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**Analýza technológií realizovania
povrchových úprav bazénov**

**Urban Exploration – URBEX
ako nówum pre cestovný ruch**

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Vydavateľstvo UNIVERSUM, spol. s r. o.

www.universum-eu.sk

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RESIDENTIAL SUBURBANIZATION AND SMALL MUNICIPALITIES OF THE ÚSTÍ REGION: ANALYSIS OF THE NEED FOR INVESTMENT EXPENSES

RESIDENČNÍ SUBURBANIZACE A MALÉ OBCE ÚSTECKÉHO KRAJE: ANALÝZA
POTŘEBNOSTI INVESTIČNÍCH VÝDAJŮ

Miroslav Kopáček¹, Lucie Horáčková²

Miroslav Kopáček působí od roku 2015 jako odborný asistent na Katedře regionálního rozvoje a veřejné správy Fakulty sociálně ekonomické Univerzity Jana Evangelisty Purkyně v Ústí nad Labem, zároveň od roku 2017 uskutečňuje kombinovanou formou doktorské studium v oboru Ekonomická geografie a regionální rozvoj na Přírodovědecké fakultě Ostravské univerzity. Odborným zaměřením autora je regionální rozvoj s důrazem na prostorové plánování, přičemž v této oblasti se nejvíce zaměřuje na aplikaci principů a prvků udržitelné rozvoje do praxe a na problematiku populačně malých obcí. Lucie Horáčková od roku 2016 nejprve na pozici asistentky a od roku 2018 na pozici odborné asistentky působí na Katedře financí a účetnictví Fakulty sociálně ekonomické Univerzity Jana Evangelisty Purkyně v Ústí nad Labem. Od roku 2017 na této fakultě studuje i v rámci doktorského studijního oboru Aplikovaná ekonomie a správa. Pedagogická činnost autorky je spjatá s oblastí veřejných financí konkrétně se zaměřuje na daňovou teorii a praxi. V rámci výzkumné činnosti se věnuje problematice územních rozpočtů a ekologických daní.

Miroslav Kopáček is an assistant professor at the Department of Regional Development and Public Administration at the Faculty of Social and Economic Studies of Jan Evangelista Purkyně University in Ústí nad Labem from 2015; he is also studying a part-time postgraduate course in Economic Geography and Regional Development at the Faculty of Science of Ostrava University from 2017. The author focuses on regional development with an emphasis on spatial planning and, more specifically, the practical implementation of principles and elements of sustainable development and the question of low-population municipalities. The authoress Lucie Horáčková has worked namely as an assistant from 2016

¹ Adresa pracoviště: Ing. Miroslav Kopáček, Jan Evangelista Purkyně University in Ústí nad Labem, Faculty of Social and Economic Studies, Department of Regional Development and Public Administration, Moskevská 54, 400 96 Ústí nad Labem, Czech Republic

E-mail: miroslav.kopacek@ujep.cz

² Ing. Lucie Horáčková, Jan Evangelista Purkyně University in Ústí nad Labem, Faculty of Social and Economic Studies, Department of Finance and Accounting, Moskevská 54, 400 96 Ústí nad Labem, Czech Republic

E-mail: lucie.horackova@ujep.cz

and then from 2018 as an assistant professor at the Department of Finance and Accounting at the Faculty of Social and Economic Studies of Jan Evangelista Purkyně University in Ústí nad Labem. Since 2017, she has been studying within the PhD programme Applied Economics and Administration at this Faculty. The authoress' teaching activities are related to the area of public finances, specifically focusing on tax theory and practice. As a part of her research activities, she focuses on the issue of territorial budgets and environmental taxes.

