

Correlation between the road infrastructure and sustainable rural mobility: EU - Macedonia practices and needs

ISSN 1857-9973

332.146:656.11(4-672EU) 332.146:656.11(497.7)

Riste Temjanovski¹, Janka Dimitrova², Monika Arsova³

¹ Goce Delcev" University – Faculty of Economics – Stip, Republic of Macedonia, riste.temjanovski@ugd.edu.mk

janka.dimitrova@ugd.edu.mk

³ Goce Delcev" University – Faculty of Economics – Stip, Republic of Macedonia, arsovamonika@gmail.com

Abstract

In the last few decades in the Republic of Macedonia, and especially in some parts, there have been significant changes in the population, especially in areas with primarily agricultural population. Bearing in mind the total knowledge of the influence of the wider geographical area on the development of the larger urban agglomerations, it is quite certain that the development policy so far in our country regarding the construction of the road network in the village was not sufficiently in accordance with real needs and opportunities, i.e. did not rest on wider and longer-term perceptions and processes. According to the dynamics of the movement of the structure of the non-agricultural population, which is expected to continue in the future, the issue of building, expanding and modernizing the road network in the villages is an inevitable need.

Local authorities have an important role in regulating most of transport strategies that contribute towards facilitations and integrations of local needs and services. Take into consideration that this issue is part of Cohesion Policy of EU, Macedonian authorities must keep abreast with regional policy of rural development. Transport policy is not some miraculous tool with which to solve some rural development problems. It must work in unison with national development programs, physical planning, investment, region and economic policy, legal regulations and other areas. It must move in step with the implementation of these programs and respond with vitality and responsibility to the changes taking place in society. We must all acknowledge that, in many respects, our quality of life depends on the success of our transport policy.

Key words: rural transport, regional policy, transport strategy, sustainable development

² "Goce Delcev" University – Faculty of Economics – Stip, Republic of Macedonia,

1. Introduction

Transport as a spatial category is a significant place in the development systems in the space. The dynamics of the development of traffic, the constant strengthening of its role in the functioning of the economy and the changes that are impinging on this in the field of the organization of life and work in one space, have a broad effect on the entire social-production organization.

Over the years, the integration between transport infrastructure planning and land use planning has been substantially researched. Land use and transport are interlinked as land use affects and is affected by transport policy. Having an efficient and effective transport system relies on getting the land use planning right and planning urban or regional development relies on getting the transport access right. [1]

The spatial distribution and density of the network of settlements in the Republic of Macedonia is closely related to the natural, or orographic circumstances of the space. Depending on the location occupied by the populated places, their prevalence and density are also different. While in some areas the network of settlements has somewhat the correct spatial composition, in other areas it is quite heterogeneous. In this section we will look at the network of settlements by separate spatial units, the distribution of villages in relation to the central points and in relation to the traffic network.

The process of depopulation and inadequate care for rural settlements is also a problem for the EU countries. According Johannes Han [EU-Commissioner for Regional Policy. Sustainable Mobility] Economic restructuring processes, aging and migration of many young people have led to a significant decrease in population in many rural areas of Europe. Rural areas are referred to regions where less than 150 persons per square kilometre are living (OECD). Taking the population density to scale, around 93% of EU territories are rural areas. To ensure sustainable mobility, which is a fundamental prerequisite for the functioning of a society and a fundamental element of individual quality of life, new ways have to be gone.

2. Methodology

Ones of the biggest obstacles in the research activity in spatial socio-economic research in the Republic of Macedonia in this moment is the absence of accurate statistics due to the absence of a Census of Population. Since its independence in 1991, Macedonia has held four census operations, of which only two (1994 and 2002) have been relatively successful. The 1991 census was boycotted by the Albanian minority, and the 2011 census was stopped due to methodological inconsistency and controversy. The last "valid" census took place in Republic of Macedonia dated from 2002. The 2002 census took place in still volatile conditions, following the violence in 2001. The enumeration took place from 1-15 November, and it was again disputed by the Macedonians, the Albanians, and the smaller ethnic groups. The census was conducted by 11.000 people, with registration forms available in six languages, Macedonian, Albanian, Turkish, Vlach, Romani, and Serbian. Additionally, 50 experts from 26 European countries monitored the process. 67 The final census results were published a year later, and according to them Macedonia in 2002 had a population of 2.022.547, out of which Macedonians comprised 64,2%, Albanians 25,2%, Turks 3,9%, Roma 2,7%, Serbs 1,8%, and others 0,7%.

