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TERRITORIAL ANALYSIS FOR THE CYCLE-RIGHT PROJECT SOUTH-WEST OLTENIA REGION

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Beneficiary: AGENȚIA PENTRU DEZVOLTARE REGIONALĂ SUD-VEST OLTENIA

2024

Project CycleRight is implemented within the frame of INTERREG Europe Programme, co-funded by the European Regional Development Fund (ERDF)

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1 Regional context

The overall objective of the project is to make a significant contribution to the decarbonization of transport by shifting from individual motorized transport to cycling as a sustainable and low-carbon mode in urban areas, both for commuting needs and for sustainable car-free tourism.

The Cycle Right project addresses the decarbonization of the transport sector in urban areas by promoting cycling-related developments and improving the quality of sustainable cycling-related developments to be realized in the 2021-2027 programming period, by sharing experience and knowledge on climate resilience, accessible and safe cycling infrastructure, thus contributing to mitigating the negative effects of climate change and increasing quality of life.

1.1 Main characteristics of the targeted area – south-west Oltenia Region

South-West Oltenia borders Bulgaria to the south, the historic region of Muntenia (today South Muntenia Region) to the east, Transylvania (Center Region) to the north, and Banat (West Region) and Serbia (Republic of Serbia) to the west.

Along its 1,075 km in Romania, the Danube crosses 387 km in the South-West Oltenia region (192 km in Mehedinți, 150 km in Dolj and 45 km in Olt), forming the largest artificial lake at Porțile de Fier, where the nature park of the same name is located.

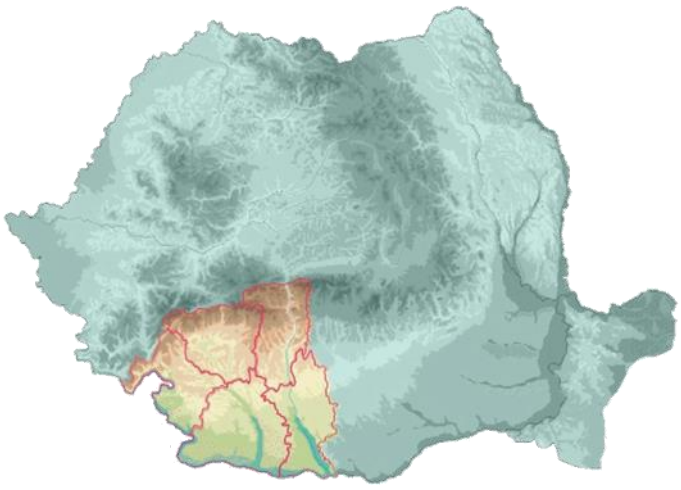

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Figura nr. 1 – south-west Oltenia Region map

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From an administrative point of view, the South-West Oltenia Development Region includes 5 counties (Dolj, Gorj, Mehedinți, Olt, Vâlcea), with localities structured, in 2010, in 40 towns, of which 11 municipalities, 408 communes and 2 070 villages.

The relief of the region offers a diversified profile in terms of altitude: in the south - the Danube Plain - altitude 50 m, in the north and west - the Carpathian Mountains - maximum altitude in the region is about 2400 m, over about 200 km, with a significant difference in altitude. The distribution of the territory by landforms gives a relatively balanced picture of mountains, plains, hills, and plateaus.

The region has a very diverse landscape, generated by a variety of geological structures and landforms, alternating mountain and hilly ridges with depressions and valley valleys, and altitudinal differences, which are complemented by different vegetation, fauna and water features, adding to its complexity.

Oltenia is bordered to the north by the Southern Carpathians, and to the west, south and east by flowing waters: the Danube and the Olt. The River Jiu flows north-south through the region, dividing it into two almost equal parts, where the relief of one seems to mirror the other. Northern Oltenia is mountainous, with two massifs: Parâng (east of the Jiu) and Retezat-Godeanu (west of the Jiu). To the south of the Carpathians is the sub-Carpathian area, represented by a series of hills (Dealul Bran, Măgura Slătioarei, Dealurile Gorjului, Dealul Bârzei) and depressions (Novaci, Tismana, Târgu Jiu). In the north-west are the Mehedinți plateau, the hills of Coșuștei and the Severin depression.

South of the Subcarpathians lies the Getic Plateau, which is divided into the platforms: Strehaiei (west of the Jiu River; it is subdivided into the Hușniței and Bălăcița platforms), Jiului (crossed by the Jiu) and Oltețului (east of the Jiu). In the south of Oltenia lies the Oltenia Plain, which is, in fact, the westernmost sector of the Romanian Plain. The Plain of Oltenia is made up of the Plains of Blahniței and Băileștilor (west of the Jiu) and Romanaților (east of the Jiu). The most important rivers are: Olt (together with tributaries Lotru and Olteț), Jiu (together with tributaries Tismana, Motru, Amaradia and Gilort), Desnățui, Drincea and Cerna.

The climate of the region is moderately temperate continental, except for Mehedinți county, which has a moderately temperate continental climate with sub-Mediterranean influences. In winter, in particular, warm moist air masses of Mediterranean and oceanic origin occur, making this time of year milder. Higher amounts of liquid precipitation are present during this season: sleet, with less frequent and intense snowfall and frost.

The average annual temperature of the region ranges from 11.2°C in the extreme southern point (the town of Corabia) to 9.8°C in the north. They also show decreases, below 0 degrees, especially in the mountainous area of the region. Weather risk phenomena are blizzards from the east, west and northwest. The predominance of negative temperatures and the sensitivity of vegetation to these low temperatures determine a certain degree of climatic risk. The

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intense manifestation of weather-climatic phenomena causes damage to some economic sectors, sometimes endangering people's property, and lives.

In the high mountain area, above 1500 - 1600 m, the snow cover has an uneven distribution and lasts between 180 and 200 days (Parâng, Vâlcan, Godeanu), and its thickness can reach 7-8 m in sheltered areas. In the area of the middle mountains, the duration is only 140-150 days and decreases to 60-80 days per year in the foothills. This can allow the development of winter sports. Thus, in some areas the winter tourist season can last from December to April.

The vegetation is represented by deciduous forests (oak, beech, elm, hornbeam, hornbeam, ash, ash, palms, lime, etc.) up to 1000-1400 m and coniferous forests up to 1800 m (fir, spruce, pine, larch, etc.), as well as steppe. From the point of view of natural vegetation, most of the region falls within the lowland (including the Danube plain) and forest zone, which in turn is divided into dominant species: the Quercineae forest subzone, the beech subzone, and the coniferous forest subzone. At the highest elevations, above 1800 m, we find the alpine forest zone.

In the southern part of the region there is a forest-silvo-steppe zone, with forests of oak and downy oak, as well as other deciduous trees such as elm, hornbeam, hornbeam, jugastrum, prickly maple, silver lime, pedunculate oak and ash. There are also scattered stands of hawthorn, hawthorn, hawthorn, dogwood, dogwood, and poplar.