Abstract

Nowadays, suburbanization is a natural process that changes the functioning and appearance of settlement structure on the outskirts of larger towns as well as in other, usually smaller municipalities that are the hinterland of towns and cities. The research is based on local surveys carried out in the municipalities of the Ústí Region, the development of which has been significantly influenced by the dynamics of the suburbanization process of the five largest towns in the region. This research is based on interviews with mayors of the individual municipalities. The analysis showed that municipalities are forced to implement investment plans for securing public services as a result of the impacts of residential suburbanization, both in the area of technical infrastructure and civic facilities, but also in the area of transport infrastructure, which brings significant changes in the budget management of municipalities, specifically in the expenditures.

Key words: residential suburbanization, small municipalities, expenditures, municipal budget, public services

Abstrakt

Suburbanizace je v současné době přirozený proces, který mění fungování a podobu sídelní struktury jak na okrajích větších měst, tak i v dalších zpravidla menších obcích, které jsou zázemí měst. Výzkum je založen na místních šetřeních v obcích Ústeckého kraje, jejichž rozvoj byl v uplynulé době výrazným způsobem ovlivněn dynamikou procesu suburbanizace pěti největšími městy kraje, a to formou rozhovorů se starosty jednotlivých obcí. Analýza prokázala, že obce jsou nucené v důsledku dopadů residenční suburbanizace realizovat investiční záměry pro zabezpečení veřejných služeb, a to jak v oblasti technické infrastruktury a občanské vybavenosti, ale i v oblasti dopravní infrastruktury, což přináší významné změny v hospodaření obcí na výdajové straně rozpočtu.

Klíčová slova: rezidenční suburbanizace, malé obce, výdaje, obecní rozpočet, veřejné služby

Introduction

The speed of technological progress has caused a quick shift in the behaviour of the society. Since the second half of the 20th century there has been a new generation of society called as post-industrial (Bell, 1973). In the perspective of mobility, the characteristic feature of the society is dispersion, i.e. leaving core towns and transfer into their peripheral areas, so called suburbia. Thanks to public transport or the ample use of passenger cars, the core town is easily accessible (Toušek, Kunc, Vystoupil, 2008). The intensive population of suburban areas has given rise to town-spreading, thereby the process of the residential suburbanization has begun (Toušek, Kunc, Vystoupil, 2008). In the countries of Central and

Eastern Europe, including the Czech Republic, this phenomenon started to appear in the beginning of 1990s most intensively (Temelová, Novák a Jíchová, 2016). Residential suburbanization does not only bring changes in the developing processes and in the territorial arrangements in the outskirts of towns, but it also brings important changes in the peripheral areas, specifically in the municipalities located closely to towns in the so-called suburban areas (Kladivo, Roubínek, Opravil, Nesvadbová, 2015). Inhabitants find optimal conditions for their homes in the suburban areas and the core town is easily accessible thanks to individual means of transportation (cars), which is vital for the residents from the perspective of their occupation. Although residential suburbanization seems fitting for these municipalities from the perspective of territorial development, it may not be beneficial in all aspects. There is a special form of suburbanization called “urban sprawl” in the Czech Republic. In this case the municipalities are stricken by rationally disorganized construction of residential and commercial areas in the territory of a municipality (Hnilička, 2005). This construction impacts negatively not only the territorial development of the municipalities, but it also burdens the expenditures in their budgets as it is necessary to build new pavements, streetlights etc. in the new remote areas of the municipalities (Ouředníček, 2002). The commercial suburbanization can consequently be potentiated by using investment incentives from the side of investors (Hlaváček, Buřt, 2018).

