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The Impact of Suburbanisation on the Location and Range of Services and Amenities in the Hinterland of a Post-Industrial City: Evidence from the Plzeň Agglomeration

Abstract: This paper analyses how suburbanisation affects the location, structure and perceived sufficiency of services and civic amenities in municipalities located in the hinterland of the post-industrial city of Plzeň, Czechia. The paper focuses on the economic-spatial dimension of suburbanisation, especially on the relationship between residential growth, commercial suburbanisation, municipal service provision and the relocation of selected urban functions into suburban space. The suburban region was delimited using an aggregation method based on daily commuting flows and divided into two hinterland zones according to distance from the urban core. The empirical analysis combines data on civic amenities in 41 suburban municipalities with a questionnaire survey and semi-structured interviews conducted with mayors and deputy mayors. A case study of Chotíkov illustrates the interaction between residential development, large-scale retail, technical infrastructure and conflicts related to the relocation of environmentally burdensome urban functions. The findings show that municipalities closer to Plzeň face stronger population pressure and more visible demand for educational, health and everyday services, while some specialised services remain concentrated in the urban core or in larger suburban settlements. The paper contributes to research on post-socialist suburbanisation by demonstrating how service provision and economic functions are spatially differentiated within a post-industrial agglomeration.

Keywords: civic amenities; commercial suburbanisation; local conflicts; services; spatial differentiation; suburbanisation; post-socialist cities

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INTRODUCTION

Post-socialist urban regions in Central and Eastern Europe have undergone profound economic, social and spatial restructuring since the early 1990s. These changes are associated

with market liberalisation, deindustrialisation, the transformation of housing markets, the growth of private mobility and the changing role of local governments (Parysek, 2005; Sýkora, Bouzarovski, 2012; Stanilov, Sýkora, 2014). In this context, suburbanisation has become an important but spatially differentiated phase of urban development rather than a universal process occurring with the same intensity everywhere.

The economic dimension of suburbanisation is particularly relevant for post-industrial cities. While population growth in suburban municipalities is often visible through residential construction, it is also closely linked to the relocation, concentration or transformation of services, retail, logistics, manufacturing and technical infrastructure. In Central and Eastern Europe, city centres are not always the most densely populated areas, although they often concentrate high-value functions, specialised services and administrative institutions. At the same time, peripheral land availability, transport accessibility and lower development costs encourage selected economic activities to move beyond city boundaries (Ptáček et al., 2013; Brezdeň, Szmytkie, 2019; Sikorski, Brezdeň, 2021).

The main aim of this paper is to analyse how suburbanisation affects the spatial distribution, structure and perceived sufficiency of civic amenities and selected economic functions in the hinterland of the post-industrial city of Plzeň. Particular attention is paid to whether distance from the urban core differentiates the availability of services and amenities, and how residential and commercial suburbanisation interact in shaping municipal development. The paper addresses four research questions: (1) how are services and civic amenities distributed between the inner and outer suburban hinterland; (2) which types of amenities are perceived as insufficient by municipal representatives; (3) how does proximity to the core city influence the economic and service function of suburban municipalities; and (4) how can a local case study illustrate conflicts resulting from the relocation of urban functions to suburban space?

The article is structured as follows. The following section discusses post-socialist and post-industrial suburbanisation with an emphasis on commercial suburbanisation, service provision and municipal capacity. The following sections introduce the Plzeň agglomeration, explain the methodology, present the empirical findings and discuss the Chotíkov case study. The conclusion summarises the main results and provides recommendations for spatial planning and municipal governance.

SUBURBANISATION, SERVICES AND ECONOMIC FUNCTIONS IN POST-INDUSTRIAL URBAN REGIONS

Suburbanisation can be understood as the transfer of urban population, activities and land-use forms into the hinterland of a city (Foley, Scott, 2014; Ouředníček, 2008). In post-socialist countries, this process was shaped by the legacy of centrally planned settlement structures, delayed market-based residential development, fragmented municipal governance and the rapid transformation of land and property relations after 1989 (Sýkora, 2003; Stanilov, 2007; Tsenkova, Nedović-Budić, 2006). Its intensity differs considerably between metropolitan regions, post-industrial conurbations and medium-sized cities (Nuissl, Rink, 2005; Spórna, 2018; Kovács et al., 2019).

Residential suburbanisation is frequently accompanied by changes in the demand for public and private services. New inhabitants often increase pressure on kindergartens, elementary schools, health care, retail, leisure infrastructure and public transport (Ouředníček, Temelová, 2008; Szmytkie, 2020). However, service development does not

necessarily follow residential growth automatically. In many suburban areas, residents continue to use services in the core city because of commuting patterns, a wider range of specialised services and higher-order retail functions. Therefore, the question is not only whether suburban municipalities possess particular amenities, but also which services can efficiently remain centralised in the urban core and which daily services must be provided locally.