The census in 2011, initially scheduled for April, was postponed until October due to early elections in June. This census-cycle revealed that in addition to the issues of who is to be counted and how, the chosen time period for enumeration could also be controversial.

According to the latest population estimates (as at 30.06.2015), the Republic of Macedonia has 2 070 226 inhabitants, with population density of 80.5 inhabitants per km². [2]

Such political turmoil has negative far-reaching consequences in obtaining a true picture not only of the numerical situation of the population in the country, but also in surveys aimed at the depopulation of certain areas, especially in the hilly and mountainous areas of the country. The biggest challenge in overcoming the negative census dynamics has been and still is the low level of trust among the communities. Moreover, since the census is used for political purposes by the different political parties, and in light of the lack of trust in the State Statistical Office, due to the complaints on lack of representation of different ethnic groups at the institutions, these dynamics have strengthened divisions among ethnic groups, without achieving much progress in minimizing tensions or negotiating a solution acceptable to all groups.

The next methodological suue relate on definition of rural areas. There is no commonly agreed definition of rural areas at European level. Nevertheless, the main and common criterion used to characterise a rural area is the population density. Based on this criterion, OECD has classified a commune as "rural" if its population density is less than 150 inhabitants /km². Otherwise, the commune is classified as "urban". Depending of the scale used – municipal level corresponding to LAU2 level or regional level corresponding to NUTS 3 level, the importance of rural areas in Europe can change, but in any case, at least 90% of EU territory is considered as rural or intermediate hosting at least 60% of the population. The local level can help to have a more detailed and precise overview of the situation. OECD has made the distinction between three different degrees of urbanisation.

According to the rural typology developed by the Organisation for Economic Co-operation and Development (OECD) [3] is exclusively based on population density and is applied at two hierarchical levels: the local community level and the regional level. At the first level (LAU2 level), communes with population densities lower than 150 inhabitants per km² are classified as rural otherwise, they are classified as urban. At the second level (NUTS3 level or NUTS2 level), a region with more than 50 % of population living in rural communes is classified "predominantly rural"; if this share is between 50 and 15 it is classified "intermediate"; if lower than 15 % it is "predominantly urban". [4]

Recently, the OECD introduced changes in the second level of the methodology [5]: - if a region includes an urban centre of more than 200 000 inhabitants representing no less than 25 % of the regional population in a "predominantly rural" region, it is reclassified as "intermediate". - if a region includes an urban centre of more than 500 000 inhabitants representing no less than 25 % of the regional population in an "intermediate" region, it is reclassified as "predominantly urban". Similarly, to the OECD typology, this chapter deals with the use of a population density criterion to distinguish rural from urban areas at LAU2 level. In a further step, this distinction will be improved by adding two new criteria, a peripherality criterion and a land cover criterion.

According EU Methodology, **[6]** Rural areas or thinly-populated areas: where more than 50 % of the population lives in rural grid cells. Intermediate density areas/towns and suburbs/small urban areas: where less than 50 % of the population lives in rural grid cells and less than 50 % lives in high-density clusters. Densely-populated areas / cities / large urban areas: where at least 50 % of the population lives in high-density clusters. According to this definition, 83% of the EU territory is considered as rural areas, with 28% of the EU population while 13% of the EU territory is considered as intermediate with 32% of the population.

To compare and analyse data, it is sometimes useful to have an overview of rural areas at a larger scale, at regional level (NUTS 3 level). OECD has defined three types of regions:

- Predominantly rural: regions where more than 50% of inhabitants of the total population lives in rural grid cells;
- Intermediate region: regions where between 20 and 50% of the population lives in rural grids
- Predominantly urban: regions where less than 20% of the population lives in rural grid cells. According to this definition, 56 % of the EU territory is considered as rural

areas with 24% of the EU population and 35% of the EU territory is considered as intermediate with 36% of the population.

