

## FORECAST FOR THE IMPACT OF BUCHAREST – BRAȘOV HIGHWAY ON THE ECONOMIC AND FUNCTIONAL STRUCTURE OF HUMAN SETTLEMENTS IN ILFOV COUNTY<sup>1</sup>

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**ABSTRACT** - One of the most publicized issues concerning the infrastructure of Romania is the Bucharest-Brașov highway. The long-awaited project aims to streamline the traffic between the Capital and the central part of the country, representing the central area of the Pan - European Road Corridor IV. The length of the highway on the territory of Ilfov County is 31 km, representing 17% of the total length of Bucharest- Brașov highway. The start of the highway will have strong effects on economic structure and on the way the Bucharest Metropolitan Area will work. We can expect an increase in the disparities between the settlements of Ilfov County. This pattern is also observable on the Bucharest-Ploiești corridor where, in recent years, much of the Ilfov county's economic activities have migrated to the north, especially along that corridor. Besides economic migration, intense residential migration followed the Bucharest – Ploiești corridor, residents of the Bucharest itself moving out to the north of Ilfov County. Probably, the future Bucharest – Brașov highway will lead to an increased suburbanization and periurbanization, this in turn giving way to the crowding of the area by businesses eager to have access to the highway. This project will likely increase the gap between north and south of Ilfov County. In addition to changes that may occur at the county level, changes will also have an impact on the localities themselves since the areas located near the highway will have an economic and demographic growth rate superior to more remote areas. In this sense, we conducted a comparative analysis between eight settlements of Ilfov county crossed by the Bucharest-Brașov highway in order to assess the impact. This analysis was based on the information obtained from site and statistical indicators that were processed to obtain a clear picture of the situation in the examined territory.

**Keywords:** regional development, urban planning, infill development, national highway

### INTRODUCTION

Presently consisting of eight towns and 34 communes, the settlements located on the territory of Ilfov County exhibit, when considered as a whole, certain particulars related to the manner in which they evolved, developed and extended in terms of their territory. Due to a relatively recent developed system of access and communication ways, with a radial disposition and deeply focused on the capital, which splits the county territory, the settlements located in Ilfov county do not follow the structure of a typical network which is specific to a county, the reciprocity connections between the settlements being extremely low and the county basically divided by the city of Bucharest into north and south.

Although a major factor determining economic and social development and growth, the influence exerted by the capital is felt in restricted areas. Therefore, urbanization, development, and modernization are intensely in progress, but only in certain zones proximate to the metropolitan area.

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There is a “preference” noticed for areas located along the major road transport routes and for areas allowing for the “migration” of certain urban functions typical for the capital and for which the capital is presently short of space or of environmental resources (namely trade, storage, processing, habitation, secondary habitation in particular, and potentially with high standard conveniences).

The communication means are essential in structuring the settlements of the county, for which reason a potential pattern of the evolution of settlements was conceived after commissioning the Bucharest-Braşov highway. The achievement of the respective pattern required the identification of the evolution of the economic and functional structure.

The Bucharest-Braşov highway shall cross Ilfov county to the north and its length on the county territory shall be of 31 km. The highway shall cut through the following settlements: Voluntari, Ştefăneşti de Jos, Moara Vlăsiei, Snagov, Gruiu and Nuci.

The highway itinerary will begin at the limits of Bucharest, starting from Şoseaua Petricani, more precisely, and will go on to the east, close to Gherghiţa street in Colentina district (where another access point will be established), heading north afterwards, crossing the Capital’s ring road where a road junction will be arranged. A couple of kilometres away, an exit to Henri Coanda Airport is to be established and another access point is set to be located at km 18, between Căciulaţi and Moara Vlăsiei. The third junction will be the one set at km 24 opposite Snagov and at km 30. Necessary preparations are to be made to preserve the land for a future disposition of a junction when the traffic requires it. Unlike A1 and A2 highways, Bucharest - Ploieşti highway will have 3 road junctions alone on the territory of Ilfov county and in front of these junctions, there will be spaces set aside for subsequent arrangements such as parking places and services. The access ways to the future highway may be said to be extremely close to one another since the next exit on A1, after going over the second bridge crossing the ring road, is only at km 33.

The density of road junctions will have a stronger impact on the settlements crossed by the highway because they will secure a more intense traffic level between such settlements and the highway with a potential future influence over their evolution, making them more attractive for investors.

The SWOT analysis concerning the social and economic differences between the northern half and the southern half of Ilfov county shows that the strengths and the opportunities found in the “north” argue in favour of building the highway and the weaknesses and threats may be contained by taking correction and protection actions to tone down, for instance, the discrepancies existent between the north-eastern side of the county, which will witness a faster development following the construction of the highway, and the north-western side.

The second part of this study is an attempted analysis of the impact of the Bucharest-Braşov highway on the settlements of Ilfov county, based on the examination of the official documents as enclosed at the end of this material, as well as of other works treating similar matters, and relies on the processing of certain statistic data considered to be material.

## **DATABASE AND METHODOLOGY**

The achievement of this study required both field work (observations, mapping, photographs) and analysis and processing of certain statistic data concerning the functionality of the settlements and their economic structure. These data were obtained from the Ilfov County General Statistics Department, Bucharest, The National Institute of Statistics, Bucharest, Snagov commune Municipality in Ghermăneşti (*Snagov Commune General Development Plan, 2004*), *Ilfov County Land Use Plan* prepared by the National Institute for Research-Development in Land Development and Planning, URBAN PROIECT – Bucharest, 2004, *Bucharest-Ilfov Regional Development Plan for 2007-2013*, designed by the Bucharest-Ilfov Agency for Regional Development, The Bucharest Metropolitan Area Planning Centre, Ilfov County Council and Local Administrations of Bucharest-Ilfov in 2006, *Ilfov County Economic and Social Development Strategy for 2007-2013*, a study prepared by Ilfov County Council in 2007.

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For the completion of the mapping part of the work, the authors analyzed and processed, assisted by Corel Draw software, relevant maps obtained from the Ilfov County Office of Cadastre, Geodesy and Cartography and the Library of the Faculty of Geography of Bucharest University.

### TERRITORIAL DISPARITIES

For a better comprehension of how the economic and functional structure of Ilfov county settlements developed and in order to build up potential patterns of a subsequent evolution due to the impact of the highway, an inventorying of the disparities presently existing within the county and of their evolutionary manner is required. The analysis of such disparities shall target both the 6 communes and the county as a whole.