Commercial and non-residential suburbanisation represent a second major dimension of the process. Trade, logistics, production, administration and large-scale services may relocate to suburban zones because of lower land prices, larger plots, motorway accessibility and weaker land-use constraints (Ptáček et al., 2013). Evidence from Wrocław shows that post-socialist suburban zones can become important locations for manufacturing, logistics and specialised industrial activities, with spatial concentration and functional specialisation shaped by accessibility and restructuring of the urban economy (Brezdeň, Szmytkie, 2019; Sikorski, Brezdeň, 2021).

The interaction between residential and commercial suburbanisation may generate both synergies and conflicts. New retail or service facilities can improve local accessibility and municipal revenues, but they can also serve primarily the core city and create traffic, landscape pressure or uneven fiscal effects. Similarly, the relocation of technical or environmentally burdensome infrastructure may solve problems of the central city while transferring costs and risks to smaller municipalities. These conflicts are especially important in fragmented municipal systems, where small municipalities often have limited administrative and financial capacity to negotiate with large cities, investors or regional authorities (Hlaváček et al., 2019; Klusáček et al., 2011).

Here, negative fiscal effects do not mean that retail is inherently financially detrimental to municipalities. They refer to an uneven distribution of fiscal gains and costs: a municipality may receive local revenues or fees from a facility while simultaneously bearing expenditure on roads, public transport, utilities, land-use administration, environmental mitigation and maintenance. Some fiscal gains may also accrue at other levels of government or may be delayed and therefore not correspond to the municipality's immediate infrastructure costs.

Theoretical research on suburbanisation therefore needs to connect housing development with the geography of services, employment and municipal capacity. In this article, civic amenities are treated not only as indicators of quality of life, but also as spatial-economic functions that reveal how suburban municipalities are integrated into the broader post-industrial agglomeration.

STUDY AREA: THE PLZEŇ AGGLOMERATION

Plzeň is the fourth largest city in Czechia and the main economic, administrative, cultural and service centre of the Plzeň Region. The city has a strong industrial tradition, represented historically by engineering, electrical engineering, food industries and Škoda Holdings, a.s. Since the 1990s, Plzeň has also undergone tertiarisation, reflected in the expansion of services, trade, business centres and foreign investment oriented towards modern technologies and skilled labour (Baštová, Toušek, 2005).

The suburbanisation of Plzeň intensified after 2000 and is comparable to processes observed around other medium-sized Czech regional cities (Kopp, Novotná, Matušková, 2013). Residential construction has been most intensive in municipalities close to the

cadastral boundary of Plzeň, while commercial suburbanisation is concentrated especially along the D5 motorway corridor connecting Prague and Plzeň. The city functions as a centre of employment, education, specialised services, culture and administration for surrounding municipalities in the districts of Plzeň-město, Plzeň-sever and Plzeň-jih.

In economic terms, the suburbanisation of the Plzeň agglomeration is therefore connected not only with residential expansion, but also with the changing location of activities linked to retail, services, production, storage and transport accessibility. The D5 motorway corridor and the availability of larger plots in the hinterland strengthen the attractiveness of suburban municipalities for selected economic functions. Although this article does not provide a detailed firm-level analysis of foreign direct investment, manufacturing or logistics, these activities form an important context for interpreting the relationship between residential growth, service demand and commercial suburbanisation.

Czechia also has a highly fragmented municipal structure compared with many other Central and Eastern European countries. Many municipalities are small and have limited financial and administrative capacity. This institutional context is essential for interpreting the results: even when suburban municipalities experience rapid population growth, they may not have sufficient resources to expand schools, health services, public transport or other amenities at the same pace.

This is particularly important in comparison with the more consolidated municipal systems in some other Central and Eastern European countries. In Czechia, many suburban municipalities are administratively independent but functionally dependent on the core city. As a result, the costs of new residential development, school capacity, public transport and technical infrastructure are often borne locally, while the functional causes and consequences of suburbanisation operate at the agglomeration scale.

METHODOLOGY

The research was organised in four steps: (a) delimitation of the Plzeň agglomeration and its suburban hinterland; (b) analysis of the structure and concentration of civic amenities in suburban municipalities; (c) assessment of municipal representatives' views on service sufficiency, development pressure and selected conflicts; and (d) a case study of Chotkov as an example of the interaction between residential, commercial and environmentally burdensome urban functions in suburban space.

The suburban region was delimited using the aggregation method proposed by Novák (2017). The method is based on a matrix of daily commuting flows between municipalities and combines two proportional indicators: the share of daily commuters from a municipality to the agglomeration in the total number of commuters from that municipality, and the share of commuters from the agglomeration in the total number of commuters to the analysed municipality. Municipalities with fewer than ten commuters were included only where their cadastral territory was surrounded by municipalities already assigned to the agglomeration and where they were directly adjacent to the defined area.

