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# Folder Implementation – Workshop

## - C.U.P.A. event Brasov (26 to 28 November 2014)-

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## 1. Overview of the city and the region (general information)

Brasov, Brasov county:

The first document mentioning the municipality in 1235, "Catalogus Ninivensis" The city's population today is 276,914 inhabitants (July 2010)

- Land area - 26,732 ha

Administrative area (urban and unincorporated) - 15,619.971 ha, population density is 1,036 inhabitants per square kilometer (2010).

- Administrative territory of Brasov is situated in the southern part of the Brasov Depression, in the curvature of the Carpathian mountains.
- The only city in Romania which manages a nature reserve – “Mount Tampa”
- Poiana Brasov - important national tourist site.
- The Climate show typical temperate –continental characteristics.

Elements of local identity: Square Church "St. Bartholomew" Black Church, "St. Martin" Church, "St. Nicholas" First Romanian School Museum, the Orthodox Cathedral "Assumption", Bastion, Bastion Graft Bastion Drapers, the White Tower, Black Tower, Ecaterina's Gate, Schei Gate, Citadel, Rope Street, Schei shrines, Solomon's Stones, Young Braşov.



## 1.1. Structure and city image

The town was formed at the crossroads of ancient trade routes leading into Asia Minor, the Adriatic Sea and Central Europe to the Balkans. Core areas of commercial relations were Moldova, Romanian Country and the West.

City development was supported on one side by obtaining privileges by the German Order in 1212 to mint the coin, on the other hand the right to collect a fee of 10% of the gain, faithful to the church (1213). Benefits of German settlers sparked protests from Hungarian nobility, which is why the German Order privileges were suspended.

Defense measures and land use by German settlers have left traces that can be observed even after 800 years. The region has always enjoyed certain autonomy, and as a political entity was over four and a half centuries of the "Saxon Nation". Brașov became the main location that's up and developed in 1867 to the largest city in Transylvania; Only later was the city of Cluj caught up and surpassed Brașov. Until the nineteenth century German settlers formed the majority of

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the city's population.

At the end of the Middle Ages, besides the merchants, a wealthy Saxon community formed in Romania which was supposed to play an important role in the future. After the Saxon dominance by a brief period of equality between Saxon, Hungarian and Romanian followed.

In the interwar period the city expanded very much, important individual housing areas and new industrial zone were developed.

The postwar period is marked by forced industrialization and very fast urban expansion, attracting large rural population. It reflected the desire to radically change the traditional urban structures by the appearance of large residential districts.

After 1989, with the demise of the industry, large industrial sites were used only partially by small production units that have emerged from old factories. These platforms are now great potential to attract new investment to the city.

In 2011, Braşov is the eighth largest city in the country and the largest in the central region. From this point of view the municipality is considered an engine of regional development. Since 2005, Braşov forms together with other 13 cities the metropolitan area, and is ranked since 2008 among national growth poles.

Braşov puts a lot of efforts in creating and taking care for the city's parks, playgrounds for children and small lawn areas which were rewarded by the Ministry of Environment in 2011 with the distinction of "Green Capital of Romania".

Large areas of the city are occupied by residential areas with blocks of four or more storeys built between 1960-1989 (pre-fabricated slab buildings)

The new General Urban Plan meets the requirements of the EU that provides an area of 27.94 m<sup>2</sup> of green space per inhabitant. Environmental and tourism issues are given greater importance in the new PUG (General Urban Plan) than before.

In recent years there has been a trend of relocation or establishment of industrial units within the city to the periphery or outside the urban area. The resulting surfaces will receive a new utilization. To meet the needs of development, the new PUG provides greater flexibility to the use of surface defining 23% of the urban as having mixed use function.

With the construction of Ghimbav-Braşov Airport and the Bucharest - Bors motorway, economic activities will be located mainly to the north-west section, which will influence the use of land in the area of interest, provided the PUG (General Urban Plan) 2011.





## 1.2. Structural analysis and forecast demographic

Structural analysis is an essential prerequisite for the development of a strategy. Without an accurate analysis of the situation and start with an assessment of the statistical data, the strategy developed will not have a solid foundation.

Structural analysis comprises the core values of quantitative and qualitative socio-economic and cultural factors, details of changes in population, indicators of social and technical infrastructure and housing situation, economy, labor market, education, trade, industry, tourism, sports, administration, land use in each area the environmental situation of the city and the city in general. . The analysis includes a description of the current situation and defines issues related to overall city and its neighborhoods.

### 1.2.1 Evolution of the population

#### a) Total population

From a historical perspective, Brasov population has gradually increased since 1850 (21.782 inhabitants). Until after the Second World War, the number of inhabitants remained below 100,000.

*Table 1: Evolution of the population between the years 1850 to 1948*

Year	Number of inhabitants
1850	21.782
1880	29.584
1890	30.781
1910	41.056
1930	59.232
1941	84.557
1948	82.984

*Source: National Institute of Statistics*

In 1990, the municipality had a total population of 364,307 inhabitants. Since then the population began to decline, the most dramatic decrease occurred in the first years after 1990, due to migration of Romanian citizens abroad.