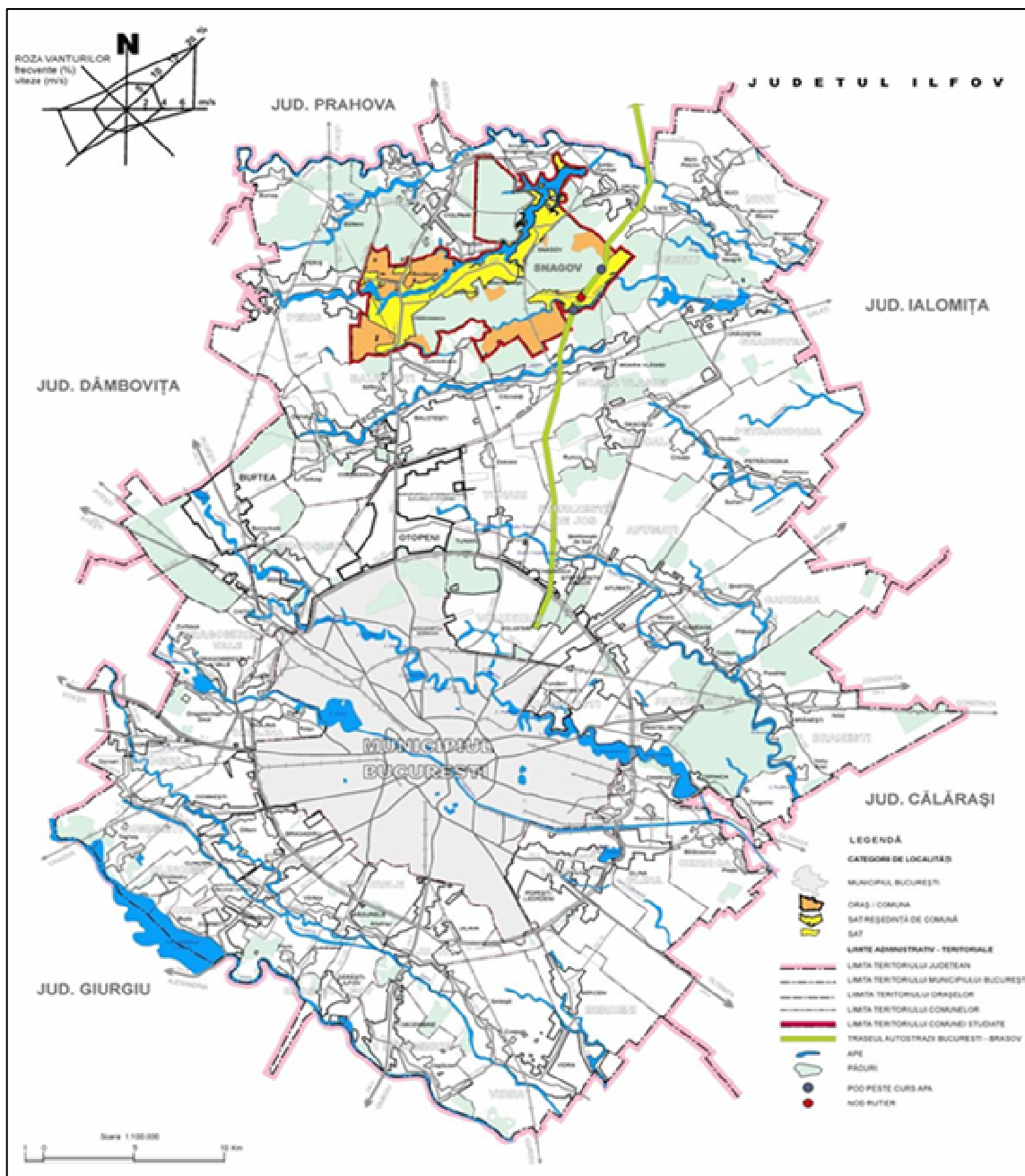


Figure 1. Layout of the future Bucharest-Brașov Highway in the County of Ilfov (marked in green)

To undertake the analysis of the social and economic disparities, consideration has been given to four categories of indicators which, if taken cumulatively, are indicative of the development level of each of the 42 settlements of the county, namely: demographic status (weight of population aged over 60, depopulation index and the vitality index of the settlement), economic status (economic dependency level, weight of the unemployment rate in the total active population, weight of the employment rate in the total active population, weight of the population engaged in agricultural activity in the total active population), infrastructure (living space per capita, water network density, sewage density, gas network density) and the standard of living (net migration, weight of the population holding a high school graduation diploma, weight of the population engaged in agricultural activity).

These four categories contributed to computing as Hull score the human development index, resulting thus in light discrepancies between the north half of the county and the south one, somewhat intensified in between the central area and the peripheral zone.

The examination of the demographic status in the periods 1992 – 2002 and 2002 – 2008 generally revealed a positive dynamic of the population in most settlements. This was owed to the natural factors but also to a series of social factors such as the face of the settlement, social segregation phenomena, or other phenomena such as periurbanization, suburbanization, etc.

As for the depopulation level of the settlements, it was inferred that during 1992 – 2002, this phenomenon was highly intense and affected 24 settlements, the figures ranging between –15.3 and 0.1. During the period 2002 – 2008, a reverse phenomenon occurs, determined in particular by the real estate “boom”. There are, however, 3 exceptions to it: the commune of 1 Decembrie, Nuci and Vidra. If, with respect to the last two settlements, the figures are extremely low and are a consequence of the population aging level, the case of 1 Decembrie commune is related to its status of ill-repute area being many a times compared to Ferentari (a district of the capital city), labelled as unattractive on the real estate market. The major growth trend was recorded in the north side, in settlements such as Mogoșoaia, Corbeanca, Otopeni, Tunari.

The vitality index of the settlement for the entire period under analysis and the whole space did not exhibit substantial fluctuations either in between the settlements or in time, the average ranging around 1 inhabitant/space, namely 0.99 inhabitants/space in 1992, 1 inhabitant/space in 2002, and 0.99 inhabitants/space in 2008. Generally, the figures varied between 0.92 inhabitants/space in Balotești and Măgurele and 1.03 in Nuci for the entire period under study.

The resulting figures indicate quite a high attraction level of the settlements in question, but also a balance at the level of the entire area.

