

## **EVOLUTION OF COMMUNICATION ROUTES IN MUNTENIA REFLECTED ON CARTOGRAPHIC DOCUMENTS (CASE STUDY: VLĂSIA PLAIN)**

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**Abstract.** The complexity of the settlement network in Muntenia region transposed over time in the transport pattern. The communication network didn't evolved randomly, but is intrinsically linked to the favorability or constraints of natural factors (e.g. presence of massive forests, the river system) and socio-economic ones. Vlăsia Plain represents a special case in this territorial context, through the configuration of a polarizing centre for the transport network, thus the accessibility was achieved through the positioning advantage at the convergence of trade routes to and from Moldavia, Russia, Poland, Transylvania, Hungary and the Ottoman Empire. Traffic intensity has changed over time in relation to the forces of attraction specific to neighboring regions or the supra-territorial context which led to a layered road network development, reflected on the cartographic material. In the context of territorial cohesion, cities face the challenge of linking economic development and accessibility to the quality of life and environmental protection. Territorial mobility is recognized as an important facilitator of growth and employment, with a strong effect on sustainable development.

### **1. The role of communication routes in territorial development**

The links between cities and regions have been established in time through transport networks which play a vital role in the economic and social territorial development. Transport provides mobility between individuals or social groups and jobs, leisure, housing facilities, goods and services etc. Access to the transport network is a key factor for territorial cohesion in an area and is considered as the main priority within the policies for the promotion of sustainable development throughout Europe. Developing transport infrastructure is an essential precondition for achieving the Lisbon Strategy for economic growth.

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To evaluate Bucharest's connectivity to the settlement network within Vlășia Plain it is appropriate to present in advance the situation of this territory. By its geographical location, Muntenia became, due to the sequence of capital cities like Câmpulung, Curtea de Argeș, Târgoviște and Bucharest, an important area in terms of transportation, its territory being crossed since ancient times by several roads of national and European connectivity. Vlășia Plain superposes on Bucharest-Ilfov development region which includes the highest values in terms of density and length of transport routes, compared to other regions. The public roads density is higher than the national average being of 0.48 km/km<sup>2</sup> and at 1,000 people there is a share of 0.39km of roads while railway density (0.15 km/km<sup>2</sup>) is also above the national average.

In analyzing the routes dynamics in Vlășia Plain we used a number of representative cartographic documents that were found in the maps collection of the Romanian Academy. These maps were scanned, georeferenced in ArcGis and represented in order to evaluate the evolution pattern of the road system.

Up to the early 18<sup>th</sup> century roads were mentioned in most of the narrative documents. On Europe's maps roads were rarely represented and fragmented, often only passes were drawn, cols and important bridges (e.g. "*Harta lui Cantacuzino*", 1700 [*Map of Cantacuzino*]) using the same conventional symbol for all types of roads. Ruhedorf mapped in "*Mappa Specialis Walachiae*" (1788) for the first time the communication network using black dotted lines, outlined in brown. Most roads unfolded on interfluves and continued to the neighboring provinces, towards the mountains or the Danube. The first detailed map based on which we can distinguish categories of roads in Muntenia is "*Militairische Carte der Kleinen oder oesterreichischen und grossen Wallachei [...]*" (*Specht Map*, 1791). The military character of the map explains the author's interest in representing through graphic symbols two different types of roads that converge towards Bucharest.

In relation to the economic and social dynamics of Vlășia Plain, the road network that structures its territory experienced different development trajectories, depending on which it differentiates:

-old roads with a general north-south direction; were influenced by transhumance and much later by trade routes. They set on a general direction from the mountain, along the main valleys (Argeș, Dâmbovița and Buzău) to Danube River (Florea, 2002). Examples are the *salt road*, mentioned in the year 1555, linking Ocnele Mari to the Danube. There are references to *Drumul sării vechii* [*Old Salt Road*], from Telega-Ploiești-Fierbinți-Fundulea-Brănești-Pantelimon-București to Oltenița or Brănești-Fundulea-Budești-Oltenița. Another alternative was Chiajna-Domnești-Poșta on Argeș-Bulbucata on Neajlov-Giurgiu (Popp, 1938). The old road category also includes other specialized routes such as the

*sheep road* (Vlăsia-Căciulați-Bucharest), *Vlăsia road* (Olacului), *fish road*, *wool road*, *maize road*, *wax road* or *iron road*.