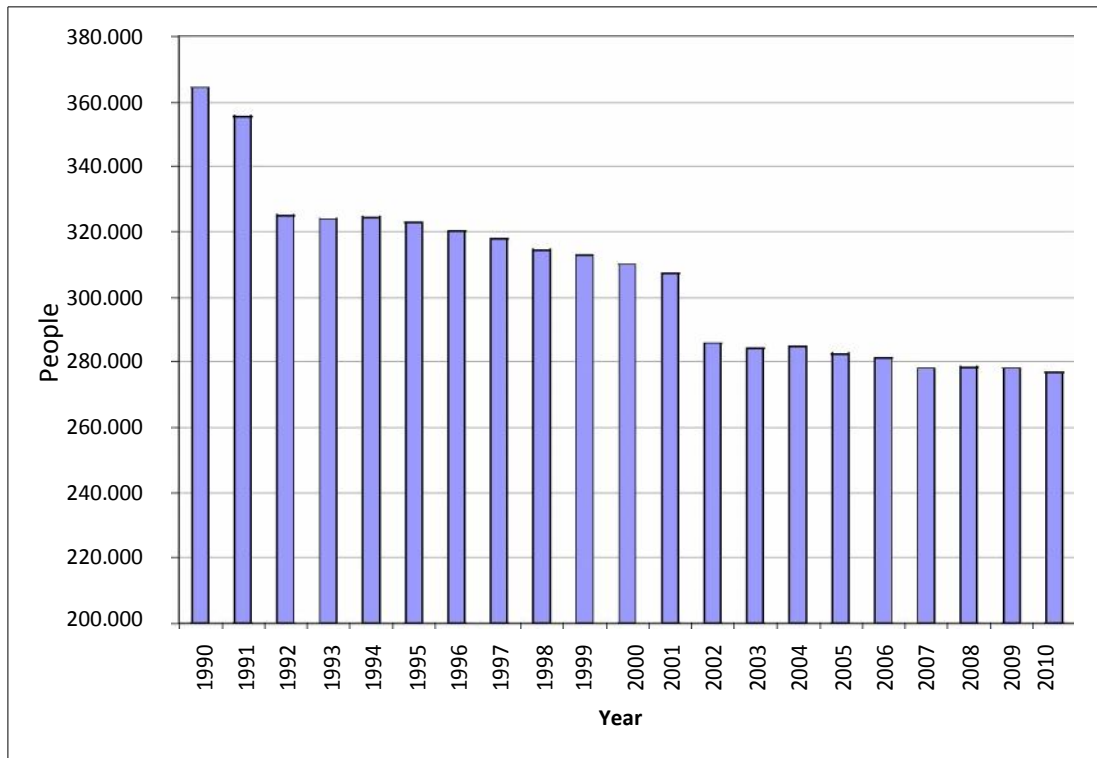
The city lost in 20 years about 87,000 inhabitants, a quarter of the population recorded in 1990. The dynamic process of demographic change has slowed in recent years and since 2007 the population evolution is back to slowly increasing again.

*Table 2: Evolution of the population of Brașov*

Year	Total population	Of which women	%
1990	364.307	178.964	49,1
1995	322.977	164.548	50,9
2000	309.671	159.544	51,5
2005	282.517	147.15	52,1
2010	276.914	145.486	52,5

Source: Department of Statistics Brașov County

*Graph 1: Evolution of Brașov population form 1990-2010*



Source: Department of Statistics Brașov County

Between 2002 and 2011 the share of population in different neighborhoods have changed very little. In six of the districts increased slightly, in the other five districts it fell, in the remaining three districts it remained stable.



## b) Natural evolution of population

Births dropped sharply after 1990, in Brasov and all over Romania, as well as in former socialist states as sug.

If in 1990, 3,393 children were born, four years later there were only 2,125 children born, one-third less.

In 2003 the lowest number of live births (1,948 births) was recorded, after which the number of births began to rise. Despite this positive trend, the level recorded in 2009 continues to be below that recorded in 1990 and it is likely that this level may not be achieved in the coming decades.

*Table 4: The natural growth rate between 1990 and 2009*

Year	Births	Deaths	Natural gain
1990	3.393	2.280	1.113
1995	2.017	2.684	-667
2000	2.055	2.571	-516
2005	2.232	2.602	-370
2009	2.452	2.638	-186

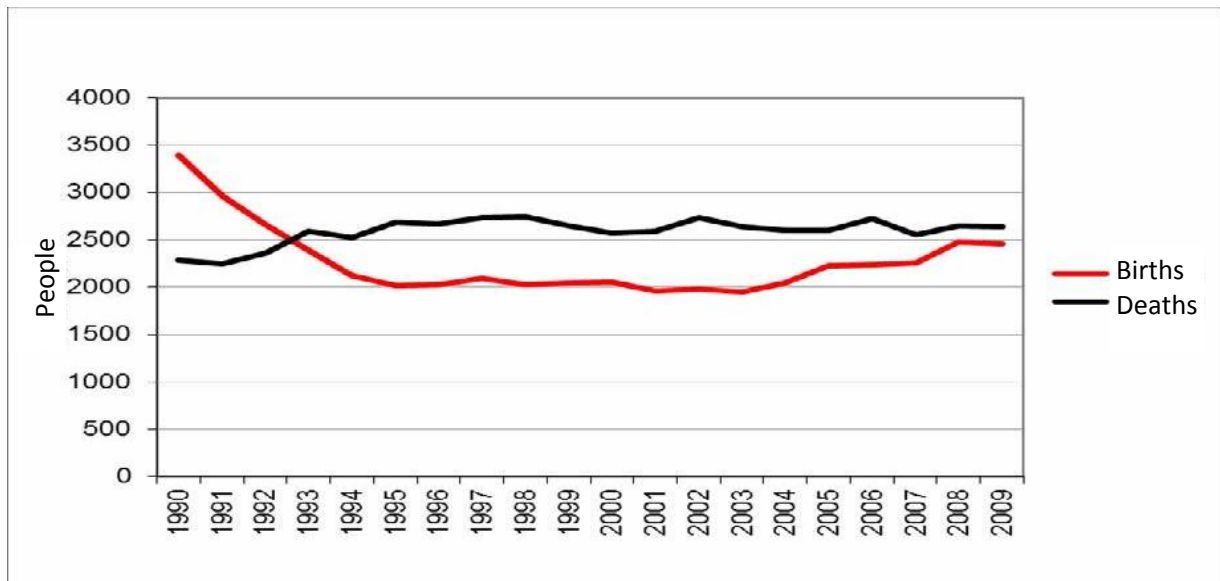
*Source: Department of Statistics Brașov County*