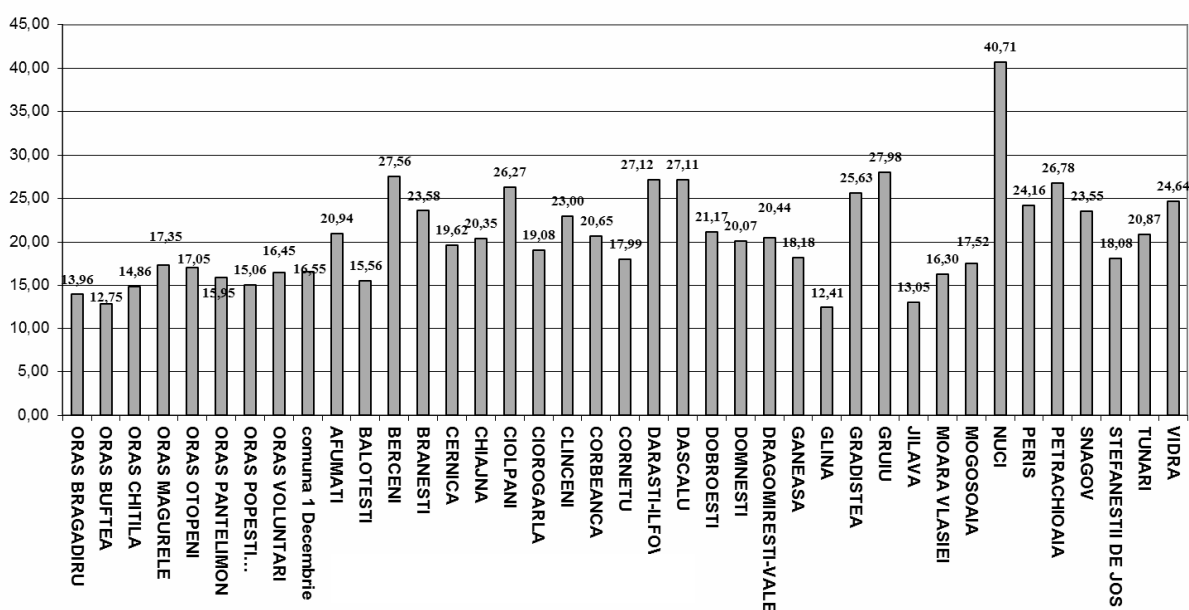


Figure 2. Weight of population aged over 60 in 2002

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Another phenomenon breaking the pattern of the typical rural settlements in Romania is the phenomenon of population aging. The analysis of the weight of the population aged over 60 in the total population pointed out that in 2002, only 9 settlements recorded figures higher than 24%, and the commune which was the most affected by aging was Nuci, where over 47% of the population was older than 60. The low figures of this index are a consequence of both the birth rate and especially of the positive migration.

The influence exerted by the city of Bucharest may be noticed in particular in the economic status of the region and from this perspective, the pattern is rather a concentric and a radial one along the main corridors of communications.

The economic dependence level in 2002 was extremely low, ranging between 7.36 in Popești-Leordeni and 1.45 in Otopeni. A higher economic dependence was detected in the south of the county versus the north area and the communes in the closest vicinity of the capital which underwent a more rapid growth, where most of the multinational companies established their headquarters and many business centres and storage facilities are located.

In 2008, the north also witnessed a raise in the rate of employment which led to the decrease in the economic dependence level of the respective settlements.

The high number of employed people and of persons fit for work is reflected in the low unemployment rate as well, which, in 2002, reached 5.3% for the entire county while the corresponding figure for Bucharest amounted to 3.2%, followed in 2008 by a drop to 1.4%.

The economic crisis and particularly the real estate crisis of 2010 made the unemployment rate grow to 2.71%, but keeping, however, a level lower than the one registered in the city of Bucharest, 2.97%. As far as the weight of the unemployment rate in the active population is concerned, in 2002, it varied between 71.28% in Popești-Leordeni and 4.91% in Găneasa.

The relatively high figures of the weight of the employed people in the total active population are closely related to the low unemployment rate. In 2002, the highest weight of employment was registered in Dragomirești, amounting to 94.98% while the lowest weight was in Nuci, of only 29.44%. The low number of employed people in Nuci is a consequence of the population aging, but also the outcome of a somewhat isolation of this settlement located in the north-eastern limit of Ilfov county.

The urban area and the vicinities of the capital registered the highest figures, which varied between 80-90%, following a downward trend as we advance towards the outer settlements, reaching there 60-70%.

The stronger development of these settlements, the existence of a very dynamic and “voracious” labour market made agriculture assume a low profile at the level of the entire county of Ilfov, the supply road of the city being pushed outside further and further away, such phenomenon being more acute in the northern part and along DN1 and A1.

According to the entries in the Trade Register dated 2010, there were 19,890 companies registered in the county that year, their weight to 1,000 inhabitants being of 54.17 companies/1000 inhabitants, which is almost double as compared to 2004, when this rate was of 21.07 companies/1000 inhabitants. Over 71.38% of the businesses are located in the northern area and 40.06% of them are concentrated in 5 settlements: Otopeni, Buftea, Chitila, Voluntari, Chiajna. Another matter of interest is the fact that the settlements crossed by DN1 concentrate 12.50 % of the companies while the settlements to be crossed by the future highway are the seat of 23.46% of the companies. The high figure is given by Voluntari, which is alone the residing place of 16% of the companies registered in the entire county.

Constant growth in the number of companies/businesses determined considerable changes in the occupational structure of the inhabitants, many settlements being deprived of their strictly agricultural function and the lack of interest in working the land being intensely on the increase.

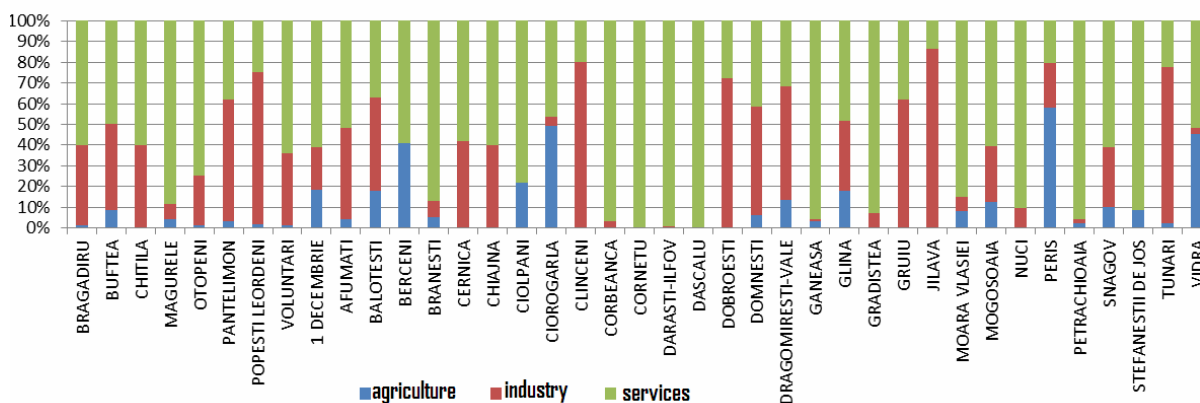
In 2002, the weight of the population engaged in working the land in the total active population ranged between 1.24% in Glina and 56.2% in Dărăști. Five settlements alone recorded figures of over 30% (Vidra, Nuci, Dărăști, Dascălu, Petrăchioaia) and more than 25 settlements had figures below 10%.

In 2008, the rate of population engaged in agricultural activity dropped and the tertiary sector had an upward movement (Figure 3), agricultural activities being practised in the rural settlements of the area bordering Ilfov county where there is an intensified agricultural work considering also the stronger rural and agricultural nature of the place.

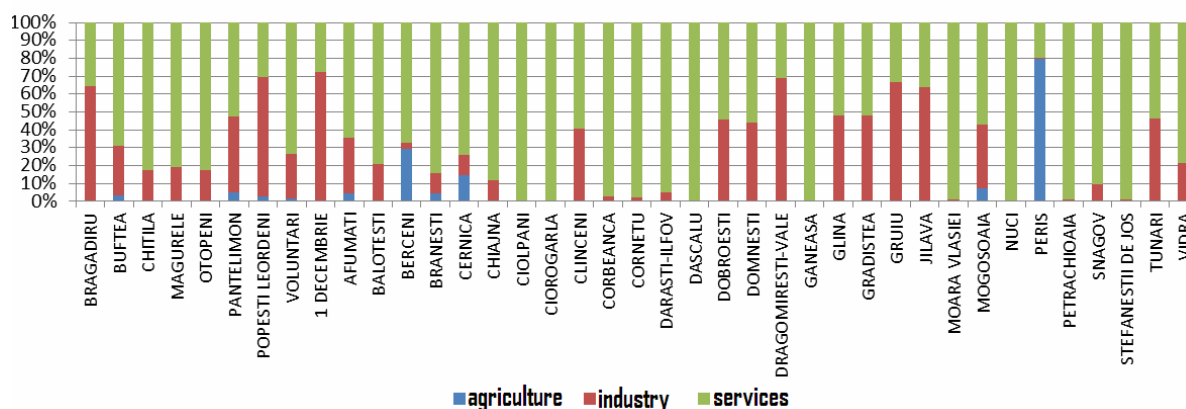
A significant part of the farmland located around the capital was put out of use and had its destination changed, being either integrated into built-up areas or abandoned so as to be let or sold. From 1992 until 2008, the agricultural area recorded a dramatic drop by almost 37.52% Chiajna, 27.00% in Dobroești, 26.02% in Voluntari, 20.32% in Chitila, 19.57% in Otopeni, and 11.09% in Dragomirești. For the rest of the settlements, the farmland area decreased between 1% and 9%, the phenomenon being more intense in the closest proximity of the capital.

