

**MENDEL UNIVERSITY IN BRNO**

Faculty of Regional Development and International Studies

**Study the Update of Spatial Plan for Municipality  
District Medlánky**

Bachelor thesis

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ZDE VLOŽTE PODEPSANÉ ZADÁNÍ

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## **Abstract**

The purpose of this work is to give readers a comprehensive view on the changes in the concept of spatial plan for the city of Brno and analyze how it influences the city district Medlánky. For the determination of changes were mainly used three variants of the concept of a new spatial plan for the city of Brno. The analysis of changes read up following materials: Variant I, II, III of the concept of upcoming Spatial Plan of Brno, the results of measurements of noise, emissions, traffic flow and speed were also included. These measurements were conducted in Medlánky during the past few years. As starting material were used an assessment of the impact of traffic solution concept of Spatial Plan for Brno on roads and other infrastructure in Medlánky. By carrying out the research it was discovered that some interventions would be a big burden for this part of town and would be conducive to preserving its character and landscape and ultimately could reduce the quality of life Medlánky.

## **Key words**

Sustainable development, spatial planning, strategic planning, suburbanization, regional development, quality of life

## **Abstrakt**

Účelem této práce je poskytnout čtenářům ucelený přehled změn v návrhu Územního plánu města Brna (ÚpmB) a analyzovat dopady, které změny budou mít na městskou část Brno-Medlánky. Pro determinaci změn byly použity tři varianty konceptu nového územního plánu. V samotné analýze změn a určení jejich dopadu byly prostudovány následující materiály: Varianta I, II, III konceptu připravovaného ÚpmB a dále byly v řešení posouzeny výsledky měření hluku, emisí znečišťujících látek, intenzity provozu a rychlosti. Tato měření se v Medláncích prováděla během několika posledních let. Jako další výchozí materiál bylo použito Posouzení dopadu dopravního řešení konceptu územního plánu města Brna na komunikace a ostatní infrastrukturu v k.u. Medlánky. Provedeným výzkumem jsme zjistili, že některé zásahy, patrně z nově připravovaného územního plánu, by byly velkou zátěží pro tuto městskou část a nenapomáhaly by zachování jejího charakteru a krajinného rázu a v neposlední řadě by mohly snížit kvalitu života obyvatel Medlánek.

## **Klíčová slova**

Udržitelný rozvoj, územní plánování, strategické plánování, suburbanizace, regionální rozvoj, kvalita života

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# 1 INTRODUCTION

Spatial planning is a process that comprehensively solve the functional use of space. It sets out the principles of its organization, forms the shape of the territory and thereby affects its development. The basic document for spatial planning is a spatial plan. This plan is always prepared for the whole territory of the municipality and it is used for directing its development. Spatial planning is a set of measures that is not related only to the appearance of specific landscape. Closely affects all people who live within a given territory. It influences the number of households that can occur in a location. It defines an area that can be used for recreation and leisure. This process also determines the type of industry which is possible to be dealing within a given locality.

At the present time a new spatial plan in the city of Brno is being prepared. Its concept is presented in three variants and each variant represents how the individual plots will change in functional recovery or whether the purpose of the area will remain the same as in the current plan.

The author aims to evaluate planned changes for the area of the city district Brno-Medlánky. Precisely because of there are planned big changes and these changes could affect the sustainable development of the district. The author is actively interested in these changes as a local resident and she aims to assess whether the new spatial plan will contribute to improving the quality of life in Medlánky.

Another part of this thesis deals with the theoretical overview of the issues. Each term that needs to be understood is defined and briefly described on the basis of literature and other sources. The thesis continues with characteristics of the selected area and it includes a description of Medlánky from historical and socio-demographic point of view. It is also introduced in natural and cultural richness of the area.

The work is using several methodologies. At first the thesis deals with literary review of the issue. Above all, it is a basic summary of the topics that are processed on the basis of several professional publications. It is therefore a descriptive method. The author provides detailed information about the selected location, i.e. the city district Brno-Medlánky and method of description is applied again. Chapter continues with socio-demographic analysis of Medlánky. Summarizing relevant facts that are necessary for an understanding of the specific issues in this field. Here is used analytical method. The last chapters are dedicated to the characteristics and to answer of specific issues thus the analysis of the amendments proposed for the concept of a new Spatial Plan for the city of Brno and subsequent synthesis of findings. It determines how the planned changes may affect the quality of life in Medlánky.

In the last part the author describes the results, territorial changes that are for Medlánky proposed in three variants of concept of Spatial Plan for Brno. It deals only with larger territorial interventions that have effect on traffic situation in this area. The author also explains how individual changes could influence development of the city district if these changes would be implemented.



## **2 OBJECTIVE AND MOTIVE OF THE THESIS**

The thesis intends to discuss the topic of spatial planning in the territory of Brno-Medlánky. It will also discuss the changes arising from the site of the newly prepared concept of Spatial Plan for the city of Brno. This work aims to analyze whether the upcoming changes in the new spatial plan will improve the quality of life in the area or not.

The basic document about spatial planning is a valid spatial plan. This plan has three variants that presents the planned interventions.

The thesis focuses on the individual points of all three variants of the new spatial plan and evaluates their impact on Municipal District Medlánky. Due to the complicated issues, study aims to justify summarization of the changes with factual results that are originally from several different analyzes and measurements. These measurements were developed in recent years by the city district. They relate in noise limits, traffic congestion at the area and monitoring of air pollutants. Goal of this work is to use these and other facts to valorized situation where these various changes in the spatial plan would have been implemented and proposed solutions that could improve the situation.

### **3 OVERVIEW OF THE PROBLEM**

In the few following subsections there is a brief characteristics and a strict definition of theoretical terms. These terms and definitions are necessary to be understood for better orientation in the field that this thesis describes.

#### ***3.1 Sustainable development***

Sustainable development is a concept appearing in a lot of human activities. It could be basically said that sustainable development takes a part across many fields such as natural sciences, philosophy or arts. This concept unconsciously affects us. At the beginning of the concept of sustainable development was the idea that natural resources or the ability of ecosystems to assimilate the consequences of human activity are not unlimited. Therefore, economic growth and social well-being can't always ensure the drawdown of these resources, let alone ecological stability at the expense of the environment. The basic theme of sustainable development is the relationship between human and nature, respectively coexistence between human settlements and landscapes. This idea was settled in the 19th century. As an impulse for reanimating this problem were problems with the deteriorating state of the environment and the world energy crisis in the early 70s of the 20th century. (Chiras, Reganold, 2009)

Sustainable development is a subject of political decisions, governing institutions and it is also a part of some economic strategies. It can also exhibit in social system as a part of values, norms and cultural habits with which people either identify themselves, completely reject them or ignore them. In this context the sustainable development is being researched or solved mostly by environmental sociology, for which it is one of the main topics. (Chiras, Reganold, 2009)

Sustainable development is a notion of human developing which does not lead to degradation of the life quality on the Earth. There are several ways how to define it. One of the most frequently used one was created in 1987 when the World Commission on Environment and Development released a report entitled *Our Common Future* (also known as the "Brundtland report") mostly talking about future development of planet Earth. This definition says that "Sustainable development pleases the needs of our generation without limiting the needs of future generations". (Our Common Future 1987: Chapter 2)

#### ***3.2 Regional development***

Regional development is a complex of processes that occurs within regions and which relate to the positive economic, social, environmental and other changes in the region. (Wokoun, 2008)

In general, the development can be described as a process of positive changes. Regional development is the qualitative characteristics that expresses approaching the targeted "ideal" state according to the ideas of relevant actors. In terms the specific locality is further used the concept of local development. It is used for development at the municipal level, possibly higher territorial units. Local and regional development is the imaginary organizational structure in terms of human resource management. It is considered under the responsibility of local or regional authorities, which are under its jurisdiction responsibly. (Redlichová, 2013)

### ***3.3 Spatial and strategic planning***

**Spatial planning** can be described as a set of steps that are drawing on the possibilities and limits of handling certain area. It is a process whose goal and purpose is to comprehensively and systematically concern functional use of space. It determines the organizational principles and coordinates different activities in the area affecting its development. (Lampartová, Schneider, 2013)

**The spatial plan** is a basic conceptual spatial planning document processed for the whole municipality and used to direct the development of the municipality. It is mandatory for the issuance of a regulatory plan. The spatial plan divides the territory and defines it in areas that are determined by the specific conditions, requirements and demands in a given location. Areas are defined by existing or desired method of use and according to importance. (Serafín, 2012)

In the current situation there is a concept of Spatial Plan for the city of Brno. It is currently presented in three different variations. Also there has been prepared a study that directly analyzes and evaluates what will be the impact of the forthcoming plan for sustainable urban development. This study (*Vyhodnocení vlivů konceptu na udržitelný rozvoj území*, 2009) takes as its starting point the basic balance of the environment, society and economy. It specially analyzes details of anticipated impacts of development and sustainability of Brno. Specific examples of imbalance in Brno such as massive suburbanization increase in car traffic, the existence of brownfields or the limited capacity of the sewerage network. (Lampartová, Schneider, 2013)

**The regulatory plan** is another way how to improve the whole situation. This plan is usually developed for Stage County or for a part of a municipality. Regulatory plan sets designed planes with specific conditions for the use of landscapes, for the location and spatial arrangement of buildings, for the protection of values and character and to create a beneficial environment. (Serafín, 2012)