The natural growth rate - the difference between the number of births and number of deaths - was positive only between 1990 and 1992, then by 2009 the number of deaths was higher than the birth.

Since 1993, Brasov lost annually by negative natural increase several hundred people, the peak of 753 people in 2002.

Due to the increasing number of births in recent years, losses were diminished (2009 - 186 people).

Chart 2: Natural evolution of population 1990-2009



Source: Department of Statistics Brașov County

### c) Spatial evolution of population

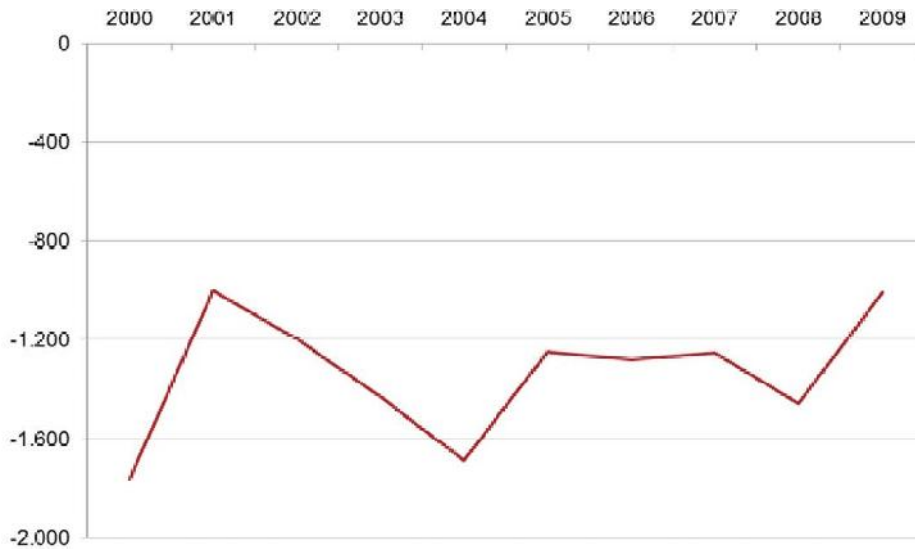
Both the internal and external migration greatly influenced developments in population. The 90s are marked by the emigration of the population, and now the sub-urbanization began to increase in size. Statistical data on departures from Brașov are not available, but the demographics of the population increases of communes of the metropolitan area shows the trend towards sub-urbanization.

Table 5: Migration balance 2006-2009

Year	Total	Settling home in Brasov	Departures residing in Brasov	migration balance	Migration sold 1,000 inhabitants
2006	281.375	3.145	4.424	-1.279	-4,5
2007	277.945	3.682	4.933	-1.251	-4,5
2008	278.712	3.358	4.816	-1.458	-5,2
2009	278.003	2.993	3.999	-1.006	-3,6

Source: Department of Statistics Brașov County

Chart 3: Migration balance 2000-2009



Source: Department of Statistics Brașov County

The number of departures is still higher than the newly settled, ranging between 1,000 and 1,500 people a year.

#### d) Age structure

The analysis of five-years age groups during 1992- 2010, presents the clothi Atran population Brasov. While in the period analyzed age groups 5-9 years and 10-14 years are reduced by about two thirds and 0- 4 age groups 15-19 years and almost halved, all other groups aged over 45 years increased. In particular age groups in the upper echelon, over 70 years, almost doubled.

Table 6: Changing age structure in the municipality during the period 1992-2010

Age	1992		2002		2010	
	Absolute value	% of total population	Absolute value	% of total population	Absolute value	% of total population
0-4	20.647	6,4%	9.044	3,2%	11.419	4,1%
5-9	25.132	7,8%	10.061	3,5%	9.228	3,3%
10-14	30.123	9,3%	17.728	6,2%	8.624	3,1%
15-19	25.226	7,8%	23.012	8,1%	12.651	4,6%
20-24	29.943	9,2%	29.354	10,3%	24.037	8,7%
25-29	20.346	6,3%	21.666	7,6%	24.945	9,0%
30-34	29.078	9,0%	24.717	8,7%	25.893	9,4%
35-39	33.826	10,4%	16.856	5,9%	19.656	7,1%
40-44	24.341	7,5%	24.132	8,5%	21.792	7,9%
45-49	15.646	4,8%	28.807	10,1%	17.657	6,4%
50-54	17.529	5,4%	21.013	7,4%	24.697	8,9%
55-59	15.616	4,8%	12.756	4,5%	23.948	8,6%
60-64	12.906	4,0%	13.700	4,8%	15.234	5,5%
65-69	10.129	3,1%	11.849	4,2%	10.561	3,8%
70-74	5.319	1,6%	9.159	3,2%	11.109	4,0%
75-79	4.150	1,3%	6.324	2,2%	7.827	2,8%
80-84	2.602	0,8%	2.735	1,0%	4.821	1,7%
85 și peste	1.177	0,4%	1.683	0,6%	2.815	1,0%
<b>Total</b>	<b>323.736</b>	<b>100%</b>	<b>284.596</b>	<b>100%</b>	<b>276.914</b>	<b>100%</b>