After 2008, due to the real estate crisis, this phenomenon has been partially discontinued by numberless real estate projects developed especially in Cățelu, Corbeanca, Domnești, Bragadiru, Tunari, Mogoșoaia, which have been put on hold.

(a)



(b)



**Figure 3.** Occupational structure of the population in the settlements of Ilfov County divided into economic activities in 2002 (a) and 2008 (b)

Visible changes of critical importance occurred in particular in the infrastructure and the increase in residential conveniences. From 1992 until 2002, there was a general growth of the living space per capita, followed from 2002 until 2008 by a genuine boom which made settlements such as

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1 Decembrie, Bragadiru, Voluntari, Corbeanca, Snagov, Măgurele shape up and put on a more and more urbanized look and even promoted them to the category of towns.

The residential boom and the huge amount of real estate projects “urged” local governmental authorities to find solutions to provide comfort for the inhabitants by developing the water, gas, and sewage networks.

If in 1992, the water supply network was underdeveloped and only 12 settlements were the beneficiaries of such service, with low densities, however, the figures going under 0.30 km/km<sup>2</sup>, in 2002, a slight growth was registered, 17 localities benefiting by water supply network, with an average density of 0.17 km/km<sup>2</sup>. By 2008, the water supply network had undergone an accelerated process of development resulting in half of the settlements in the county having their own water network, with an average density increasing to 0.55 km/km<sup>2</sup>.

The first settlements having their water supply network extended were those located in the proximity of Bucharest, being connected to the metropolitan network, which, by 2008, had been developed significantly in particular in the north-western side of the county, while the settlements in the south resorted consistently to drilling. The settlements recording the highest growth rates were Voluntari (from 0.38 km/km<sup>2</sup> to 0.49 km/km<sup>2</sup>), Dobroești (from 0 km/km<sup>2</sup> to 1.52 km/km<sup>2</sup>), Chitila (from 0.16 km/km<sup>2</sup> to 1.59 km/km<sup>2</sup>), Corbeanca (from 0 km/km<sup>2</sup> to 0.75 km/km<sup>2</sup>), Mogoșoaia (from 0 km/km<sup>2</sup> to 0.95 km/km<sup>2</sup>), Periş (from 0.03 km/km<sup>2</sup> to 0.51 km/km<sup>2</sup>), 1 Decembrie (from 0.18 km/km<sup>2</sup> to 0.92 km/km<sup>2</sup>).

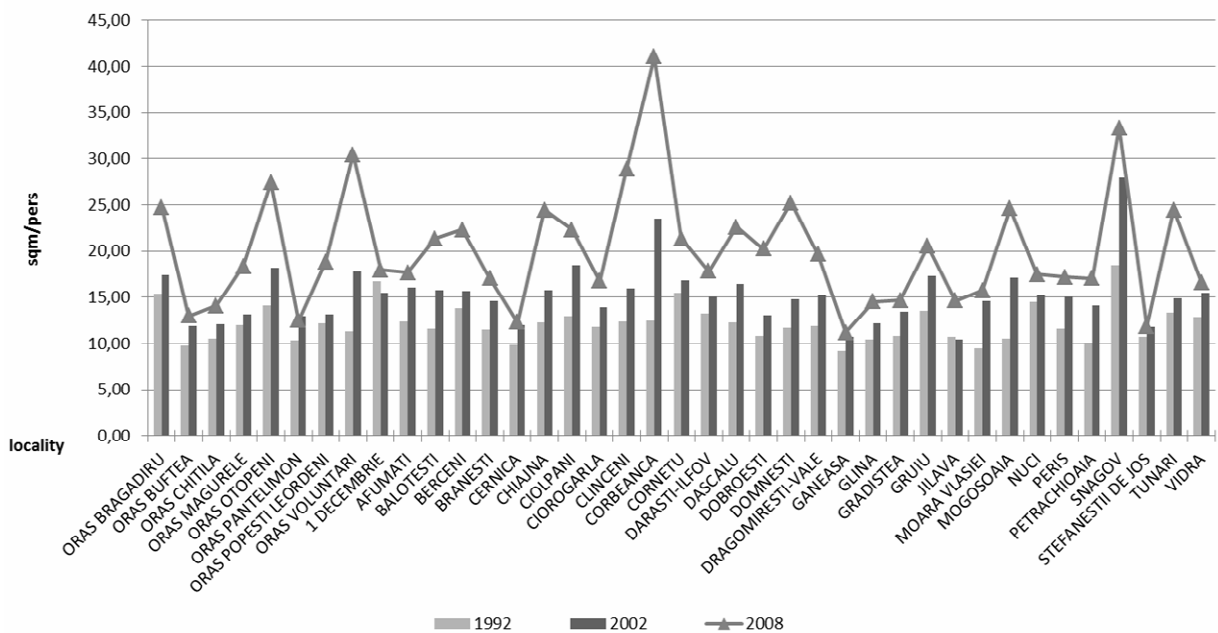


Figure 4. Evolution of the living space per capita in 1992, 2002 and 2008

Unlike the water supply network, the sewage system is poorly developed to this day and they resort more often than not to sewage cleaning services. In 1992, a low density of the sewage system is noticed, Bragadiru alone having a density of 0.49 km/km<sup>2</sup>. Starting with 2002, an increase in the sewage system took place in the rural settlements around the city of Bucharest, with a rather concentric disposition. In 2008, this concentric disposition was even more obvious due to the fact that part of these communes was connected to the city network. Presently, 17 settlements benefit by sewage system services, the highest progress being recorded in Voluntari (from 0.58 km/km<sup>2</sup> to 4.01 km/km<sup>2</sup>), Chitila (0.21 km/km<sup>2</sup> to 1.03 km/km<sup>2</sup>), Chiajna (from 0.0 km/km<sup>2</sup> to 0.9 km/km<sup>2</sup>), the average density being of 0.60 km/km<sup>2</sup>.

The gas network, almost inexistent in 1992, developed after 2002, when the number of the settlements endowed with such utility service rose from 2 to 17. The year 2002 witnessed a major increase in this utility, which created a ring around Bucharest, and by 2008, it headed for another direction and developed in particular to the N-W and S-W where the density levels exceed 1.40km/km<sup>2</sup>, the north-eastern and south-eastern limits having values below 0.7km/km<sup>2</sup>. In 2008, approximately 75% of the settlements were connected to the gas network, the average density keeping its 2002 level of 1.25 km/km<sup>2</sup>.

