

COMPARATIVE ANALYSIS OF POPULATION CHANGES IN THE AREAS CROSSED BY THE THREE BASIC ROAD AXES OF GREECE: THE EGNATIA MOTORWAY, THE PA.TH.E. AND THE IONIAN MOTORWAY

WORKING PAPER

In the context of the placement in the Observatory of the Egnatia Odos A.E.

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This report makes a brief comparative analysis of population changes over the period 1991-2001 in the areas crossed by the Egnatia, the PATHE and the Ionian motorways. The comparative analysis is carried out at the level of Regions, Prefectures, and cities with populations over 10,000 people. The population data are taken from the Census of the National Statistical Service of Greece (NSSG/ΕΣΥΕ) of 2001.

The Egnatia Motorway crosses the Regions of East Macedonia & Thrace, Central Macedonia, West Macedonia, Thessaly, and Epirus. In 2001 the total population of the Regions crossed by the Egnatia Motorway accounted for 35.5% of the population of Greece. This proportion was the same as in 1991 (35.55%). Over the period 1991-2001, the population of Central Macedonia increased well above the average of Greece (9.5% and 6.9% respectively), whereas East Macedonia & Thrace remained at almost the same level as the average (7.1%). On the contrary, the increases in Epirus, West Macedonia, and Thessaly were rather smaller (4.15%, 2.9% and 2.6% respectively).

The Egnatia Motorway crosses also 12 Prefectures (Evros, Rodopi, Xanthi, Kavala, Serres, Thessaloniki, Imathia, Trikala, Kozani, Grevena, Ioannina, and Thesprotia). The Prefectures of Xanthi (11.9%) and Thessaloniki (11.7%) demonstrated the highest population increase over the period 1991-2001. The population of the Prefectures of Ioannina, Rodopi, and Kavala ranged at almost the same levels as the national average, whereas that of the Prefecture of Trikala decreased by 0.7%. The total population of Prefectures crossed by the Egnatia Motorway accounted for 22.4% of the population of Greece in 2001, which is slightly more than the respective percentage of 1991 (22.2%).

In almost all cities over 10,000 people the population increased above the national average, with Alexandroupoli ranking first with 29%, followed by Xanthi and Komotini with 20.5% and 20.1% respectively. The only cities with changes below the Greek average are Kavala and Naousa (3.7% and 0.4% respectively).

Table 1: Population change in areas crossed by the Egnatia Motorway (1991-2001)

NUTS	Name	Population 2001	Population 1991	Change (%)
	<i>Greece</i>	10,964,020	10,259,900	6.86%
gr11	East Macedonia & Thrace	611,067	570,496	7.11%
gr111	Evros	149,354	143,752	3.90%
	<i>Alexandroupoli</i>	48,885	37,904	28.97%
	<i>Orestiada</i>	15,246	12,691	20.13%
gr112	Xanthi	101,856	91,063	11.85%
	<i>Xanthi</i>	45,111	37,430	20.52%
gr113	Rodopi	110,828	103,190	7.40%
	<i>Komotini</i>	43,326	37,036	16.98%
gr115	Kavala	145,054	135,937	6.71%
	<i>Kavala</i>	58,663	56,571	3.70%
gr12	Central Macedonia	1,871,952	1,708,977	9.54%
gr121	Imathia	143,618	139,934	2.63%
	<i>Veria</i>	42,794	37,858	13.04%
	<i>Alexandria</i>	13,229	12,109	9.25%
	<i>Naousa</i>	19,870	19,794	0.38%
gr122	Thessaloniki	1,057,825	946,864	11.72%
	<i>Thessaloniki</i>	981,933	877,239	11.93%
gr126	Serres	200,916	192,219	4.52%
	<i>Serres</i>	54,266	50,017	8.50%
gr13	West Macedonia	301,522	293,015	2.90%
gr131	Grevena	37,947	36,797	3.13%
	<i>Grevena</i>	10,177	9,345	8.90%
gr133	Kozani	155,324	150,386	3.28%
	<i>Kozani</i>	35,242	31,553	11.69%
	<i>Ptolemaida</i>	28,679	25,125	14.15%
gr14	Thessaly	753,888	734,846	2.59%
gr144	Trikala	138,047	138,946	-0.65%
	<i>Trikala</i>	48,686	44,232	10.07%
gr21	Epirus	353,820	339,728	4.15%
gr212	Thesprotia	46,091	44,188	4.31%
gr213	Ioannina	170,239	158,193	7.61%
	<i>Ioannina</i>	75,179	68,072	10.44%

Source: National Statistics Services of Greece, Population Censuses 1991-2001

The Patras - Athens - Thessaloniki - Evzonoi Motorway (PATHE) crosses the Regions of Central Macedonia, Thessaly, West Greece, Central Greece, the Peloponnese and Attica. Over 3/4 of the population of Greece live in the Regions crossed by the PATHE, with a small trend of decrease over the period 1991-2001 (2001: 76.4%, 1991: 76.7%). The population of the aforementioned Regions changed over the period 1991-2001 from 2.6% to 5.2%, with the exception of Attica that ranged close to the national change (6.8%), and Central Macedonia that was rather high (9.5%).