Source: For 1992 and 2002: Population and Housing Census 2002 and 2010 the County of Braşov Statistics

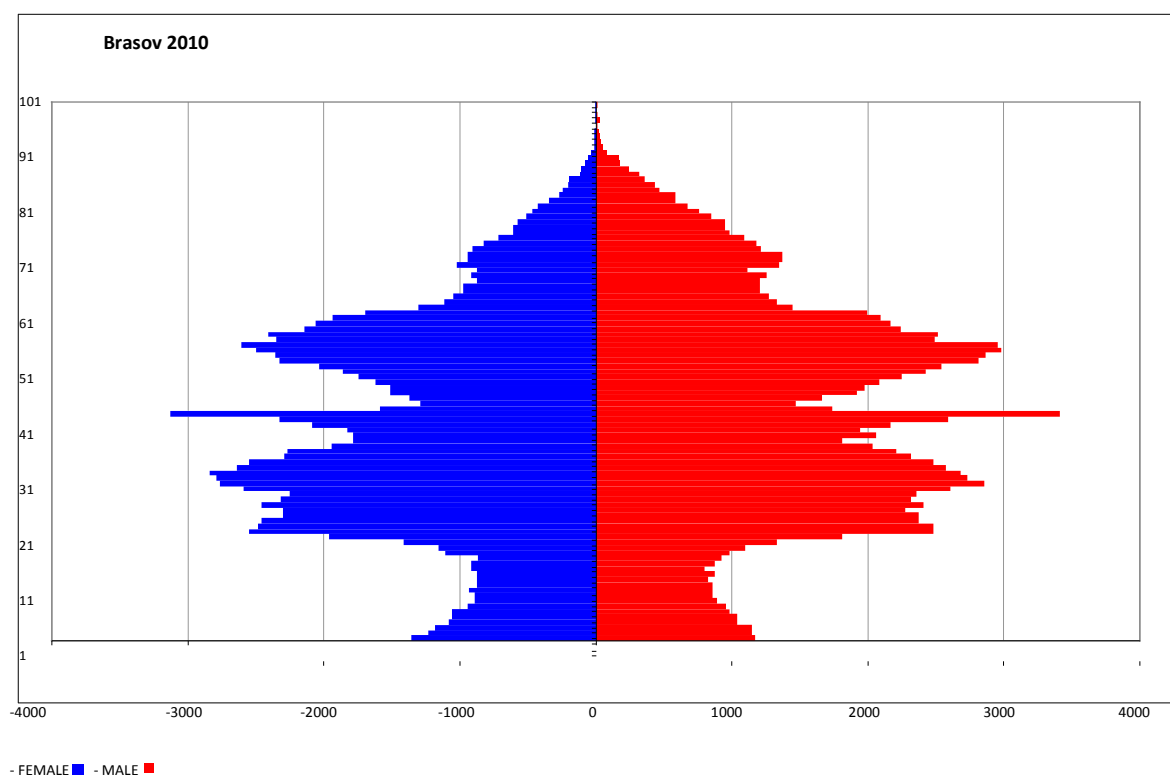
Based on the current age structure we estimate that these processes will continue, and the average age continues to rise.

Table 7: Change in the main age groups in the period 1992-2010

Age group	1992		2002		2010	
	Absolute value	% of total population	Absolute value	% of total population	Absolute value	% of total population
0-19	101.128	31,2%	59.845	21,0%	41.922	15,1%
20-39	113.193	35,0%	92.593	32,5%	94.531	34,1%
40-59	73.132	22,6%	86.708	30,5%	88.094	31,8%
60-79	32.504	10,0%	41.032	14,4%	44.731	16,2%
80 and over	3.779	1,2%	4.418	1,6%	7.636	2,8%

Source: For 1992 and 2002: Population and Housing Census 2002 and for 2010: Brașov County Statistics  
If in 1992 the age group 0-19 years accounted for over 30% of the total population, in 2010 the share is 15%. Groups aged over 40 years increased gradually during this period.

Chart 4: Age pyramid for Brasov, 2010



Source: Department of Statistics Brașov County

## e) Ethnicity

In 1880 29,584 people were living in Brasov. This population consisted of a third German (Transylvanian Saxons), a third Hungarian and Romanians were represented by a third. The percentage of persons belonging to other minorities such as the Roma, Hebrew, Greek, Bulgarian, Slovak keys and in 1880 was 10%.

By the period between the two World Wars census shows a slight numerical dominance of the Hungarian population. This completely changed the ethnic structure throughout recent history.