-roads with east-west, north/west-south/east, north/east-south/west directions (Năstase, 1972) which have developed much later due to the amplification in the number of localities that were located in lowlands, especially boroughs, but also related to the rise of trade activity and the increase in passenger transport. These roads were complemented by those along the Danube River.

### 1. The cartographic analysis of communication routes

2.1. *The transport network in the 18<sup>th</sup> century, shaping the post road.* Analyzing the „*Specht Map*” (Fig. 1) we see the first configuration of the major connections roads between Bucharest and other urban centers throughout the country. The transition from Bucharest territory to regional roads was made through *poduri* (roads paved with oak located in the city that appeared in the mid XVIII<sup>th</sup> century). These were identified on the cartographic plans: 1) " *Plan de la ville de Bukarest*" (1770); 2) " *Grund Rifs der Haupt Stadt Bukurest in der Wallachei*" (F.J. Sultzer, 1781); 3) " *Plan Von der Haupt und Rezidenz Stadt Buchuresch [...]*" (F.B. Purcel, 1789); 4) " *Plan der Wallachischen Haupt Residenz Stadt Bukurest*" (F. Ernst, 1791).

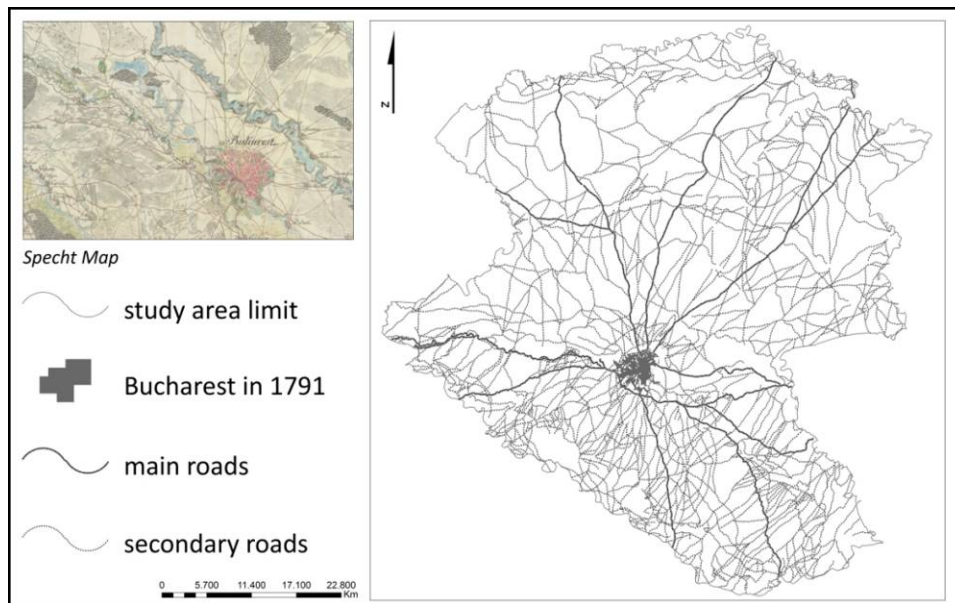


Fig. 1 The road network according to *Specht map* (1791)

Based on these plans we noticed that in the late 18<sup>th</sup> century Bucharest had six *poduri* [roads], made of planks hammered on thick beams which connected with the surroundings (Georgescu, 1966). Correlating Bucharest plans (Sultzer, Ernst, Purcel and the Russian officers map from 1770) with Specht's map we observed that these roads are connected to the main roads of Muntenia and to the Danube ports, to the Romanian cities and those from the foreign provinces (Giurescu, 1966).