According of the study "Delimitation of rural areas in Europe using criteria of population density, remoteness and land cover carried" [7] rural typology is based on the combination of three criteria: the OECD (population density) criterion, the peripherality criterion and the land cover criterion. Based on the population density criterion, a commune is firstly classified as "rural" or "urban". A commune is classified as "rural" if its population density is less than 150 inhab./km². Otherwise, the commune is classified as "urban". One restriction has been introduced: whatever its population density a commune located in an urban centre is classified as urban (chapter 3). The "rural" communes are then discriminated on the basis of the Peripherality analysis. A "rural" commune is accordingly considered as "peripheral" if located at more than 45 minutes from the nearest city with at least 50 000 inhabitants. Otherwise, the commune is considered as "accessible". Finally, the "urban" communes are discriminated on the basis of the Land Cover analysis. An "urban" commune is characterized as an "open space" commune if at least 75 % of its area is covered by forest, agricultural or natural areas. Otherwise, the commune is characterized as a "closed space" commune.

Table 1 Rural Typology at LAU2 level

N°	CRITERION 1	CRITERION 2	CRITERION 3	Sub-Categories	Code
	Population density	Land Cover	Peripherality		
1	<150 inhab./km ²	-	>=45 min	Rural - peripheral	RP
2	<150 inhab./km ²	-	>45 min	Rural - accessible	RA
3	>=150 inhab./km ²	>=75%		Urban - open space	UO
4	>=150 inhab./km ²	<75%		Urban - closed space	UC

Next methodology model mention in this report was made Aggregation to NUTS3 and NUTS2 levels. According to this methodology, six classes of NUTS3 and NUTS2 regions have been created: - rural-peripheral, - rural-accessible, - intermediate-open space, - intermediate-closed space, - urban-open space, - urban-closed space. Similarly to what was observed for the typology implemented at LAU2, the regional (NUTS3 and NUTS2) typology improves the OECD typology by discriminating each of the three OECD classes (rural, intermediate and urban) in two sub-classes according to the accessibility and to the land cover criteria.

State Statistical Office in Republic of Macedonia defines a village as well as a populated place with a sole functional meaning in which one activity predominates, and the surroundings have an agrarian physiognomy and function. A city is a populated place that has more than 3000 inhabitants, has a developed structure of activities, and over 51% of employees work outside the primary activities, has a constructed urban physiognomy with zones for housing, economy, recreation and public greenery, square, constructed system of streets and utility services, and represents a functional centre of the populated places in the vicinity.

 Table 2 Rural Typology at regional level (NUTS3 or NUTS2)

N°	CRITERION 1	CRITERION 2	CRITERION 3	Sub-Categories	Code
	% of population living in rural communes	% of population living in rural- peripheral communes (class RP)	% of population living in urban- open space communes (class UO)		
1	>=50%	>50%	-	Rural – peripheral regions	RPR
2	>50%	<=50%	-	Rural – accessible regions	RAR
3	>=15% and <50%	-	>50%	Intermediate - open space	IOR
4	>=15% and <50%	-	<=50%	Intermediate - closed space	ICR
5	<15%	<u>-</u>	>50%	Urban - open space	UOR
6	<15%	-	<=50%	Urban - closed space	UCR

Based on the Law on territorial division implemented in 2004, Macedonia has 1767 settlements, out of which only 34 are urban settlements and 1733 are rural settlements. It is interesting to note that 146 settlements are uninhabited or resettled due to rapid emigration processes. So, the real picture is that Macedonia has 1621 inhabited settlements (State Statistical Office, 2011). But, apart from these villages, many others only have tens of residents living in them. They are mainly inhabited by elderly people, who don't want their children to return to their birth places. Of course, they children do not want to return to their birthplaces either. Data from the State Authority of Statistics indicate that the number of emptied villages will soon be doubled.