The number of ethnic German citizens (Saxons) decreased greatly after massive migration after 1990 reaching 1.1% in 1992, continuing to fall by half in 2002, or 0.6%. Hungarian citizens in 1992 were almost 10%, but fell to 8.2% in 2002.

According to data from the 2002 census, the Roma population is said to be 762 people, but in reality this figure is higher than the present data. With other sources of information such as the number of children enrolled in the school system, it is estimated that at present the share of Roma citizens in the total population of Brasov is approximately 0.6% of the total population.

*Table 9: Ethnic structure of population, 1992 and 2002*

	1992		2002		1992 – 2002	
	Absolute	%	Absolute	%	Absolute	%
Stable population	<b>323.736</b>	<b>100,0</b>	<b>284.596</b>	<b>100,0</b>	<b>-39.140</b>	<b>87,9</b>
Romanian	287.535	88,8	258.042	90,7	-29.493	89,7
Hungarian	31.574	9,8	23.204	8,2	-8.370	73,5
German	3.418	1,1	1.717	0,6	-1.701	50,2
Roma	504	0,2	762	0,3	258	151,2
Other ethnicity, undeclared	705	0,2	871	0,3	166	123,5

*Source: Census of Population and Housing 1992 and 2002*

Ethnicity may be linked to religious affiliation, meaning that most of the Romanians are orthodox and Greek catholic ethnic Hungarian citizens are in most cases roman catholics and protestants, and citizens of German ethnicity are mostly evangelicals.

Table 10: Structure by religion, 2002

	People	Of which %
Stable population	<b>284.596</b>	<b>100,0</b>
Orthodox	244.220	85,8
Roman Catholic	15.790	5,5
Reformed	7.193	2,5
Greek Catholic	2.926	1,0
Unitarian	2.573	0,9
Evangelical Lutheran	2.205	0,8
Pentecostal	1.610	0,6
Baptist	963	0,3
Evangelical Augustan Confession	949	0,3
Evangelical	940	0,3
Christian Gospel	860	0,3
Seventh-day Adventist	762	0,3
Other religions, no religion, atheist, unreported	3.605	1,3

Source: Census of Population and Housing 2002

From the table it is observed that the followers of the Orthodox faith are almost 86% of the total population Brasov.

## 2.2 Forecast population trends

### 2.2.1 Assumptions of the forecast

Demographic projections are among the most important tools in different areas of planning. They have a direct influence on the development of the labor market, housing market, education, social and health system but also on other areas. For this reason the municipality developed the strategy to forecast city population in six different variants.

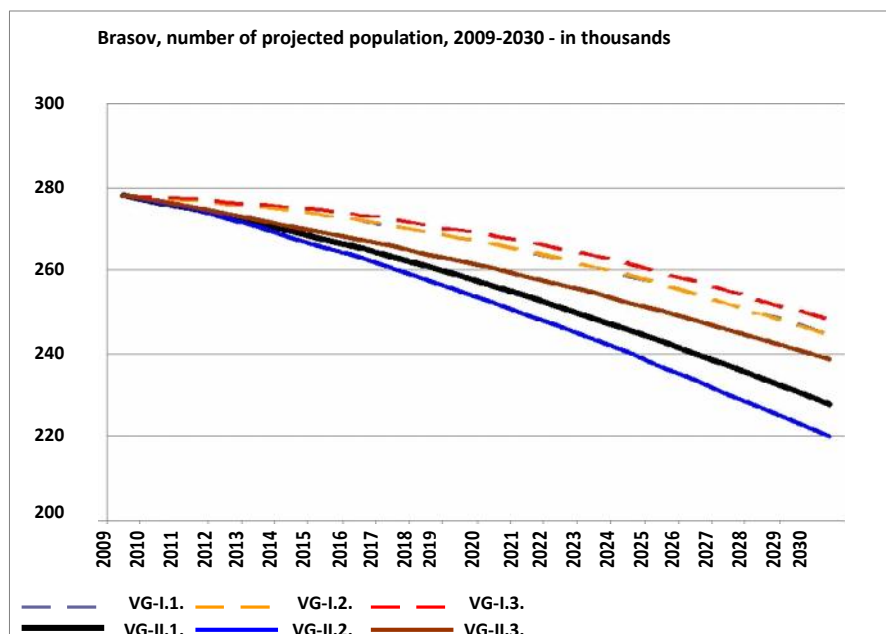
Variants VG-I.1, VG-I.2 and VG-I.3 present three scenarios of natural evolution resulting from births and deaths, but differ in different fertility assumptions.

Medium variant of fertility (VG-I.1) estimates that in 2009 fertility rate is already low 1.055 children per woman will fall moderate in 2011 from a child to a woman and will remain constant until 2030 this medium fertility variant was subsequently combined with three different assumptions of migration.

The three variants resulting VG-II.1, VG-II.2 and VG-II.3 presents any given development trend is migration, where the most optimistic situation is taken into account a negative balance of migration .

## 2.2.2 Presentation of variants

Chart 1: The six variants of population evolution 2030



Source: Study "Demographic Forecasting 2009-2030 Brasov"

The three variants of the natural evolution of the population shows that in the case of ignoring the demographic loss caused by migration, the city will see a significant decrease in population by at least 30,000 people. They are not included in the following observations.

