Centrul de Cercetare a Mediului și Efectuarea Studiilor de Impact
Bld. Nicolae Bălcescu, nr. 1, sector 1, cp: 010041, București
Tel: +40213103872; e-mail: office@ccmesi.ro*; website:* www.ccmesi.ro

Annual Scientific Report

Developing a model of integrated planning regarding the public and private services accessibility in metropolitan areas

M.Acc.Net

PN-III-P1-1.1-PD-2016-0658

Director:

Lector Dr. Gavrilidis Athanasios Alexandru

Mentor:

Prof. univ. dr. Laurențiu Rozylowicz

Stage: 2019

Detailed report request: athanasiosalexandru.gavrilidis@g.unibuc.ro

Contents

No table of contents entries found.

1. Stage fulfilment degree

Etapa 2019:

- **Establishment of the general framework for the evaluation of public and private services in metropolitan areas - Part II**
- **Assessing the level of accessibility to public and private services in metropolitan areas**

Implementation period: 01.01.2019 – 31.12.2019

Planned activities

Name	*Obtained results*	*Degree of fulfillment*
A2.1. Identify the socio-economic profile of MA	9 databases with economic and social indicators and indices, one database for each metropolitan area analyzed	100%
A2.2. Establishing the coverage of public and private services in MA	9 databases with the degree of coverage with 11 types of public and private services, one database for each analyzed metropolitan area	100%
A2.3. Identifying the actors involved in metropolitan planning	A network-type analysis of the actors involved in the metropolitan planning process; A database with the hierarchy of types of public and private services according to the degree of collaboration between actors	100%
A2.4. Assessing the coverage of public and private services	Development of 3 indices for analyzing the degree of connection to public and private services in Romania (Transport Infrastructure Complexity Index - ICT; Transport Infrastructure Sustainability Index - TSI and Passenger Transport Network Coverage Index - PTC) 27 maps with the spatialization of the 3 indices developed in the project for each of the 9 metropolitan areas analyzed	100%
A2.5. Mapping the accessibility levels in MA	9 maps of the level of accessibility, one for each metropolitan area analyzed	100%

Detailed report request: athanasiosalexandru.gavrilidis@g.unibuc.ro

Results		
Expected	***Provided***	***Degree of fulfilment***
Participation in 1 national conference	1. **Gavrilidis A.A.**, Niță A., Niculae M.I., ***Rozylowicz L.***, (2019), *Romanian metropolitan zones: A status without a specific approach?*, Ecosmart International Conference - Environment at a CrossrOads: SMART approaches for a sustainable future, 5-8 September, Bucharest, Romania;	Reached
Participation in 1 international conference	1. **Gavrilidis A.A.**, Niță A., ***Rozylowicz L***, (2019), *Landscape structure: a fundamental criterion to be considered when planning metropolitan areas*, 10th IALE World Congress – Nature and society facing the Anthropocene challenges and perspectives for landscape ecology, 1-5 July, Milan, Italy	Reached
1 Scientific article sent for publication in specialized journals	1. **Gavrilidis A.A.**, Popa A.M., Niță M.R., Onose D.A., Badiu L.D., *Planning the unknown: A perception analysis regarding the urban green infrastructure concept in Romania*, Urban Forestry & Urban Greening Journal, F.I. – 3,73 2. **Gavrilidis A.A.**, Niță A., Niculae M.I., *Assessing the potential conflict occurrence due to metropolitan transportation planning: a proposed quantitative approach*, Sustainability Journal, F.I. – 2,80	Overreached
1 annual report	**1 annual report**	Reached

2. Identify the socio-economic profile of MA

Within stage II of the M.Acc.Net project. the economic profile of nine metropolitan areas in Romania was achieved (Baia Mare, Botoșani, Brașov, Cluj-Napoca, Constanța, Craiova, Iași, Oradea and Târgu Mureș). The analyzes regarding the economic profile were related to the CANE codes, the indicators used being the number of units per administrative unit and the average number of employees involved in each activity. In general, in addition to consumer activity, metropolitan areas are also characterized by activities of the manufacturing industry; constructions; transport and storage or professional and scientific activities. In most metropolitan areas, it was found that, after the trade activity, the manufacturing industry has a higher share both in terms of the number of companies with this specificity and the average number of employees. Deviations from this rule were made by ZM Cluj-Napoca and ZM Iași where the professional and technical activities have a higher share and ZM Constanța where the transport and storage companies , are among the main employers.

For the social profile of the metropolitan areas, indicators such as a) population growth rate were taken into account; b) the growth rate of migration and c) the growth rate of the labor force. These data are needed to determine the evolution scenarios of metropolitan areas from a social perspective. The results show that, since 2010, 3 of the 9 metropolitan areas analyzed have a negative population growth rate (-0.01 - Baia Mare; -0.02 - Botoșani; -0.02 - Craiova), at the opposite pole being ZM Iași which registers the highest population growth rate - 0.15.