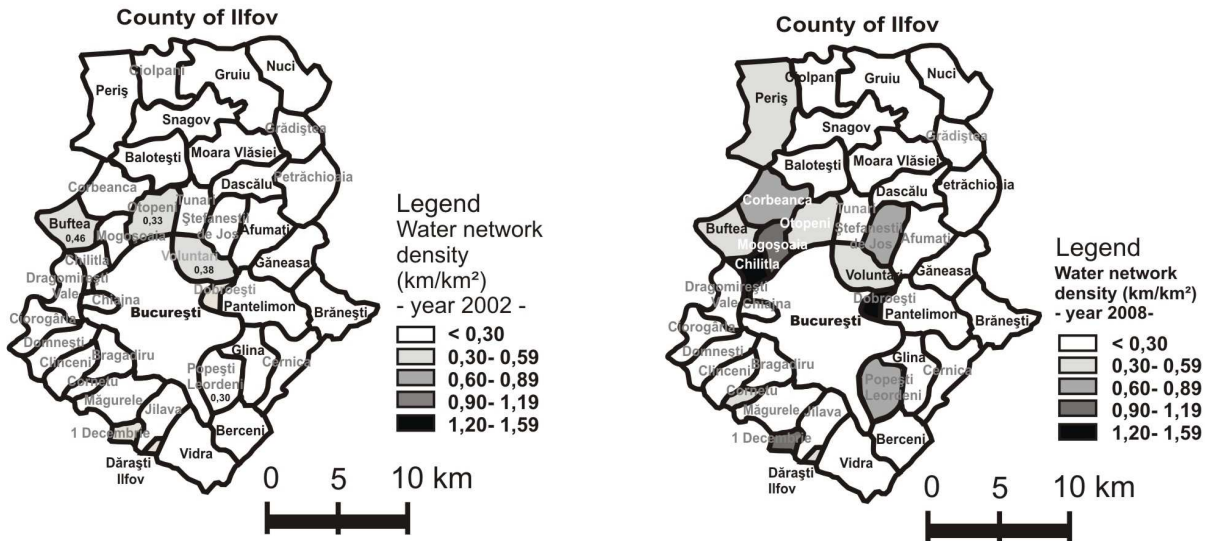


Figure 5. Map of the water network density (km/km<sup>2</sup>) for the county of Ilfov in 2002 and 2008

The settlements experiencing a major development in the gas network services are Chitila (from 1.43km/km<sup>2</sup> to 3.24 km/km<sup>2</sup>), Voluntari (from 0 km/km<sup>2</sup> to 1.35 km/km<sup>2</sup>), Chiajna (from 0 km/km<sup>2</sup> to 3.43 km/km<sup>2</sup>), Corbeanca (from 0 km/km<sup>2</sup> to 2.1 km/km<sup>2</sup>), Cornetu (from 0 km/km<sup>2</sup> to 1.9 km/km<sup>2</sup>) and Snagov (from 1.69 km/km<sup>2</sup> to 3.47 km/km<sup>2</sup>).

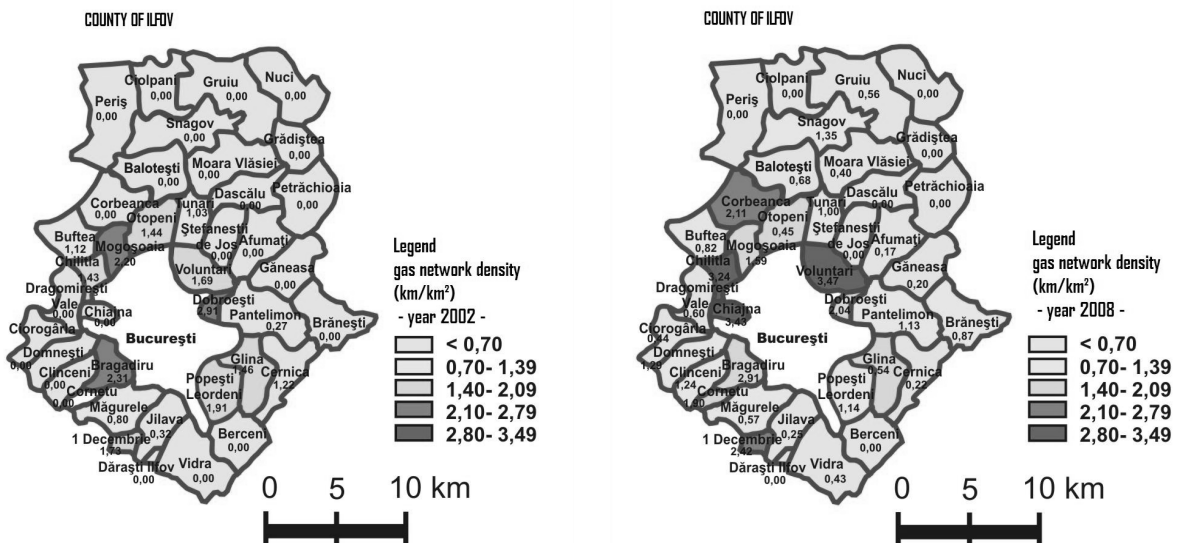


Figure 6. Map of the gas network density (km/km<sup>2</sup>) for the county of Ilfov for 2002 and 2008



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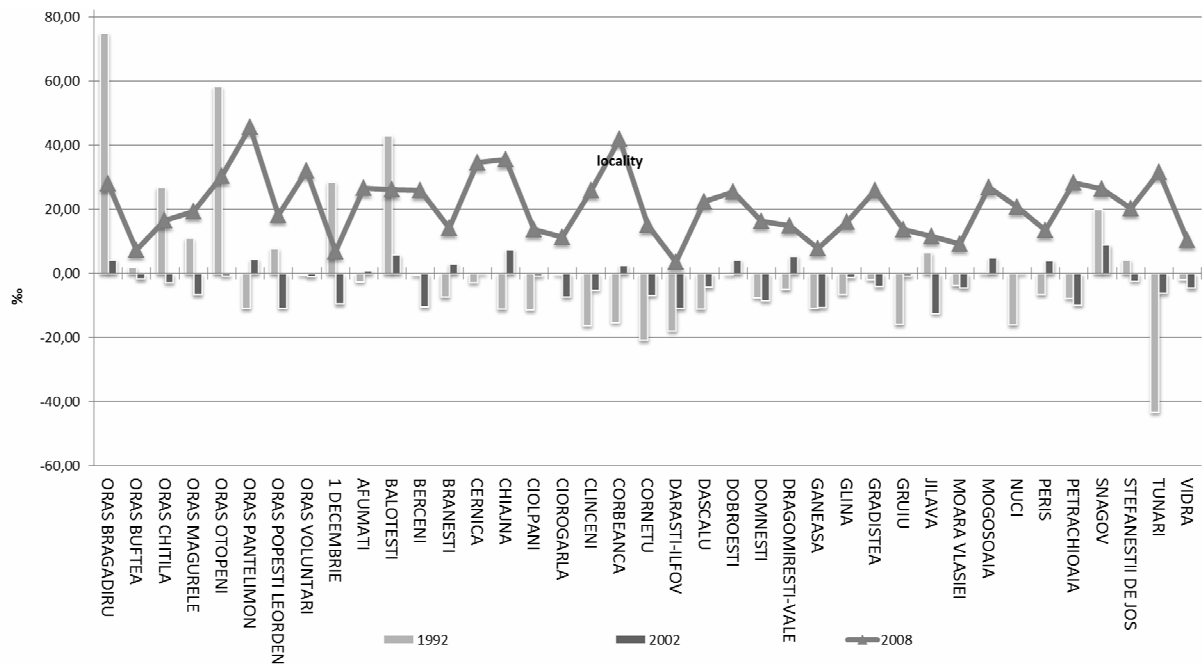