The resulting suburban hinterland consisted of 41 municipalities. For analytical purposes, the municipalities were divided into two zones according to distance from Plzeň: Hinterland A, consisting of municipalities up to 12 km from the centre, and Hinterland B, consisting of more distant municipalities within the functional suburban region. This

division makes it possible to analyse whether proximity to the core city is associated with different levels of service provision, commercial functions and perceived municipal pressure.

Civic amenities were mapped according to categories used in Czech spatial planning and quality-of-life research (Rozmanová, 2012; Maštálka, Robová, 2016). The analysed amenities included retail, cultural facilities, health care, social welfare, education, sport, leisure, transport services and selected administrative services. The empirical survey was carried out among mayors and deputy mayors of all municipalities in the defined region. The questionnaire was accompanied by telephone interviews that clarified respondents' answers and provided contextual information on municipal development, service gaps and conflicts.

The questionnaire and the telephone interviews were treated as two separate methods. The questionnaire was completed by one mayor or deputy mayor in each of the 41 municipalities (41 valid questionnaires). It contained four blocks of questions: (i) whether the amenity categories listed in Table 2 were present in the municipality; (ii) which services and civic amenities were perceived as insufficient; (iii) whether suburbanisation was perceived as a municipal benefit, burden or neutral development; and (iv) the intensity of selected critical factors on a ten-point scale, where 1 represented the lowest and 10 the highest intensity (Table 5).

The questionnaire was completed by the municipal representatives. Subsequently, one separate semi-structured in-depth telephone interview, referred to in this article as a 'Telephone Deep Interview', was conducted with a representative of each municipality, resulting in 41 interviews. The interview guide contained open questions on the reasons for missing or insufficient amenities, changes in demand, the location of commercial and technical functions, effects on municipal budgets and conflicts over land-use decisions. The interviews were used to explain and contextualise the questionnaire responses; they were not interpreted as a representative survey of residents.

A methodological limitation must be explicitly acknowledged. The survey captures an institutional perspective of municipal representatives rather than a representative assessment of all residents' perceptions. This approach is appropriate for analysing municipal capacity, service provision and local governance challenges, because mayors and deputy mayors are directly responsible for local development and public infrastructure. However, conclusions about social perceptions are interpreted only as the views of municipal representatives. Future research should complement this approach with surveys among residents based on a representative sample.

FINDINGS: SPATIAL DIFFERENTIATION OF AMENITIES AND SERVICES

The aggregation method identified 41 municipalities belonging to the suburbanised hinterland of Plzeň. Of these, 22 municipalities are located in Hinterland A and 19 in Hinterland B. Hinterland A has a smaller area but a larger population than Hinterland B, which indicates stronger population concentration closer to the urban core. Together with Plzeň, the defined area accommodates a substantial share of the regional population and represents the main functional urban region of the Plzeň Region.

Figure 1. Municipalities in the defined suburban region by type of hinterland (A and B)



Source: authors. Note: Hinterland A includes municipalities at a distance of up to 12 km from the centre of Plzeň; Hinterland B includes the more distant municipalities in the defined functional suburban region

Table 1. Basic characteristics of the territory as of 31st December 2024

Territorial unit	Number of municipalities	Area (km ²)	Population	Population density (inhabitants/km ²)	Registered economic entities per 1,000 inhabitants
Hinterland A	22	200.1	45 457	227	242.7
Hinterland B	19	263.6	39 527	150	195.1
City	1	137.7	187 928	1 365	254.7
Plzeň Region	41 + 1 city	601.4	272 912	454	244.1

Source: CZSO (2025), Population and area data refer to 31 December 2024; registered economic entities are reported for 31 December 2024

The analysis of civic amenities shows that the suburban hinterland is not homogeneous. Not every municipality provides the full range of everyday and specialised services. Smaller municipalities often rely on amenities located in larger neighbouring settlements or in Plzeň itself. This confirms that suburban municipalities should not be interpreted as isolated service units, but as parts of a functional urban region shaped by commuting, public transport, road accessibility and the hierarchy of services.

In absolute terms, amenities such as community centres, kindergartens, restaurants and petrol stations are more frequent in Hinterland A, while Hinterland B shows relatively stronger representation of grocery stores, medical services, pharmacies, children’s playgrounds and care homes when measured by the number of municipalities in which

these amenities exist. Elementary schools, sports facilities, post offices and libraries are represented similarly in both zones. These differences reflect the combined effects of population size, historical development, transport accessibility and the proximity of Plzeň as a higher-order service centre.

