inhabitants (whereas for the previous type it was 950). They have retained their village appearance and there are more extensive agricultural areas and ponds in their surroundings, to the east and south even smaller forests. Their development is mostly well-regulated by spatial planning (KUBEŠ, J. 2015a).

The territorially disordered set of post-socialist *more distant suburbs* (10 suburbs) is still small in number. These suburbs are located primarily in the southwest (in the undulating and partly wooded rural landscape) at a distance up to 13 kilometres from the city and attract more affluent and environmentally oriented inhabitants of České Budějovice (according to the interviews done in these suburbs). The mentioned moderately distant and more distant suburbs in the study area can be classified as “suburbs with a rural character” due to their small population size, greater distance from the city, rural image and incidence of rural and natural landscapes around them.

Semi-suburbs (23; mainly in the third subzone) are located at a distance of up to 13 kilometres from the city and they have a predominantly village appearance. They could also be settlements where the construction of new houses is limited (flood risk, a lack of building plots). Inhabitants of semi-suburbs also commute to work primarily into České Budějovice (see *Table 1*). Also semi-suburbs infringe the circular distribution of the agglomeration because they exist mainly on the northwest or southwest of the study area where there are substantial roads leading from the city or valuable landscape (see *Figure 1*). *Small towns* (7) are of a varying size and they are still slowly growing. In the socialist period, small industrial plants were in these small towns. However, they were closed down in the course of the transformation in the 1990s, and thus local inhabitants – when they are not employed in local services – commute to work to the city (see *Table 1*). These towns have a

small-town core with town architecture and facilities of services. New family houses were built on the edges of small towns but for the most part these are for local inhabitants.

Territorial development problems of suburbs around the provincial city of České Budějovice

Especially the large nearby suburbs near the city borders (e.g. Hrdějovice, Dobrá Voda, Včelná or Litvínovice) can be characterized by symptoms of disordered (sub)urban sprawl in the form of poorly organized built-up areas (chaotic urban structure with no centre, with poorly arranged streets, with commerce and industry enclaves, with intensive road traffic; “U” in *Figure 1* and *Table 2*). In the east, nearby suburbs are heavily hit by the ongoing highway construction. Suburbanisation damages the architectural environment of the original villages, the existing suburbs, mainly due to the inappropriate architecture of new suburban family houses compared to the original farmhouses and due to the monotonous and foreign architecture of these new houses (“A” in *Table 2*; see KUBEŠ, J. 2015a). Small towns with small-town architecture and urbanism do not usually have such problems. The technical infrastructure of suburbs (water supply, sewerage, WWTP, electrical station) is sometimes not ready for a substantial increase in the number of houses and inhabitants (“T” in *Table 2*). However, it does not usually apply to nearby suburbs that are connected to the technical infrastructure of the city or have already dealt with these problems earlier. Small towns also do not have technical infrastructure problems. Recreational cabin areas may be adversely affected by expanding suburbs and some recreational cabins are inappropriately converted into permanently occupied houses (“R” in *Figure 1* and *Table 2*; similarly, LEETMAA, K. *et al.* 2012 around Tallinn).

The lack of woody greenery in new suburban areas in suburbs is particularly noticeable in nearby suburbs with dense buildings and small plots around houses (“G” in *Table 2*).