**Strategic planning** can be generally characterized as a process of identifying and achieving long-term goals. It is a systematic way to organize. It manages changes and develops wide consensus in villages, towns or regions for a better common vision and better economic future. (Davoudi, Strange, 2008)

**The Strategic Plan** is therefore a conceptual document that describes key phenomena of a specific territory. It evaluates them and suggests long-term goals for them. It measures whose implementation should lead to the positive development of the locality and which helps the growth of the local economy. It also helps the development of social and cultural activities and environmental protection and sustainable development. (Davoudi, Strange, 2008)

Another document that is brought among other things is the idea of sustainable development of the city called *Strategie pro Brno* (2014). This strategy contains two parts: the analytical one where is a description of Brno in all areas and the other one which sets tasks for the future of Brno city. Here can be also find items how to improve the overall quality of life (and by extension the environment). (*Brno*, online)

The strategy is closely related to the spatial plan<sup>1</sup>. The strategy should respect this plan within the meaning of already existing land-use technical terms. The coordination of these two policy documents is extremely important and necessary since the spatial plan is one of the most powerful tool for implementing the strategy of the municipality. In legal terms the strategic plan has the character of binding legislation unlike land-use plan is mostly coordinating a notifying one. However proposed projects should be bonded by the creator himself. (Davoudi, Strange, 2008)

The main differences that differ strategic documents from territorial ones include:

- strategic document that describes the development of the territory but also the social, cultural, economic and ecological point;
- establish a conceptual and strategic goals of the municipality and responds to current issues;
- do not specify the detailed land use, only generally establish rules for community development;
- look for problem areas in terms of population;
- strive for consistency of interests of all parties in the municipality. (Davoudi, Strange, 2008)

### ***3.4 Urbanization***

The concept of urbanization can be defined in two possible ways: geographically and sociologically. According to the geographical concept of urbanization is a change in spatial planning of settlements and population. Sociological concept conversely explains urbanization as a change in the structure and organization of society. After connecting both views urbanization can be seen as a change in the socio-spatial organization of society according to Muliček (2002).

### ***3.5 Suburbanization and its effects***

**Suburbanization** is one of the urbanization processes which is currently the most intensively changing socio-spatial organization of society and settlement structure in the Czech Republic. (Ouředníček, Temelová, 2008) This is a typical process of enlargement the city territories which can be observed in most cities in developed countries and also in the historical development these cities. (Muliček 2002)

Suburbanization is one of the trends how to organize cities. Thanks to that there is a spatial urban expansion. New residential areas are growing and zones for commercial uses are expanding. Suburbanization brings a radical and essentially irreversible changes in the system of settlement and land use in humans. According to Muliček (2002) it is understood suburbanization as the growth of the city spatial expansion into the surrounding countryside and the natural landscapes. Suburban zone which is affected by suburbanization can be characterized by family houses with private gardens. These houses often create socially homogeneous residential zones. The suburbanization can be also viewed as a change of how people live in the suburbs. Those people

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<sup>1</sup> The spatial plan has a long-term validity of 10 years but it can be continually updated.

partially adapt their lifestyle conditions in the new residences. It also affects the character of most suburban locations. (Muliček 2002)

**Residential suburbanization** is mainly showed by people moving from the center of the city to the surrounding villages. Hypothetically speaking people are leaving the hinterland of the city with expectations of better future beyond the city borders. (Ouředníček, Temelová, 2008)

**Commercial suburbanization** is clearly showed by areas mainly located along the main roads. Most of the new areas of commercial construction are built on the place of the original fields called "greenfields". Typical functions that since the early 90s of the 20th century are moving from towns to their background are logistics centers, supermarkets and other shops, partly production and entertainment moves too. (Ouředníček, Temelová, 2008)

Even though the consequences of suburbanization can be positively evaluated from the economic point of view they can have negative social or environmental impacts. Against that many authors consider suburbanization as a negative phenomenon. They mean suburbanization has negative effects in the economic, cultural, social, environmental and more fields.

### **3.5.1 Reasons of suburbanization**

Suburbanization can be characterized as a complex process that is caused by an amount of related factors. Urbanization of the suburban landscape in the Czech Republic has enabled the growth of wealth of the population. This has brought a desire for better housing in the suburbs. (Ouředníček Urbánková, 2006) As another causes technological advances in transportation are included and to it related development of infrastructure and support from the government for acquisition of housing. During the construction of commercial space are the most important factors good access to parcels, large size of the area and possibly the low price of these lands. An important role in this process takes the state or the competent authority that may prioritize a new construction. (Ouředníček, Temelová 2007)

### **3.5.2 Negative impacts of suburbanization**

Large number of authors deals with this issue. They consider suburbanization as a negative phenomenon. They talk about the negative effects of suburbanization in the economic, cultural, social, and environmental and transportation spheres. The following chapters will the negative effect of suburbanization divide into different categories.

According to Šilhánková it is really important to wisely use the area or territory while creating new buildings. She thinks that it is a source for realization the human needs in certain time and certain place and its overuse can cause disruption or devastation of the natural environment. (Šilhánková, 2007)

These following elements are important for preserving the natural environment:

- the functional structure of the territory which can positively or negatively affects the functioning of the city and its management;
- operating structure which is necessary to ensure optimal connections between the various operating units of the city as for example are satellite towns and centers for services;
- dividing the territory into built-up areas and public places and by that clearly defined spatial structure and arrangement of the territory. (Šilhánková, 2007)

## **Environmental area**

Ouředníček, Temelová and Šilhánková they all agreed on some negative environmental impacts. According to them the new construction in the hinterland causes following:

- reduces the amount of space for recreational and agricultural use;
- affects biodiversity and causes changes in soil, water and climate microsystems;
- causes emissions and deteriorates traffic noises;
- causes loss of energy and loss of water distribution networks;
- causes disordered growth of isolated residential zones and it associate costs for implementation of services, jobs, shops, etc.;
- modifies the local landscape view. As well as urban structure and architectural character of rural settlements in the hinterland of Czech cities. (Šilhánková, 2007) (Cílek, Ložek, 2011)

European Commission separately includes in the so-called negative impact of suburbanization soil sealing. This phenomenon is defined as ground covering of impermeable material. Soil sealing often adversely affect farm soil, increases the risk of flooding and water deficit and threatens biodiversity and contributes to global warming. (*European Commission*, online)

## **Economic area**

Other authors also mention economic impacts. Those are closely related to the environmental impacts. Among the economic one it can be classified according to him like this:

- high demands on energy consumption and high demands for the construction of technical infrastructure and amenities;
- dependency of the population using their car and the related frequent traffic jams. (Ouředníček, Špačková, Novák, 2006)

## **Social area**

Suburbanization is a selective process that involves only one group of the population and it leads to a strengthening of social segregation which means that society is divided by their social status. When planning, aspect of social headquarter is often neglected. For example the availability of amenities, spending the free time and availability of public space. The followings are social consequences of suburbanization by Sýkora (2002):

- frequent personalized commuting by car;
- migration to suburban locations with high social status as a result this can lead to very high segregation between the inhabitants of the suburbs and people living in the inner city neighborhoods;
- the new settlers are sometimes negatively taken by the old inhabitants - loss of social cohesion;
- weakening of social capital and civil society.

According to other authors there might be another social impacts such as:

- Financial burden on municipalities caused by growing number of new migratory – the costs of communications, utilities and sidewalks, are increasing. It occurs that the original village dilapidate and new rich neighborhoods grow on the edge of the city;
- increasing levels of traffic congestion caused by the low population density in suburbanized areas;
- polarization of socio-spatial structure (Sýkora, 2002), frequent cause of dispute in between old and new residents is a different way of life, because of that it can be seen a divided social environment inside a small community with a distinct separation of new residents and this reduces social cohesion in village settlements. (Ouředníček, Temelová, 2008)

### **3.5.3 Positive impacts of suburbanization**

If population moves to the suburbs it brings many consequences. As described above, literature often discovers adverse impacts but equally also positive impacts should be mentioned. The different effects of suburbanization can be viewed either as a development opportunity or as a threat to development and functioning of territorial units. It is up to each municipality or city district how these impacts can adjust. Monitor them and possibly regulate them. Therefore what for one municipality may be an opportunity can become a threat to another. (Ouředníček, Temelová, 2008) As the positive impact of suburbanization can be perceived:

- an opportunity to live in the nature or at least closer to the nature;
- an inflow of funds into the general budget and boroughs budget;
- an introduction or expansion of services;
- localization of new job opportunities;
- improve of local infrastructure (Ouředníček, Temelová, 2008);
- improve of the density of public. (Sýkora, 2002)

## **3.6 Examples of suburbanization**

The following sections shows examples of cities where the suburbanization effects the city. The development of this phenomenon is here briefly described and express with the specific changes in the character of the city.

### **3.6.1 Development of suburbanization in Prague**

In our country the process of suburbanization affects most intensely Prague and its hinterland. The basic spatial patterns of residential development and commercial suburb of the capital can be observed some signs of the suburban phenomenon. The development of shopping centers and industrial zones comes together with purely residential localities without work or any service functions. Storage areas, hypermarkets and new industrial zones are mostly built on greenfields. Residential suburbanization around Prague is mostly being done individually or with developer's construction. That forms a new neighborhood with small connection to the existing settlement on the site of the original fields. From the perspective of future sustainability is highly desirable for the new construction to be created in response to the installation of existing settlements. These

have public transport, municipal services and are provide with at least basic amenities. (Ouředníček, Temelová, 2008)

According to Ouředníček (2003) Suburbanization in the hinterland of Prague begun to be more prominent during the Industrial Revolution as well as in other major European cities. People from surrounding rural areas are moving to Prague and at the same time there is a part of population moving from the city center to its facilities. Karlín, Žižkov and Vinohrady were the important cores of Prague.