With the exception of Attica that is registered as a single Region, the PATHE crosses another 10 Prefectures (Kilkis, Thessaloniki, Imathia, Pieria, Larisa, Magnisia, Fthiotida, Viotia, Korinthia, and Achaia). The Prefectures of Thessaloniki and Pieria have the highest population increase over the period 1991-2001 with percentages 11.7% and 11.2% respectively. Then follow the Prefectures of Korinthia, Kilkis, and Achaia, also over the national change. A decrease is found in the Prefecture of Viotia by -2.25%, whereas the lowest changes were at the Prefectures of Imathia and Larisa with 2.6% and 3.2% respectively. In 2001 the percentage of the population that lived in the Prefectures crossed by the PATHE (including Attica) was 58.9%, whereas the respective percentage in 1991 was 58.7%.

At the level of cities over 10,000 people Kilkis is first by far with a population increase of 43.6%, followed by Loutraki and Katerini with 21.3% and 16.9% respectively. Volos and Athens follow the pace of the national change rate (7.4% and 6.8% respectively, whereas the national change rate was 6.9%). Cities where the population decreased were Tyrnavos (-7.6%) and Aegio (-5%).

Table 2: Population changes in areas crossed by the PATHE (1991-2001)

<i>NUTS</i>	<i>Name</i>	<i>Population 2001</i>	<i>Population 1991</i>	<i>Change (%)</i>
	<i>Greece</i>	<i>10,964,020</i>	<i>10,259,900</i>	<i>6.86%</i>
gr12	Central Macedonia	1,871,952	1,708,977	9.54%
gr121	Imathia	143,618	139,934	2.63%
	<i>Veria</i>	<i>42,794</i>	<i>37,858</i>	<i>13.04%</i>
	<i>Alexandria</i>	<i>13,229</i>	<i>12,109</i>	<i>9.25%</i>
	<i>Naousa</i>	<i>19,870</i>	<i>19,794</i>	<i>0.38%</i>
gr122	Thessaloniki	1,057,825	946,864	11.72%
	<i>Thessaloniki</i>	<i>981,933</i>	<i>877,239</i>	<i>11.93%</i>
gr123	Kilkis	89,056	81,710	8.99%
	<i>Kilkis</i>	<i>17,430</i>	<i>12,139</i>	<i>43.59%</i>
gr125	Pieria	129,846	116,763	11.20%
	<i>Katerini</i>	<i>54,941</i>	<i>47,011</i>	<i>16.87%</i>
gr14	Thessaly	753,888	734,846	2.59%
gr142	Larisa	279,305	270,612	3.21%
	<i>Larisa</i>	<i>124,394</i>	<i>112,777</i>	<i>10.30%</i>
	<i>Tyrnavos</i>	<i>11,116</i>	<i>12,028</i>	<i>-7.58%</i>
gr143	Magnesia	206,995	198,434	4.31%
	<i>Volos</i>	<i>124,639</i>	<i>116,031</i>	<i>7.42%</i>
gr23	West Greece	740,506	707,687	4.64%
gr232	Achaia	322,789	300,078	7.57%
	<i>Patras</i>	<i>185,626</i>	<i>170,452</i>	<i>8.90%</i>
	<i>Aegio</i>	<i>21,061</i>	<i>22,178</i>	<i>-5.04%</i>
gr24	Central Greece	605,329	582,280	3.96%
gr241	Viotia	131,085	134,108	-2.25%
	<i>Levadia</i>	<i>20,061</i>	<i>18,437</i>	<i>8.81%</i>
	<i>Thiva</i>	<i>21,211</i>	<i>19,505</i>	<i>8.75%</i>
gr244	Fthiotida	178,771	171,274	4.38%
	<i>Lamia</i>	<i>46,406</i>	<i>44,084</i>	<i>5.27%</i>
gr25	Peloponnese	638,942	607,428	5.19%
gr253	Korinthia	154,624	141,823	9.03%
	<i>Corinth</i>	<i>29,787</i>	<i>27,412</i>	<i>8.66%</i>
	<i>Loutraki</i>	<i>11,383</i>	<i>9,388</i>	<i>21.25%</i>
gr31	Attica	3,761,810	3,523,407	6.77%
	<i>Athens (AGA)</i>	<i>3,761,810</i>	<i>3,523,407</i>	<i>6.77%</i>

Source: National Statistics Services of Greece, Population Censuses 1991-2001

The Ionian Motorway crosses the Regions of Epirus, West Greece, and the Peloponnese. The Regions crossed account for 15.8% of the population of Greece (2001), whereas the respective percentage in 1991 was 16.1%, i.e. an increase by 0.3%. Over the period 1991-2001 the population of the above regions changed from 4.2% to 5.2%, while the national change rate was 6.9%, i.e. 1.5%-2.5% higher.