Table 2. Representation of civic amenities according to individual types

	Number of municipalities where the type of amenity exists		Number of municipalities where the type of amenity exists (in %)	
Type of amenities	Hinterland A	Hinterland B	Hinterland A	Hinterland B
Retail				
Grocery store	18	16	81.8	84.2
Culture				
Cultural centre	19	13	86.4	68.4
Library	18	15	81.8	78.9
Healthcare				
Medical practitioner	13	11	59.1	57.9
Specialist doctor	8	9	36.4	47.4
Pharmacy	6	7	27.3	36.8
Social welfare				
House with social service	5	8	22.7	42.1
Education				
Nursery school	18	12	81.8	63.2
Elementary school	14	12	63.6	63.2
Sport				
Sports ground	14	7	63.6	36.8
Leisure				
Playground	20	16	90.9	84.2
Restaurant facilities	22	16	100.0	84.2
Transport services				
Bus station	22	19	100.0	100.0
Train station	10	10	45.5	52.6
Administrative				
Post office	14	12	63.6	63.2
Information centre	3	3	13.6	15.8

Source: authors

Table 3. Relative representation of civic amenities in the hinterland

Type of amenity	Hinterland A municipalities with amenity per km ²	Hinterland B municipalities with amenity per km ²	Hinterland A municipalities with amenity per 1,000 inhabitants	Hinterland B municipalities with amenity per 1,000 inhabitants
Grocery store	0.090	0.061	0.40	0.40
Cultural centre	0.095	0.049	0.42	0.33
Library	0.090	0.057	0.40	0.38
Medical practitioner	0.065	0.042	0.29	0.28

Specialist doctor	0.040	0.034	0.18	0.23
Pharmacy	0.030	0.027	0.13	0.18
House with social service	0.025	0.030	0.11	0.20
Nursery school	0.090	0.046	0.40	0.30
Elementary school	0.070	0.046	0.31	0.30
Sports ground	0.070	0.027	0.31	0.18
Playground	0.100	0.061	0.44	0.40
Restaurant facilities	0.110	0.061	0.48	0.40
Bus station	0.110	0.072	0.48	0.48
Train station	0.050	0.038	0.22	0.25
Post office	0.070	0.046	0.31	0.30
Information centre	0.015	0.011	0.07	0.08

Source: authors' calculations based on the observed number of municipalities with each amenity in Table 2 and the updated population and area data in Table 1. The indicators are a municipality-level accessibility proxy, not a count of individual facilities

The relative indicators in Table 3 do not show a uniform advantage for the closer hinterland. Hinterland A has higher area-based values for most amenities, reflecting the concentration of services in a smaller territory, whereas Hinterland B records higher population-based values for specialist doctors, pharmacies, social-service facilities, train stations and information centres. The results therefore demonstrate that area-based density and population-based accessibility may lead to different interpretations: a more distant hinterland may retain a broader service role for its population even when its absolute number of amenities is lower.

The greatest service-related tensions are linked to amenities that cannot be fully replaced by occasional trips to the core city. Educational facilities are particularly sensitive, because suburbanisation brings young families into municipalities whose kindergartens and elementary schools were historically planned for much smaller populations. Expanding school capacity is financially demanding for small municipalities, and the benefits of population growth through tax revenues are often insufficient or delayed in relation to investment needs.

By contrast, some specialised services may remain efficiently concentrated in Plzeň if accessibility by public or private transport is adequate. This is especially relevant for specialised health care, higher-order retail, cultural services and administrative functions. The empirical results therefore do not support a simple conclusion that every suburban municipality should provide every type of amenity. Rather, they show the need to distinguish between daily local services, which are essential for everyday quality of life, and higher-order services, which can be concentrated in the core city or in selected larger suburban centres.

The survey also points to the economic dependence of suburban municipalities on the core city. Many residents commute to Plzeň for work and satisfy part of their consumption demand there. This can weaken the viability of small local shops and services, particularly in municipalities close to the city. At the same time, population growth creates new demand for retail, leisure and educational infrastructure. The result is an uneven and sometimes contradictory suburban service geography: proximity to the city improves access to specialised services but may reduce the economic competitiveness of local everyday services.

The evidence suggests that the relationship between residential and commercial suburbanisation is not linear. New housing areas increase local demand for everyday services, while commercial facilities and technical infrastructure are usually located according to land availability, accessibility and the needs of the wider urban region. This means that suburban municipalities may experience population growth without a proportional increase in local services or may host large-scale economic functions whose catchment area extends far beyond the municipality itself.

Secondary consequences: municipal perceptions, development form and conflicts although this article focuses primarily on services and economic functions, the survey also recorded how municipal representatives perceive the social and spatial consequences of suburbanisation (Table 4). These findings are interpreted cautiously as an institutional perspective.

Table 4. Perception of new residents in municipalities (%)

	Hinterland A	Hinterland B	Difference	Men	Women	Difference
Benefit to the municipality	29.27	21.95	7.32	48.28	58.33	10.06
Burden for the municipality	19.51	17.07	2.44	13.79	8.33	5.46
Neutral position	4.88	7.32	2.44	37.93	33.33	4.60

Source: authors. Note: results express the assessment of municipal representatives, not a representative survey of residents

The most critical factors identified by respondents were landscape change caused by new development and changes in relations between original and new residents. These effects were stronger in Hinterland A, where suburbanisation pressure is more intensive (Table 5). From the perspective of this paper, these conflicts are important mainly because they are related to the spatial organisation of services, public space and infrastructure. New residential zones, retail areas or technical facilities may create municipal revenues and improve accessibility, but they can also fragment settlement structure, increase traffic and create new fiscal obligations.