At the beginning of the 20th century causes of suburbanization are divided into two basic groups. The first reason for suburbanization was the people's desire for better housing quality. Especially for rich population with higher standards. The second reason is moving because of better work opportunities. Most of the industrial work vacancies were concentrated in the center of Prague. (Temelová, Pospíšilová, Ouředníček, 2012)

The suspension of this process occurred during the Second World War. Prague also wasn't significantly growing during the socialist era. Another natural growth of the city was limited by socialist housing policy. Smaller apartment buildings were created rather than family houses. Interesting new idea was a new phenomenon called "second home or housing". Many people living in the center of the city were used to leave to their cabins and cottages around the capital. Therefore in the socialist period there was a growth of larger villages or small towns around the capital and also around Modřany, Říčany, Úvaly, Brandýs nad Labem-Stará Boleslav and some other cities had good economic background and job offers at the beginning of communist era. Division of municipalities on the departmental and non-departmental and restrictions of an investments in the second group of municipalities caused concentration of population and economic activities in bigger centers. However the population growth of surrounding townships or towns was not primarily the result of suburbanization processes but result of urbanization. (Ouředníček, 2003)

After that according to Ouředníček (2003) the development of a suburban area is influenced by many social and economic processes that gradually reflect the spatial structure of the city and the urban region. In addition to significant development of commercial activity is very distinctive residential suburbanization process that from the beginning occurs mainly in attractive locations but progressively extends into the transport and utilities less equipped residences. During the 90s the law against the traffic situation reached a critical situation in Prague. The increase of the number of registered cars is unique in the European context. Every day Prague takes more than 200 thousand cars. These are complemented with transit and local traffic. The reasons for such a strong increase in traffic is a lot but suburbanization is one of the most important one. Ongoing suburbanization increases the volume of traffic in the outer areas of the city. In the southern hinterland the development of residential suburbanization was very dynamic. Since 1989, the population of some municipalities more than doubled and throughout the population increased by more than 40%. The main increases occurred in the direction of the hinterland to the city core. Especially on Benešovská road and highway D1. (Urbánková, Ouředníček, 2006)



### 3.6.2 Development of suburbanization in Ostrava

In the case of Ostrava suburbanization it takes place in a different way compared to other Czech cities. High industrial Ostrava region was accompanied with the economic problems associated with the conversion of the economy. This is the reason why process of suburbanization started a few years later than for example in Prague, Pilsen, Brno and other cities of the Republic. (Cílek, Ložek, 2011)

In relation to the specific spatial structure highly agglomerated areas are many attractive villages located further from the city hinterland. Partly to the west but mostly to the south of Ostrava in the foothills of Beskydy. These municipalities (Čeladná, Ostravice, Metylovice) also exhibit the highest net migration since the year 2000. It can be assumed that this area will attract more residents. Not only from Ostrava. Another assumption is that the area will join with other municipalities. (*Ostrava*, online)

During the period of the late 20th and early 21st centuries most attractive rural communities laid primarily in the nearest town hinterland. Since East of Ostrava is enveloped only by urban landscape emigrants are heading to neighboring villages in the south (e.g. into Brušperk or Stará Ves nad Ondřejnicí) and partly to the north (e.g. Ludgeřovice, Markvartovice and Šilheřovice). The most attractive landscape for creating a family home is Poruba. It is located in the west from Ostrava city (Poruba includes Klimkovice, Vřesina, Velký Polom and Nížká Lhota), Poruba has the lowest air pollution in Ostrava. This is also the area where the highest increase of migrants was recorded. Given the amount of available land and minimal obstacles from the local authorities it is expected that also in this area the population will grow in the near future space. (Cílek, Ložek, 2011)

For a more detailed analysis of the process of suburbanization of Ostrava background and for understanding its character is highly important the evaluation of migrant populations according to their demographic data. The reason for which people change their permanent residence is important as well. The most relevant feature pointing to ongoing suburbanization is a high proportion of educated population. This group of people has the most sufficient financial capacity to pay the market price for a new house. According to the Czech Statistical Office (2011) the number of people with higher education increases since 1990 and more notably since 1998. Since that year also the total number of immigrants increased significantly. This year also corresponds with a renewed increase in housing construction in the Czech Republic. Therefore the year 1998 can be considered as the beginning of intensive growth rate of suburbanization in the Ostrava region. (Cílek, Ložek, 2011)

According to CZSO (2011) gender and age of suburban background gained from Ostrava since 1990 approximately equal numbers of men and women. Most of those were in the age of 30-40 years and children were under 10 years of age. High proportions of migrating married men and married women revealed the assumption of primarily families with small children.

### ***3.7 Quality of life***

Relatively general topic such as quality of life makes this concept difficult to be defined. Focus on quality of life can be traced in many areas of society, it intervenes in many disciplines. The quality of life is seen as a multidimensional variable. Common to most definitions is that they often contain data on physical, mental and social status of individuals. Includes not only the sense of physical health and the absence of symptoms of the disease or treatment but also physical condition, social positions, religious and economic aspects, etc. Definition of quality of life is based on Maslow's theory of needs i.e. fulfilling basic physiological needs.

Quality of life is how individual perceives its position in the world in the context of culture and value systems in which they live and in relation to its objectives expectations of lifestyle and interests. (Motlová, Bankovská, Španiel, 2013)

Quality of life can have an important role in regional planning. Spatial plan can be an instrument of quality in life and it can support its development. (Pokludová, Šilhánková, 2005)

## 4 METHODOLOGICAL

The first part of the thesis is devoted to literary review of the issue. Above all, it is a basic summary of the topics that are processed on the basis of several professional publications. Therefore it is a descriptive method. There are special explanations of basic concepts that are sustainable development, regional development, spatial and strategic planning, urbanization and suburbanization and quality of life. The thesis deals with specific problems of the territory, which is influenced by the suburbanization. There are few chapters devoted to description of the impact of this phenomenon. In following last subchapters there are two examples of cities with significant demonstration of suburbanization.

The second part provides detailed information about the selected location, i.e. the city district of Brno-Medlánky. Method of description is applied again. In the introduction there is historical development of Medlánky properly described, followed by the characteristics of the local natural and cultural values. Also in this section processing takes place on the basis summarize of important information from several literary and electronic sources. Chapter continues by socio-demographic analysis of Medlánky. It summarizes the relevant facts which are necessary for understanding the specific issues in the field. The procedure involves processing data from the Czech Statistical Office (CZSO) and the creation of graphical representations of specific data.

The last section is devoted to the characteristics and to specifying of the issues. It is devoted to the analysis of the amendments that are proposed for the concept of a new Spatial Plan for the city of Brno. Also to subsequent synthesis of findings and determination of how the planned changes may affect the quality of life in Medlánky. A list of specific names is verbal summary of the graphical part of the concept of spatial plan and it is complemented by both empirical experience as well as those that originate from measurement and monitoring. These measurements of the area of Medlánky have happened in the last few years. Because the problem is described mainly in spatial planning documents, individual changes are vividly drawn and then attached. As a main source was used a graphical part of the new spatial plan here.

The necessary information required for the practical part were obtained from several interviews with the mayor of Medlánky, JUDr. Michal Marek, and from materials that were acquired from these interviews.

## **5 DESCRIPTION OF MUNICIPAL DISTRICT MEDLÁNKY**

### ***5.1 History***

The first preserved written document is a charter of King Wenceslas I of the 14th August 1237, evidencing the existence of the village. Destroyed by his own war dragging and yet belonging to the school of St. Petr in Brno in exchange for its assets intact Bosonohy. Municipal District of Medlánky had many different owners during the following centuries. This area was mostly ruled by lords and noble families. (Kuča, 2000)

Medlánky became an independent Municipal District in 1990. Since then the village held a number of construction activities that have a significant impact on the urban look. There was built a retirement home whose residents were involved in the events of the village and also there was built SOS Children's Village. A number of reconstruction district has a newly built apartments or community center Granary. (Kuča, 2000)

### ***5.2 Natural and cultural heritage***

Medlánky is one of the smallest boroughs of Brno, which decompose in the valley between the hills of Medlánky, the western part of the land rises into the wooded hills to the border city of Brno. A large part of the land is planned to construct, northwest area is forested, pervaded numerous cottages and gardening areas.

#### **5.2.1 Natural heritage**

The land is planned to construct several territories which enjoy legal protection for its exceptional character. These include the natural monument "Medlánecké kopce", natural monument "Medlánecká Skalka,", nature park "Baba", significant landscape element "Bosně", a significant landscape element "Zámecký park", an important landscape element "gophers reservation" in the area of Medlánky sports airport. The area is planned to construct also a number of other natural monuments that for its uniqueness rightly deserves a protection. Such as the ponds, wetlands or the bio-corridor along the creek. Bio-corridor along the creek is proposed in the spatial plan. Not far from the beginning of bio-corridor there are new construction of residential complexes "V Újezdech" and "Kouzelné Medlánky". The creek arising on the edge of the natural park Baba was straightened and partly piped for an "agricultural production". Narrow stream bank between the overgrown with reeds and willows airtime, ash or walnut. (*Mapy*, online)

Bio-corridors are one of the basic elements of Territorial systems of ecological stability, which are places in a cultural landscape with relatively high non-production value. Their importance is primarily biological, soil conservation, water management and, last but not least, aesthetic or landscaping. Bio-corridors are designed and recorded on the basis of field investigation and are indicated in the spatial plan. Bio-corridor of Medlánky is located on land owned by the city of Brno. (Flodrová, Teplý, 2013)

Medlánky passes the trail of Medlánky which longest route is 5 km long with 11 stops acquainting visitors with the history planned to construct their fauna, flora and local attractions.