The Ionian Motorway crosses 7 Prefectures (Ioannina, Preveza, Arta, Etoloakarnania, Achaia, Ilia, and Messinia). Over the period 1991-2001, the Prefectures with population changes over the national average rate were those of Ilia (7.7%), Ioannina (7.6%), Achaia (7.6%), while the Prefecture of Messinia remained at almost the same level (5.9%). The Prefectures with increases much below the national average were those of Preveza (1.2%), and Arta (-0.7%) and Etoloakarnania (-1.6%) where the population dropped. The percentage of people living in the Prefectures crossed by the Ionian Motorway in 2001 ranges at the same levels as in 1991 - with a slight decreasing trend (11.2% and 11.4% respectively).

With reference to cities over 10,000 people some major deviations are found in the change percentages. Most cities had increases over the national average of 6.9%, with Amaliada being first (19.9%) followed by Preveza and Nafpaktos (19.2% and 19.1% respectively). One city, Arta, remains unchanged (1.8%) while another two, Aegio and Pyrgos have major population drops (-5% to -18.2%).

Table 3: Population changes in areas crossed by the Ionian Motorway (1991-2001)

<i>NUTS</i>	<i>Name</i>	<i>Population 2001</i>	<i>Population 1991</i>	<i>Change (%)</i>
	<i>Greece</i>	<i>10,964,020</i>	<i>10,259,900</i>	<i>6.86%</i>
gr21	Epirus	353,820	339,728	4.15%
gr211	Arta	78,134	78,719	-0.74%
	<i>Arta</i>	<i>19,435</i>	<i>19,087</i>	<i>1.82%</i>
gr213	Ioannina	170,239	158,193	7.61%
	<i>Ioannina</i>	<i>75,179</i>	<i>68,072</i>	<i>10.44%</i>
gr214	Preveza	59,356	58,628	1.24%
	<i>Preveza</i>	<i>16,321</i>	<i>13,695</i>	<i>19.17%</i>
gr23	West Greece	740,506	707,687	4.64%
gr231	Etoloakarnania	224,429	228,180	-1.64%
	<i>Mesologi</i>	<i>12,225</i>	<i>10,916</i>	<i>11.99%</i>
	<i>Agrinio</i>	<i>55,649</i>	<i>52,896</i>	<i>5.20%</i>
	<i>Nafpaktos</i>	<i>12,924</i>	<i>10,854</i>	<i>19.07%</i>
gr232	Achaia	322,789	300,078	7.57%
	<i>Patras</i>	<i>185,626</i>	<i>170,452</i>	<i>8.90%</i>
	<i>Aegio</i>	<i>21,061</i>	<i>22,178</i>	<i>-5.04%</i>
gr233	Ilia	193,288	179,429	7.72%
	<i>Pyrgos</i>	<i>23,274</i>	<i>28,465</i>	<i>-18.24%</i>
	<i>Amaliada</i>	<i>18,261</i>	<i>15,232</i>	<i>19.89%</i>
gr25	Peloponnese	638,942	607,428	5.19%
gr255	Messinia	176,876	166,964	5.94%
	<i>Kalamata</i>	<i>54,184</i>	<i>47,641</i>	<i>13.73%</i>

Source: National Statistics Services of Greece, Population Censuses 1991-2001

Hereinafter certain comparisons are carried out in the areas crossed by the Egnatia Motorway, the PATHE and the Ionian Motorway at the levels of Regions, Prefectures and cities over 10,000 people. The table below indicates the total populations of Regions, Prefectures and Cities per axis, their percentages in relation to the total population of Greece and the censuses of the NSSG of 1991 and 2001, as well as the changes over the period 1991-2001.

Table 4: Comparative populations and evolutions in the areas crossed by the three road axes

Population	Ionian		PATHE		Egnatia	
	2001	1991	2001	1991	2001	1991
Regions	1,733,268	1,654,843	8,372,427	7,864,625	3,892,249	3,647,062
Prefectures	1,225,111	1,170,191	6,455,724	6,025,007	2,256,183	2,089,250
Cities	494,139	459,488	5,487,691	5,081,849	1,467,020	1,306,959
Percentage of Regions on the total of Greece	15.81%	16.13%	76.36%	76.65%	35,50%	35,55%
Percentage of Prefectures on the total of Greece	11.17%	11.41%	58.88%	58,72%	20,58%	20,36%
Percentage of Cities on the total of Greece	4.51%	4.48%	50.05%	49,53%	13,38%	12,74%
Change in Regions	4.74%		6.46%		6.72%	
Change in Prefectures	4.69%		7.15%		7.99%	
Change in cities	7.54%		7.99%		12.25%	

One can immediately notice that the population of the area crossed by the PATHE is much bigger in all respects (Region, Prefecture, City) than the respective population of the Egnatia Motorway or the Ionian Motorway, given that the PATHE crosses the Region of Attica that alone accounted for 34.3% of the total population of Greece in 2001. Moreover, the population of Regions increased along all three axes over the period 1991-2001, with the Egnatia Motorway ranking first with 6.7%. The PATHE followed (6.5%), whereas the Ionian Motorway ranged below average (4.7%). The same ranking remains both at the level of Prefectures (7.7%, 7.2% and 4.7% respectively), and at the level of cities (12.1%, 8% and 7.5% respectively). In conclusion, in the impact zone of the Egnatia Motorway the population increased with faster rates than in the impact zones of the PATHE and the Ionian Motorways.

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