3. EU policy and rural facilities issue

Long time the countries from EU have not imagine and definition of what is perceived as an adequate range of services as the 21st century for rural regions. Undoubtedly, a dialogue is needed within villages and between the village and the local authority about the need for new facilities and the ways these can be supported. Some initiatives could be sponsored by the village community, some will need local authority support. These could extend to mobile services, like library, banks, doctors and Job Centres. [8]

Many of Europe's rural regions face with similar inadequate challenges concerning mobility issues. European support the Interreg IV C programme, the project named "Move on Green", where 13 regions of 10 European Member States have shared their experiences and interesting "good practice" examples to check feasibility in their own regions. All participating regions have carried out uniform surveys and studies, and thus have caused a sensitisation on mobility challenges for decision-makers with the aim to improve sustainable mobility in rural and mountain areas - with an emphasis on expanding demand orientated systems - by importing good practice approaches.

According to better rural policy, EU though European Regional Development Fund and by the Interreg IV C programme take attention of the further benefits that Cohesion policy will bring now that is has been thoroughly reformed. The approach adopted brings together a clear strategy and a bottom-up definition of local needs. Through the development of a sustainable and efficient transport network in rural areas, regions aim to achieve a competitive and sustainable growth all over their territory.

Regional development is a key aim of the EU's policies, and transport plays an important role in efforts to reduce regional and social disparities in the EU. It is becoming increasingly

important in the strengthening of its economic and social cohesion. Regional Transport is the movement of people or goods over medium distances, typically between 20 and 100 km (although in some larger regions and countries longer distance trips could be classified as regional). Usually this is between separate but nearby urban areas, or between and urban area and areas with low population density. This can include a number of modes although the majority of regional transport is by road, rail and (in some regions, for freight), inland waterways. Sea and air transport are only relevant to regional transport in a small number of cases, concerning short distance links to offshore islands, transport corridors between transnational regions etc.

The rural transport theme is therefore significant as a problem area for transport policy action. In rural areas, the restricted choices of jobs with inadequate public transport to limit employment options. This represents a potentially circular problem for resident with low incomes and therefore, unable to afford the purchase and running costs of a vehicle of their own. Therefore, many rural residents remain isolated because of their inability to travel. Isolation is a factor that impacts both the transport disadvantaged and the economic vitality of the communities in rural areas, therefore reducing isolation is important.

Rural transport involves limited passenger and freight transport in areas with weaker population, which indicates a high degree of dependence on car ownership. Rural transport covers a local road network that is used for transport for any purpose (local needs, processing of agrarian areas). The low density of rural areas is the reason for frequently noticed differences between rural and urban travel, as the rural population is forced to travel more kilometers per year in comparison to the urban population that has more choice in urban and intercity transport using multimodal transport network. Low population density is also the main reason why rural areas experience higher levels of vehicle dependence on urban areas.

To overcome such unfavorable conditions in rural areas and the geographical imbalances within the European Union, in terms of centralisation of population and economic activity in some areas – accompanied by high costs in terms of congestion, pollution and urban sprawl – and depopulation in others. European Commission on "Cohesion and Transport" confirms a strong association between geographical peripherality, rural areas and relatively low standards of living.

In the last decades EU Regional policy provides support for rural and regional transport in the Member States through: [9]

- The ERDF (European Regional Development Fund), under development strategies prepared by the States and regions.
- The Cohesion Fund: from 2000 to 2006, €18 billion were invested in transport projects in the Union's least developed countries; The ERDF and the Cohesion Fund have done much to help finance transport infrastructure, notably in regions where development is lagging behind (the so-called 'Objective 1' regions) and the most remote regions. About €63 billion are foreseen for 2007-2013 with 13 beneficiary states.
- the TEN-Transport budget line;
- activities of the European Investment Bank;

the INTERREG programme, aimed at improving cohesion (in terms of transport as well as other matters) between neighbouring regions in different EU Member States; and

• ISPA (Instrument for Structural Policies for Pre-accession) which had allocated about half of its funds for transport projects in the Central and Eastern European applicant countries.