The balance sheet of the budgets of municipalities is not only affected by the construction of new housing projects, but also by the sheer increase of new inhabitants of a municipality. As it is stated by Macešková and Ouředníček (2008), residential suburbanization imposes pressure rather upon the expenditures than the incomes in the budgets of municipalities, which is not welcome for the municipalities. Although there are new inhabitants coming in, they can have their permanent address elsewhere (for example in a town), and this possibility is often used. This fact negatively impacts the volume of tax income, because the number of people with permanent address is a key aspect in the Czech system of redistribution tax incomes into the budgets of municipalities. This behaviour of inhabitants appreciably influences the financial management of municipalities as tax income is the most important item in the incomes of budgets of the municipalities. This phenomenon is called suburban exploitation. This term was originally defined in the environment of the USA with a reversed meaning: inhabitants have their permanent address in an area which is part of a suburban belt, but they permanently use and consume the services of a core (catchment) city (Ouředníček at al., 2012). From the perspective of territorial development, residential suburbanization exerts pressure upon the public facilities and technical infrastructure of individual municipalities (Kladivo, Roubínek, Opravil a Nesvadbová, 2015), thanks to which the municipalities offer local public services for their inhabitants (Markvart, 2010). As local public services are an important item in the expenditures of the municipalities, these facts project into the financial managements of municipalities. The tools of territorial planning present an important role in revision of territorial development and financial management of municipalities (Varela-Candamio, Morollón, Sedrakyan, 2019); these tools are represented by strategic and territorial planning in the Czech Republic. Due to the high level of fragmentation of the Czech residential structure and because of a low population size

of municipalities in the countryside, the municipalities deal with specific issues in the process of territorial planning (Kopáček, 2018).

Generally, it can be said that municipalities which are affected by residential suburbanization cope not only with problems in the area of territorial development, but also with struggles regarding the expenditures of their budgets. By means of interviews with the mayors of individual municipalities, who are the monocratic authorities representing their municipalities (Act no. 128/2000 Coll.), the main goal of the research was to identify the most important changes in the expenditures of budgets of municipalities in the suburban areas of the statutory towns in the Ústí region. Following working hypotheses were established for the research:

- Municipalities, development of which is influenced by a significant impact of residential suburbanization, have to put emphasis on expanding the capacities of public infrastructure, mainly in the areas of technical infrastructure and civic facilities
- The process of residential suburbanization is reflected in the municipal budget expenditures by changing the structure of the budgetary sectors of the municipalities affected by this process.

Impacts of residential suburbanization on the expenditure side of municipal budgets

The changes in the territorial development of municipalities are being transferred into their financial management based on offering public services, which can be seen as an ability of the public sector to satisfy the societal needs (Saussier, de Brux, 2018). For example, Smutek (2017) states that residential suburbanization in the environment of Polish “gmin” increases the expenditures in the local budgets because of the rise in number of cars on the streets which brings about the need of higher expenses for their maintenance. The situation in China is similar (Yong et al., 2016). The commute of suburban inhabitants to the core towns is a problematic factor of suburbanization in the Czech environment (Macešková, Ouředníček, 2008). However, Wu (2007) considers the commute of inhabitants into core towns positive. He thinks the rise in price of fuel can set back the process of residential suburbanization and help the suburban areas with financial stabilization, which offers time to increase the quality of public services in the suburban areas. Pronello, Longhi, and Gaborieau (2018) also assume that the residential suburbanization is a burden in the sector of transportation for the municipalities, but not because of the need of increasing expanses for road maintenance, but due to the need of increasing expanses for higher capacity of bus service in the suburban areas. Nevertheless, these conclusions do not have to be valid universally, because Kristof (2018) was analysing both urban and suburban areas, specifically the areas around the Hungarian city of Miskolc, and he does not confirm any deficiencies in the sector of transportation. However, Smutek (2017) observes a lower allocation of financial resources in the sectors of social care, health and education because of the increased expenses connected to the sector of transportation. He finds it negative and he is afraid of the deterioration of quality in offering these public services in time. Logan and Burdick-Will (2017) confirm the concerns of Smutek (2017), based on an analysis of suburban areas in the USA, that there is a clear difference in quality in the sector of education and school services between suburban areas and the core towns or cities. Guo et al. (2018) described another effect of residential suburbanization when they were examining the quality of health service in both the urban and