Figure 7. Evolution of net migration for the years 1992, 2002 and 2008

Infrastructure development enhanced the attractiveness of the respective settlements, but also determined a growth in the standard of living. Presently, the standard of living is quite high if we take as reference point the rest of the rural settlements in Romania, such progress leading even to the promotion of certain communes to the title of towns.

If, in 1992, most communes witnessed a negative migration trend, save those to be later advanced in the category of towns (Otopeni, Bragadiru, Chitila), things were accelerated in 2002, when around 60% of the settlements recorded a negative migration rate. This time, the phenomenon of emigration affected also the urban settlements such as Chitila (from 26.87‰ to 2.72‰) and Otopeni (from 58.25‰ to -0.72‰).

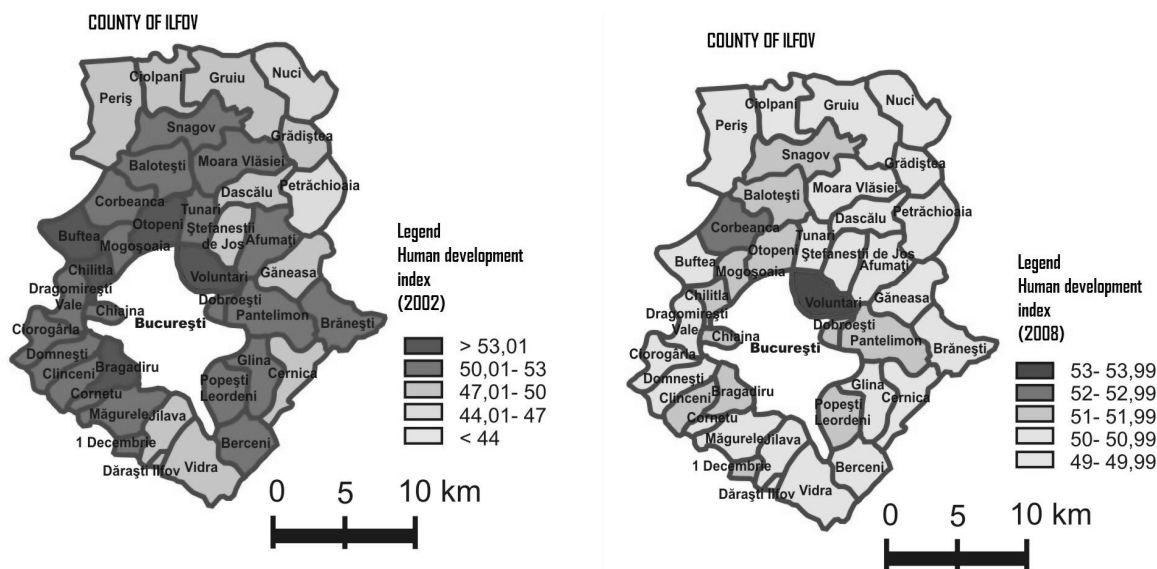
In 2008, a recovery is noticed, all settlements having at the time a positive migration rate, with the highest rates being registered in Otopeni (30.52‰), Corbeanca (41.97‰), Snagov (26.43‰), Tunari (31.5‰), Voluntari (32.16‰), and Pantelimon (35.8‰).

The education level is also pretty high, the weight of the population holding a high school graduation diploma in the total population being of 15.2% in 2002. The highest values were noticed in urban areas: Buftea (30.77%) and Otopeni (32.20%), and the lowest in the adjacent communes: Nuci (2.3%) and Cernica (5.54%).

Following the correlation of all indices, it resulted that in 2002, the Human Development Index varied between 56 in Otopeni and 47.05 in Vidra. Consequently, three areas may be considered: a favoured area with a concentric and radial disposition located around the city of Bucharest and two disfavoured areas – one to the north-eastern limit consisting of five settlements (Petrăchioaia, Nuci, Grădiștea, Nuci, Gruiu, Cioplani) and the other, to the south, including two settlements, Jilava and Vidra. The settlements with the highest Human Development Index are those situated in the north of the capital, in the proximal area of Bucharest: Otopeni, Mogoșoaia, Buftea and Chitila, their corresponding values being over 53.

In 2008, after computing the Human Development Index, a first discrepancy is seen between the north side and the south side of the county, especially in the development of the settlements around the corridors formed by DN1, A1 and E85. The figures obtained are partial due to missing data, the unavailable information relating to the indicators of economic status (economic dependence level,

weight of unemployment rate in the active population), demographic status (weight of the population aged over 60, demographic dependence rate) and the standard of living (weight of the population holding a high school graduation diploma in the total population).



**Figure 8.** Human Development Index for the county of Ilfov in 2002 and 2008

According to the partial information available, it results that the highest Human Development Index value is found in the town of Voluntari (53.99) and the lowest, in the commune of Moara Vlășiei (49.99).

Therefore, four areas may be considered: two favoured areas in the north side along DN1 and A1 (Periș, Snagov, Balotești, Corbeanca, Otopeni, Mogoșoaia, Chitila, Buftea, Dragomirești, Chiajna), one area to the west (Voluntari – Afumați – Dobroești - Pantelimon) and two disfavoured areas, one to the south, from Ciorogârla to Cernica and another one to the north-north west, from Brănești to Cioplani. More conspicuous differences may be noticed between the north-eastern part and the north-western part between Snagov, Balotești, Otopeni and Moara Vlășiei, Dascălu, Nuci and Cioplani.

### SWOT ANALYSIS

The county of Ilfov is considered by many to be one of the most developed areas in the country after the city of Bucharest, but this does not entail that whole space is uniformly developed, since not every region developed from an economic standpoint is automatically a problem-free place. As any other place, the county of Ilfov has a series of strengths and weaknesses.

In the north part of the county, several strengths have been identified which may give further rise to a skyrocketing growth in the economic development if the existing issues are adjusted and if the present development pace is kept. To the “north”, the existence of the traffic corridor of national interest, the National Road 1 Bucharest-Ploiești, facilitates the connections of the settlements of Ilfov county to Bucharest and the city of Ploiești, a major business, industrial and cultural centre of the Romanian Plain. This allows for an easy exchange of raw materials, finished products, services and manpower.

This region is also favoured by the existence of a high real estate potential due to the natural environment, attractive for investors. Referred to as the “green paradise”, this area has turned shortly into one of the most wanted and expensive real estate areas.