3. Establishing the coverage of public and private services in MA

Within this activity, the degree of coverage at metropolitan level of the following types of services was established: a) leisure and leisure; b) culture; c) education; d) security; e) landscaped green spaces; f) running water supply; g) sewage and h) natural gas supply. Initially, this analysis also included sanitation services, but in the absence of data, this indicator was abandoned. The results indicate that in terms of the indicator on coverage with health services, all administrative units within the metropolitan areas analyzed benefit from at least one unit that provides such services. Regarding the other types of services included in the analysis, the situation is different, most being concentrated in polarizing urban centers and in urban areas in the metropolitan area.

These results were also represented spatially at the level of each metropolitan area, for each category of services.

4. Identifying the actors involved in metropolitan planning

The establishment of metropolitan areas involves a decentralized way of managing the territory. Within this activity, the evaluation of the degree of decentralization of the metropolitan areas chosen for analysis was taken into account. In this sense, a questionnaire was completed and applied to the representatives of local administrations in each metropolitan area. The questionnaire was disseminated by e-mail, mail and directly. The response rate was over 30% of the total member local administrations of the metropolitan areas chosen as case studies in the projects. The purpose of the questionnaires was to determine the degree of collaboration between local administrations and various actors at local, regional (14 institutions) and national (16 institutions) as well as private actors (10 types of actors). After processing the responses received, it was found that, indeed, the metropolitan areas chosen for analysis have closer collaboration with local actors, followed by collaborations with regional, private and national actors. This indicates that metropolitan areas have a decentralized approach to spatial planning.

5. Assessing the coverage of public and private services

Once the degree of coverage with various services at the metropolitan level was achieved, an assessment was made of the degree of connection to these services. In this sense, the transport infrastructure in each metropolitan area was evaluated. In this sense, they performed three analyzes: establishing the degree of complexity of transport infrastructures, assessing the degree of sustainability of transport infrastructures and determining the degree of coverage of private passenger transport.

The obtained results projected the fact that eight out of nine metropolitan areas analyzed register an average degree of complexity of the transport infrastructure, ZM Constanța being the only one that registers a high level of complexity of the transport infrastructure. The results obtained showed that three metropolitan areas are below the low sustainability threshold for this indicator and one of them above the high sustainability threshold, the rest registering a medium degree of sustainability. In the case of this indicator, too, spatial representations were made at the

level of the metropolitan areas chosen for analysis. The results show that, according to this indicator, all metropolitan areas are below the lower threshold for passenger transport coverage. The interpretation of these results reveals that in all the chosen metropolitan areas there is at least one administrative unit whose inhabitants are not connected to the passenger transport network. Thus, they have to either use personal vehicles to reach the network or in another locality, or to use the hitchhiking method.

6. Mapping the accessibility levels in MA

The last activity within Stage II of the project consisted in mapping the levels of accessibility from public and private services in the metropolitan areas chosen as case studies. This process was performed using the results obtained previously, to which was added a proximity analysis. The proximity analysis was based on the construction of a 500m x 500m network at the level of each metropolitan area and the identification of the cells located at different intervals of distance from the road transport infrastructure. For the complete realization of this analysis, the average travel speed allowed by the transport infrastructure of each metropolitan area was also calculated. In this approach, the maximum legal speed allowed on different types of public roads was taken into account. The results showed that the Botoșani metropolitan area is characterized by a transport infrastructure that allows the movement with the highest average speed between the metropolitan areas analyzed in the project.

Conclusions

The completion of Stage II of the MAccNet project meant providing complex results necessary to achieve the project objectives. Identifying the socio-economic profile of metropolitan areas, establishing the degree of coverage with public and private services within metropolitan areas, identifying actors involved in planning metropolitan areas, assessing the degree of connection to public and private services and mapping levels of accessibility to public services and private in the metropolitan areas of as a case study, lead to the correct elaboration of an integrated planning model regarding the accessibility of public and private services in the Romanian metropolitan areas. The calibration of the methods and indices proposed in the development stages of the project will be done permanently using as case studies the metropolitan areas with legal status in Romania,

as was the case in this second stage of implementation. Once the methodological framework is finalized, the elaboration of the model will be done using as a case study one or more metropolitan areas proposed or being approved in Romania. Thus, in addition to increasing the visibility of Romanian research in the field at national and international level and the scientific substantiation in the field of the project director by achieving the results proposed in the project, the applicability of the project results will be strengthened. In this way, the reduction of discrepancies between the Romanian scientific environment and local and regional decision-makers and urban planning policies is envisaged.