suburban areas of the city of Shanghai. They came to the conclusion that the quality of public health service is lower in the periphery than in the urban areas even after six years of investigation. Therefore, they defined another area which can mean struggle and possibly also an increase in the public expenditures for the suburban areas, which is health service. Health service was also examined by Kristof (2018), repeatedly in the suburban area of the Hungarian city of Miskolc. It was found out that the inhabitants are pleased with the health service, although it is provided only on a basic level. This supports the claim that the sector of health service is being dealt with in the suburban areas and public expenditures are being provided for it. Piotrowska et al. (2018) focused in the sector of health service on the accessibility of stomatology care from the perspective of comparison between suburban and purely rural population. Their conclusions confirm that inhabitants in suburban areas have a higher probability of accessibility of stomatology care than inhabitants of rural areas. Speaking of development of municipalities, it can be said that residential suburbanization can also have a positive impact on public services in certain areas.

Mainly younger and economically productive population comes to the suburban areas of post communistic towns (Temelová, Novák, Jíchová, 2016); this population usually has a higher income. Apart from the fact that there will be at least a basic quality of local public services, the new population expects to find a safe and suitable place for living. This brings about another item in public expenditures, which is safety. Nemeškal and Jíchová (2018) were investigating the spatial arrangement of criminal activity in the Czech Republic and they confirmed a link between the structure of criminal activity with the process of residential suburbanization. They proved this fact with the crime of burglary, where the highest proofed frequency from the standpoint of complex territorial analysis of the capital city of Prague was to be found in the areas of southern and south-eastern suburbia. Temelová, Novák and Jíchová (2016) similarly proved the criminal activity connected to property in the suburban areas. However, in spite of this fact they claim that the inhabitants of suburbia feel safe. From the perspective of the structure of population, Temelová, Novák and Jíchová (2016) claim that people coming to peripheral municipalities are usually young and they start families, which is another important aspect which leads to the increase of expenditure items in the budgets of municipalities. According to Coll and Villanueva (2017), these changes in the structure of population will lead to a rise in expenses in the sectors of sport and leisure time activities, which is also confirmed by Kopáček and Horáčková (2018) who claim that this young population represents the Y generation which is characteristic for favouring its free time instead of work. It can be assumed that this population will look for leisure time activities such as local cultural programmes in the area of their new home.

It is not possible to identify complexly and unanimously all the struggles the municipalities have to face due to the process of residential suburbanization; as well as to identify the activities which bring about the increase in expenditures in the budgets of municipalities. However, based on the frequency of issues and problems being found in individual studies it can be assumed that the problematic areas are transportation (road maintenance, increasing the capacity of suburban public transport), education and school services (decrease of investment and quality of this service), health service (basic ambulatory

care), sport and leisure activities (sport facilities, playgrounds) or culture (local cultural programmes) and safety (security management of the area).

Methodology and data

The Ústí Region is one of the higher territorial self-governing units of the Czech Republic. It is a region that is naturally polycentric in terms of functional links between settlements, as there are five core towns with a population of around 50 000 or more in its territory, all of which are statutory towns under the Municipalities Act (Act no. 128/2000 Coll.). Namely, the statutory towns that were the subject of the research were Děčín, Chomutov, Most, Teplice and Ústí nad Labem as core cities and municipalities in their background, which were categorized according to their respective suburban zones for research purposes. The suburban zones of the individual statutory towns were defined for the purposes of the research by the commute distance (Smutek, 2016), with a maximum value of 25 minutes from the municipality centre to the centre of the statutory town. The Mapy.cz application was used to identify a set of municipalities located within the range of this commute distance. If one of the municipalities was located in two suburban zones, it was included in the suburban zone of the statutory city, into which the time of arrival was lower. If it was found that the suburban zone with its delimitation extends to another region or beyond the Czech Republic, the municipalities in question outside the Ústí Region were not included in the research.