Table 5. Critical factors of suburbanisation in municipalities (rating 1–10)

Critical factor	Hinterland A	Hinterland B	Difference A and B	Men (total)	Women (total)	Difference
Alteration of the landscape by construction	7.82	5.37	2.45	7.10	5.67	1.44
Relationships with residents	6.95	6.89	0.06	6.66	7.58	–0.93
Total average	7.39	6.13	1.26	6.88	6.62	0.25

Source: authors, note: 1 = lowest intensity; 10 = highest intensity

CASE STUDY: CHOTÍKOV AS AN EXAMPLE OF COMMERCIAL SUBURBANISATION AND RELOCATION OF URBAN FUNCTIONS

Chotíkov is located in Hinterland A and illustrates how residential growth, commercial suburbanisation and the relocation of urban technical infrastructure may interact within a small municipality. The population of the municipality has grown substantially over the last three decades, and new residential areas have expanded mainly in the southern and northern parts of the village. The municipality has also become a location for large-scale retail serving not only local inhabitants but also the wider Plzeň agglomeration.

The official demographic series records 698 inhabitants at the end of 1991 and 1,290 at the end of 2024, an increase of 592 inhabitants (84.8%). These data confirm the substantial long-term population growth referred to above (CZSO, 2024).

The Globus shopping centre in Chotíkov represents commercial suburbanisation linked to the consumer market of Plzeň, car accessibility and the availability of large plots on the urban edge. Such retail development changes the economic role of the municipality: it strengthens its position within the suburban service network but its catchment area clearly exceeds the municipality itself. This type of amenity can generate employment, tax income and consumer accessibility, while also increasing traffic and reinforcing dependence on individual car transport.

Figure 2. Chotíkov – commercial suburbanisation represented by a large-scale retail facility

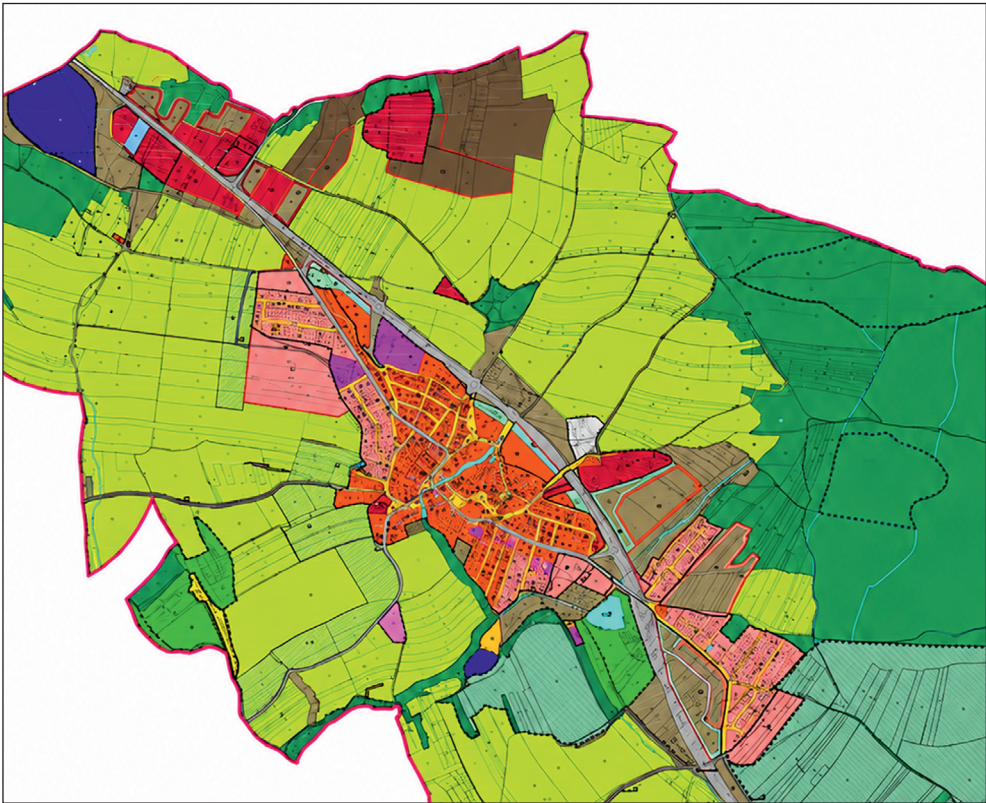


Source: authors' archive (2019)

A second and more controversial function transferred to the municipality is the waste-to-energy plant. The municipality of Plzeň decided to solve part of its waste disposal needs by locating a large-capacity waste incineration plant outside the city, in the cadastral territory of Chotíkov. The project illustrates an asymmetric relationship between the core city and a suburban municipality: the environmental and spatial burden is located in the hinterland, while the function primarily serves the needs of the larger urban region.