### 5.2.2 Cultural heritage

National Heritage Institute in Brno records since 1935 as a monument in Medlánky the following objects: castle, Castle Park, farmyard, ST. Jan Nepomucký, a bell tower, a monument to the fallen, two crosses and a brickworks site. (Flodrová, 2008)

The number of organizations operating here mentions the Aero Club of Medlánky, civic association's rich in tradition, whose roots date back to 1924 - one of the largest and also the oldest flying clubs in the Czech Republic. (*Aeroklub Brno-Medlánky*, online)

Important natives were planned to construct by Ing. Dr. Rudolf Spazier (1887 - 1963), professor of VUT Brno, Vítězslava Kaprálová (1915 - 1940), daughter of the composer and teacher of Vítězslava Kaprálová, composer, conductor, Vlastimil Bubník, had born on 18th 3rd 1931 - The Legend of Czech sport. (Flodrová, 2008)

### 5.3 Socio-demographical development

Until recently Medlánky was one of the city parts of Brno with the smallest amount of population. But then there have been built large development projects for housing estates, which over the years had significant impact not only on population growth. This phenomenon is captured in the following chart. According to CZSO (2001, 2011) it is apparent that the population in 2001 compared to 2011 was almost half of it.

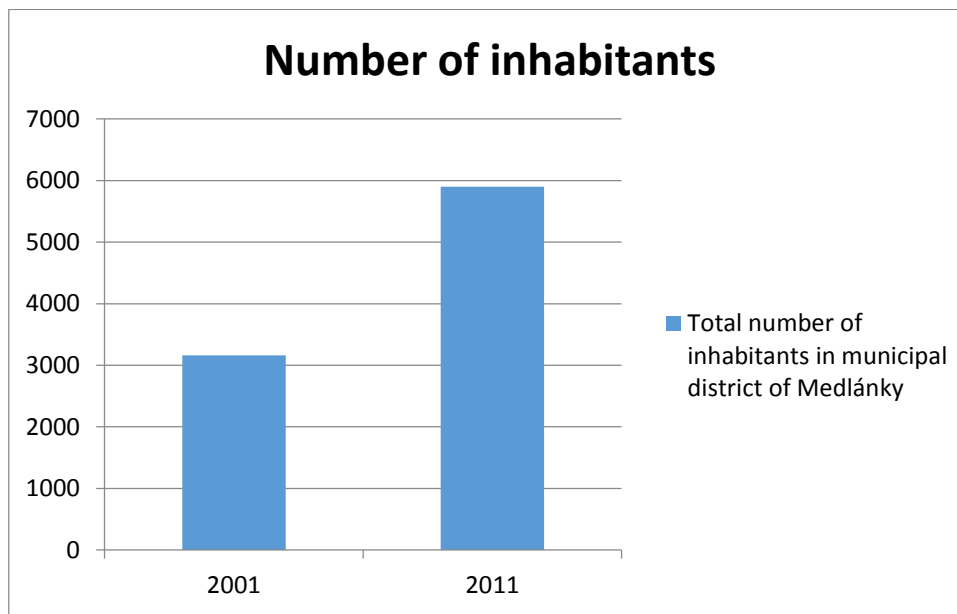


Chart 1 Number of inhabitants (source: self-processing according to CZSO data, 2001-2011)

According to CZSO data from years 2001 to 2011 the number of occupied apartments in Medlánky has more than doubled (from 1,135 in 2001 to 2,438 in 2011). While the number of occupied houses remained almost unchanged (from 412 in 2001 to 526 in 2011). Explanations can be found right in the implementation of development projects that are aimed at the construction of residential houses, not to be build a family houses.

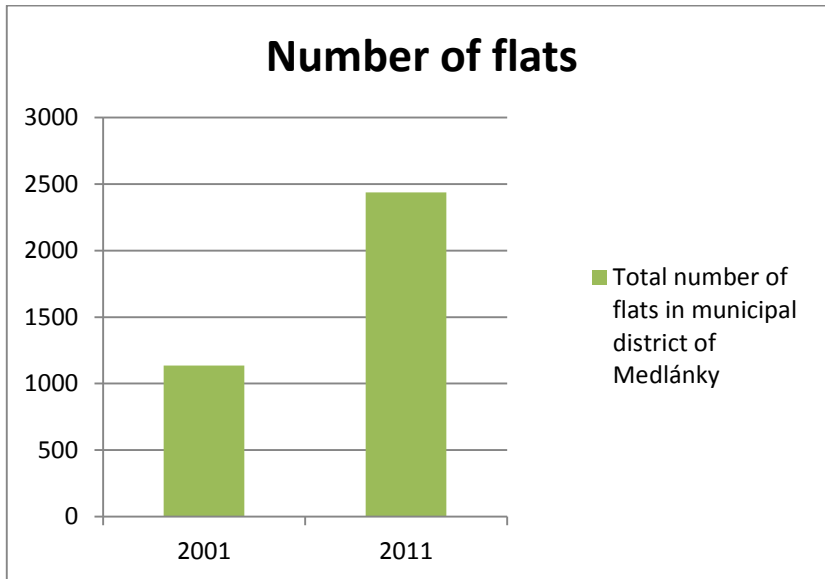


Chart 2 Number of flats (source: self-processing according to CZSO data, 2001-2011)

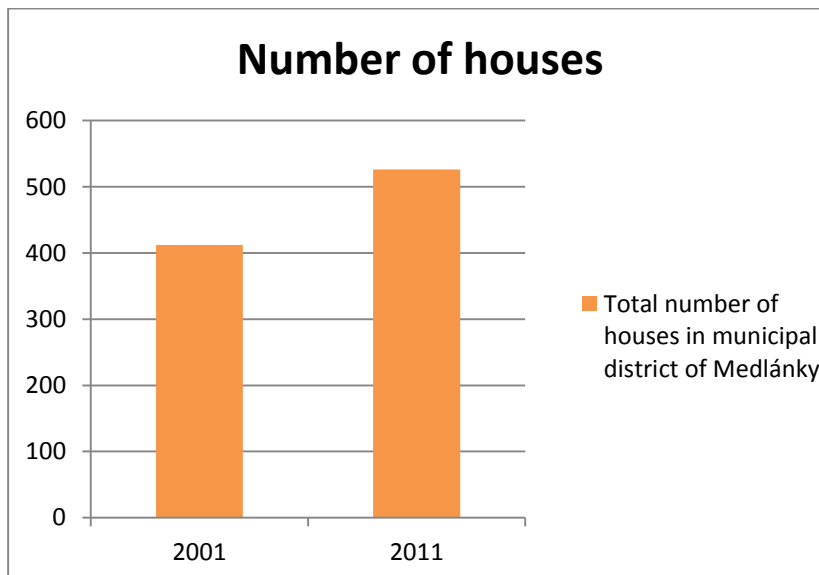


Chart 3 Number of houses (source: self-processing according to CZSO data, 2001-2011)

It also significantly reduced the average age of the people of this district, which nowadays, according to CZSO (2011), is 36.4 years. It is planned the new citizens due to the nature of construction became particularly young people and families with small children. It was a huge increase in the number of urban citizens relates current challenges facing the Hall of Medlánky. The greatest is the lack of amenities which is improving in last years. The solution to some of the largest problems is for example newly built extension kindergarten on Hudcova Street, which in three departments welcomed 75 children in the spring of last year. City Hall, which must get funds to other investment projects in the field of education, the attic elementary school on Hudcova

Street, allowing the construction of four new classes for the first stage. Locality of Medlánky also addresses the improvement of lack of space for leisure activities for children and adults, high quality outdoor sports and recreation areas and a source of money for the reconstruction of the sports complex used by football club Medlánky.

#### 5.4 Medlánky in numbers

The following data are based on measurements from Czech Statistical Office and they are represents graphically for better readability. Because of high amount of Brno city districts there are always used the highest results of the first twenty measured area.

**Percentage of population with a university education** forms a distinct socio - spatial pattern. High values of this variable were recorded in a continuous area of the inner city, close to the center from the northwest. The city part Medlánky it has the highest proportion of university graduates from all parts of Brno. There is a total amount of 48.3% of them. This phenomenon can be explained particularly by migration of middle and upper classes to Medlánky (due to the higher financial cost) are more likely to have completed the university education.