Table 1: The six variants of population evolution 2030

Year	Variations (thousand people)					
	VG-I.1.	VG-I.2.	VG-I.3	VG-II.1.	VG-II.2.	VG-II.3.
2009	278,0	278,0	278,0	278,0	278,0	278,0
2010	277,5	277,5	277,6	276,5	276,5	276,6
2015	273,2	273,2	274,3	267,5	265,6	268,9
2020	266,2	266,3	268,4	256,3	252,2	260,4
2025	256,5	256,5	259,4	243,0	236,9	250,2
2030	244,7	244,4	247,9	227,9	220,2	238,8
2009 - 2030 absolute	-33,3	-33,6	-30,1	-50,1	-57,8	-39,2
2009 - 2030 in %	-12,0	-12,1	-10,8	-18,0	-20,8	-14,1

Source: Study "Demographic Forecasting 2009-2030 Brasov"

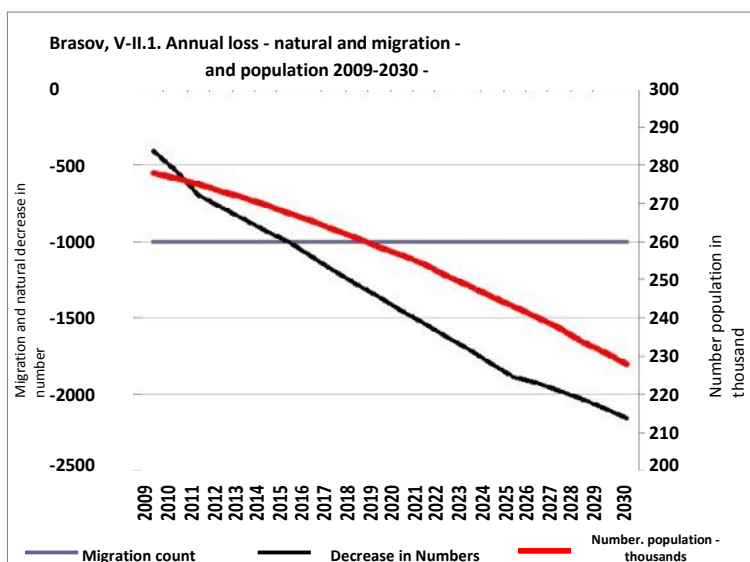


Taking into account possible losses caused by migration, population of Brasov will decrease the pessimistic variant with nearly 58,000 people, a situation that will trigger a series of consequences in the process of urban development, considering the simultaneous aging of population.

### 2.2.3 Results of the most likely candidate (VG-II.1)

The following will be considered the most probable variant VG-II.1, which is based by variant medium fertility and medium migration (- 1,000 people/year). According to this embodiment, Brasov population would decline steadily from 278 thousand people in 2009 to just 244,700 inhabitants in 2030, the total recorded for this period decreased by 12%.

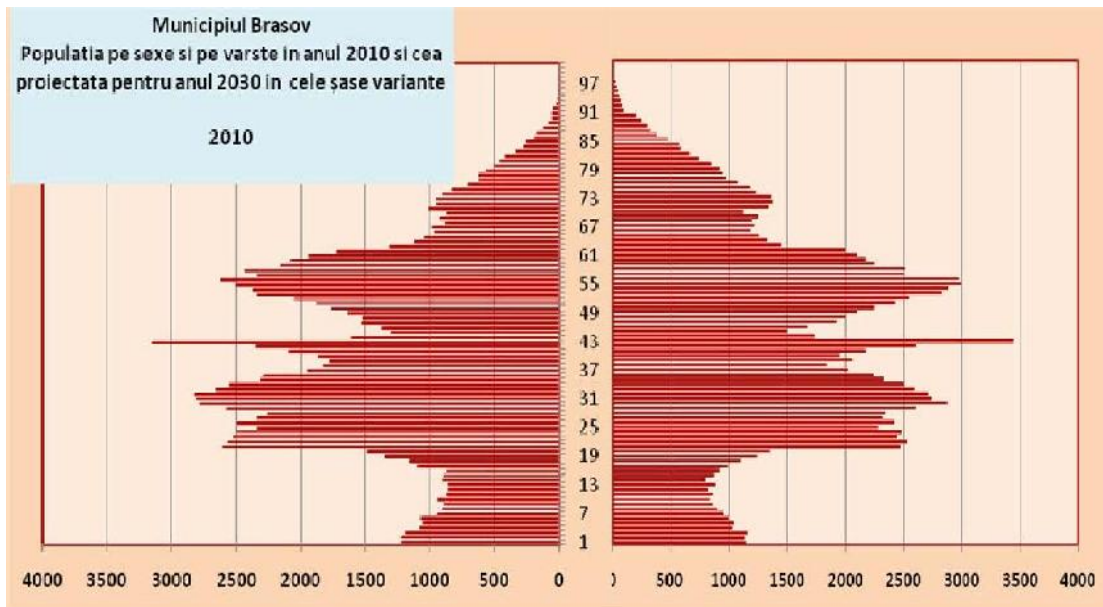
Chart 2: Assumptions and results of variance VG-II.1



Source: Study "Demographic Forecasting 2009-2030 Brasov"