The analysis of cartographic materials relating to this period revealed that secondary roads or of local interest form a complex, randomly oriented network in all directions. Their number was overwhelming and the main form of circulation was a local one because unlike other natural regions in the plain roads no longer depend exclusively on the physical conditions of the territory, but on economic ones (Năstase, 1998). We concluded that from the village heart started numerous radial roads which convergence was conditioned by economic needs. Convergence points occur in open fields, within woods, near ponds or streams, indicating that there are important places of economic interest, livestock and fishing shelters.

Subsequently, the map of Rigas "*Nea carta tis Valachias*" (1797) sketches a road network that unfolds in a radius pattern from Bucharest towards five important destinations: Buzău, Ploiești, Târgoviște, Craiova and Giurgiu. These roads have maintained their importance across time because the increase in trade and the improvement of travel conditions. The map doesn't indicate the roads to Slobozia or Călărași which were drawn on previous maps.

At the end of the 18<sup>th</sup> century in Muntenia existed a well developed network of *post roads* that overlapped the main routes. The Phanariot territorial policies drew attention on reorganizing the post station for which functioning was perceived a financial obligation called "*menzil*" (Rădvan, 2007). The implementation of post stations along main roads determined surrounding villages to become depopulated because of new tax requirements imposed on farmers. This explains why most post roads passed through "*pustiuri*" [abandoned places] along these axes. Alexander Ipsilante organized the first public service of the post (in 1775) by including it in the state administration. Post stations (*menzilhanea*) have kept their old stops every 16-22 hours. For example between Bucharest and Giurgiu were 65km and 3 stations post at Daia, Călugăreni and Copăceni. Some of these stations have taken the name of *Poștă* [Post], for example the post on the right banks of Dâmbovița, near *Hanul Roșiu*, on Oltenița road which was recorded on the topographic maps of the 20<sup>th</sup> century as the *Poșta* village. The distances between post stops are presented for the first time in 1789 on the map "*Das Fürstenthum Walachez nro. 13*" where F.I. Von Reilly has expressed distances

between main cities in posts, represented by traverse lines, "*their number indicating the approximate distance between stations*" (Năstase, 1972).

During the Russian government, General Kiseleff reorganized the post service, with a constant concern for the quality of transport and roads. Planning the communication roads began in 1828 with the introduction of "*birja*" [cab], the first mean of public individual transportation. Improvement on the *post roads* experienced a special scale after the Peace of Adrianople, when the Turkish monopolies over the Romanian countries decreased and trade increased. The main post roads are illustrated on Fried's map "*Carte de la Valachie et de la Moldavie comprenant aussi la Bessarabie, la Transilvanie et la Bukovine*" (1828) as a dense network of communication routes with post stations along main roads. The map indicates four post roads: to Ploiești with station at Podu Văleni and on Craiova road with a stop at Bragadiru. On the way to Buzău are illustrated post stations at *Szenderlita* (Șindrilița) and *Mogilitza* (Movilița). This map also indicates roads of lower relevance that crossed Vlășia Plain (e.g. Bucharest-Dudești-Pantelimon-Pasărea; the road on Dâmbovița valley from Bucharest to Măicănești; the road from Bucharest to Cernica; the road from Bucharest through Afumați to the old commercial center of Gherghița).

2.2. *Extension of the communication routes during the 19<sup>th</sup> century.* The modern stage begins in 1832 when the first attempt to organize the road system is put into place, dividing them into: *drumurile cele mari* [large roads] that were managed by *Departamentul Treburilor din Lăuntru* [Internal Affairs Department] these ones being similar to the national and county roads from the early 20<sup>th</sup> century and *drumurile cele mici* [small roads] placed in the local communities administration (equivalent to secondary and communal roads). Article 165 from *Regulamentul Organic* [the *General Regulations*] of Muntenia stipulated to *facilitate communications within the country and sought to stimulate trade activity*. In this respect we can mention the work of Bergenheim from 1833 as the first map in which the communication routes are divided according to their importance: *trade roads* to Ploiești, Târgoviște, Pitești and Craiova; *post roads* Giurgiu, Călărași and Oltenița; *cart roads* that linked trade and post roads with the settlements in Vlășia Plain. Analyzing the map we found that the roads to Târgoviște and Buzău decayed while the one to Urziceni gained importance.