The Chotíkov zoning plan shows the coexistence of the original settlement, new residential development, open landscape, transport infrastructure, commercial activities and areas reserved for production or technical infrastructure. The plan therefore demonstrates that the suburban municipality is not only a residential space, but also a multifunctional area in which economic and technical functions of the post-industrial agglomeration are concentrated.

Figure 3. Zoning plan of the municipality of Chotíkov



Key for Figure 3:

Colour	Function represented in Figure 3
Orange	Orange – existing residential or mixed-use development
Pink	Pink – proposed residential or mixed-use development
Red	Red – commercial, production or technical-infrastructure functions
Brown	Brown – commercial, production or technical-infrastructure functions
Grey	Grey – transport infrastructure
Green	Green – open landscape, agricultural land or forest
Blue	Blue – water elements

Source: Obec Chotíkov (2020). Note: The zoning plan is used to illustrate the coexistence of residential, commercial, transport, landscape and technical-infrastructure functions within the municipal territory

In this article, “coexistence of functions” means that several land-use functions are present within the same municipal territory and are spatially adjacent or functionally connected; it does not mean that they occupy one parcel or one building. The coexistence is identified by comparing the areas mapped in the zoning plan for the original settlement, residential development, commercial and production activities, transport infrastructure, open landscape and technical infrastructure. The plan therefore provides the spatial basis for interpreting how local residential functions and agglomeration-serving economic and technical functions are combined. The approval of the incineration plant was linked to a local referendum. The project was approved by a narrow majority, with 51% of voters in favour, which shows the depth of local disagreement (Vejvodová, 2009). Opponents emphasised potential environmental and health risks, traffic connected with waste transport and the visual impact of the facility on the landscape. The building permit was cancelled several times before trial operation began in 2016, contributing to delays and cost increases. Although the municipality obtained financial compensation and additional revenues, these economic benefits did not remove the conflict.

Figure 4. Waste incineration plant in Chotíkov



Source: Visit Plzeň (2020)

The case study demonstrates that suburbanisation in post-industrial regions cannot be reduced to housing development. Suburban municipalities may become locations for retail, logistics, production or environmentally burdensome infrastructure serving the entire agglomeration. These functions can strengthen the economic role of the municipality, but they also raise questions about fiscal compensation, landscape quality, public acceptance and the distribution of environmental costs between the core city and its hinterland.

DISCUSSION

The findings show that the hinterland of Plzeň is shaped not only by residential suburbanisation, but also by the relocation of selected economic, commercial and technical functions into suburban space. Suburban municipalities should therefore not be understood merely as residential extensions of the core city, but as parts of a wider functional region in which services, civic amenities, commercial activities and infrastructural burdens are spatially differentiated. This conclusion corresponds with findings from other post-socialist cities, for example Wrocław (Poland), where industrial, logistics and service activities have gradually concentrated in suburban zones due to land availability, transport accessibility, and links to the urban labour and consumer market (Brezdeń, Szmytkie, 2019; Sikorski, Brezdeń, 2021).

The analysis confirms that distance from the agglomeration core influences the range and structure of civic amenities, although it is not the only determining factor. Municipalities in the closer hinterland of Plzeň, i.e. Hinterland A, are exposed to stronger population pressure, more intensive new construction and higher demand for everyday services, especially in pre-school and elementary education, basic retail, health services and leisure infrastructure. At the same time, this zone is more strongly affected by commercial suburbanisation and by the location of functions that benefit from proximity to the city, good transport accessibility and more available land. More distant municipalities, i.e. Hinterland B, show a relatively stable or even higher presence of certain types of amenities, related to their historical development, size, transport links and service role for the wider rural surroundings.

The findings therefore indicate that the availability of services in suburban space cannot be explained solely by a simple distance gradient from the urban centre. Previous municipal development, inherited infrastructure from the pre-1989 period, municipal size, administrative and financial capacity, transport position and the ability of local governments to respond to population growth also play an important role. Suburbanisation thus does not affect all municipalities in the same way, but produces a spatially differentiated structure of needs, capacities and development pressures.

The research also shows that some higher-order and specialised services may remain concentrated in the core city, provided that their transport accessibility is sufficient. This applies especially to specialised health care, higher-level administration, cultural institutions and a more extensive retail offer. By contrast, everyday services that directly influence residents' quality of life cannot be replaced in the long term solely by commuting to the city. Kindergartens, elementary schools, basic retail, playgrounds, public spaces, sports facilities and basic leisure infrastructure need to be available either directly within municipalities or through well-coordinated inter-municipal cooperation. It is in this area that the tension between rapid population growth and the limited budgetary capacities of small municipalities becomes most evident.