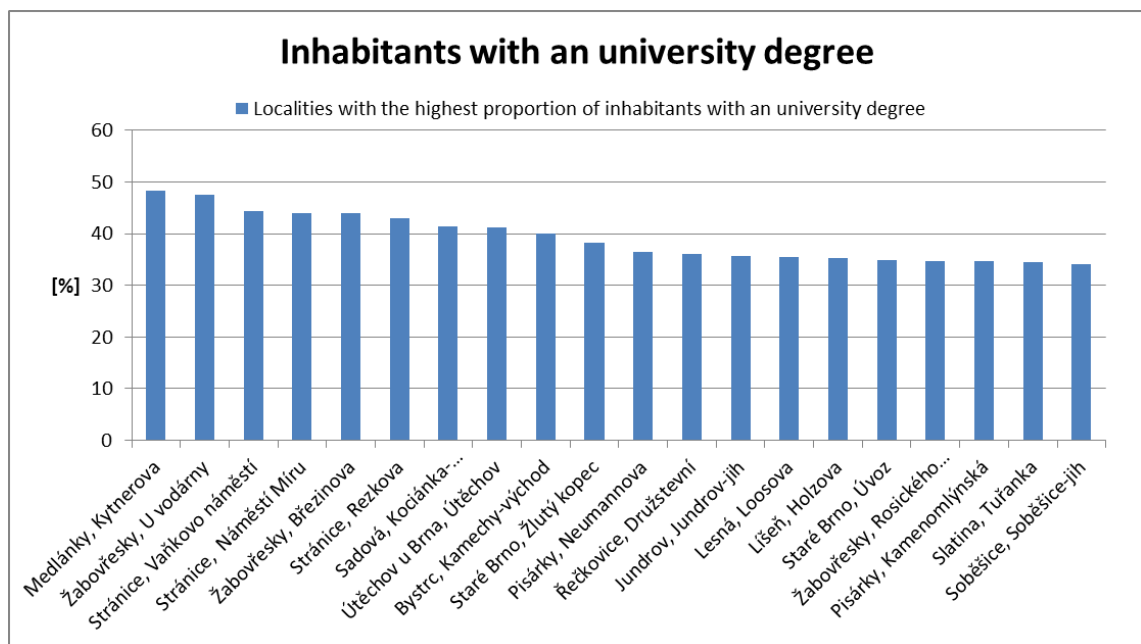


Chart 4 Inhabitants with a university degree (source: self-processing according to CZSO data, 2011)

The highest **concentration of economically active** inhabitants are found at the center of one hand city (specifically just for its northern and western border) and at the same time the city edges, where the economically stronger leave homes to build their new home. Medlánky is a classic example of these parts and a population of 56.63 % of the economically active population.

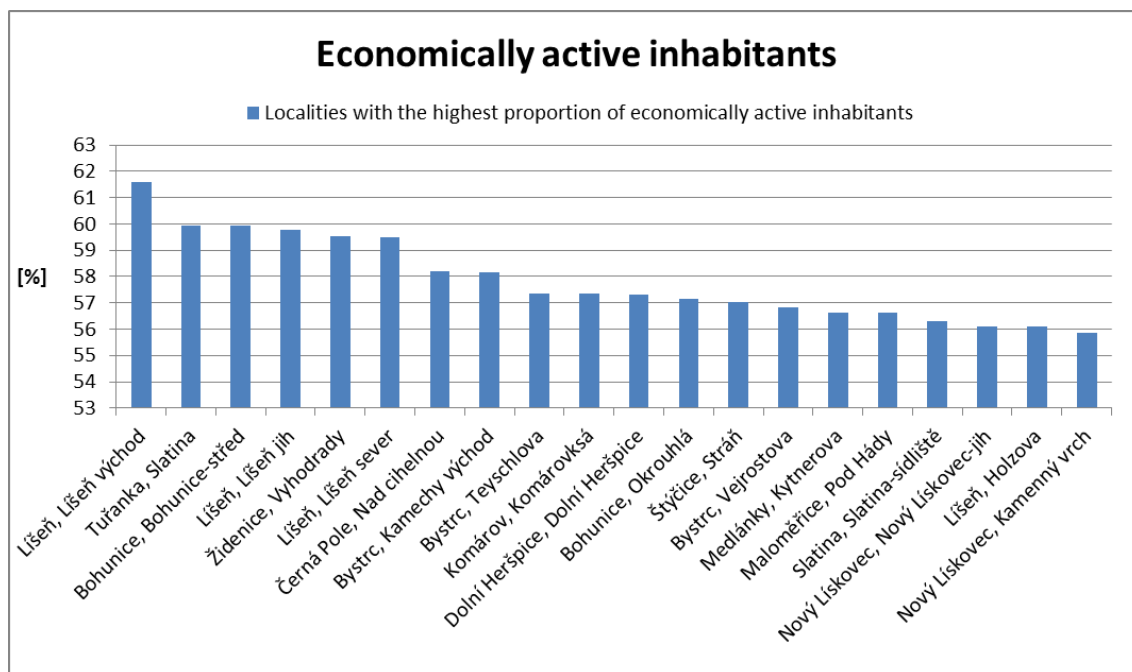


Chart 5 Economically active inhabitants (source: self-processing according to CZSO data, 2011)

## 5.5 Introduction to the problem

Medlánky is one of the smallest boroughs of Brno, which decompose in the valley between the Medlánky hills, the western part of the cadastral rises into the wooded hills to the border city of Brno. A considerable part of the land Medlánky is undeveloped, northwest area is forested, imbued with numerous cabins and gardening areas. On the land of Medlánky there are several areas that are granted by legal protection for its exceptional character.

All positive elements that were mentioned higher, mention the minimum share of industry and other productive activities in nature and still quite reasonable developments give to Medlánky a statute of residential and leisure district. It is planned that it is deemed necessary to maintain further the quality of its character and reasonably support, not disrupt or even destroy, not only in the interest of the people to construct, but in the interest of the entire city of Brno and its surroundings.

These positive natural, cultural, civilizational and aesthetic values of Medlánky in addition to its uniqueness which gives Medlánky also constitute the limits of its development, both in a positive and negative sense with regard to the sustainability of the local area.

Opposition of a majority of the public in Medlánky with plans to build new roads and housing, are presented in the draft versions of the new Spatial Plan for Brno. It resulted in a clearly negative opinion of the borough council and also the provisions of the Civil Association Občané pro Medlánky. A large number of citizens took the opportunity and opposed an objection, unless a superior concept disagreed. On the basis of the opposition was drafted an opinion on the concept of a new spatial plan that was presented to the city government. Subsequent to the opinion of the municipality The Brno City Hall not too clearly expressed and confirmed that they acknowledged the objections. As recently led a variation of the Brno City Council makes it difficult to predict how the situation will further develop.



It is necessary to say that the proposed large-scale housing construction in Medlánky and towards Ivanovice or housing construction at the expense of the gardens and the new road clutch Ivanovice, Komín and delays of Medlánky would ultimately entail a significant reduction in the quality of the local housing. That cannot be in no way regarded as sustainable development of the area. It cannot be considered as appropriate for the planned improvements to the city. It was implemented at the expense of quality of life and environment of the inhabitants of Medlánky.

## 6 THE RESULTS

This chapter describes interventions that are listed in the different variants of the concept of a new spatial plan. Then there are also presented specific changes that would adversely affect the quality of life in Medlánky. Each change is zoomed in details and is also evaluated why it would negatively affect the city district Medlánky. This chapter is mainly based on results of an assessment of the impact in traffic solution concept of Brno Spatial Plan and it is developed by HBH Company (2011). The project is followed by measuring the intensity of the operation carried out at boroughs various locations. Monitoring of air pollution and measurements of the noise in the area.

Individual changes are presented on specific areas identified by an abbreviation "Me" as Medlánky and number specifying the sequence (location) of area. These changes are defined on the urban point of view (conditions for the use areas) and the source comes from the text part of the concept of new Spatial Plan for the City of Brno.

### 6.1 Variant I

Built-up areas:

- **Me-1** development in the east countryside (greenery) of Medlánecký kopec (in the site there are designed commercial amenities – it is expected to use it for technology park and residential character of the houses);
- **Me-2** development area that is not disturbing for production near the Medlánky depot;
- **Me-3** completion of mixed residential areas on Hudcova Street;
- **Me-4** new space area for public facilities (schools) on Hudcova Street;
- **Me-5** completion of living houses on the Street called Hrázka;
- **Me-6** living in family houses on Turistická Street;
- **Me-7** development site for housing in family houses and sports area are designed to place the gardens north of the Turistická Street with an undeveloped parts;
- **Me-8** development site for housing in residential buildings. Mixed residential areas and public facilities are designed in the extension of the V Újezdech Street. (*Brno*, online)

Infrastructure:

- communication around Medlánky airport, connecting Municipal District Bystrc and Municipal District Medlánky;
- extension of the Street in the direction from V Újezdech to Municipal District Ivanovice;
- communication interconnecting the V Újezdech Street with Turistická Street;
- linking Street Hudcova (from school) to the Purkyňova Street. (*Brno*, online)

### 6.2 Variant II

Built-up areas:

- **Me-1** development in the east countryside (greenery) of Medlánecký kopec (in the site there are designed commercial amenities – it is expected to use it for technology park and residential character of the houses and for extension of the tram depot);
- **Me-2** development area that is not disturbing for production near the Medlánky depot;
- **Me-3** completion of mixed residential areas on Hudcova Street;
- **Me-4** new space area for public facilities (schools) on Hudcova Street;
- **Me-5** completion of living houses on the Street called Hrázka;
- **Me-6** living in family houses on Turistická Street;
- **Me-7** the area of the sport to the east part of hill called Bosně;
- **Me-8** development site for housing in residential buildings. Mixed residential areas and public facilities are designed in the extension of the V Újezdech Street. (*Brno*, online)

Infrastructure:

- communication interconnecting the V Újezdech Street with Turistická Street;
- linking Hudcova Street (from school) to the Purkyňova Street. (*Brno*, online)

### 6.3 Variant III

Built-up areas:

- **Me-1** development in the east countryside (greenery) of Medlánecký kopec (in the site there are designed commercial amenities – it is expected to use it for technology park and residential character of the houses);
- **Me-2** development area that is not disturbing for production near the Medlánky depot;
- **Me-3** completion of mixed residential areas on Hudcova Street;
- **Me-4** new space area for public facilities (schools) on Hudcova Street;
- **Me-5** completion of living houses on the Street called Hrázka;
- **Me-6** living in family houses on Turistická Street;
- **Me-7** development site for housing in family houses and sports area are designed to place the gardens north of the Turistická Street with an undeveloped parts;
- **Me-8** development site for housing in residential buildings. Mixed residential areas and public facilities are designed in the extension of the V Újezdech Street. (*Brno*, online)

Infrastructure:

- communication around Medlánky airport connecting Municipal District Medlánky and Municipal District Bystř;
- communication interconnecting the V Újezdech Street with Turistická Street;
- linking Street Hudcova (from school) to the Purkyňova Street;
- communication from Turistická Street to Purkyňova Street. (*Brno*, online)

## **6.4 Infrastructure**

Free area between neighboring Municipal Districts Medlánky, Ivanovice and Rečkovice is not suitable for massive construction. Especially because of the complicated transport solutions. The two busiest roads are streets Hudcova and V Újezdech. As follows from the measurement from the Transport Research Centre (2010), these communications were by that time maximally used and any further increase in population of this district would only make things worse. The measurements say that in 2010 almost 6,500 cars per 24 hours drove down this Street in both directions. The next measurement conducted in 2011 implies that in V Újezdech Street passes through 3,500 vehicles per 24 hours in both directions. Whereby 24% of the vehicles here exceed the maximum permissible speed.

According to the assessment of the impact of transport solutions in Spatial Plan for Brno on communication and other infrastructure in the cadastral of Medlánky (2011) indicates that with the least interference in residential areas and construction of new roads in Medlánky increase the total amount of new residents and employees up to 15,567. If considering variants with the largest number of interventions would this number be even bigger about 25,242 new residents and employees. According to a study this shows that in the Street Hudcova the total number would increase to 9,300 passages, this means 40% higher traffic intensity. In the regarding Street V Újezdech there would be the number of passages increased up to 9,300 to transit, i.e. 80% increase in traffic intensity. These findings indicate that the concept represented with the new Spatial Plan of Brno will not help with existing bad traffic situation especially on these two main roads. The proposed interconnection of Street V Újezdech and Municipal District Ivanovice and subsequent building constructions will lead to exhaustion of planned capacity in these Streets. According to the regulatory plan is the capacity of Hudcova limited to 10,500 vehicles per 24h. In the Street V Újezdech it is 7,500 vehicles per 24 hours. A further increase is also unsuitable because Hudcova is built up with nursery and primary schools, SOS Children's Villages and children's playground. This wouldn't be good for the safety of children.

With another Monitoring of air pollutants that has been carried out by Institute of Public Health in Ostrava in 2011 it was found that the air pollution daily limit is crossing the line about 38% exactly in front of the elementary school in the Street Hudcova. This is another indication that would even grow up after increasing the traffic. Current situation says that even noise seems to be a bigger problem. In 2009 Institute of Public Health in Ostrava made noise intensity measurements upon which it was at the intersection of endowment - in the Street V Újezdech there were measured 51.5 dB (for daytime 6-22h). Another noise level was measured in front of the house number 6a in V Újezdech Street where (for daytime 6-22hod) it was 56.4 dB. This value is no longer appropriate and it exceeds the limit for daytime noise pollution which is 55 dB (a night time at 45 dB). The impact assessment of the transport solution for Brno Spatial Plan on communication and other infrastructure in the cadastral of Medlánky says that from using full advantage of the potential noise pollution would represent about 58 dB in the daytime and 50 dB at night. Other measurements of noise intensity were held in front of elementary school on Hudcova Street. The number was 63.8 dB for daytime.

Given the facts mentioned above it therefore appears that the following changes would not lead to sustainable development of the city part Brno-Medlánky and would not contribute to a better quality of life.

### **Building of a new communication along the sport airport in Medlánky**

This road is a planned change in a concept variant I and III of a new spatial plan. Its purpose is to connect Street Turistická, in Municipal District Medlánky with Municipal District Komín. This change would not help the traffic on the Street Hudcova, it would actually be even higher. New road would be used by a large number of drivers from Řečkovice and related sites because the new road would mean noticeable decrease in a traffic of Municipal District Komín or Bystrc. This communication should replace the original construction of R43 that was planned in a variant III. Expected communication intensity could grow up to 4,000 passages in 24 hours. That would mean a really big change for this locality in its sport and recreational character. Neither this solution would help. On the contrary it would bring "transit" service from the surrounding boroughs of Medlánky. Turistická Street is not prepared for such a ballast of traffic because of the buildings character, parameters, parking cars necessity and especially because it is a gateway to the recreation area (as its title suggests). It is not eligible for such a load. This location is nowadays used for its quite purpose and long distance from major roads. This location is partially accessible by car from Medlánky and by walk from Bystrc and Komín. Even this is one of the advantages.

A major obstacle for the communications to be included in the spatial plan is the fact that the planned communication is traced in the protection zone of Medlánky airport. There is a small motor sport flying and non-motorized aircraft and there can be find a ground squirrel reservation. To trace communications in the protection zone of Medlánky airport must be requested a standpoint by the Office for Civil Aviation which is not included in the underlying materials of the concept materials.

### **An extension of V Újezdech Street to Municipal District Ivanovice**

This change is plotted in different ways in all three variations of the concept and built on the planned construction in adjacent fields. This street will provide another opportunity to departure from the territory but it will not relieve Hudcova Street in any case because it can only serve as a north exit. The majority of cars flow from this site into the center, i.e. to the south. This fact is confirmed by the report of HBH Projekt, spol. s r.o. (2011). Traffic impact assessment addressing the concept of city of Brno for communication and other infrastructure in the cadastral of Medlánky.

Very problematic seems to be also mentioned communication in Ivanovice that is linked to Hradecká Street in the direction from the city where necessarily the existing intersection will be overload. There is already a major problem in a communication of Hradecká exit from the direction of Kuřim and enter the street and continue to Řečkovická Street to roundabout at the Globus as well as in the opposite direction to turn from the roundabout onto the ramp to Hradecká in the direction of the center.

### **Communication connecting the Street V Újezdech with Turistická Street**

In connection with the roads around the airport of Medlánky and Ivanovice there is also a planned road connecting the Street V Újezdech with Turistická Street. This communication is traced through bio-corridor around Medlánky creek and it's close to the newly built playground. Any junction of this road to the Street Turistická is also very problematic. Planning this communication does not respect the current landscape conditions in the locality.

### **Communication from the Turistická Street to Purkyňova Street**

This communication could partially relieve Hudcova assuming that there will be built up a connection in between Turistická Street and V Újezdech. This road would only facilitate transport for the inhabitants of the northern part of the new settlement and moreover it would only help to those who go down the Street from Medlánky continuing to Hradecká. It is necessary to take into consideration the objections from Hudcova inhabitants themselves. They run away from the noise and dust into their gardens and they do not want to let the noise and dust to be spread from the other side of Medlánky hills. The fundamental would also be a destruction of recreational and quiet character proprietary sites of Medlánky hills.

### **Connecting of Hudcova Street (from school) with Purkyňova Street**

This communication would not relieve Hudcova Street again. On the contrary it would actually cause additional complications and traffic jams in the street. This solution would have created a new intersection directly in front of the school where already is very difficult to turn on the way from Municipal District Královo Pole up to a research institute in the morning and afternoon rush hours. The concept of a new spatial plan does not count in this problem. The communication is also difficult to implement in the current situation because in a direction from the school up to the research institute there is a space only for one-way communication and according to the Land Registry it would be needed for the garages to be expropriate from private owners.

Linking Municipal District Medlánky and new planned development in the Technology Park (industrial areas and areas of development) would bring another disproportionately ballast for Hudcova Street. This site should be connected only to Purkyňova Street or eventually to Hradecká Street.

### **Built-up area**

Of all the above points it can be seen that the locality between Municipal District Medlánky, Municipal District Ivanovice and Municipal District Řečkovice is not suitable for another mass construction since it is not possible to satisfactorily resolve the communication connection. None of the variants of the new spatial plan does not satisfactorily solve the current overload of Hudcova Street conversely building a communication to Ivanovice and allowing construction in its surrounding would make the situation considerably worse.

### **The change of functional use of properties in Medlánky-Řečkovice-Ivanovice area**

According to the presented variant of Spatial Plan for Brno should be V Újezdech Street connected to Ivanovice and it should also change the functional use of land in the locality Medlánky-Řečkovice-Ivanovice. These areas should be an additional subject of buildings for housing in this area. Specifically Variant I proposes construction of additional 1,823 apartments in Medlánky-Řečkovice-Ivanovice. Variant II 1,863 apartments without addressing the barracks, i.e. realistically it can be expected about 2,400 new flats. Variant III is trying to reduce residential areas and provides "only" 987 new apartments. This land includes plots with agricultural land fund with a high credit rating (II. Protection Class). These have above-average ability of production and from agricultural land can be removed only under exceptional circumstances (Chapter 19 of the text part of Spatial Plan of Brno). These plots are therefore not suitable for the planned use. The processor should use all other variants and avoid occupation of that land for non-agricultural purposes.

## **Development of gardens under Bosně**

Another change in land-use is planned to design gardens area under the peak of Bosna. This construction would bring more traffic on Turistická Street that is not ready to any other transportation. It is desirable to preserve the natural character of the recreation area. Construction would destroy the natural, social and recreational functions and their surrounding gardens.