Out of a total of 349 municipalities in the Ústí Region (out of a total of 354 municipalities in the region, 5 municipalities were excluded, since they were core statutory towns), 176 municipalities were incorporated into the individual suburban zones (50.4% of the analysed municipalities). The suburban zone of Ústí nad Labem consisted of 51 municipalities, the suburban zone of Chomutov consisted of 34 municipalities. Subsequently, the suburban zones of Most and Teplice consisted identically of 31 municipalities, and the least municipalities were registered for Děčín, namely 29. The remaining municipalities were excluded from the research, as it can be assumed that the higher commuting distance will cause a higher degree of rural character and lower effects of residential suburbanization to these municipalities. According to their respective suburban zones of the statutory towns in question, the categorized municipalities were further subjected to the analysis of the intensity of residential suburbanization in the form of the so-called modified multi-criteria indicator (Kopáček, Horáčková, 2018). The calculation of the modified multi-criteria indicator was given by the formula and consisted of sub-indicators, namely:

- Population change. This indicator reflected the relative change in the number of inhabitants over the ten-year period, from 31 December 2006 to 31 December 2016, while 2006 was taken as the starting point (100%).
- Change in the land area of urbanized character. The calculation of this indicator was based on the calculation of the change in the proportion of urbanized area in the entire area of the municipality over the period of ten years from 31 December 2006 to 31 December 2016, with attention being paid to the soil components that can be

described as urbanized - built-up areas and courtyards, gardens and other areas (Šilhánková, 2010).

- Intensity of housing construction. The calculation of the indicator was based on an average of ten annual values, which are the proportion of the total number of completed dwellings and the population in the municipality, from 2007 to 2016.
- Change in the number of economic entities. The calculation of this indicator was analogous to the calculation of population change, but with the difference that the fundamental basis of the calculation (100%) was 2013, so the intended more relevant ten-year time period was not analysed. Therefore, only the three-year time period was analysed. The reason was the change of the methodology for data processing by the Czech Statistical Office in 2013, so the data are not fully comparable in the ten-year time period. However, due to the fact that this indicator has a rather marginal (complementary) character for the subject matter, a shorter time series is not an obstacle.

The values of the individual sub-indicators were subsequently standardized so that for each sub-indicator the municipality with the highest value was assigned the value of 100 and contrariwise the value of 0 was assigned to the municipality with the lowest value. Based on the four standardized values obtained for individual sub-indicators, the modified multi-criteria indicator was calculated by their arithmetic mean for all 176 analysed municipalities. According to the value of the modified multi-criteria indicator, the municipalities were ordered in descending order according to the intensity of the territorial development of the municipality and the intensity of residential suburbanization. The first place reached the municipality with the highest level of territorial development from all five suburban zones. For the next phase of the research, such a set of municipalities served as a basis for addressing mayors with a request for an interview with municipalities that showed the highest intensity of residential suburbanization according to the research methodology.

LAU2 code	Municipality	Population as at 31 December 2016	District	Suburban belt	Interview date
546453	Kámen	236	Děčín	Děčín	17 July 2018
563048	Domašín	174	Chomutov	Chomutov	26 June 2018
563056	Droužkovice	806	Chomutov	Chomutov	21 June 2018
563072	Hrušovany	557	Chomutov	Chomutov	9 July 2018
563340	Spořice	1 516	Chomutov	Chomutov	28 Aug. 2018
563358	Strupčice	894	Chomutov	Chomutov	11 Sept. 2018
563498	Výsluní	390	Chomutov	Chomutov	26 June 2018
565113	Lhotka nad Labem	417	Litoměřice	Ústí n. L.	30 July 2018
565873	Vlastislav	175	Litoměřice	Ústí n. L.	11 June 2018
567523	Háj u Duchcova	1 185	Teplice	Teplice	18 June 2018
567566	Hrobčice	1 344	Teplice	Teplice	18 June 2018
567833	Srbice	386	Teplice	Teplice	1 Aug. 2018

567884	Žim	164	Ústí n. L.	Ústí n. L.	18 July 2018
568309	Tisá	937	Ústí n. L.	Ústí n. L.	8 June 2018