In the meadows of these forests, meadows composed of hawthorn, sadin, rogoz, yellow sandwort, etc. are developing.

In terms of natural herbaceous vegetation, acidophilous mesophytic species predominate. The presence on sheltered and sunny limestone slopes of the edible chestnut, sometimes associated with the Turkish hazel, with mesothermophilic, xerothermophilic species (horn, mojdrean, dogwood, dwarf, hawthorn, hawthorn, sweet chestnut, wild lilac, etc.), is particularly important.

The rich forest floor creates an attractive, pristine environment, recommended for active vacations.

The fauna is interesting from the hunting point of view, being rich and varied, with deer, roe deer, foxes, bears, wild boars, lynx, black goat, capercaillie, etc. In the area of Mehedinți, due to the South Mediterranean climatic influences, we find sub-Mediterranean vegetation: almond, fig, tulip tree, magnolia, etc., but also sub-Mediterranean fauna: scorpion, land tortoise, horned viper, etc.

The South-West Oltenia region is crossed by numerous rivers, the most important of which are the Oltul and Jiul, flowing from north to south, and the Danube, from west to east. Among the main natural lakes are Bistreț (Dolj county) - the second largest in the country with an area of 1 867 hectares, Zăton (Mehedinți county) and Gâlcescu (Vâlcea county).

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There are also artificial lakes, including: Ostrovu Mare (40 000 ha) - the first largest in the country, Porțile de Fier (10 000 ha) - the second largest in Mehedinți County; Vidra Lake on the Lotru River in Valcea County (situated at 1289 m altitude, with a surface area of 1035 ha, maximum depth of 109 m and length of 9 km), whose water is used for the Lotru-Ciunget hydroelectric power plant. The waters of these lakes are used for energy production.

In the karst area of the Mehedinți Plateau there are temporary karst lakes such as Zăton, Ponoare and Gornovița.

The sulphurous, oligomineral, chlorinated and iodized mineral springs are found in Călimănesti- Căciulata, Olănești, Govora, Muereasca, Dobriceni, Bunești, Râmnicu Vâlcea, Mateesti, Ocnele Mari, Ocnița, Oțești, Pietrarii de Sus and Goruneşti. The waters of the salt lakes of Ocnele Mari and Ocnița are also beneficial for health.

In the whole region, there are springs or untested mineral water springs or mineral water springs in Colibași, Lupșa, Baia de Aramă, Balta, Vârciorova.

The Danube plain and terraces represent the most important body of groundwater in terms of the spread of groundwater deposits and water resources. The width over which this groundwater body develops is on average 30 km.

1.1.1 South-West Oltenia characteristics

Romania is organized administratively into development regions and counties:

Regions/counties	1990	2010	2016	2017	2018	2019	2020
	Municipalities						
TOTAL	56	103	103	103	103	103	103
Region NORTH-WEST	9	15	15	15	15	15	15
Region CENTER	10	20	20	20	20	20	20
Region NORTH-EAST	9	17	17	17	17	17	17
Region SOUTH-EAST	7	11	11	11	11	11	11
Region SOUTH-MUNTENIA	8	16	16	16	16	16	16
Region BUCURESTI - ILFOV	1	1	1	1	1	1	1
Region SOUTH-WEST OLTENIA	**5**	**11**	**11**	**11**	**11**	**11**	**11**
Dolj	*1*	*3*	*3*	*3*	*3*	*3*	*3*
Gorj	*1*	*2*	*2*	*2*	*2*	*2*	*2*
Mehedinti	*1*	*2*	*2*	*2*	*2*	*2*	*2*
Olt	*1*	*2*	*2*	*2*	*2*	*2*	*2*
Valcea	*1*	*2*	*2*	*2*	*2*	*2*	*2*

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Regions/counties	1990	2010	2016	2017	2018	2019	2020
	Municipalities						
Region WEST	7	12	12	12	12	12	12
	Towns						
TOTAL	204	217	217	217	217	216	216
Region NORTH-WEST	26	28	28	28	28	28	28
Region CENTER	38	37	37	37	37	37	37
Region NORTH-EAST	23	29	29	29	29	29	29
Region SOUTH-EAST	26	24	24	24	24	23	23
Region SOUTH-MUNTENIA	35	32	32	32	32	32	32
Region BUCURESTI - ILFOV	1	8	8	8	8	8	8
Region SOUTH-WEST OLTENIA	**27**	**29**	**29**	**29**	**29**	**29**	**29**
Dolj	*4*	*4*	*4*	*4*	*4*	*4*	*4*
Gorj	*6*	*7*	*7*	*7*	*7*	*7*	*7*
Mehedinti	*4*	*3*	*3*	*3*	*3*	*3*	*3*
Olt	*6*	*6*	*6*	*6*	*6*	*6*	*6*
Valcea	*7*	*9*	*9*	*9*	*9*	*9*	*9*
Region WEST	28	30	30	30	30	30	30
	Communes						
TOTAL	2688	2861	2861	2861	2861	2862	2862
Region NORTH-WEST	384	403	403	403	403	403	403
Region CENTER	335	357	357	357	357	357	357
Region NORTH-EAST	463	506	506	506	506	506	506
Region SOUTH-EAST	330	355	355	355	355	356	356
Region SOUTH-MUNTENIA	481	519	519	519	519	519	519
Region BUCURESTI - ILFOV	38	32	32	32	32	32	32
Region SOUTH-WEST OLTENIA	**389**	**408**	**408**	**408**	**408**	**408**	**408**
Dolj	*95*	*104*	*104*	*104*	*104*	*104*	*104*
Gorj	*63*	*61*	*61*	*61*	*61*	*61*	*61*
Mehedinti	*59*	*61*	*61*	*61*	*61*	*61*	*61*
Olt	*94*	*104*	*104*	*104*	*104*	*104*	*104*
Valcea	*78*	*78*	*78*	*78*	*78*	*78*	*78*
Region WEST	268	281	281	281	281	281	281

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On July 1, 2021, the South-West Oltenia Region had a population of 2,115,230 inhabitants, representing 9.78% of the total population of the country, with a density of 74.2 inhabitants/ km2 ranking 6th among the country's regions. The most populated county - Dolj county (93.1 places/km²), the least populated - Mehedinți county (56.8 places/km²).

The system of localities in the South-West Oltenia region is as follows:

Territorial	Area (kmp)	Municipalities and towns	Municipalities	Communes	Villages
Dolj	7.414	7	3	104	378
Gorj	5.602	9	2	61	411
Mehedinți	4.933	5	2	61	344
Olt	5.498	8	2	104	377
Vâlcea	5.765	11	2	78	560
South-west Oltenia	**29.212**	**40**	**11**	**408**	**2.070**
România	**238.391**	**319**	**103**	**2.862**	**12.958**

The urban environment of the region is represented by 40 units, of which 11 municipalities and 29 cities. Of these, 6 municipalities and 8 cities were established after 1989.