### ***6.5 Proposals for solving the situation***

Following the results of the previous chapter we can say that the quality of housing currently does not correspond to the original intention and due to the construction of a new settlement generally it was given the reasonable boundaries of sustainability of the area. Variants of the new spatial plan does not solve this issue on the contrary they deepens. The new urban planning is necessary for focusing on the current transport problems and on reducing the amount of new construction of residential areas. This allows Medlánky to preserve the values of territory.

In connection with the above mentioned problems I perceive as a lack of the new spatial plan that it does not evaluate amount of traffic load in Hudcova, Kytnerova, V Újezdech and Turistická Streets. These communications could be noticeably improved by providing a construction of new residential areas in Medlánky or construction of the Medlánky interconnection with Purkyňova Street or Municipal District Bystrc.

A suitable solution is to keep the quantity of residential areas in the existing situation and seek for increase in the supply area for recreation and leisure. There is not enough of them in Medlánky considering its population size. Regarding the garden area in Medlánky this locality is a characteristic element of the city and therefore it must be maintained. Among other things, building up the area would be on expense of gardens and cabins it would be too overburden for surrounding monumental area.

The only road that could possibly help the Hudcova and V Újezdech Streets to lighten and divert traffic from the Medlánky is the communications linking the street with Street Renčová and Terezy Novákové Street and all this in the path leading edge of the barracks above the garages on the Renčová Street. The current spatial plan counts with this communication and it should also be maintained in the upcoming municipal plan.

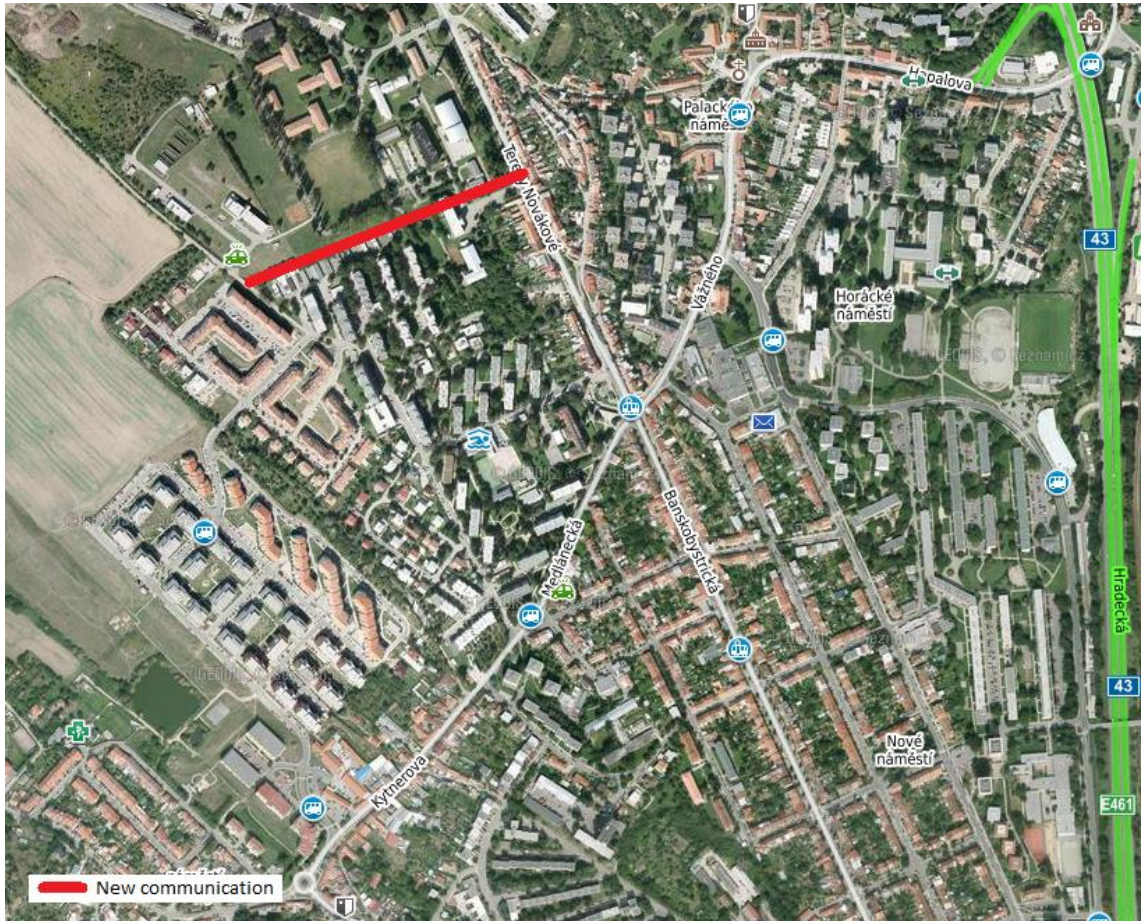


Chart 6 Planned communication connecting Terezy Novákové and Renčova Streets



## 7 DISCUSSION

A number of newly proposed areas for housing in the whole Brno city seems very redundant and meaningless. In all three variants of the new spatial plan concept is counted with roughly one third of population growth but such increase exceeds the population estimates of demographic studies already prepared for Brno. A noticeable increase in residential areas localizes right into the outside parts of the city. That does not support social and urban beneficial colonization of inner area. These areas in Brno are mostly being offered in the form of brownfield and its built-up is unfortunately more expensive than building on greenfield.

Than it is necessary to say that according to the superior of the new spatial plan the city aims to develop mainly in the south. However, this does not indicate plans for massive construction of residential areas in the north of Brno. The North part of Brno is generally rated as more attractive location than its opposite end. Therefore, the local constructions could cause that there will not be sufficient interest for the south part of Brno unless there will be a surplus in the northern part. Planned development to the south would not be realized and the southern city would nevertheless remain the industrial zone.

The public population of Medlánky become to object the upcoming interferes in the place of their residence. This happened after the presentation of the concept with three variants of the new Spatial Plan for the city of Brno. Consecutively these objections were formulated in a document. The Assembly of the city part submitted an opinion to Brno City Hall that describes which parts of the new spatial plan are problematic. This document presents the requirements of local residents. Generally it emphasizes the reduction of any further construction and related communication. As well as roads connecting Medlánky with other neighborhoods. I would like to comment on the following section of this standpoint:

"We do not agree with further building in Medlánky. If we will not be satisfied we require that areas intended for new housing will have strict adherence to the category of development allowing the house's construction to be a height of 3-7 meters (as it is calculated, this value will be measured to ledge? It can be assume that such houses will reach real heights, i.e. the height of the ridge (crest?) will be something about 10 meters. For the purpose of preserving the values and in terms of territory is this entirely appropriate). "(*Občané pro Medlánky*, 2011)

Therefore this opinion disagrees with any other planned construction but it also acknowledges that if it should occur to the construction the situation will satisfactorily be resolved by building family houses instead of the residential houses. I personally don't really agree with this statement because if they leave any kind of construction it shall be necessary to bring a need of new roads or ground based communications at the mentioned area. Because these roads are indispensable for allowing the residents the departure and arrival to their homes. Hereby would these several objections be pointless to the aforementioned planned communications. Since their construction would be necessary. Adequate solution for this situation could become a privatization of streets that were mentioned. As is the case in the north part of Brno, called Česká. The entry is allowed only by their residents. An implementation of this solution would probably be too difficult and therefore I tend to claim that further construction in Medlánky is currently not possible.

The most serious problem for the new spatial plan I consider a construction of a road along the sports airport in Medlánky. If it would be constructed Medlánky will become a shortcut especially for drivers who use the road I43 and then they continue to the northwest part of Brno city. We are talking about drivers who are going towards Blansko, Svitavy or in the opposite direction. They

will continue to boroughs Královo Pole, Bystrc, Komín, Kohoutovice, Jundrov, Žebětín and partly even Žabovřesky. All these drivers would by the new communication notably shorten their way and it would become heavily used. This would also lead to lower utilization of newly built tunnel system in Královo Pole. The tunnel function is to precisely facilitate the transit traffic. Instead of this road, drivers would use a way that goes through housing estate in Medlánky. The construction of this communication is unimaginable given in the previous chapters where is described the current status and outlook of the traffic load on Hudcova, V Újezdech and Kytnerova Street. I believe that maintaining the level of quality of life in Medlánky and its sustainable development does not correspond to the construction of such communication. For an easier understanding of an individual situations it is plotted on a map. Red color is a representation of the planned construction of new roads and other colors show the current situation under which the mentioned residents travel between the north of Brno (Brno exit from I43) and neighborhoods.