Table 1 – Analysed municipalities in which the mayor was interviewed

Source: own research and processing

A total of 25 municipalities were approached during the time from June to September 2018 with a request for an interview based on the criteria above, with 17 mayors tentatively accepting the interview (Table 1). However, the interview was subsequently conducted in 14 municipalities. In 3 municipalities where the interview was promised, its implementation was not successful, usually because of the busyness of the mayor of the municipality. The mayors were interviewed in a semi-structured format containing 13 questions with a time limit of up to 30 minutes. Interviews were always conducted by one interviewer in the field, with only two interviewers overall to ensure the highest degree of identical conduct and progress of the interviews. The interviewer always conducted an interview with the mayor of the municipality on the basis of prepared questions concerning the population of the area and the territorial development of the municipality.

The key question for this research was the question whether the municipality had to significantly increase its capacities, or whether it was solving problems in the area of civic facilities or technical infrastructure due to residential suburbanization. Knowing the link between the territorial development of a municipality and public finances on the level of local governments, which are local public services, it was possible to decipher the responses received from interviews regarding civic facilities and technical infrastructure, and therefore to answer to the main research objective. This procedure identified the most important changes in the expenditures of budgets of municipalities in the Ústí Region which are affected by residential suburbanization. The definition of civic facilities and technical infrastructure for this research was taken from the Building Act of the Czech Republic (Act No. 183/2006 Coll.). Civil construction means land and buildings that serve, for example, health, social care, cultural development, etc. The technical infrastructure is meant to include mains, constructions and facilities used, for example, as a water main, sewage treatment plant, gas storage facility, etc. (Act No. 183/2006 Coll.). Local public services, as an element linking the territorial development of municipalities and public finances at the local government level, are defined for this research as an ability of the public sector to meet local societal needs (Saussier, de Brux, 2018). Subsequent utilization of local public services was taken over from the Act on Municipalities of the Czech Republic (Act No. 128/2000 Coll.), according to which municipalities provide basic local public services related to housing, health, social care, transport and communications, education and training, cultural development and public order management for the residents within their own territories (Act No. 128/2000 Coll.). Budgetary expenditures of a local government means expenditures that are classified according to the budget structure which classifies revenues and expenditures by sectors. The sectoral aspect classifies individual revenues and expenditures into four gradually evolving segments, where the broadest segment is the so-called group, followed by sections, subsections and paragraphs. In this research, only

the level of sections was used for the real informative ability (Decree of the Ministry of Finance No. 323/2002 Coll.).

Results and discussion

The most frequent expenditure sector determined by the mayors was the item of water management, which in terms of the real equipment of the municipality concerned mostly sewerage and sewage treatment plants, as the capacity of the sewerage system has to be increased due to the increase of population in the municipality and because of the construction of new residential units. It was also assessed by the mayors as the most urgent and demanding investment, both financially and administratively, which had to be rapidly implemented as a result of residential suburbanization. Most often, municipalities solved their investment project in the form of co-financing, with part of the funds being subsidies and another part being financed by the municipality's own financial resources, either in the form of a loan or reserves, thus causing indebtedness for some municipalities. The second sector most affected by residential suburbanization is the pre-school education sector, where kindergartens are concerned in terms of municipal facilities, which had to expand their capacities because of the new population. However, it is not possible to unequivocally refute the conclusions of Smutek (2017) and Logan and Burdick-Will (2017) who claim that there is a decline in investment in education because of residential suburbanization. A more in-depth analysis would be needed to unequivocally refute their conclusions. The interviews with the mayors revealed that after the sewerage and sewage treatment plants had been upgraded, this was the second most urgent investment that had to be made because of residential suburbanization. However, it was not identified from the interviews that this investment would significantly disturb the municipal economy. The third expenditure sector, which has seen an increase in public spending by municipalities, is the road sector. As a result of commuting to core towns, there was an increase in passenger cars in the municipalities, which resulted in higher use of roads. Due to the more intensive use of the roads, more resources are needed to maintain them. Road maintenance was mentioned as a significant consequence of residential suburbanization by the mayors; some even called it as a very significant impact which they have to face by spending more money. As a result of the increase in the number of passenger cars in a municipality, it is necessary to expand roads or to create completely new areas for parking, which is also confirmed by the conclusions of Smutek (2017), Yong et al. (2016), Macešková and Ouředníček (2008). The interviews showed that this is a thorny problem that has not been regulated by legislation yet and the municipality bears all the costs. Parking of community residents in public areas, usually on the road in front of their house, not on their private land, usually also worsens the road safety in the municipality. The penultimate (fourth) most frequent expenditure sector is the environmental protection, specifically the change in heating technology. In terms of technical equipment, it is an infrastructure for the distribution of natural gas, which must be either constructed in a certain group of municipalities or upgraded in another group of municipalities, in order to increase the capacity of the existing infrastructure as the incoming population puts pressure on municipalities because of their habit of natural gas availability in their original urban dwellings. Mayors stated that such an investment project is planned but it will be realized either after the completion of more