County	Urban units	Of which:		Urban entities formed after 1989, of which:	
		Municipalities	Towns	Municipalities	Towns
Dolj	7	3	4	Bailesti, Calafat	Bechet, Dabuleni
Gorj	9	2	7	Motru	Tismana, Turceni
Mehedinți	5	2	3	Orsova	
Olt	8	2	6	Caracal	Potcoava
Vâlcea	11	2	9	Dragasani	Babeni, Balcesti, Berbesti
Total	**40**	11	29	6	8

According to the RDP - 2021-2027, the population evolution of the South-West Oltenia region is as follows:

Municipalities/towns	Inhabitants 2015	Inhabitants 2021	Decrease in population 2021 vs 2015	Percentage of decreasing 2021 vs 2015 (%)
Towns over 200.000 inhabitants				
Craiova	307.401	296.359	11042	3,59%
Towns over 100.000 inhabitants				
Râmnicu Vâlcea	119.300	116.422	2878	2,41%

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Municipalities/towns	Inhabitants 2015	Inhabitants 2021	Decrease in population 2021 vs 2015	Percentage of decreasing 2021 vs 2015 (%)
Drobeta-Turnu Severin	110.821	104.121	6700	6,05%
Towns between 50.000 and 100.000 inhabitants				
Târgu Jiu	97.360	93.436	3924	4,03%
Slatina	85.100	81.409	3691	4,34%
Towns between 20.000 - 50.000 inhabitants				
Caracal	35.665	33.193	2472	6,93%
Motru	23.287	21.025	2262	9,71%
Balş	21.396	20.118	1278	5,97%
Towns between 10.000 - 20.000 inhabitants				
Drăgăşani	21.170	19.837	1333	6,30%
Băileşti	20.145	19.117	1028	5,10%
Calafat	18.743	17.399	1344	7,17%
Corabia	18.566	16.826	1740	9,37%
Filiaşi	18.546	17.899	647	3,49%
Rovinari	13.767	12.983	784	5,69%
Orşova	13.085	12.021	1064	8,13%
Dăbuleni	12.327	11.442	885	7,18%
Scorniceşti	12.195	11.579	616	5,05%
Drăgăneşti-Olt	12.154	11.548	606	4,99%
Strehaia	11.506	10.903	603	5,24%
Towns up to 10.000 inhabitants				
Bumbeşti-Jiu	10.192	9.335	857	8,41%
Băbeni	9.425	9.068	357	3,79%
Călimăneşti	8.916	8.691	225	2,52%
Târgu Cărbuneşti	8.753	8.543	210	2,40%
Turceni	8.223	7.923	300	3,65%
Segarcea	8.064	7.868	196	2,43%
Brezoi	7.265	7.102	163	2,24%
Tismana	7.168	6.809	359	5,01%
Horezu	7.098	6.806	292	4,11%
Piatra-Olt	6.612	6.315	297	4,49%
Vânju Mare	5.963	5.778	185	3,10%
Potcoava	5.866	5.649	217	3,70%
Novaci	5.780	5.580	200	3,46%
Berbeşti	5.651	5.282	369	6,53%

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Municipalities/towns	Inhabitants 2015	Inhabitants 2021	Decrease in population 2021 vs 2015	Percentage of decreasing 2021 vs 2015 (%)
Baia de Aramă	5.609	5.486	123	2,19%
Bălceşti	5.241	4.957	284	5,42%
Ţicleni	4.865	4.534	331	6,80%
Băile Olăneşti	4.585	4.404	181	3,95%
Bechet	4.399	4.282	117	2,66%
Ocnele Mari	3.528	3.444	84	2,38%
Băile Govora	2.894	2.652	242	8,36%

The total land area of the 40 urban localities was 47480 hectares in 2020, an increase of 2.7% compared to 2015. This increase was due to the increase in urban land for some cities.

Within the region's counties, the largest intravilane areas are: Craiova in Dolj - 7043 ha (60%), Drobeta Tr. Severin in Mehedinți -2384 ha (56%),Tg. Jiu in Gorj - 3896 ha (43.24%), Slatina in Olt - 2572 ha (36.38%), Rm. Vâlcea in Vâlcea - 2000 ha (22.21%).

About 70% of the school population in the region is urban. Of the 726 units that operated in the school/university year 2019/2020, at the level of the Sud-Vest Oltenia development region, 315 units are in urban areas and 411 in rural areas. In terms of the number of school units (726), it ranks second last among the regions, the first three ranked having more than 1000 units each.

There are 3 state universities in the Oltenia region (two in Craiova - the University of Craiova and the University of Medicine and Pharmacy and one in Targu Jiu - the State University Constantin Brancuși).

Urban traffic is becoming increasingly heavy due to the growing number of cars using the same infrastructure, even modernized but built decades ago. Mainly in the region's large cities, traffic can grind to a standstill in 10 to 20 years. Most cities are located on national or county roads, they do not have bypasses, so transit is difficult. The tendency of local authorities to make traffic flow by creating one-way streets is a palliative and does not solve the fundamental problem.

The disruptive elements of urban life are given by the large number of cars that generate a significant share of pollutants, the lack of parking spaces for cars, the fragmentation of the natural and aesthetic setting by buildings that do not fit into the local architectural ensemble, the existence of a road infrastructure characteristic of rural areas, the lack of water, sewage and sanitation services for housing, public utility, and public transport.

In the years to come, the urban population growth trend will accentuate. This will create problems in terms of housing, urban transport, pollution, and insufficient urban services, including social services. Linking urban development with the needs for housing, utilities, social services require the development/updating of an urban development plan for each city

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in the region. The tentacular sprawl of cities along the main access arteries is a threat leading to the dissolution of the urban form and fragmentation of the natural environment.

A major dysfunction is the division of cities through the creation of satellite neighborhoods and their poor connections with utilities, health, and education facilities, leading to traffic malfunctions and the isolation of certain areas.

In terms of the active civilian population, the South-West Oltenia region occupies the last place in 2020, with a total number of 825.9 thousand people, with a decreasing trend in the period 2012-2020.

In the counties of the South-West Oltenia Region, in 2020, there is a positive evolution of the labor force participation rate, compared to the previous year, except for Mehedinti and Olt counties.

In the South West Oltenia region, the level of employment recorded an upward trend in the average number of employees, reaching 405,867 people in 2019, 2.14% more than in 2018, but in 2020, it recorded a decrease by 2.37% compared to the previous year.

According to the PDR-2021-2027, 45,029 active economic units were registered in the SV Oltenia Region in 2020. The active units in the SV Oltenia Region represent only 7.21% of the total registered at national level, so the region still ranks last in the national ranking for this indicator.

At county level, Dolj county stands out with the most units (37.7% of the total active economic units in the region) and Mehedinți with the fewest (8.68%).

Thus, the most active enterprises are found in Dolj county (16911), followed by Valcea (8744), Olt (7870), Gorj (7663) and Mehedinți (3841).
The region is represented in the 2021 national rankings:

- FORD ROMANIA SA (Str. Henry Ford 29 Jud. DOLJ, Loc. CRAIOVA) ranks 6th in the national top of firms by turnover and 22nd in the national top of employers (6,181 employees according to the 2020 balance sheet).