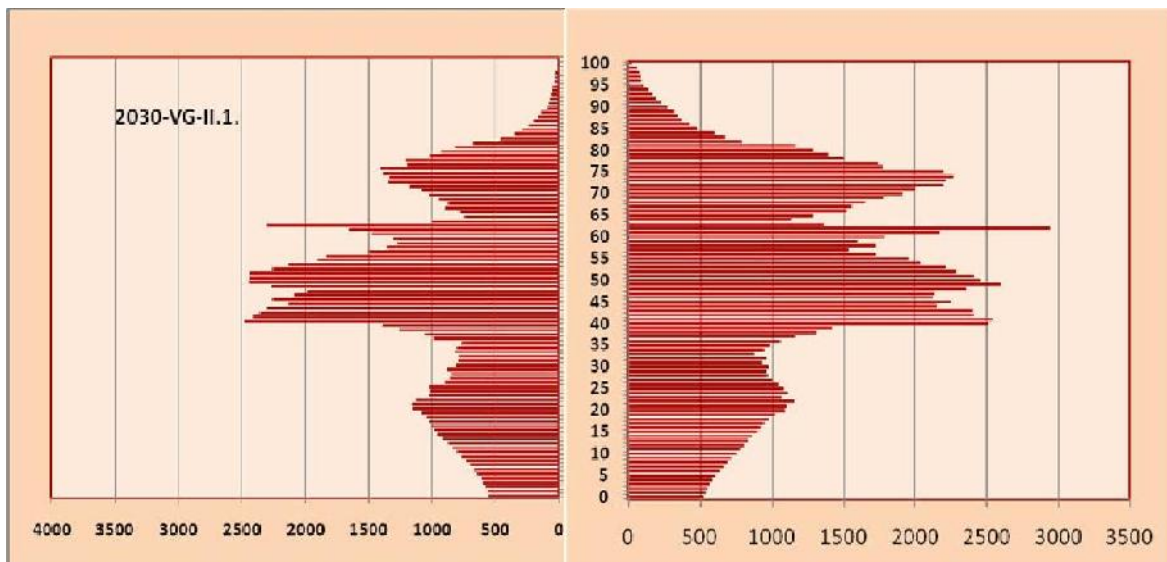
Population decline is associated with a severe aging process. The age pyramid for 2010 and 2030 clearly show this phenomenon.

Chart 3: Age structure 2010 (VG-II.1 option left - men, right - women)



Source: Study "Demographic Forecasting 2009-2030 Brașov"

Chart 4: Age structure in 2030 (VG-II.1 option left - men, right - women)



Source: Study "Demographic Forecasting 2009-2030 Brașov"

As shown in the table below, we find that various individual age groups evolve differently. The younger age groups, up to 40 years of age have a tendency to fall, some of them significantly.

## ANNEX 1

### COMPANIES form BRAȘOV, earners - according to data sheet – 2013

Company	Field of activity	Turnover	No of employees
AUTOLIV ROMANIA	Manufacture of motor vehicles, trailers and semi-trailers	2,119,419,540	5,333
SELGROS CASH CARRY SRL	Wholesale trade, except of motor vehicles and motorcycles	3,090,196,339	4,026
CFR SCRL BRASOV SA	Repair and installation of machinery and equipment	56,903,536	1,829
SC FDEE ELECTRICA DISTRIBUTIE TRANSILVANIA SUD SA	Production and supply of electricity, gas, steam and air conditioning	672,451,214	1,816
SC RC-CF TRANS SRL	Warehousing and support activities for transportation	70,452,021	1,422
SC REGIOTRANS SRL	Land transport and transport via pipelines	223,990,487	937
REGIA AUTONOMA DE TRANSPORT BRASOV	Land transport and transport via pipelines	61,553,547	911
COMPANIA APA BRASOV SA	Collection, purification and distribution of water	90,581,912	821
ROPHARMA SA	Retail trade, except of motor vehicles and motorcycles	413,343,859	820
CONDMAG SA	Civil engineering	115,676,385	783
SC ARVATO SERVICES SRL	Office administrative, office support and other services rendered to enterprises	65,569,597	739

## ANNEX 2

### BRAȘOV (COUNTY LEVEL) DATA

#### The evolution of net average earnings

	aug-2013	sept-2013	oct-2013	nov-2013	dec-2013	ian-2014	feb-2014	mar-2014	apr-2014	mai-2014	iun-2014	iul-2014	aug-2014
average net wage	1517	1528	1540	1604	1672	1520	1510	1593	1571	1563	1602	1586	1564

#### Total housing and population - data from the RPL 2011

	<b>Total</b>	<b>Brasov</b>	<b>Poiana Brasov</b>
<b>Total number of dwellings</b>	<b>116124</b>	<b>115573</b>	<b>551</b>
- employed	103132	102964	168
- seasonal	8857	8478	379
- unoccupied	4135	4131	4
population	<b>253200</b>	<b>252814</b>	<b>386</b>

#### Data on turnover and number of employees - Balance in 2013 -

Field of activity	Turnover	Average number of employees
Agriculture, forestry, fishing	290,170,060	1,186
Mining and quarrying	21,111,664	93
Manufacturing	5,311,773,513	22,641
Production and supply of electricity, gas, steam and air conditioning	845,510,461	2,205
Water supply, sanitation, waste management and remediation activities	1,165,534,076	2,110
Construction	1,388,388,165	9,323