important investments (capacity of sewerage and sewage treatment plants, maintenance of local roads etc.) or only in the situation of increasing demand from citizens. The last expenditure sector is sport and leisure activities, where from the point of view of public facilities there are playgrounds and football fields, culture houses etc, which are either necessary to be built or to reconstruct them. This confirms the conclusions of Coll and Villanueva (2017), but also of Kopáček and Horáčková (2018), as there is an obvious pressure of the newly arrived young people to build leisure time facilities. Mayors stated that this is not the type of investment that would now be necessary to implement. However, such investments are planned, and in the case of free funds or a possibility of subsidy, the municipalities would be interested in modernizing the current sports and cultural facilities or expanding them (Table 2).

Identified consequences of residential suburbanization	Type of public infrastructure	Type of local public service	Sector classification of expenses	Frequency of responses
sewerage, sewage treatment plant-capacity increase	technical	housing	water management	11
nursery schools - capacity increase	civic	education and training	pre-school and primary education	7
local roads - maintenance	transportation	transport and communication	roads	7
increase in passenger cars - lack of parking spaces	transportation	transport and communication	roads	5
gas installation - capacity increase of the existing one, new construction	technical	housing	environmental protection (change of heating technology)	4
sports and cultural facilities - expansion and modernization	civic	cultural development	sport and leisure activities	4

Table 2 – The most frequent consequences of residential suburbanization which puts pressure on local government expenditures

Source: own research and processing

Contrary to the findings of Pronello, Longhi and Gaborieau (2018), the difficulties associated with the lack of capacity of public bus service serving municipalities in suburban zones have not been confirmed. Mayors were also questioned about this issue, however, 9 out of 14 mayors replied that they did not perceive difficulties related to public bus transport in

their municipality. They believe that the capacity and frequency of bus connections is satisfactory in their municipality; which is confirmed by the conclusions of Kristof (2018), who also does not see any complications concerning this matter in the Hungarian environment. Only one mayor of a municipality stated that the inhabitants would welcome a greater frequency of suburban public transport in the municipality, but he does not consider this situation as a problem which would need an intensive solution. However, it is necessary to add that from the point of view of Czech municipalities this is not their expenditure item, as the public bus transport is provided for municipalities by a higher self-governing unit (region). The mayors of the analysed municipalities in the Ústí Region also do not perceive any problems related to health care. Mayors stated that the basic health care is provided on the basis of catchment areas, meaning that health service for smaller municipalities (in terms of population) is provided by larger municipalities, in other cases citizens of a municipality commute into their core town because of health care. Once again, the conclusions of Kristof (2018), who also does not perceive any public's dissatisfaction with health care in the suburban areas within the Hungarian environment, confirm that only basic health care is provided. In conclusion, 6 out of 14 mayors stated that the security situation in their municipality is good and it is not deteriorating, which corresponds to the results of the research carried out by Nemeškal and Jíchová (2018), who claim that the security situation does not deteriorate in municipalities as a result of suburbanization. The assessment of the individual consequences of suburbanization from the point of view of mayors in terms of urgency is summarized in the following table (Table 3).