FORD ROMANIA SA ranks first in the top for the county of Dolj in 2021 (according to balance sheet 2020) for business, size, and profit.

- ALRO SA (Str. Pitesti 116 Jud. Pitesti 116 Jud. OLT, Loc. SLATINA) ranks 20th in the top business for Romania, field 2442: aluminum metallurgy.

ALRO SA ranks 1st in the top for Olt County in 2021 (according to the 2020 balance sheet) for metallurgy business and profit and 2nd in the top county for business.

COMPLEXUL ENERGETIC OLTENIA SA (Str. Alexandru Ioan Cuza 5 Jud. GORJ, Loc. TARGU JIU) - 12,193 employees, according to the 2020 balance sheet and on the 3rd place in the top business for Romania, field 3511: electricity production.

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COMPLEXUL ENERGETIC OLTENIA SA ranks first in Gorj County (according to the 2020 balance sheet) for business and size.

- In 44th place in the national ranking of employers is PIRELLI TYRES ROMANIA SRL (Str. Draganesti 35 Jud. Olt, Loc. Slatina) - 3,794 employees according to the balance sheet of 2020.

PIRELLI TYRES ROMANIA SRL ranks 1st in Olt County for Business, Size and Profit in Olt County, Industry 22: Manufacture of rubber and plastic products.

The economic activity in the South-West Oltenia Region is mainly concentrated in the county seat cities. Summing up the economic indicators, available at the level of 2020, based on the last accounting balance sheets submitted, 2.65% of the total number of economic agents in Romania are concentrated in Dolj county, -1.10% of the total number of economic agents in Romania in Gorj county, -0.89% of the total number of economic agents in Mehedinți county, -1.25% of the total number of economic agents in Olt County, -1.29% of the total number of economic agents in Valcea county.

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1.1.2 Dolj County

Dolj County is in the south-west of the country, with its residence in the city of Craiova. Straddled by the Jiu River, it lies between 43°43' and 44°42' north latitude and 22°50' and 24°16' east longitude.

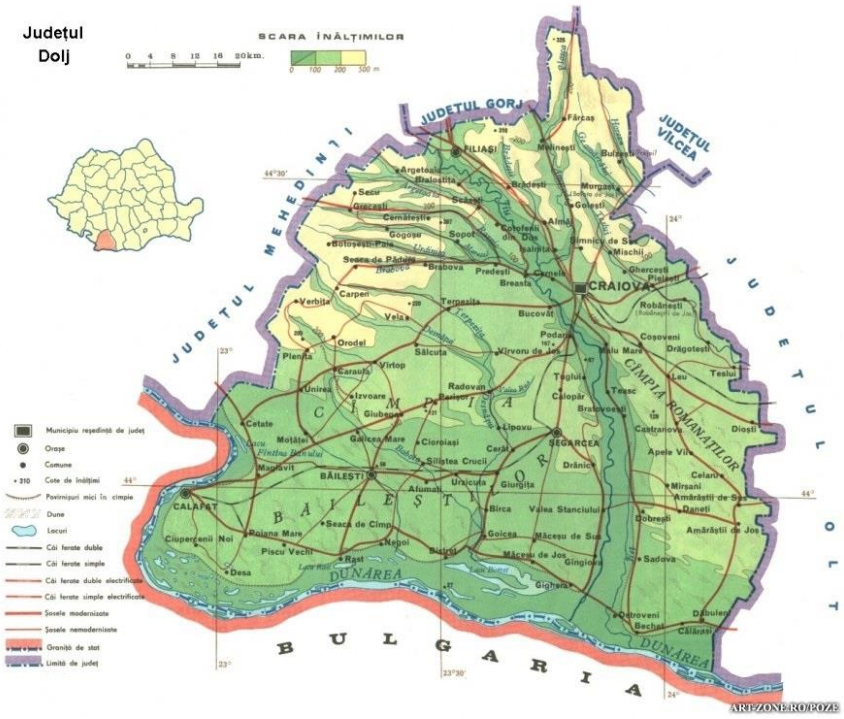

Figura nr. 2- Dolj county map

Dolj County is bordered by Mehedinți County to the west, Gorj and Valcea Counties to the north, Olt County to the east and the Danube River to the south, which forms Romania's border with Bulgaria.

The surface area of Dolj county is 7,414 km2, representing 3.1% of the country's surface area, and it is the 7th largest county in the country.

The climate influencing the county is temperate, with Mediterranean influences, with an average above 10-11.5o C, increasing in recent years.

The relief of Dolj county includes the lowland area in the south, along the course of the Danube for about 150 km, the plain and the hilly area, with altitudes between 30m and 350m, from south to north. The southern part of the county is dominated by sandy surfaces and lakes formed by the Danube's overflows or rainfall accumulations.

The hydrographic network is formed by the Danube in the south, between Cetate and Dăbuleni, the Jiu, which crosses the county between Filiași and Zăval, over a distance of 154 km, as well as lakes and ponds: Bistreț, Fântâna Banului, Maglavit, Golenți, Ciuperceni.

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Vegetation and flora are typical of the steppe zone. In general, man has changed the vegetation pattern from forest and scrub cover to one dominated by agricultural crop fields. Some areas of acacia and oak woodland are still maintained.

Terrestrial and aquatic fauna has also undergone changes due to excessive hunting and fishing. There are also lizards, storks, egrets, and some rodent species.

The population of Dolj County is 682,745 inhabitants, according to the Statistical Institute, registered in 2021 (https://dolj.insse.ro/wp-content/uploads/2023/06/j64.htm).

The unemployment level is 21,182 people in 2021.

In Dolj county there are 3 municipalities - Craiova - the county's capital, Calafat and Băilești; 4 cities - Bechet, Dăbuleni, Filiași and Segarcea and 104 communes.

In Dolj county, tourism has a low potential, due to the natural landscapes and anthropic transformations, with a few tourist and architectural sights of interest located in the cities.

Județul Dolj era, înainte de revoluția din 1989, un centru al industriei feroviare și auto, dar și agricole. În prezent, industria auto este reprezentată de producerea vehiculelor Ford, la Craiova. Cele mai multe firme ce activează la nivelul județului sunt din domeniul comerțului, serviciilor și agriculturii.

By urban areas in Dolj County, Craiova municipality concentrated, in 2020, a percentage of 56.42% of the total economic agents in the county. The 33.253 economic agents contributed to the economy of Craiova municipality, in 2020 with: 29,2 Billion lei (6,6 Billion euro) turnover (78,88% of the turnover in Dolj County), 65.050 employees (73,72% of the total number of employees in Dolj County) and a profit of 1,8 Billion lei (398,1 million euro), representing 69,33% of the net profit realized in Dolj County.