The case of Chotíkov illustrates another dimension of suburbanisation processes. Suburban space is becoming not only a place of residence and everyday services, but also a location for commercial and environmentally burdensome functions serving the wider agglomeration. Commercial zones, technical infrastructure and waste-management facilities may bring fiscal benefits to municipalities, but they also generate conflicts related to traffic burden, landscape quality, environmental risks and local acceptance. Chotíkov therefore demonstrates that suburbanisation in a post-industrial hinterland is not only

a residential process, but also a process of spatial redistribution of economic functions, costs and burdens between the core city and its surroundings.

The highly fragmented municipal structure in Czechia is also of particular importance. Small municipalities often face suburbanisation pressures that exceed their fiscal, administrative and planning capacities. This creates a mismatch between the functional scale of suburbanisation, which is agglomeration-based and regional, and the institutional scale of decision-making, which remains predominantly local. This mismatch increases the need for coordinated spatial planning, inter-municipal cooperation, shared capacities of public services and clearer mechanisms for financing infrastructure induced by new development.

CONCLUSIONS AND RECOMMENDATIONS

The distribution of services and civic amenities across the suburban hinterland is spatially differentiated rather than following a simple centre–periphery gradient. Hinterland A has stronger representation of cultural, educational, sport, leisure and restaurant amenities, whereas Hinterland B is not uniformly underserved and shows relatively stronger representation of specialist doctors, pharmacies, social-service facilities and train stations. The relative indicators in Table 3 further demonstrate that absolute counts should be interpreted together with area and population when assessing accessibility.

The greatest perceived insufficiencies concern everyday services that cannot easily be replaced by occasional trips to Plzeň, particularly kindergarten and elementary-school capacity, basic health care, local retail, public space, playgrounds and leisure infrastructure. These pressures are associated with rapid population growth, the age structure of incoming households and the limited financial and administrative capacity of small municipalities.

Proximity to the core city improves access to specialised services and strengthens commuting and consumption links with Plzeň, but it may also weaken the viability of local everyday services because residents use the core-city labour market and retail offer. More distant municipalities may retain a broader local service role for their surroundings, while commercial and technical functions are located according to accessibility, land availability and the needs of the wider agglomeration.

The Chotíkov case demonstrates how suburban municipalities can combine population growth and local residential development with large-scale retail and infrastructure serving the whole agglomeration. The resulting benefits in accessibility, employment or local revenues may coexist with traffic, landscape, environmental and fiscal burdens. The case thus shows why the functional scale of suburbanisation can exceed the scale of individual municipal decision-making.

From a planning perspective, spatial development should be coordinated at the level of the functional agglomeration and should link new housing to school capacity, public transport, everyday services, technical infrastructure and public space. Municipalities should also negotiate a fairer distribution of costs and benefits when they host facilities serving the wider region. The study is limited by its institutional perspective: it includes 41 municipal representatives and does not provide a representative survey of residents. Future research should combine the municipal questionnaire and ‘Telephone Deep Interviews’ with representative surveys of original inhabitants and newcomers, as well as systematic data on firms, employment, logistics, retail and investment.