Nevertheless, this aggressive move of real estate investments into the environment is about to change from a strength into a weakness because any irrational exploitation of the environment beyond

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its regeneration capacity may result in irreversible consequences and an opposite phenomenon may occur, namely the rejection of the investors.

The transport infrastructure developed also by the high level of technical and urban endowments has attracted very many multinationals which set up their branches or established their main offices in this part of Ilfov county, leading thus to the creation of jobs.

At the present date, the quality of the environment factors does not raise major concerns and despite that the real estate and road infrastructure investments required grand-scale deforestations, the pollution level has not reached alarming levels yet.

In the experts' opinion, the building of the new highway will lead to price escalation in the area and increasing attractiveness for investors in the north-eastern communes: Moara Vlăsiei, Nuci, Gruiu. According to the Development Plan for Ilfov County, the building of the highway will reduce the disparities between the north-western side and the north-east of the county.

The real estate market in the southern part of Ilfov county is less aggressive, this matter representing one of the strengths of the region.

In this area, the labour force is cheaper as compared to the "north" and this happens because in the "north", economic activities are far more diversified and for the past few years, services have been prevalent. For illustrative purposes, we refer only to a few of the significant names established in the "north": Media Pro Pictures in Buftea or the food industry sector established also in Buftea (Angst Ro SA, salamis and sausages manufacturer) and Mogoșoaia (Impex Cris Tim SRL, salamis and sausages manufacturer). It is a well-known fact that the labour force active in the tertiary sector is better rewarded financially than farmland and manufacture workers and that international company groups offer their employees higher salaries than small production businesses which encourage illegal work.

Similar to the Bucharest-Ploiești corridor in the "north", the Bucharest- Giurgiu corridor in the "south" is a major traffic corridor of national and international interest, connecting the capital of Romania to the Balkan Peninsula and Turkey (Asia), respectively.

The southern side of the county has a high development potential in the agricultural production taking into account the farmlands which are less affected by real estate investments.

Among the weaknesses we deem to be worth considering, we refer to the discrepancies existent in the north-eastern side, insufficiently developed, highly ruralised and weak in infrastructure, and the north-western side which, for the past 10 years, has witnessed a major economic boost sustained by the Bucharest-Ploiești traffic corridor and the investments made in the settlements adjacent to this corridor. This statement is also supported by the Human Development Index map of Ilfov county valid for the year 2008 (Figure 8).

Another weakness of the "north" would be the heavy traffic during certain time intervals in the day and the week on the National Road 1 and the frequent traffic congestions along the Bucharest Ring Road. The Bucharest-Brașov Highway shall take over part of the traffic conducted now on the national roads DN1 and DN1A, a fact which shall be effectively translated in the traffic fluidization on the two routes and implicitly in the decrease of air pollution emissions by approximately 25%, according to the Ilfov County Land Use Plan for 2004.

Another major issue of concern is the great number of farmlands left unused and laying fallow in the hope of finding investors, as well as the existence of many unsanitary business locations in Voluntari.

The southern area faces low quality environmental factors due to the overcrowding of certain areas destined for trade, storage and transportation such as wholesale businesses, warehouses and small manufacturing workshops located in the commune of Berceni and the Măgurele town, the traffic and the congestions on the Capital's Ring Road, the landfill situated in Glina.

Due to high ruralisation, the settlements in the southern side of Ilfov county have an underdeveloped infrastructure. Therefore, as if in a weakness chain, investors do not show a particular interest in this region, which consequently makes the inhabitants' standard of living decline.

The impact of investments upon both regions under comparative consideration may, on short term, be not a pleasant one if we think of the job sites which are sources of pollution. Weaknesses such as forced expropriation for prices much under the present real estate market value or farmlands

impossible to be reinstated into the agricultural use, facilities partially erected but abandoned due to missing investments, business and industrial facilities closed down and prey to degradation portray a brown-field landscape in settlements such as Voluntari, Glina, Clinceni, Chiajna and Bragadiru. The Ilfov County Land Use Plan for 2004 specifies that *“the main target common to all territorial planning strategies is first and foremost the achievement of a sustainable economic and social development of the territory under analysis”*, to take into account several principles, including the one *“to protect the highly economically valuable farmlands by implementing restrictive actions for their declassification from farmland usage and their qualification as built-up areas within settlements”*.

### **IMPACT OF THE BUCHAREST-BRAȘOV HIGHWAY ON THE ECONOMIC STRUCTURE AND THE DESTINATION OF LANDS**

As of 1989, there were “mutations” in the county of Ilfov in the demographic structure, the economic structure and implicitly in the destination of lands. All the social and economic changes were determined and influenced by the intensified urbanization of the rural settlements and the perpetual development of the towns of the county. Various sociological and economic studies and research works consider the gradual effacement of the town-village differences as an urbanization process of the rural environment, a passage from a traditional, rural society to the industrial, urban one.

Building and commissioning the Bucharest-Brașov Highway will heighten these phenomena noticed as early as 1992 to date. The effects and the benefits they create will not be immediate, however, they will be obvious in 10 – 20 years’ time, when the entire highway A3 is finalized, not only the Bucharest- Ploiești and Bucharest-Cluj sections. Therefore, according to the designers’ forecasts, in 2025, the highway will attract on a daily basis 28,000 motor vehicles on Predeal-Râșnov section and over 50,000 motor vehicles on Bucharest-Ploiești and Câmpina-Sinaia sections. Meanwhile, the traffic on DN1 will diminish significantly by approx. 90% on Câmpina-Sinaia section and by approx. 50% between Bucharest and Ploiești

The instant effects triggered by the commencement of works materialized into shifts in using certain facilities at present date: 414,227 square meters of built-up area, farmland and households in settlements such as Snagov, Moara Vlăsiei, Voluntari will be declassified from their category of use, being split by the highway. In settlements such as Ștefănești and Moara Vlăsiei, access roads were created in order to reach the working unit. On a considerable part of the farmland around the highway, large-scale construction sites were organized, which affected the settlements in the area due to the dust, noise and accelerated heavy traffic. The extension of the works makes these phenomena continue and cause major discomfort to the inhabitants.

Building the highway will also be instantly beneficial to the local community, the indemnity amount for expropriations for the Bucharest-Ploiești section rising at this date to RON 61.53 million and according to the SBS Group, the worth of the lands surrounding the future junctions boosted abruptly. Taking into account the statements given by the city halls, another benefit would be that the highway offered workplaces to labour specialized in construction-engineering works, but also to the unskilled.

The commissioning of the highway will set the premises for the accelerated development of certain settlements or the decongestion of other settlements, as it is the case of the town of Voluntari. In organizational terms, the evolution of this settlement was closely related to that of Bucharest, undergoing simultaneous development and being advanced into the category of towns in 2004. The town of Voluntari is engulfed by its business role, overcrowded with wholesale facilities and representing a commodity supply centre for the entire country. This settlement requires a decongestion of the business areas (wholesale facilities: Europa, Doraly, Dragonul Roșu, Metro, Bricostore) and the implementation of the highway on the administrative territory of the town may attain this goal or, on the contrary, we might meet a reverse phenomenon.