In Dolj County, the first 5 places are occupied, in order of turnover, by Ford Romania SA, CEZ Vânzare SA, Distribuție Energie Oltenia SA, Cereal Com Dolj SRL and Cummins Generator Technologies Romania SA. According to the number of employees, the top 5 are Ford Romania SA, Civitas PSG SA, Distribuție Energie Oltenia SA, Casa Noastra SRL and Compania de apă Oltenia SA. By profit, the ranking is also led by Ford Romania SA, then Cummins Generator Technologies Romania, CEZ Vânzare SA, Magna Exteriors Craiova SRL, Casa Noastra SRL.

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1.1.3 Olt County

Olt County is in the south of Romania, and the county's administrative administration is based in the municipality of Slatina. The geographical coordinates are 44°26'00"N 24°22'00"E.

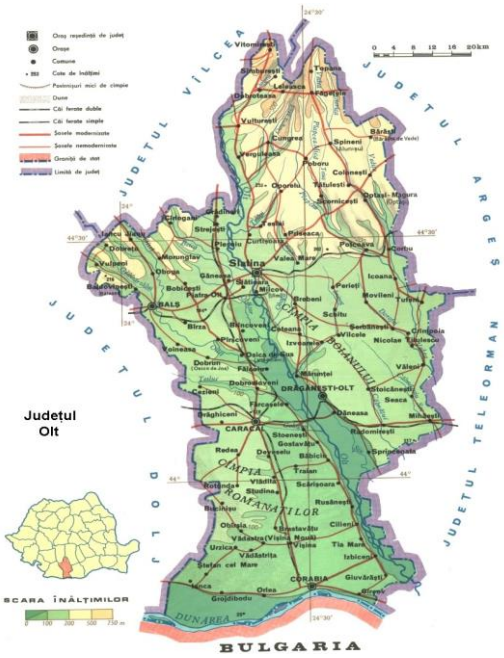

Figura nr. 3- Olt County map

Olt County is bordered to the north by Valcea County, to the east by Argeș and Teleorman Counties, to the south by the Danube River on a distance of 45 km, and to the west by Dolj County.

The surface area of Olt County is 5,498 km2, representing 2.3% of the country's surface area and ranking it 22nd at national level.

The climate of Olt County is temperate-continental, more humid in the north, more arid in the south. The coolest point in the county is Caracal, due to cold currents from the eastern Romanian Plain, and the warmest is Corabia.

The relief is centered on the lower valley of the Olt River and its terraces, consisting of plains and hills. In the north are the hills that are part of the Getic Plateau and occupy 1/3 of the county. To the south of Slatina, as far as the Danube, the Romanian Plain, with the following sub-units: Romanaților Plain, Boianului Plain and Burnazului Plain.

The hydrographic network is centered on the flow of the Olt River, from north to south, 143 km long, flowing into the Danube. Its main tributaries are Olteț, Teslui and Dârjov.

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The natural vegetation of the county falls into two large vegetation units: the forested area in the north, with oak and mixed forests, and the steppe and grassland area in the south, with grasses and various grasses.

The fauna is typical of the lowland lowlands and foothills.

The population of Olt County is at the level of 383,280 people in 2021, according to INS (https://olt.insse.ro/wp-content/uploads/2023/10/Populatia-judetului-Olt-la-ultimele-recensaminte.pdf).

There were 14,244 unemployed people in the county in 2021.

Olt County has 112 administrative units, of which 2 municipalities - Slatina - the county's residence municipality and Caracal - municipality; 6 towns - Balș, Corabia, Drăgănești-Olt, Piatra-Olt, Potcoava and Scornicești, and 104 communes.

The urban population of Olt County was 186,637 in 2021.

Tourism is not very developed in this county, but there are a number of museums, historical buildings and points of attraction, from the ethnography museum and the Troiței Church (built in 1645) in Slatina, to the "La atletul albanez" confectionery - the oldest private firm in the country, which also operated during the communist period, or the Nicolae Ceaușescu housing complex in Scornicești, the birthplace of the communist dictator.

The county's economy, like that of the country as a whole, declined considerably after 1989, with the decline and disappearance of certain industries. A low level of metallurgical industry is maintained, especially aluminum. The textile, food and wine and agriculture industries are identified.

Olt County stands out for the leading position of ALRO Slatina. In the aluminum industry, the South West Oltenia Region holds an important share of companies in this sector at national level. In 2020, for the field of aluminum metallurgy at the national level, in the top 5 are 3 companies from Olt County: ALRO SA, VIMETCO EXTRUSION SRL, DELTA ALUMINIU SRL. At the level of the South West Oltenia Region, among the most important firms in the aluminum industry are: Alro Slatina, Delta Aluminiu, ROLMIS SRL, NBR-DELTA TUBE SRL, Vimetco Extrusion, but the most representative is Alro Romania.

Alro Slatina is the largest aluminum producing company in Central and Eastern Europe (excluding Russia) and the only producer of aluminum and base alloys in Romania, with an annual capacity of 96,000 tons of primary aluminum.

The distribution of the economic agents by locality shows that in the municipality of Slatina are concentrated the most - 7.982 economic agents, representing 28,58% of the total economic agents in Olt County, whose turnover is 69,86% of the turnover in Olt County. Slatina

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also has the highest number of employees - 64.49% of the total number of employees in Olt County (31,450 people).

1.1.4 Vâlcea County

Valcea county is in the south-west of the country, at 45°05'N 24°07'E. It has an area of 5.765 km^2.

The county is bordered by Alba and Sibiu Counties to the north, Argeș County to the east, Olt County to the south and south-east, Dolj County to the south-west, Gorj County to the west and Hunedoara County to the north-west.

Figura nr. 4 – Vâlcea County map

The relief consists of almost all relief forms: mountains, sub-Carpathian hills, plateaus, and plains with a plain aspect on the Olt and Lotrului gorges. The Oltului and Lotrului valleys are bordered by the Cozia, Căpățânii, Făgăraș, Lotru and Parâng mountains. Between the groups of mountains is the Tara Loviștei depression. Two thirds of the area is covered by the Podișul Getic, with altitudes of 400-800m.

The Olt River crosses the county for 135 km, receiving numerous tributaries, the most important of which is Lotrul. The hydrographic network also includes a series of lakes: Gâlcescu, Zănoaga Mare, Iezerul Latoriței - glacial lakes; Vidra, Brădet, Cornet, Călimănești, Dăești, Râureni, Govora, Slăvinești, Ionești, Zăvideni, Drăgășani - artificial lakes for hydroelectric power stations; and the salt lakes of Ocnele Mari.

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Flora and fauna are very rich. Coniferous and deciduous forests are home to numerous bears, black goats, deer and roe deer. The Alpine pastures have been used for sheep-farming since ancient times. The sub-Carpathian hills offer good conditions for fruit trees and vines. In the south, the plains provide conditions for cereal and technical crops.

The population of Valcea county was 341,861 in 2021.

The urban population of Valcea county was 188,665 in 2021.

Tourism is well represented in Valcea county. Excavations have revealed Dacian fortresses that are part of the defensive system of the Dacian kings: Ocnița, Grădiștea and Tetoiu. At Ocnele Mari, where the salt lakes attract a large number of people who benefit from the benefits of these waters. The monastery of Cozia and the wooden church are also frequently visited. The resorts of Olănești, Govora, Cozia and Călimănești offer year-round treatments and tourist attractions.