Wholesale and retail trade; repair of motor vehicles and motorcycles	9,561,353,131	20,292
Transport and storage	978,816,442	6,684
Hotels and restaurants	322,407,825	4,412
Information and communication	504,119,603	3,150
Financial and insurance	24,314,459	333
Real estate	191,567,330	1,168
Professional, scientific and technical	506,496,099	4,702
Activities of administrative services and support service activities	404,914,558	5,681
Education	18,577,034	319
Health and social care	297,543,759	2,497
Arts, entertainment and recreation	86,350,053	759
Other service activities	48,942,203	1,108

### Demographics

Births per month and cumulative from the beginning of 2013 respectively 2014													
	aug 13	sept 13	oct 13	nov 13	dec 13	ian 14	feb 14	mar 14	apr 14	mai 14	iun 14	iul 14	aug 14
Born	579	628	545	502	482	528	479	522	458	468	514	628	598
rates	10.72	12.01	10.09	9.60	8.92	9.78	9.82	9.66	8.76	8.66	9.83	11.63	11.07
born cumulative	4072	4700	5245	5747	6229	528	1007	1529	1987	2455	2969	3597	4195
cumulative index	9.62	9.88	9.94	9.88	9.79		9.80	9.75	9.50	9.33	9.41	9.74	9.91
The number of deaths per month and cumulative from the beginning of 2013 respectively 2014													
	aug 13	sept 13	oct 13	nov 13	dec 13	ian 14	feb 14	mar 14	apr 14	mai 14	iun 14	iul 14	aug 14
deceased	417	450	537	505	597	561	477	535	536	506	457	476	442
rates	7.72	8.61	9.94	9.66	11.05	10.39	9.78	9.91	10.25	9.37	8.74	8.81	8.18
cumulative deceased	3991	4441	4978	5483	6080	561	1038	1573	2109	2615	3072	3548	3990
cumulative index	9.43	9.34	9.40	9.42	9.56		10.10	10.03	10.09	9.94	9.74	9.61	9.42
Natural increase per month and cumulative from the beginning of 2013 respectively 2014													
	aug 13	sept 13	oct 13	nov 13	dec 13	ian 14	feb 14	mar 14	apr 14	mai 14	iun 14	iul 14	aug 14
natural increase	162	178	8	-3	-115	-33	2	-13	-78	-38	57	152	156
rates	3.00	3.41	0.15	-0.06	-2.13	-0.61	0.04	-0.24	-1.49	-0.70	1.09	2.81	2.89

cumulative increase	81	259	267	264	149	-33	-31	-44	-122	-160	-103	49	205
cumulative index	0.19	0.54	0.50	0.45	0.23		-0.30	-0.28	-0.58	-0.61	-0.33	0.13	0.48
<b>Number of marriages per month and cumulative from the beginning of 2013 respectively 2014</b>													
	aug 13	sept 13	oct 13	nov 13	dec 13	ian 14	feb 14	mar 14	apr 14	mai 14	iun 14	iul 14	aug 14
marriages	691	407	302	173	120	108	143	153	143	311	317	504	717
rates	12.79	7.79	5.59	3.31	2.22	2.00	2.93	2.83	2.74	5.76	6.06	9.33	13.27
cumulative marriages	2340	2747	3049	3222	3342	108	251	404	547	858	1175	1679	2396
cumulative index	5.53	5.78	5.76	5.54	5.26		2.44	2.58	2.62	3.26	3.73	4.55	5.66
<b>Number of divorces per month and cumulative from the beginning of 2013 respectively 2014</b>													
	aug 13	sept 13	oct 13	nov 13	dec 13	ian 14	feb 14	mar 14	apr 14	mai 14	iun 14	iul 14	aug 14
divorces	81	97	106	75	84	37	67	140	95	89	63	94	56
rates	1.50	1.86	1.96	1.43	1.56	0.69	1.37	2.59	1.82	1.65	1.21	1.74	1.04
cumulative divorces	713	810	916	991	1075	37	104	244	339	428	491	585	641
cumulative index	1.68	1.70	1.73	1.70	1.69		1.01	1.56	1.62	1.63	1.56	1.58	1.51
<b>Live births per month and cumulative from the beginning of 2013 respectively 2014</b>													
	aug 13	sept 13	oct 13	nov 13	dec 13	ian 14	feb 14	mar 14	apr 14	mai 14	iun 14	iul 14	aug 14
stillborn	0	0	0	0	0	2	0	1	2	1	2	2	2
birth rates = m * 1000 / born alive + m	0.00	0.00	0.00	0.00	0.00	3.77	0.00	1.91	4.35	2.13	3.88	3.17	3.33
stillborn cumulative	13	13	13	13	13	2	2	3	5	6	8	10	12
cumulative index	3.18	2.76	2.47	2.26	2.08			1.96	2.51	2.44	2.69	2.77	2.85
<b>The number of deaths under 1 year per month and cumulative from the beginning of 2013 respectively 2014</b>													
	aug 13	sept 13	oct 13	nov 13	dec 13	ian 14	feb 14	mar 14	apr 14	mai 14	iun 14	iul 14	aug 14
deaths under one year	4	3	6	5	6	3	6	3	0	3	9	4	4
rates = December under 1 year / born	6.91	4.78	11.01	9.96	12.45	5.68	12.53	5.75	0.00	6.41	17.51	6.37	6.69
December under 1 year cumulative	36	39	45	50	56	3	9	12	12	15	24	28	32
cumulative index	8.84	8.30	8.58	8.70	8.99			7.85	6.04	6.11	8.08	7.78	7.63