References

- Baštová, M., Toušek, V. (2005). Brněnský a plzeňský průmysl po roce 1989 [Brno and Pilsen industry after 1989]. In: *VIII. mezinárodní kolokvium o regionálních vědách [8th International Colloquium on Regional Sciences]*. Brno, 15–22.
- Brezdeň, P., Szymytkie, R. (2019). Current changes in the location of industry in the suburban zone of a post-socialist city: Case study of Wrocław (Poland). *Tijdschrift voor Economische en Sociale Geografie*, 110(2), 102–122. doi: <https://doi.org/10.1111/tesg.12339>
- CZSO. (2018). *Databáze demografických údajů za obce ČR [Database of demographic data for municipalities of the Czech Republic]*. Retrieved from: <https://www.czso.cz/csu/> (access: 10.05.2026).
- CZSO. (2025a). *Small Lexicon of Municipalities of the Czech Republic – 2025 [Malý lexikon obcí České republiky – 2025]*. Czech Statistical Office. Retrieved from: <https://csu.gov.cz/> (access: 10.05.2026).
- Foley, K., Scott, M. (2014). Accommodating New Housing Development in Rural Areas? *Representations of Landscape, Land and Rurality in Ireland. Landscape Research*, 39(4), 359–386. doi: <https://doi.org/10.1080/01426397.2012.723680>
- Hlaváček, P., Kopáček, M., Horáčková, L. (2019). Impact of suburbanisation on sustainable development of settlements in suburban spaces: Smart and new solutions. *Sustainability*, 11(24), 7182.
- Klusáček, P., Krejčí, T., Kunc, J., Martinát, S., Nováková, E. (2011). The post-industrial landscape in relation to local self-government in the Czech Republic. *Moravian Geographical Reports*, 19(4), 18–28.
- Kopp, J., Novotná, M., Matušková, A. (2013). Rezidenční suburbanizace v plzeňském regionu v krajinně-ekologickém kontextu [Residential suburbanisation in the Pilsen region in a landscape-ecological context]. In: M. Ouředníček, P. Špačková, J. Novák (eds.), *Sub Urbs: krajina, sídla a lidé [Sub Urbs: Landscape, settlements and people]*. Praha: Academia, 150–174.
- Kovács, Z., Farkas, Z.J., Egedy, T., Kondor, A.C., Szabó, B., Lennert, J., Kohán, B. (2019). Urban sprawl and land conversion in post-socialist cities: The case of metropolitan Budapest. *Cities*, 92, 71–81.
- Maštálka, M., Robová, N. (2016). *Občanská vybavenost jako indikátor kvality života v nové developerské výstavbě [Civic amenities as an indicator of quality of life in new residential developments]*.
- Novák, V. (2017). The Spatial Delimitation of Agglomerations in the Czech Republic: The Case of Northwestern Bohemia. *Littera Scripta*, 10(2), 73–83.
- Nuissl, H., Rink, D. (2005). The production of urban sprawl in eastern Germany as a phenomenon of post-socialist transformation. *Cities*, 22(2), 123–134.
- Obec Chotíkov. (2020). Úplné znění územního plánu Chotíkov po změně č. 1 [Complete version of the Chotíkov zoning plan after amendment no. 1]. Retrieved from: <https://www.chotikov.eu/> (access: 10.05.2026).
- Ouředníček, M. (2008). *Satelitní městečka [Satellite towns]*. Suburbanizace. Retrieved from: http://suburbanizace.cz/05_teorie_satelitni_mestecka.htm (access: 10.05.2026).
- Ouředníček, M., Temelová, J. (2008). Současná česká suburbanizace a její důsledky [Contemporary Czech suburbanisation and its consequences]. *Veřejná správa*, 11(4), 1–4.
- Parysek, J.J. (2005). Development of Polish towns and cities and factors affecting this process at the turn of the century. *Geographia Polonica*, 78(1), 99.
- Ptáček, P., Szczyrba, Z., Šimáček, P. (2013). Nerezidenční suburbanizace v České republice: vývoj, příčiny a důsledky [Non-residential suburbanisation in the Czech Republic: Development, causes and consequences]. In: M. Ouředníček, P. Špačková, J. Novák (eds.), *Sub Urbs: krajina, sídla a lidé [Sub Urbs: Landscape, settlements and people]*. Praha: Academia, 81–101.
- Rozmanová, N. (2012). *Principy a pravidla územního plánování. Kapitola C.4: Občanské vybavení [Principles and rules of spatial planning. Chapter C.4: Civic amenities]*. Brno: Ústav územního rozvoje. Retrieved from: <http://www.ur.cz/default.asp?ID=2571> (access: 10.05.2026).
- Sikorski, D., Brezdeň, P. (2021). Contemporary processes of concentration and specialization of industrial activity in post-socialist states as illustrated by the case of Wrocław and its sub-

- urbs (Poland). *Land*, 10(11), 1140. Retrieved from: <https://doi.org/10.3390/land10111140> (access: 10.05.2026).
- Spórna, T. (2018). The suburbanisation process in a depopulation context in the Katowice conurbation, Poland. *Environmental & Socio-economic Studies*, 6(1), 57–72.
- Stanilov, K. (2007). Housing trends in Central and Eastern European cities during and after the period of transition. In: K. Stanilov (ed.), *The post-socialist city: Urban form and space transformations in Central and Eastern Europe after socialism*. Dordrecht: Springer Netherlands, 173–190.
- Stanilov, K., Sýkora, L. (eds.). (2014). *Confronting suburbanization: Urban decentralization in post-socialist Central and Eastern Europe*. John Wiley & Sons.
- Sýkora, L. (2003). Suburbanizace a její společenské důsledky [Suburbanisation and its social consequences]. *Sociologický časopis / Czech Sociological Review*, 39(2), 217–233.
- Sýkora, L., Bouzarovski, S. (2012). Multiple transformations: Conceptualising the post-communist urban transition. *Urban Studies*, 49(1), 43–60.
- Szmytkie, R. (2020). The impact of residential suburbanization on changes in the morphology of villages in the suburban area of Wrocław, Poland. *Environmental & Socio-Economic Studies*, 8(4), 24–43.
- Tsenkova, S., Nedović-Budić, Z. (2006). *The Urban Mosaic of Post-Socialist Europe*. Heidelberg: Physica-Verlag HD. doi: <https://doi.org/10.1007/3-7908-1727-9>
- Vejvodová, M. (2009). Chotíkovští řekli spalovně ano [Residents of Chotíkov said yes to the incinerator]. *Plzeňský deník*, 9(5). Retrieved from: https://Plzeňsky.denik.cz/zpravy_region/v-chotikove-rekli-v-referendu-spalovne-ano20090905.html (access: 10.05.2026).
- Visit Plzeň. (2020). *ZEVO Incineration Plant Chotíkov*. Retrieved from: <https://www.visitPlzeň.eu/en/visit-pilsen/industrial-sights/incineration-plant-chotikov/> (access: 10.05.2026).

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