The map "*Harta administrativă cu tăbliță statisticească a Principatului Valahii*" from 1833 includes seven post routes that present small changes compared to the previous maps. *Drumul Târgoviștei* [Târgoviște Road] presents a parallel trajectory to the right course of Colentina River. *Drumul Piteștiului* [Pitești Road] was recorded in the category of main roads, conserving its old route that was sketched on the Austrian map with a post station at Bolintinul din Vale. Craiova Road passed close to Buda. The road to Giurgiu was misrepresented, crossing

much farther south through Jilava, Crețeni and Colibași with two new post stations at Gostinari and Crețești. Towards Călărași it is mentioned Tânganu station in the point where the road branches off to Oltenița. Drumul Buzăului [Buzău Road] passed through Urziceni, with a post station at Șindrilița.

Russian map (editions from 1835/1853, Fig. 2) illustrates four road categories; the main roads included the six ones existing in 1790, with minor modifications. Looking at the map we found that Prahova road crossed through Podu Văleni and the one towards Buzău had a small deviation to the east, passing through Urziceni. The road to Târgoviște, presented in this map as low-class one, had the present trajectory and the route to Pitești conserved the initial one. Moreover, the road to Alexandria crossed through Clinceni and Ordoreanu, being recorded for the first time as a main road on the Russian map and the road to Giurgiu is identical to that presented in the previous century.

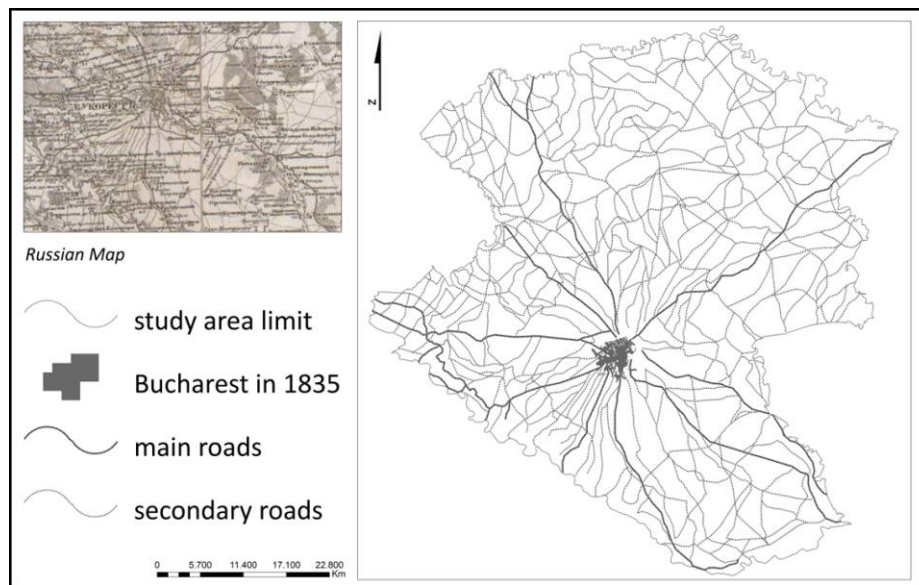


Fig. 2 The road network according to „Harta Rusă” [Russian Map] (editions 1835/1853)

Lapie`s map "Carte générale de la Turquie d'Europe [...]" (1821) distinguishes between main and secondary roads and draws the routes to Alexandria, Pitești, Buzău (through Urziceni), Slobozia (with a secondary route to Călărași), Giurgiu (main road to the Argeș valley) as main roads and to Oltenița, Călărași, Târgoviște, Ploiești, Buzău (by Gherghița) as secondary roads. It is the

only map of those which we studied that shows the two roads to the old commercial center from Gherghița.

Another unique map is "*Harta drumurilor Valahiei*" (1853) that captures the works at three major roads: the route to Buzău, to Ploiești and Bucharest-Giurgiu. Giurgiu could also be reached on a detour road, partly under construction that passed through Crețești, Colibași and Pietrele while to Oltenița by a road under construction at Știubei Clucerului and Hegoiești. In Călărași there were three roads partially or totally under construction: through Frunzești, Lupșanu and Belciugatu de Jos, Ștefănești, Lehliu, Lupșanu, Coadele. Slobozia benefited from a connection on a common road with the one to Călărași through Ștefănești, Persica and Buiești.