4. Observation and defining the road network for the circulation of people for the needs of better socio-economic development in Republic of Macedonia

The dynamics of the development of traffic, the constant strengthening of its role in the functioning of the overall organization of life and the work of a certain space, have a major impact on the entire social-production system. On the one hand, on the one hand, they enabled a great economic flight in the social development, on the other hand, in the economically developed countries, caused great disturbance of the city streets, unfavorable ecological transformations. The traffic, which until then was an assumption and a condition for the rapid development of cities, gradually turned into a factor of chaos in the further development of the city. In such circumstances it was inevitable to look for new ways and ways of solving urban traffic problems. It came to a situation in which the exit from the difficulties encountered was demanded not only on the side of the traffic offer, but on the side of the traffic demand. In this way, in traffic planning there is a greater need and necessity of spatial planning, where the most optimal way of solving the problems regarding the traffic supply and demand is solved. In spatial planning through the organization and arrangement of the space, ie by creating a unique functional and spatial whole, optimal involvement of the traffic in the immediate environment is achieved. This means that traffic planning cannot be considered as a separate activity, but as an integral part of spatial planning.

Passenger transport in its essence is a multidimensional system in a planetary sense defined by the following dimensions: the volume of transport; time conversion; place of departure; the ultimate destination; mode of transport; order of shipping.

Shipping involves the circulation of people in the space with a specific purpose, in a certain way at a certain time, and represents an unbreakable link in the total human activity. Work, becoming and recreation are basic human activities, and transport is an element that connects these activities and allows them at all. The circulation of people and goods on the one hand is a consequence of the activities of people in one space, but at the same time is a condition for these activities to take place at all.

The circulation of people arises as a consequence of the constant socio-economic and social relations in a certain area, and the data on their movement is most often obtained by direct surveying of the passengers, which determines the place of departure, the purpose and the purpose of the movement, as well as some other parameters that characterize the movement. Since the movements can be determined on the basis of the displacement of the economic and other capacities within the spatial plan, through the transport needs related to these capacities and on the basis of other parameters that are determined as a perspective. With certain deviations, the number of employees in individual municipalities corresponds with the number of residents, that is, the number of working people. According to the situation in 1996, in the structure of the total number of employees, the largest share was recorded by the City of Skopje (34.2%), followed by Bitola (7.1%), Tetovo (5.4%), Kumanovo (5.1%). Prilep (4.7%), Veles (4.4%), Stip (4.2%).

Planning of road infrastructure is of great importance for the type and character of the industrial location, as well as for the connection with other industrial centers. For these reasons, the largest industrial facilities in the Republic of Macedonia are concentrated in the major city centers. From the aspect of spatial planning, the importance of the traffic planning in those industrial centers, which is related to the production process, is of great importance. From the previously listed factors in the big city centers Skopje, Bitola, Prilep, Tetovo, Kumanovo, Veles, Shtip, there are also the largest number of lines for transporting

passengers with city traffic, which is certainly the connection of the number of employed persons in the industry with the number of transported passengers with city traffic.

The impact of transport costs on the spatial distribution of energy complexes, that is, the territorial distribution of natural resources and the location of consumer centers, is great. In the field of energy, complexes exist in the municipalities: Skopje, Bitola, Kicevo, Gostivar, Gevgelija, Debar and Negotino. The production of energy is concentrated in the zones of artificial reservoirs (Bitola, Kicevo) and in the zones of artificial reservoirs and hydropower plants (Gostivar, Debar, Skopje, Kavadarci). These energy complexes are concentrated outside the city centers, where natural resources are located, but the need for labor is supplied in most of the cities, which requires the necessary traffic connection and organized transport for the necessary profitability in operation. The situation is similar in the oil derivatives industry. This industrial complex is concentrated in Miladinovci, in the immediate vicinity of Skopje (as the largest consumer center, with the most industrial complexes and a source of labor). This processing complex is also a traffic node, in the vicinity of which three main roads are passing (A-1, A-2 and A-4). Its location can be viewed from two aspects: internal and external connection. The internal connection refers to the connection with all consumer and industrial centers in the Republic of Macedonia. The external connection is made possible by good communication to the sea ports, where the most commonly distributed oil is the ports of the Aegean and the Black Sea. To the Thessaloniki port, from this industrial complex, it is communicated through the M-1 highway, which is mostly a highway, which is especially important for the traffic connection. To the port in Burgas (which during the blockade of the southern neighbor played the role of a major oil supplier), it communicates through the A-1, whereby via the A-2, ie the international route E-871, it connects to neighboring Bulgaria.