The county consists of 89 administrative units: 2 municipalities - Râmnicu Vâlcea - the county seat and Drăgășani - the municipality, 9 towns: Berbești, Brezoi, Băbeni, Băile Olănești, Bălcești, Călimănești, Horezu, Ocnele Mari, and 78 communes.

In Valcea County, the top active companies ranked by turnover are VELPITAR SA from Ramnicu Valcea, followed by BOROMIR SRL, AVICARVI SRL (Frâncești), NURVIL SRL, DIANA SRL, from Ramnicu Valcea. By profit, the top 5 include VEL PITAR SA, Oltchim SA, Diana SRL, ANNABELLA Fabrica de Conserve Râureni and TOPANEL PRODUCTION PANELS SA, all from Rm. Vâlcea.

The highest concentration of economic agents in Valcea County is in the municipality of Râmnicu-Vâlcea, with a number of 12,784 economic agents (44.57% of the total number of economic agents in Valcea County).

1.1.5 Gorj County

Gorj County is in the south-west of Romania, with the county seat in the municipality of Târgu Jiu. It is bounded to the south-east by Dolj county, to the south-west by Mehedinți county, to the north by Hunedoara County, to the north-west by Caras-Severin County and to the east by Valcea county.

Gorjul is bounded to the north by the parallel of 45°58' north latitude, which passes near the locality of Țânțăreni. The eastern boundary lies near the localities of Alimpești and Polovragi, which is crossed by the meridian of 23°39' east longitude. The western boundary is the Dobru peak in the Godeanu Mountains, situated on the meridian of 22°6' E longitude. The 45° parallel runs through the southern part of the county.

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The relief of Gorj County is varied, composed of three physico-geographical units. The Southern Carpathians are represented by the mountains Godeanu, Vâlcan and Parâng, the Getic Subcarpathians are located between the Motru and Olteț rivers, the southern hills stretch along the Getic Plateau. Altitude ranges from 2,518m in the Parângu Mare Massif to 100m in the Jiului Valley.

The climate is moderate temperate-continental with Mediterranean influences. Mean annual temperatures increase from north to south.

Flora and fauna are also varied. Flora includes over 2000 plant species of sub-Mediterranean, Pontic, Balkan types.

The hydrography is dominated by the course of the river Jiu, supplemented by the Gilort and their tributaries: Olteț and Cerna. In the mountains are the glacial lakes Gâlcescu, Tăuri, Slăveiul, Mija, Pasărea and Godeanu.

Figura nr. 5- Gorj County map

The population of Gorj County in 2021 was 314,684 (https://gorj.insse.ro/wp-content/uploads/2023/02/Gorj-CP-rezultate-proviz-RPL2021-1.pdf).

The urban population of Gorj County was 170,168 in 2021.

The number of unemployed in 2021 was 10,963 people.

From the economic point of view, Gorj County was in a less favorable position, most economic agents operate in agriculture, extractive industry, trade. Although Gorj is one of the counties

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rich in mineral resources, the extractive industry and energy production have declined significantly after 1990.

Tourism has great potential as the county benefits from a complex and attractive natural environment. The Constantin Brâncuși Cultural Ensemble in Targu Jiu is identified, which attracts a large number of visitors every year and a series of events are organized to promote this cultural heritage.

Figura nr. 6- The Infinity Column - Constantin Brâncuși

There are numerous mountain trails awaiting visitors, including three climbing areas: Cheile Sohodolului - Runcu, Cheile Galbenului - Baia de Fier, Cheile Oltețului - Polovraci, five speleological areas and a ski resort - Rânca.

In Gorj's religious architecture, the wooden churches bear witness to a civilization of wood with deep roots. Made of perishable material, through the care of small local communities, they have endured over the centuries and today we find buildings of this type over 300 years old - the wooden Church of the Holy Archangels, Ceauru, Bălești commune, built in 1672, the wooden Church of the Entrance into the Church at Slăvuța, Crușeț commune, built in 1684, plus a significant number of 18th century buildings.

The county of Gorj is made up of 70 territorial units, including 2 municipalities: Târgu Jiu - the county seat and Motru, 7 towns: Bumbești-Jiu, Novaci, Rovinari, Tismana, Turceni, Târgu Cărbunești and Țicleni and 61 municipalities.

Economic activity in Gorj county is concentrated in the city of Târgu-Jiu, followed by Motru, Rovinari, Novaci, Târgu Cărbunești. In 2020, the city of Târgu Jiu concentrates the economic activity of 10.343 economic agents, representing 42,39% of the total economic agents in Gorj County, with a total turnover of 5,5 Billion lei (1,3 billion euro) and a total number of employees of 29.438 employees (66,88% of the total number of employees in Gorj County).

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In Gorj county, the List of Companies in Romania 2020 ranks on the top 5 positions by turnover the following companies: Complexul Energetic Oltenia SA, Tobacco Logistic&Marketing SRL, Artego SA, YDAIL Construct SRL and YANIDA Com SRL. According to the number of employees, the ranking places on the top 5 positions Complexul Energetic Oltenia SA, TM GUARD SRL, MINPREST SERV SA, MOVEOS SRL, ARTEGO SA.

1.1.6 Mehedinți County

Mehedinți county is in south-western Romania, between the regions of Oltenia and Banat. The residence is in the municipality of Drobeta-Turnu-Severin. Its geographical position is determined by the coordinates 44°38'N 22°53'E.

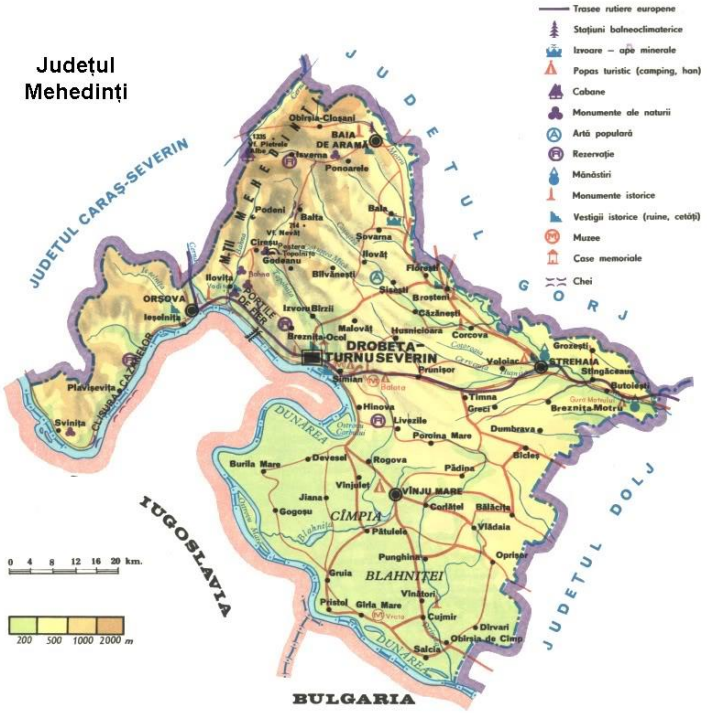

Figura nr. 7- Mehedinți County map

Mehedinți County is bordered by Caras-Severin County in the west, Gorj County in the north and northeast, Dolj County in the east and the Danube River in the south, forming the border with Serbia and Bulgaria on a length of 192 km.