Kiepert's map "*Karte Europäischer-Türkei*" (1853) shows five of the major roads of the time: to Buzău, Ploiești (with a detour from Otopeni to Târgoviște), Pitești, Slatina and Giurgiu. It's the first representation of the routes to Oltenița and Călărași as secondary roads that started from the main Bucharest-Slobozia connection. The interesting aspect of this map is that it presents the old roads leading to Gherghița as secondary ones, which indicates a shift on the economic importance on the route to Brasov on Prahova Valley, which was being modernized. „*Carta judeciului Ilfov*” classified the roads according to their importance, as follows: national roads (to Giurgiu, Pitești and Ploiești) and county roads (Alexandria, Craiova, Pitești, Târgoviște, Oltenița and Brăila). It also includes the route, partially pointed out to the ancient center and of Gherghița and another approximate way which went parallel to Sabar River's course.

Szathmari's map (Fig. 3) "*Charta României Meridionale*" (1864) presents five categories of roads out of which the paved ones were mapped by a red line. Their construction was stipulated by *Regulamentul Organic* [the *General Regulations*] and included: the first paved road Bucharest-Ploiești-Brașov replacing Bratocea old road; Prahova road across Otopeni, Săftica, Tâncăbești, Ciolpani, Gorgota, being built between 1846 and 1847. The stations and telegraph lines are marked and also post stations and bridges. In addition we noticed tracing two railway projected tracks (Bucharest-Brașov and Bucharest-Giurgiu).

The north-south axis continues with Giurgiu road that appears paved between Jilava and Argeș River banks nearby Copăceni. The east-west axis is composed of Bucharest-Craiova-Severin road, and Bucharest-Urziceni-Buzău. The road to Pitești was partly paved and kept the track from 1791. Towards Alexandria the map indicates a paved road between Ciorogârla and Argeș Valley. Along major roads are shown the main places of rest, inns or shelters, recorded by the appellation *osp.*, which is sometimes followed by the name of the surrounding village. On the way to Călărași were inventoried *osp. Armașiu* and *osp. Rosiu*. On Târgoviștei road was *osp. de Pemântu* that appears 50 years later as *Hanul de Pament* [Earth Inn]. Along the way to Buzău was *osp. de la Pădurea Stoianoaia* or

*osp. de la Runcu* and *osp. de la Podu Lacului* etc. Studying the map we found that secondary roads were discontinuing in proximity to barriers (mounds, clumps of vegetation, marshy places, etc.) and presented detours that were destined to ease the access. Proper functioning of the roads was a priority for the authorities; numerous historical documents recorded such examples. Ruler Alex. Ghica (1842) took measures to repair the roads between villages, for building bridges and extending post stations.

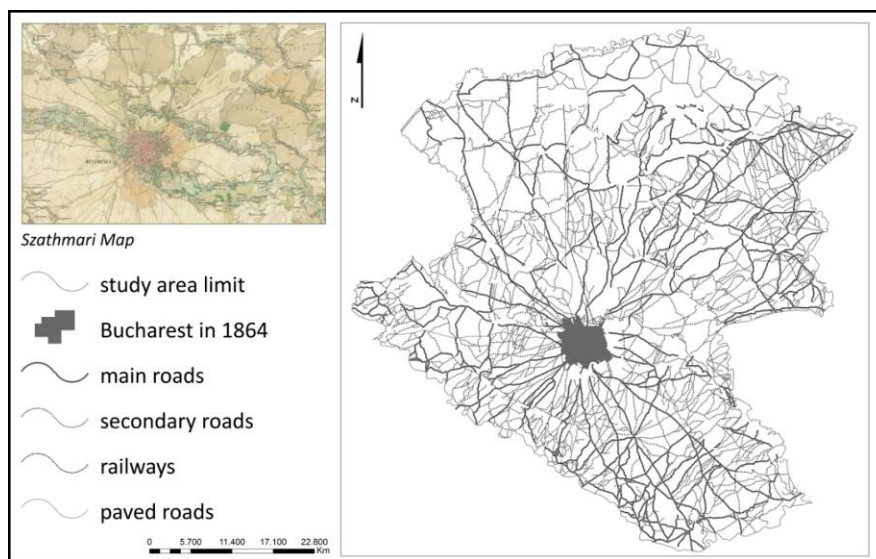


Fig.3 The road network according to *Szathmari Map* (1864)