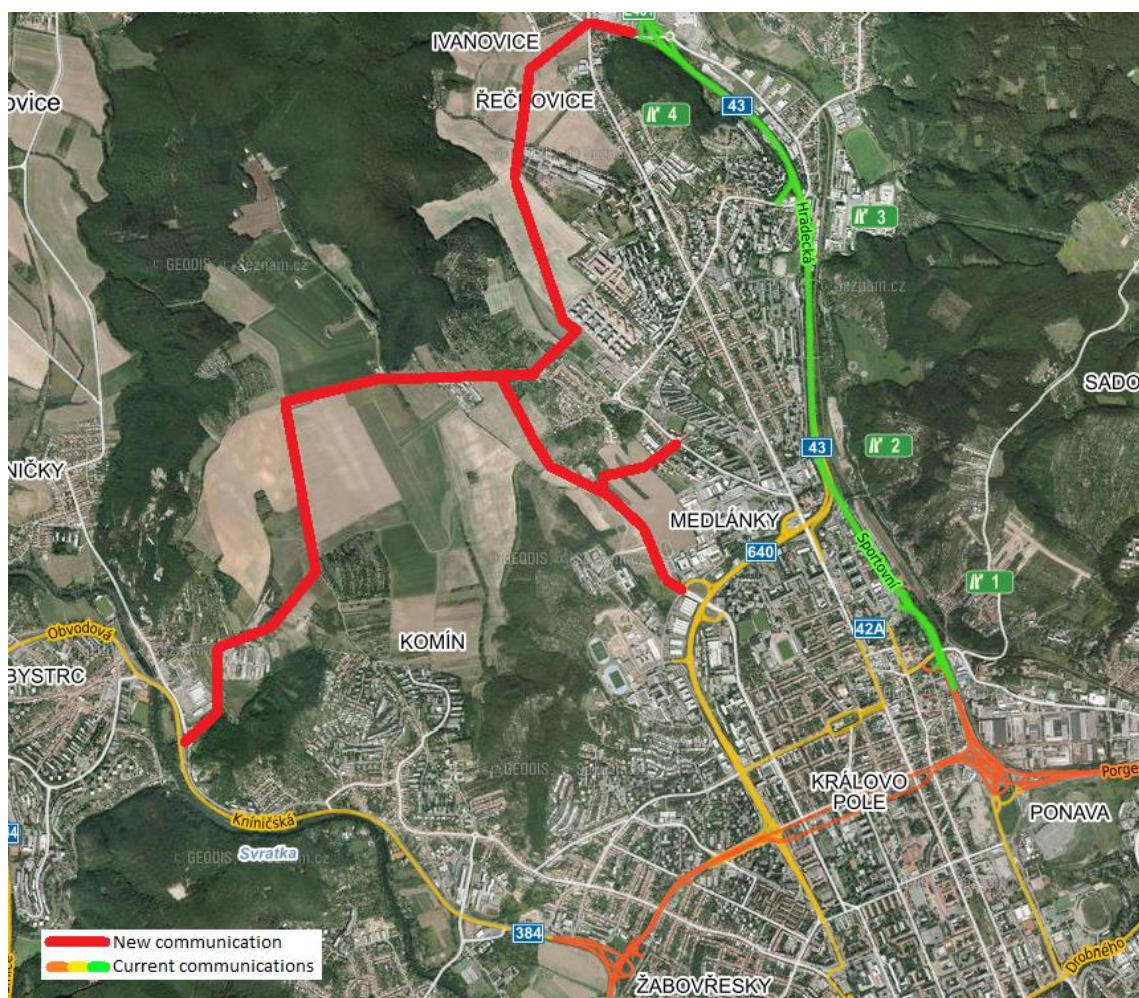


Chart 7 Planned communication connecting Bystrc and Medlánky

## 8 CONCLUSION

The primary purpose of this thesis is to give the public brief yet concise view on the issue of three variants of the new spatial plan for the Municipal District Brno-Medlány. In the first part of the study there are briefly summarized the theoretical concepts that are necessary for a proper understanding of the issue. Only in the following chapters the author deals with the detailed description of the selected locations and then defining the negative consequences of all three variants of the concept of the spatial plan.

Aim of the thesis is to provide a comprehensible analysis of the expected interference in spatial planning in Medlány. The task is to clearly explain various points of the planned changes and support it by the professional documents that confirms the results connected to a negative impact on the area.

A concept of Spatial Plan for Brno made up by architectural studio Arch.Design Ltd. does not respect the initial assignment to develop Brno city to the south, not to the north, which includes Medlány. Nevertheless, significant development of the northern city is presented in all three variants of the spatial plan. If all the planned changes are implemented, there would be an irreversible damage of the nature in Medlány in all aspects, in terms of protection of nature and recreational functions of Medlány, in terms of satisfaction of demanded level for local housing and environmental quality. It already does not meet certain limits in residential area of Medlány, for example with regards to noise and pollutant emissions.

The results show that essential changes planned for the new version of Spatial Plan for Brno would represent an enormous traffic load, which Medlány is not ready for. These are newly built-up areas: the change of functional use of properties in Medlány-Řečkovice-Ivanovice area and development of gardens under Bosně hill and its connecting communications: extension of V Újezdech Street to Municipal District Ivanovice, a communication connecting the Street V Újezdech with Turistická Street, a communication from Turistická Street to Purkyňova Street, connecting Hudcova Street (from school) with Purkyňova Street and building a new communication around sports airport. All of these interventions would lead to a noticeable increase in bottlenecks having a high value even now. The traffic intensity would thus exceed the set limits and would further complicate any transport organization in the district.

The proposed changes in the spatial plan submitted variants would lead to interference with the rights of local residents to a favorable environment and interventions in the comfort of their living. Finally, it would also lead to interference with the property rights of owners of existing homes and apartment units, which market price could decrease.

## **9 SUMMARY**

Bachelor thesis deals with the concept of a new Spatial Plan for the city of Brno. It specifically describes changes in land-use planning of Brno-Medlánky which are presented in three variants of the spatial plan. Based on the results of the measurement of traffic load, monitoring of noise and air pollutants the author analyzes what impact the changes have had if implemented. The author also determines whether the intervention affects the quality of life in the area or not.

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## 11 LIST OF USED ABBREVIATIONS

24h	24 hours
CZSO	Czech Statistical Office
etc.	et cetera
dB	decibels
i.e.	that is
k.u.	katastrální úřad
Me	Medlánky
ST.	Saint
ÚpmB	Územní plán města Brna
VUT	Brno University of Technology



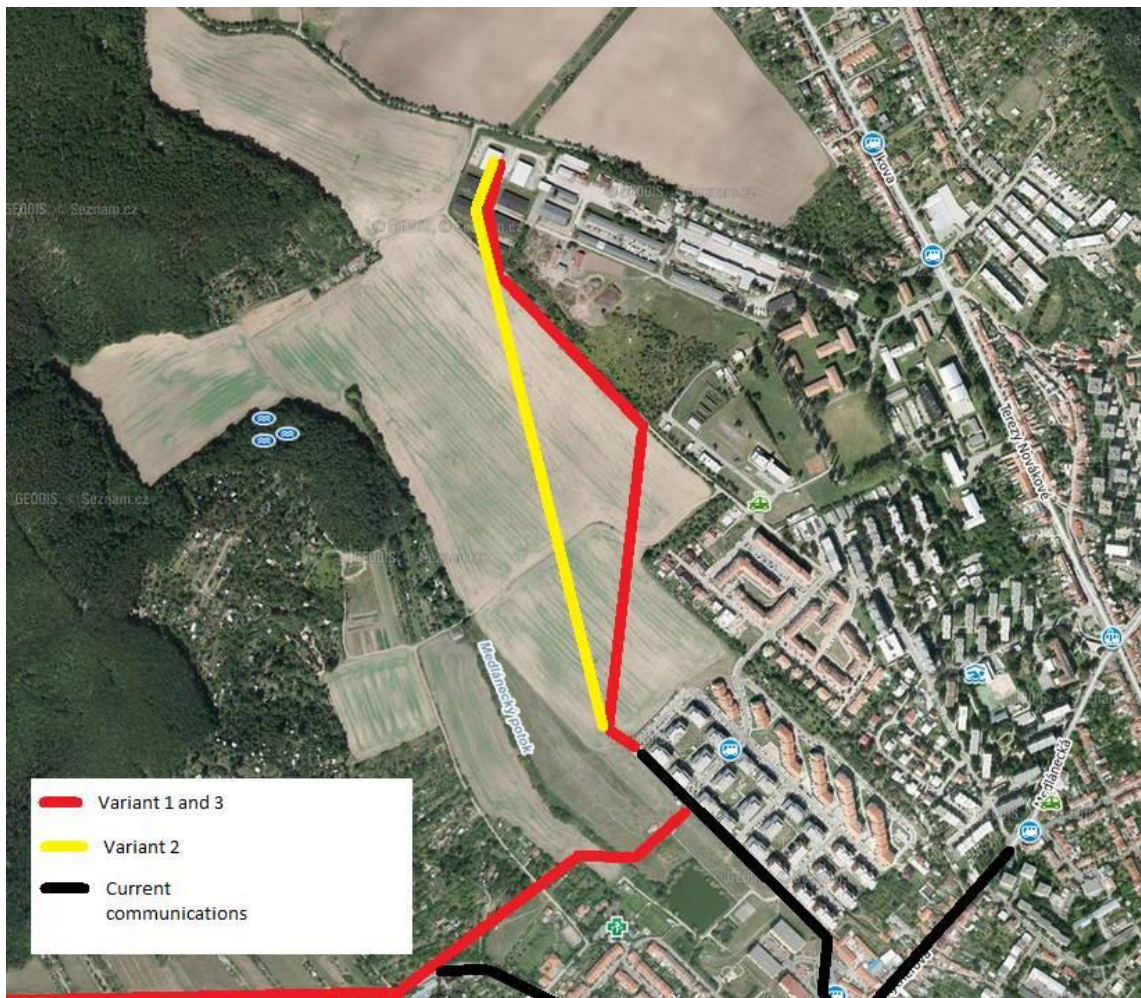
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## 14 ATTACHMENTS



Attachment 1 Planned and existing communications in Spatial Plan of Brno



Attachment 2 Built-up areas planned in Variant 1



*Attachment 3 Built-up areas planned in Variant II*



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