The county covers an area of 49,328 km2, representing 2.1% of the country's surface area.

The relief of Mehedinți County consists of mountains, podis and plains, in the form of an amphitheater arranged in steps descending from north-north-west to south-south-east. The highest step is made up of the Mehedinți and Cernei Mountains in the north-west, the middle step comprises the Mehedinți Podis, the Motrului hills and the high plain of Bălăciței, and the

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lowest step, the Blahniței Plain, made up of the Danube terraces and the wide valleys of the Drincei and Blahniței.

The climate of Mehedinți County is temperate-continental with Mediterranean influences in the area of the Danube Gorges and Drobeta-Turnu-Severin municipality.

The hydrography of the county is represented by the Danube river and the rivers that flow into the river: Cerna, Bahna, Topolnița, Blahnița and Drincea. To the north extends the Motrului river basin with its tributaries Coșuștea and Husnița.

As a result of its geographical position, Mehedinți County has historically been a ford of trade, naval and road transit transportation, which has remained to this day. An important contribution is made by the Iron Gates Hydropower and Navigation System. The most important subsoil resources are: coal, asbestos, bentonite, limestone, slate, sand and sulphurous waters.

The county population in 2021 was 234,339 (https://mehedinti.insse.ro/wp-content/uploads/2024/02/pop1-RECENS-MH2022.pdf).

The urban population of Mehedinți county in 2021 was 138,309.

The number of unemployed in 2021 was 8358 people.

Tourism has development opportunities, due to the beauty and diversity of the natural relief, the proximity of the Danube and the presence of economic, cultural and archaeological sites in the county.

Figura nr. 8- The ruins of Traian's Bridge

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The Iron Gates are part of the border between Serbia and Romania. In the broad sense, they represent 134 km of the Danube's course, in the narrower sense, just the hydroelectric dam near the Romanian town of Orșova. To the east of the Iron Gates, near the town of Drobeta-Turnu Severin, lie the ruins of Trajan's Bridge.

Figura nr. 9- Porțile de Fier (Iron Gates)' Danube

Domogled - Valea Cernei National Park is a protected area of national interest, corresponding to IUCN category II (national park, special area of conservation), located in the south-western part of Romania, in the counties of Caras-Severin, Mehedinți and Gorj.

The Mehedinți Plateau Geopark is a protected area of national interest corresponding to IUCN category V (natural park), located in the south-western part of Romania, in the counties of Gorj (5 %) and Mehedinți (95 %).

Mehedinți County is divided into 66 administrative units: 2 municipalities - Drobeta-Turnu-Severin - the county seat and Orșova, 3 towns - Baia de Aramă, Strehaia and Vânju Mare, and 61 communes.

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1.2 Infrastructures context

Analyses carried out in recent years, with the support of the World Bank, indicate that there is a direct link between the performance of European Union (EU) regions and the performance of urban areas within those regions. The most dynamic regions in the EU have one or more metropolitan areas or urban agglomerations on their territory or are close to such an area in another region. Regions cannot be strong regions without strong urban areas.

The influence of cities on their surrounding areas depends on several factors such as: internal structure, educational structure, medical facilities, transportation network, urban infrastructure, diversification of occupations, economic opportunities offered to the population, development dynamics, etc.

The strongest area of influence belongs to the municipality of Craiova, whose influence extends to every county. In relation to this city, the largest area of influence belongs to Rm. Vâlcea with 32.6 km, and the smallest area of influence belongs to Slatina with 10.8 km.

Through the Integrated Development Plan, Craiova Growth Pole, Craiova municipality has assumed the mission of transforming the Craiova Metropolitan Area into an attractive and competitive area at European level, an important economic center in the machine-building and electro-technical industry, as well as in the development of a strong academic environment.

The Craiova Metropolitan Area is an efficient administrative instrument for the promotion of joint projects for the integrated development of the area and the mitigation of development discrepancies between localities, a facilitator for attracting investments and Structural Funds, a platform for collaboration between the component administrative-territorial units and a nucleus for the development of public services.

The Craiova Growth Pole considered an area composed of the municipality of Craiova, 2 cities (Filiași and Segarcea) and 30 communes (Almăj, Braloștița, Bratovoiești, Brădești, Breasta, Bucovăț, Calopăr, Cârcea, Coșoveni, Coțofenii din Dos, Coțofenii din Față, Ghercești, Ghindeni, Ișalnița, Leu, Malu Mare, Mischii, Pielești, Podari, Podari, Robănești, Șimnicu de Sus, Scăiești, Teasc, Teuglui, Pleșoi, Predești, Radovan, Rojiște, Trepezita, Vârvoru de Jos), with the corresponding localities included in their administrative territory, to which the town of Balș and the communes of Baldovinești, Vulpeni, Balș in Olt County may be annexed.

These administrative units fall within a radius of 30 km around Craiova, a distance considered optimal for the development of the peri-urban area.

The Craiova metropolitan area has a surface area of 1,498.62 km2, of which the area of Craiova municipality is 81.41 km2. With a metropolitan population of 356,544 inhabitants, Craiova gathers 53.9% of the entire population and 20% of the area of Dolj County.

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Craiova Metropolitan Area, with its growth pole, concentrates about 80% of the economy of Dolj County. According to the Urban Economy Study conducted by GEAStrategy&Consulting in 2014, although the largest share, in terms of number of active enterprises, was in the service sector (74%), followed by industry (18%), tourism (5%) and agriculture (3%), however, the highest turnover was achieved by the industrial sector (56%). In terms of number of employees, the distribution is relatively proportional to services, slightly ahead of industry (52% and 43% respectively).

The representative industrial sectors are: automotive, energy, food, textiles and clothing, mechanical machining, and heavy engineering, building materials, electric locomotives, power electronics and electrical equipment.

The tertiary (service) sector is the most dynamic and the largest in terms of number of employees, with the most important sub-sectors being: trade and repair, transportation and logistics, telecommunications, and IT.

The road connection of the metropolitan area with the county is currently ensured by the four European roads (DN 6 - E 70/E 79, DN 56 - E 79, DN 6 - E 70, DN 65 - E 574), two stretches of national roads (DN 55, DN 65 C) and 14 sections of county roads, the main road axis remaining DN 6 - E 70/E 79 and its branches DN 56 - E 79, DN 6 - E 70, DN 65 - E 574, which cross the area from west to east, south and south-east. The length of streets in Craiova is 378 km. Of these, we distinguish: European roads: 13.13 km; national roads: 6.5 km streets.