"*Harta României istorică, politică și comercială*" made by Pappazoglu (1872) shows the north-south axis of national roads Ploiești-Bucharest-Giurgiu, with a post station at Săftica and on the road to Oltenița are mentioned *Balasanca* and *Orăști* stations. We note the appearance of the rail track to Pitești, with those which crossed Bucharest towards Giurgiu and Ploiești.

The general plan of Bucharest entitled "*Bucuresci, capitala României*", dated 1871, sketched the major streets of the city that are no longer called *ulițe* as on *Borroczyn* plans (Ulița Târgului de Afară became Calea Moșilor, Ulița Mogoșoaiei-Calea Mogoșoaiei, Podul Calicilor-Calea Craiovei etc.). Pappazoglu is the first author who uses in Bucharest's case the names of streets all over town in Romanian language after the official introduction of the Latin alphabet in 1859. The most important axis of the city was marked on "*Charta districtului Ilfov. Indicarea căilor naționale, jedecenii și vicinale, comunale aflate în circulație și*



*proiectate a se executa*"(1874): to Ploiești (through Băneasa-Săftica-Tâncăbești), with an extension to Târgoviște (Mogoșoaia-Butimanu section was under construction), Pitești (through Golia and Tărtășești). Alexandria and Oltenița were reached by secondary roads. Moreover the route to Slobozia was previously presented on *Kiepert* map (1853) as a secondary road but appears in 1874 as a national one under construction, with post offices in Pantelimon, Vidra, Budești, Fierbinți, Buciumeni and Domnești.

The maps made in the second half of the 19<sup>th</sup> and early 20<sup>th</sup> century („*Harta drumurilor Valahiei*”-1853; „*Harta Principatelor Unite Române*”-1863; „*Harta căilor de comunicație*”-1897; „*Charta districtului Ilfov. Indicarea căilor naționale, jedecenii și vicinale, comunale aflate în circulație și proiectate a se executa*-1874; „*Harta căilor de comunicație din județul Ilfov*”, scara 1:200.000, 1903; „*Harta topografică*” (1906-1912, 1943), etc.) illustrate their classification into four categories: national roads (26m width), county roads (20m width), secondary roads (15m width), communal roads and urban streets (minimum 10m width) these categories have been preserved until the middle of next century.

2.3. *Cartographic representations of the roads specific to the 20<sup>th</sup> century.* By overlaying the thematic and topographic maps from the early 20<sup>th</sup> century that include communication routes within Vlăsia Plain we observe the cartographic representation in respect with the road importance. The first category is that of national ways to Ploiești, Pitești, Craiova, Giurgiu, Urziceni, followed by the county roads Bucharest-Brăila (through Pantelimon, Brănești, Fundulea) and Bucharest-Târgoviște (through Mogoșoaia, Buftea), both in project during 1874. The latter ones have gained great importance in the late 19<sup>th</sup> century due to increasing economic relevance of the two cities. We also found a increase in the number of roads (e.g. to Roșiorii de Vede, Slatina, to Ștefănești-Târgu-Fierbinți-Maia and to Berceni; Măgurele, Filipești; Domnești and also Băcu-Cosoaba-Brezoaia etc.). From a legal perspective, the maintenance of these roads was the responsibility of county administrations but they did not have sufficient funds for this purpose (Urechia, 1911).