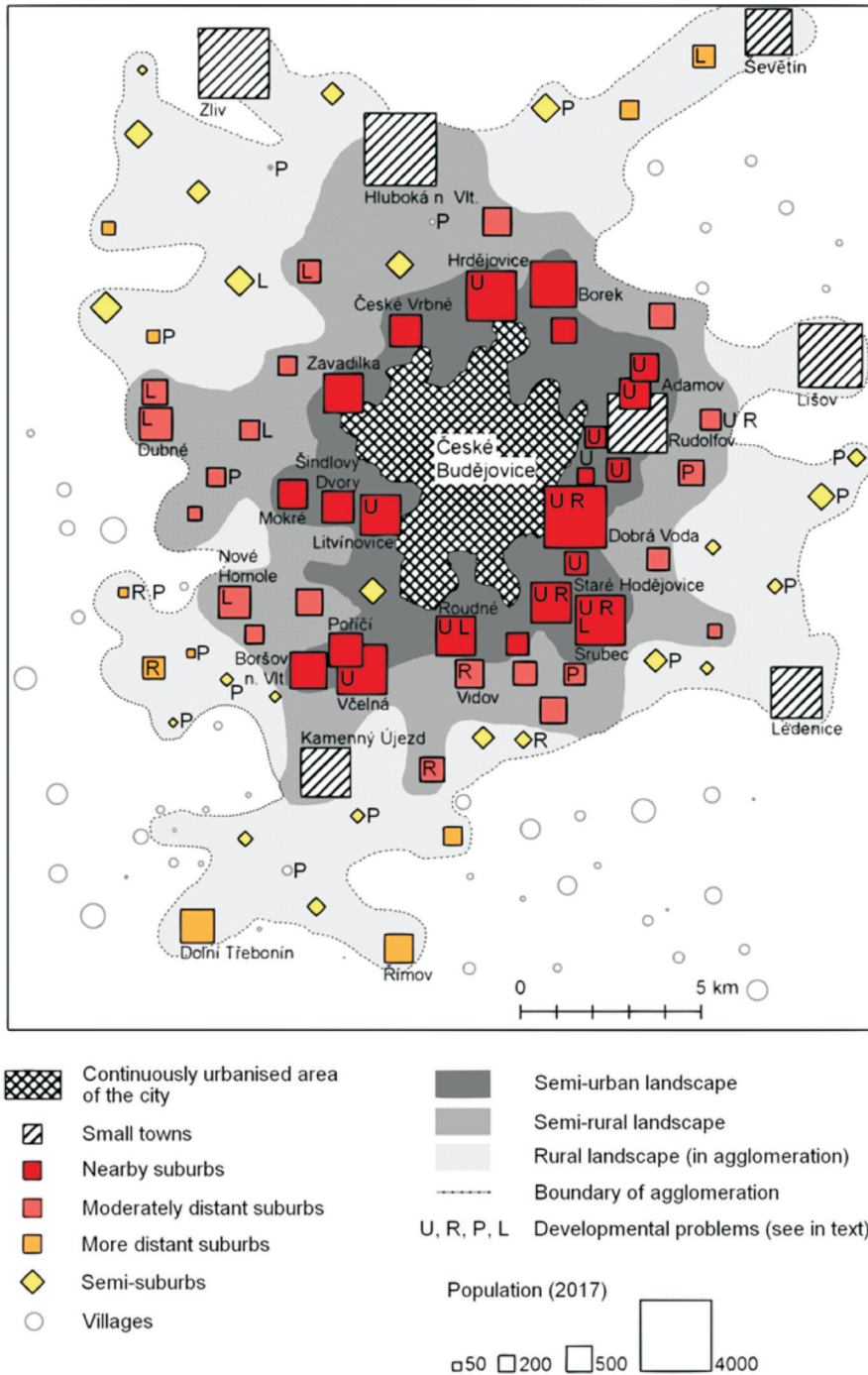


Fig. 1. Suburbs, their types, semi-suburbs, small towns and suburban sub-zones around the city of České Budějovice (2017). Source: Own processing, GIS by Tomíček, F.

Moderately distant and more distant suburbs, as well as semi-suburbs, are mostly surrounded by woody greenery that penetrates to the interior of these settlements. Few public transport connections into the city have suburbs and semi-suburbs if they are located outside the main roads and railways and if city public transport does not reach them ("P" in *Figure 1* and *Table 2*). The nearby suburbs are well connected to the city via city public transport (city trolleybuses and buses). Due to the sharp increase in the number of children in the suburbs after the arrival of young families from the city, the capacity of local kindergartens and elementary schools is often insufficient (similarly KLADIVO, P. *et al.* 2015 in Olomouc's suburbs). Suburbanisation creates irreversible changes to the landscape (SÝKORA, L. and OUŘEDNÍČEK, M. 2007) and often "devours" quality agricultural land ("L" in *Figure 1* and *Table 2*; literature in the methodological chapter). Since 1970, the suburbs and semi-suburbs have absorbed 578 hectares of unbuilt (largely agricultural) land, small towns absorbed 77 hectares (both calculated from the data in *Table 2*) and České Budějovice expanded by 950 hectares.

Suburbanisation should be regulated through spatial planning. The key task is the re-introduction of a spatial plan for the whole agglomeration of the city (see citations in the methodological chapter). This plan should regulate the further construction of houses in suitable settlements and locations in them.

Conclusions

České Budějovice grew in population until the beginning of the post-socialist suburbanisation in 1998; thereafter the population has been decreasing, mainly due to suburban migration. The latest data shows population stabilization in the city: 91,735 in 2011 and 91,978 in 2017. The suburban zone of this city has a more or less concentric character with protrusions along the major roads to the northwest, northeast and east and into the aesthetically and naturally valuable landscape of the Šumava foothills in the southwest (see *Figure 1*).

The number of suburbs around the city increased from 13 (1989) to 53 (2017), gradually according to individual suburban sub-zones. The population of former villages and today's suburbs has doubled since 1970 (from 2008 slower growth). Suburbs are territorially separated and relatively compact settlements originating from the villages.

Different types of suburbs and other settlements in individual suburban sub-zones can be distinguished. The first concentric suburban sub-zone is characterised as a semi-urban landscape with a chain of larger nearby suburbs. Some of these suburbs have signs of disordered (sub)urban sprawl, a lack of greenery and they are loaded with intense road traffic. Nearby suburbs should no longer continue to expand. Smaller moderately distant suburbs are distributed in a chain in the semi-rural landscape (the second concentric suburban sub-zone). They can be further developed if they do not "eat" quality agricultural land and nature in the surrounding area and have good connections to the city and the availability of schools and other services. Stabilized small towns may help alleviate the harmful monocentric settlement system in the agglomeration of the city in some ways. More distant suburbs and semi-suburbs in the third suburban sub-zone have similar territorial development problems as moderately distant suburbs. The third sub-zone does not have a sharply defined outer boundary, and it forms protrusions up to a distance of 13 kilometres from the edge of the city.

Nearby, moderately distant and more distant suburbs and semi-suburbs in the suburban zone and also villages lying at greater distances are settlement elements on the urban-rural continuum in the hinterland of the provincial city of České Budějovice. This continuum is "disturbed" by small towns, only a few of which are affected by suburbanisation. A similar territorial arrangement of suburbs created by "suburban leapfrog-to-villages development" can be found around other similar Czech provincial cities, such as Hradec Králové, Pardubice or Olomouc (based on local literature, field surveys and

aerial photographs). Suburbs in the suburban zone of one-millionth Prague are more diverse in terms of the types examined in this article. In addition to the suburbs emerging from the villages, there are also large suburbs in the form of suburban small towns created by strong post-socialist suburbanisation from original settlements (small towns or villages), pre-war, socialist and post-socialist suburban enclaves outside original settlements (especially near the city) and suburban enclaves formed from recreational cabin settlements (VÁGNER, J. *et al.* 2011 and others). Prague's suburban zone reaches up to 30 km from Prague (ŠPAČKOVÁ, P. *et al.* 2016).

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