The large number of transported passengers in internal traffic arises as a consequence of the spread of cities and the distance of work places from the place of residence. There is also a major share in passenger transport following the intensive two-way functional connection in the domain of services, economy, employment, especially with nearby urban settlements: Ohrid-Struga, Kavadarci-Negotino, Berovo-Pehchevo, Gevgelija-Bogdanci, Skopje-Kumanovo, Tetovo and others. So, for these reasons, the dynamics and frequency of existing line traffic in these adjacent urban settlements must be planned.

Traffic planning is a specific planning process that determines the necessary facilities to meet the needs of shipping in the future in a planned area. Through the planning of the traffic and the realization of this plan, a cyclic dialectical process is formed in which both segments actually exist: while the previous plan is realized, the next time distance is planned. Although the planning process itself is performed in sequences, essentially traffic planning is a continuous process in the absolute sense of the word.

Further tendencies in traffic planning include the rural space, by activating some industrial facilities in rural settlements, which also imposes the need for renewal and asphalting of the road network. Experience with the dislocation of some industrial facilities in separate passive areas, as in the case of Debarca and other areas, shows the direction in which further action should be taken regarding the development of rural settlements. For these reasons, the construction and modernization of the local road network, although it falls within the domain of planning in the domain of municipalities, however, with an adequate state policy, should be presented at a higher level of organization.

5. Correlation between road network and the agricultural activity

The efficiency in the manner of distribution of finished goods, raw materials and raw materials, from the place of production to the place of use in the field of agriculture, is of subtle significance, since it concerns the transport of goods with specific dimensions, weight, chemical and physical composition. Namely, the specificity of the agricultural production imposes the need for transportation of part goods that is subject to various atmospheric and

temperature influences, regardless of whether they are products of plant, animal or mineral origin. In addition, in agriculture, liquid goods are transferred. It is about transportation of milk, dairy products, alcoholic and non-alcoholic drinks, etc. However, depending on the type and longevity of the products, the type of transport used is dependent. Due to the lack of special goods passenger cars with a closed body system (cisterns), transport of certain types of products such as various soft drinks and alcoholic beverages, most often wine, some entities in agriculture are oriented towards the use of railway transport. However, due to the small territorial area of the Republic of Macedonia, the most frequent transport for agricultural products is through road transport. Therefore, in terms of the social development of agricultural production, it is necessary to perceive the commodity flows of various agricultural holdings or individual agricultural producers, the capacities of the transported assets owned by these agricultural producers and the degree of satisfaction of these capacities in relation to the transport of agricultural products products, raw materials and raw materials.

The traffic greatly maintains the link between the production areas and the market. Agriculture and animal husbandry represent a solid raw material base for several processing industries in the food industry, for alcoholic and non-alcoholic beverages, for processing and preserving fruit and vegetables, for sugar, and confectionery, for pasta, for oil, cigarettes, etc. Poorly organized traffic in certain production areas discourages agrarian production in them, leading to the abandonment of certain crops, to a change in the structure of production and to its degradation. Agriculture in traffically closed areas, as a rule, is with distinctive natural features (Mariovo, Poreche and others).

According to the 2002 Population Census, it was determined that there are no population at all in 146 settlements. The most displaced places in the municipalities of Negotino and Radovis are 11, which represents more than 35% of the number of settlements in these two municipalities. Of course, one of the reasons for this unfavorable situation lies in the disadvantageous traffic connection of these settlements with the city centers. Being in a "traffic isolation", the population in these settlements is not in a state of "free communication" expressed through the influx of food products that are sold for sale, transport of the population that needs education, work, etc., this population is gradually moving out of these settlements.

The dynamic development of industry and traffic technology, as the main factors of progressive urbanization, are the core of the fundamental perturbation of the structure of the spatial environment, imposing new models and elements of industrial civilization, and, according to C. Davis, [10] the return to rural life is almost impossible. But as long as the "hearth", in a godly sense, exists as an essential feature of a family, the last link with the village is not interrupted. [11]

Lately attempts have been made to revitalize the rural settlements by activating some industrial capacities, and thus there is a need for renewal and asphalting of the road network. Our previous experience with the disposition of some industrial facilities in certain passive areas, as is the case with Debarca and other areas, shows clearly in which directions the future action regarding the development of the rural settlements should take place. The organization of the village is especially important, especially from the agroindustrial complex. They can most contribute to the further urbanization of rural settlements and their transformation into an integral part of the organization of the life of the village.