Another important work in describing the communication system is "*Planul director de trager*" (a topographic map, scale 1:20.000). Old fragments of Muntenia's road were recorded in Snagov Plain and Maia Plain. *Drumul Bucureștilor* [Bucharest Road or Vlăsia Road] sau *Drumul Vlăsiei (Olacului)* intersected with *Drumul Turcului* [Turc's Road] near Gherghița, with *Drumul Oilor* [Sheeps Road] at Căciulați and with *Drumul Sării* [Salt Road] near Bâra. This map also illustrates the road to Târgoviște under the name *Drumul Mare* [Big Road] and *Drumul Sării*. We found that these old roads have lost importance, being presented as communal roads. Major roads have maintained the routes during the 20<sup>th</sup> century, except Ploiești road which route was diverted through Poenari (Fig.

4). Also, the old road to Călărași, recorded as a main road on Specht's map is shown on the *Topographic map from 1972* as a county one.

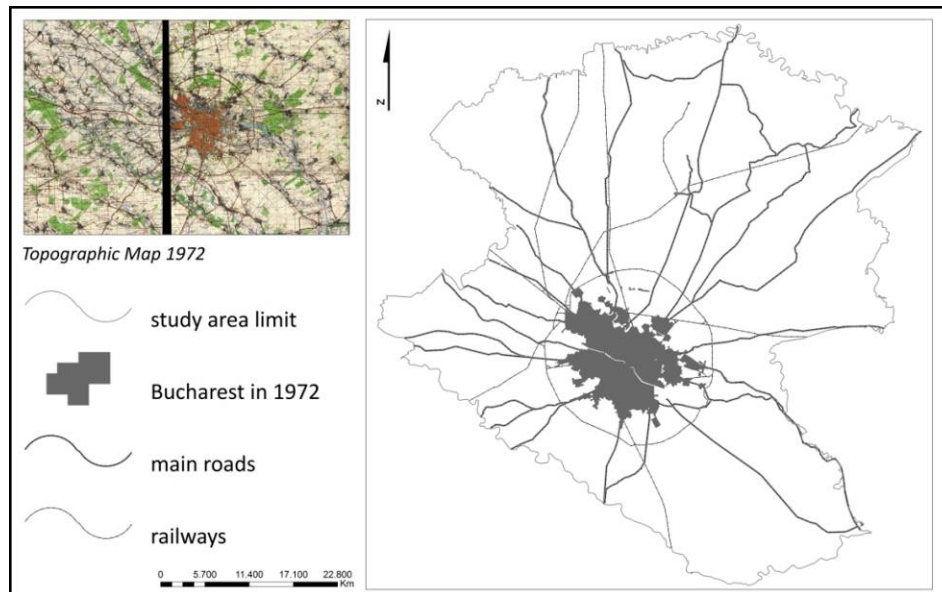


Fig.4 - The road configuration according to the *Topographic map, 1972* edition

### Conclusion

Overlapping the current network of communication routes over the one mapped in the 18<sup>th</sup> and 19<sup>th</sup> centuries we noticed that the road network is characterized by the parallelism between the main arteries and the hydrographic network and also by the radial aspect, an important traffic node being the capital. Road network density in all categories is the result of close links that were established between various parts of the country and neighboring countries, thus resulting in the development of trade, movement of goods and people in general. Analyzing the road network in the 18<sup>th</sup> century we observed that the road distribution was subject to land management practices (in joint property). The property system allowed the random design of roads; scattered roads appeared, being built to link the center of the village and the estate. Also, changes to the property entailed transformations into the circulation, leading to abandonment of roads of local interest, for example: Bucharest-Mărcuța, Bucharest-Tunari or the one to Buftea. Some trade routes have lost their importance after the decrease of the *Turkish slavery* either permanently (e.g. Bucharest-Călărași route) or temporarily (Bucharest-Oltenița). Relocating the royal residence from Târgoviște

to Bucharest determined the two routes to Târgoviște to lose importance, becoming roads of county importance, as presented on the topographic maps. The emergence of new settlements, planning the lake system and the entertainment places in Vlășia Plain configured new connections (e.g. road and railway line to Snagov). The architecture of the transport network was shaped in relation to the importance of roads across historical times. Major roads depended on regional factors thus this category crystallized early while the secondary ones were influenced by local settlements, which imposed a transient feature to this road category, depending on the socio-economic stability of the localities they served.

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