Similar to the development of the other settlements in the proximity of the capital, the town of Voluntari deals with a saturation of the residential area having also led to the overburdening of the electricity and water distribution networks and the transport infrastructure. Even though, for the past couple of years, the crisis put an end to this phenomenon, two scenarios are possible once the highway

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is completed: in a first scenario, the street network of Voluntari may not take over the highway traffic volume leading thus to endless traffic jams which will entail major infrastructure works, and according to a second scenario, the town will grow even more attractive from the residential perspective, in which case it will end up overloaded.

Real estate development is an ongoing phenomenon, however, at a slower pace than as compared to the period 2006-2007, when the real estate “boom” reached settlements such as Snagov, Balotești, Tunari, Brănești, Corbeanca, Buftea, Bragadiru. As expected by the most eager of the real estate investors, the completion of the highway will revive the glory days of the northern part of the county, the lands in Snagov, but also in Nuci, Moara Vlăsiei and Gruiu turning into genuine “*pièce de résistance*”. In time, this would extend the gap between the built-up areas in the north and those in the south and the long-term effects would be a more dramatic decrease in the farmlands and implicitly in agriculture, in general in the northern side of the county.

A changing trend in the destination of the lands may be noticed also in the General Development Plan of Snagov commune, which shows that over 60% of the community land will turn into residential area, 20% of the land will be allocated to green areas and the farmland will represent no more than 1% considering that the farmland is presently almost 60% of the total area.

The completion of works shall positively impact the area for the attraction of regional investments and the technical and urban infrastructure development of the settlements of Ilfov county. Establishment of companies active in various business fields might result in a decrease in the unemployment rate, the commuters’ rate and might put an end or at least diminish the depopulation of the region and the population aging phenomena.

Another major concern for the modernization and urbanization of the rural environment is the development of services. Besides facilitation of daily activities for the population engaged in farmland work, the development of services might be meaningful for what is referred to as “*multi-professionalization of the active population living in rural areas*” (Radu Ioanid, 1978:71). Under this process, part of the surplus of active population resulting from the agricultural automation should not leave the rural environment by taking up jobs in the service industry which is supposed to make great strides following investments projects carried out in the county.

The chart analysis of the occupational structure of the population in 2008 (Figure 3) shows that over 50% of the employed active population is engaged in the tertiary sector and the rate of the population working the land is very low, save a few exceptions. In Periș, the absolute maximum value at county level is 80%, followed by Berceni and Cernica. The rise of the tertiary sector vests urban functions into certain rural settlements and turns them into genuine suburbs, such urbanization phenomenon growing steadily from one year to the other.

This is the cause giving rise to a category ever larger of rural population engaged in works other than agricultural. Presently, we witness in contemporary rural Romania, a quantity growth in the secondary or higher education skilled personnel which constitutes a major agent of the urbanization process. Teachers, physicians, agricultural engineers and technicians of various businesses play an important role in the urbanization of rural areas by their very profession. Cutting down on the number of population engaged in farmland works must not be a goal we undertake to attain for the urbanization of the rural areas. This cut-down should be a consequence of accelerated mechanization of agriculture and must allow, by releasing labour force, for the continuous development of the industrialization and tertialization process.

The expansion of the built-up space to the detriment of farmland shall definitely go on in the years to come. The impact of the highway on the destination of lands shall be noticed in the growth of the lands destined for industrial and storage, commercial, public utility and residential purposes. Our estimation is that the highway and the space in its closest proximity will magnetize many investors in all fields of activity. New residential complexes will be erected, business centres will be in place to serve the population, and new industrial facilities will be attracted by the existence of a national interest road, storage spaces and the potentiality to expand in the future, all these being vital factors in the development of this structure. All these investments will bring about chain reactions changing all

social and economic layers and eventually leading to a levelling of people's conveniences and urban amenities in the rural settlements in the north of Ilfov county.

Due to the central location of the new highway in the northern side of Ilfov county, great prospects are ahead for the entire rural existence. The capital shall further exert its influence on the surrounding settlements not only through its political and administrative function, but also by offering them major opportunities concerning the economic and social development, the increased urbanization process and in the long run, by contributing to making the living standard of the rural population comparable to the living standard of the town people as a result of the migration of certain economic activities towards rural areas owing to the space shortage of the towns. All these processes will speed up and evolve against the positive impact to be created by the highway on the business and transport sectors mostly in the settlements it crosses, but also in the settlements located in its close vicinity. The ties between the northern settlements of the county will be strengthened, diminishing those existent with the southern half of the county.

Business agents will migrate to the area adjacent to the highway in order to take advantage of a cheaper real estate market, considering that the prices for selling or letting the lands and business facilities located outside the city limits are much lower as compared to the estates within the city limits. Investments will gravitate around the "magic of the highway", which is a promise in terms of promptness of procuring commodities, lower transport charges and a more effective movement among manufacturers, distributors and end-users.

Presently, there are already differences between the organization of the business activities and the zonal functional structure of the northern settlements as compared to the settlements in the south. For instance, the north benefits by specialized stores and clear-cut particularization of the business areas while, in the south, the business areas are full of mixed products and the stores are not specialized depending on the goods pertaining to the same item category.

The National Road 1 (DN1), a favouring factor by now in the economic development of its adjacent settlements, will lose part of its weight from now on. In addition to the attraction it exercised among business agents, the National Road 1 also functioned for serving the needs of the people transiting the area. The traffic will diminish along this corridor and intensify on the new highway

which will determine the rise of business facilities, particularly around traffic junctions: motels, restaurants, filling stations.

The highway may also adversely impact upon the environment and the population in the area. The outcome of the urbanization process, which will be speeded up by the achievement of this project, and the growing complexity of the urban concerns represents the alteration of the particulars of the natural environment and the addition of new particulars as a consequence of anthropic activities. The highway will also cut through the Surlari forest, an area declared a Natura 2000 site, having a negative impact on this protected area, not necessarily because of the excessive traffic, but especially because of its



**Figure 10.** *Bucharest-Braşov Highway Construction Works*

fragmentation. It cannot be said that the county faces an acute crisis in this respect, but the failure to properly address and work out the present and forecasted or predictable issues will lead to a degradation of the situation in the near future.

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For the time being, how exactly the highway is to influence the progress of the settlements of Ilfov county cannot be known for certain, great delays in the construction works, the deadline extension for the completion of the Bucharest–Brașov sector for 2016 and the inexistence of a milestone for the entire Bucharest-Cluj project may entail a turn of events.

### CONCLUSIONS

We believe that the commissioning of the highway is a strong link in a chain whose all elements are closely interdependent. Our hope is that, following the commissioning of the highway, major investments in the region will ensue, conducing to positive chain changes beneficial to all inhabitants of the county, from investments in the county and local infrastructure to the increase in the employment rate and the living standard in general. It goes without saying that we do not expect for all this to happen in the blink of an eye, nor do we intend to overestimate the role of this highway at the level of the entire county as it has been analysed.

Currently, there is a gap at the county level between the northern half and the southern half, the north displaying a better evolution due to its being crossed by the National Road DN1 and E85. The economic effects we estimate to be generated by this project will dilute the present discrepancies between the northern settlements, namely between those located in the area adjacent to the traffic corridors, and those located at further distance and, at the same time, will intensify the disparities currently in place between the northern half and the southern half of the county.

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