Identified consequences of residential suburbanization	Impact assessment of residential suburbanization				order of urgency
	need to be addressed urgently	it would be appropriate to address	no need to address	not mentioned in an interview	
sewerage, sewage treatment plant-capacity increase	X (10)	X (1)	X (1)	X (2)	1.
nursery schools - capacity increase	X (7)			X (7)	2.
local roads - maintenance	X (3)	X (4)		X (7)	3.
increase in passenger cars - lack of parking spaces	X (5)		X (1)	X (8)	4.
gas installation - capacity increase of the existing one, new construction		X (4)		X (10)	5.
sports and cultural facilities - expansion		X (4)	X (5)	X (6)	6.

and modernization					
health care			X (5)	X (9)	7.
crime in the municipality			X (6)	X (8)	8.
suburban public transport – capacity increase of service		X (1)	X (9)	X (4)	9.

Table 3 – Assessment of significance of the impacts of residential suburbanization on the municipal budgets

Source: own research and processing

Conclusion

In the 1990s, a process of residential suburbanization began in the Czech Republic, which started to change the spatial arrangement of settlements in terms of population in relation to core and hinterland. Above all, the change occurred in the areas around towns due to the formation of the so-called suburban zones. As a result of the process of residential suburbanization, new inhabitants began to move to the municipalities located in these areas, leaving the core town because of the prospect of better housing in a more favourable environment. The influx of new inhabitants and the frequent high intensity of housing construction caused an unplanned increase in expenditures in the budgets of the affected municipalities. Based on these findings, the main objective of the research was to identify the most significant changes in the expenditures of the municipal budgets in the suburban zones of the statutory towns of the Ústí Region, which were caused by the process of residential suburbanization. On the basis of interviews with the mayors of the municipalities on the topic of population and territorial development, basic knowledge of changes in the area of civic facilities and technical infrastructure was found out. Specifically, it was found in the analysed sample of municipalities that due to residential suburbanization it was necessary to increase the capacities of the municipality, namely in terms of facilities, specifically in the area of kindergartens, facilities for sport and leisure activities, and in terms of technical infrastructure of sewerage, wastewater treatment plant and gas installation. These findings confirm the working hypothesis that municipalities under the pressure of residential suburbanization need to address capacity increases both in the area of civic facilities and technical infrastructure. However, beyond the scope of the hypothesis, the interviews gave information about the need to increase capacity in another area, specifically in the area of transport infrastructure, where mayors noted the increasing demand for parking space due to the increasing level of passenger cars and the associated increased maintenance costs of the roads. Based on the findings of the research, it is evident that in the analysed municipalities it is necessary to implement investment plans in the identified areas of civil and technical facilities, or to allocate more funds to the expenditure budgets of the municipalities. The most urgent investment that the mayors of municipalities had to implement as a result of residential suburbanization was to increase the capacity of sewerage systems or sewage treatment plants, when they identified this investment project as the most expensive and administratively demanding. Other urgent investments included increasing the capacity of kindergartens, maintaining local roads and building parking spaces in

the municipality, where mayors predict the last-mentioned investment as a major problem for the future. Other investments, such as introducing or increasing the capacity of the current gas installation or modernizing and expanding the sports and cultural facilities of the municipality, were also mentioned. According to mayors, these investments can be delayed, and they will only be implemented after the more urgent investments have been completed. It can thus be stated that there are also significant structural changes in the expenditure budgets of municipalities as a result of residential suburbanization. The conclusions of the research may also serve as a starting point for the subsequent comparison of the development of expenditure items of municipal budgets in suburban zones of towns with municipalities of a purely rural character, or a comparison of the availability of public services within these types of municipalities.

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