6. Conclusions

In the last few decades in the Republic of Macedonia, and especially in some regions, there have been significant changes in the population. These changes are closely related to the accelerated processes of globalization and industrialization, followed by the different economic, cultural and other development of the municipalities and their traffic connections

with the central points. Certainly, industrialization, as an economic category, could not carry out this transformation alone without the development of the traffic and the road network that connected these settlements with the big urban centres. In this way, the economic strengthening of individual regions and the movement of the population in the Republic of Macedonia came to an end. That is why the industry strongly influenced the formation of urban centers with different gravitational influence, and this had far-reaching repercussions on the consequences of the population. The main consequence is the migration movements of the population, so some areas have become depopulation zones, and some, attractive immigration places with an over-emphasized population concentration. According to the 2002 Population Census, it was determined that there are no population at all in 146 settlements. Of course, one of the reasons for this unfavourable situation lies in the disadvantageous traffic connection of these settlements with the city centres. Being in a "traffic isolation", the population in these settlements is not in a state of "free communication" expressed through the influx of food products that are sold for sale, transport of the population that needs education, work, etc., this population is gradually moving out of these settlements. Furthermore, the rural public transport as political issue must take part as more important role at the national level. As a result of the missing enough awareness of this problem there is no political mood for innovative and practical transport solutions, apart from the lack of knowledge about how to develop them. At least at regional and local level this issue have to feature on the political agenda and regional programs. In this respect, best practice examples in European Union's countries could help to disseminate information about innovative services more widely.

To overcome such unfavorable conditions in rural areas and the geographical imbalances Republic Macedonia must to shares some experiences and measures within the European Union, in terms of centralisation of population and economic activity – accompanied by good practices. Through the development of a sustainable and efficient transport network in rural areas, it will be achieved a competitive and sustainable growth in all over their territory and overcome the isolation position of rural settlements.

References

- Dimitrios Vartis, Maria Cristina Marolda (coordinators) (2017): Communicating transport research and innovation. Research Theme Analysis Report Transport Infrastructure. European Union 2017.p.14
- 2. State Statistical Office of the Republic of Macedonia (2016) 25 years of independent Macedonia. Skopje: State Statistical Office of the Republic of Macedonia, 2016. p.6
- 3. Jonard, M. Lambotte, F. Ramos, J.M. Terres, C. Bamps (2009) Delimitations of rural areas in Europe using criteria of population density, remoteness and land cover F. European Communities, 2009, p.3-4.
- 4. OECD (1994) Creating rural indicators for shaping territorial policy. OECD, Paris.
- 5. OECD (2005) The state of rural policy. OECD, Paris.
- 6. European Union, Interreg IVc, [Marie Clotteau, Euromontana] (2014) Move on green: Policy guidelines for sustainable mobility in rural and mountain areas. EU: 2014, p.7-9
- 7. F. Jonard, M. Lambotte, F. Ramos, J.M. Terres, C. Bamps (2009) Delimitation of rural areas in Europe using criteria of population density, remoteness and land cover carried. European Commission: Joint Research Centre Institute for Environment and Sustainability, 2009. p. 20-23.
- 8. Rural transport policy and equity (1998): A discusion paper prepared by Dr. Brenda Boardman of the Environmenatl Change Unit, Oxford University on behalf of CPRE, the Countryside Commission and the Rural Developmente Commission. [London]: Signal Press, 1998.p.5.
- European Commission DG Energy and Transport (2010) Thematic Research Summary: Regional and Rural Transport. Prepared by Marion Payet Transport Research Knowledge Centre Date 08-01-2010. p.12-27.

- 10. The Origin and the Growth of Urbanization in the World, American Journal of Sociology, 5/1955, p.437
- 11. Aceski I. (1995) Sociologija na gradot, Skopje: Institut za sociologija, 1995, str.11