The railway connection is made through the Craiova railway junction, which provides east-west and north-south connections via the following railways:

- M 900 railroad (double, electrified): Timișoara - Drobeta-Turnu Severin - Craiova - Caracal - Roșiorii de Vede - Bucharest;

- Railway 902 (single, non-electrified): Craiova - Slatina - Pitesti - Bucharest;

- Railway No 912 (single, non-electrified): Craiova - Calafat (customs point);

- Railway 202 (electrified): Craiova - Filiași - Târgu Jiu - Bumbești Jiu - Petroșani - Simeria.

Air connections are via Craiova Airport.

Urban transport is realized by tramway and provides service to 3 routes, on a double tram line with a total length of 18.7 km, crossing the municipality from west to east, respectively between the Ișalnița Electro-Thermal Power Station and Ford. The urban public transport infrastructure consists of two types of transport networks: tram network, bus network.

The tramway network was put into use in 1987, crosses the municipality in an east-west direction and runs, for the most part, on the alignment of Calea București and Calea Severinului (category I streets with 6 lanes), located towards the center of the street. It

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provides passenger transport both within the municipality, linking the Craiovița district - center - Electroputere-Automobile SA industrial zone, and the Işalnița industrial zone. The tram line is 36 km single track. The bus transportation network is developing in both urban and peri-urban areas. It is much more ramified than the tram network and runs on the major street network of the municipality, on some stretches even parallel to the tram network. The bus transport network provides public transport, especially in the north-south direction and to the peripheral districts of the municipality. The total length of the bus network is 117 km, which is longer than the tram network and is reflected in the doubling of the number of passengers transported on the bus network.

The second development pole of the region is the municipality of Râmnicu Vâlcea, located in the north-eastern part of the South-West Oltenia region, at the foot of the Southern Carpathians, along the Olt River, one of the main water courses of Romania and close to a European traffic artery (E81), linking the Center and South-West Oltenia regions with the South Muntenia region and the capital Bucharest (through the connection with the municipality of Pitesti, which is the starting point for the A1 highway). Therefore, Râmnicu Vâlcea is a connecting city, influenced both by the regional capital Craiova, Sibiu - which was the European Capital of Culture, and the administrative capital of the country, Bucharest.

Within Vâlcea county, Râmnicu Vâlcea is the county's capital municipality and concentrates the command and control functions of the surrounding area, polarizing an important area, including the towns of Ocnele Mari, Govora and Băbeni.

Located in the center of an area of famous balneal-climatic resorts - Călimănești, Băile Olănești, Băile Govora - Râmnicu Vâlcea municipality can count on tourism development, associated with the parallel development of the light industry sector. From a regional point of view, the tourism sector has become a key sector for the region's development, and the greatest potential for tourism development is concentrated in the northern part of the Sud-Vest Oltenia development region, which corresponds to the counties of Vâlcea and Gorj. Thus, in the regional development structure, Râmnicu Vâlcea plays an essential role, the area of the Getic Subcarpathians, in which the municipality is located, being individualized as an ethnographic, cultural and diverse living area, very rich and with great potential for exploitation in the tourism sector. The Râmnicu Vâlcea metropolitan tourist area, set up by the association of 11 territorial administrative units located within a radius of up to 30 km from the municipality, is seen as a real and opportune possibility for integrated sustainable development of the entire area, as well as of each locality, by accessing non-reimbursable funds intended only for metropolitan, regional, etc. associative areas.

The county municipalities of Râmnicu Vâlcea, Târgu Jiu, Drobeta-Turnu-Severin, Slatina are important economic and administrative centers, with regional influence, well connected in the territory, connected to the national or European transport network; Râmnicu Vâlcea is the center of important tourist areas at national level.

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Craiova municipality is the only urban center around which a metropolitan area can be constituted, given its demographic size and large area of influence. The municipality of Râmnicu Vâlcea has the potential to develop peri-urban areas in the future.

The South - West Oltenia region benefits from cities that can be considered as "regional gateways", given the possibility of establishing direct national/international links through the existing transportation networks. This is the case of Craiova, which has an airport, and of the Danube port cities of Drobeta - Turnu Severin, Calafat and Corabia.

1.2.1 Road transport

The South-West Oltenia region has 10,246.7 km of main roads and 13,416 km of local roads.

As of December 31, 2017, Romania had 86,099 km of public roads, of which 17,654 km (20.5%) were national roads, 35,149 km (40.8%) county roads and 33,296 km (38.7%) municipal roads. On December 31, 2020, Romania had 86791 km of public roads, of which 17913 km (20.6%) were national roads, 35085 km (40.4%) were county roads and 33793 km (39.0%) were municipal roads. Most roads in Romania are two-lane.

The SV Oltenia region is crossed by five European roads:

- E70: (border with Serbia) Moravita - Timisoara - Craiova - Craiova - Caracal - Alexandria - Bucharest - Giurgiu-Pod Giurgiu (border with Bulgaria);

- E79:(border with Hungary) Bors- Oradea - Beius - Beius - Deva - Petrosani -Tg.Jiu-Filiasi-Craiova -Calafat (border with Bulgaria);

- E81: (border with Ukraine) Halmeu - Satu Mare - Cluj-Napoca - Cluj-Napoca - Sebes -Sibiu - Ramnicu Valcea - Pitesti - Bucharest;

- E574: Bacau - Onesti - Brasov - Pitesti - Craiova;

- E771: Drobeta Turnu Severin - Portile de Fier I - border with Serbia.

According to INS, in 2021, the region had 11351 km of public roads, of which 5466 km are modernized roads (48%). 2201 km of the total are national roads, 4693 km county roads and 4457 km municipal roads.

National roads in the region are 90% modernized (1998 km), county roads 41% modernized (1932 km) and municipal roads 34% modernized (1536 km).

No highways in the SV Oltenia region.

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Figura nr. 10– national roads in South-West Oltenia region

The main national roads that cross Oltenia and ensure the connection with the European networks are:

- DN 6 Craiova (intersection with DN 55) - Drobeta-Turnu-Severin – Caransebes – Lugoj - Timisoara (intersection with DN 59 and DN 69);

- DN 6A (intersection with DN 6) - Portile de Fier Dam I - border with Serbia;

- DN 55 Craiova (intersection with DN 6) - intersection with DN 56 – Bechet - border with Bulgaria;

- DN 56 Craiova (intersection with DN 55) - Calafat - border with Bulgaria;

- DN 64 that connects the municipality of Valcea with the municipality of Dragasani and is an access road in Olt county to the European road E 574 (intersecting at the Slatioara locality in Olt county);

- DN 65 Craiova (intersection with DN 6) - Slatina-Pitesti (intersection with DN 65B);

- DN 65C, a central road that divides Vâlcea county into approximately two equal halves and connects the cities of Horezu (junction with DN 67 and DJ 677) and Bălcești, with a direct exit to Craiova municipality - Dolj county, the distance to it being only 22 km;

- DN 66 Filiasi (intersection with DN 6) - Târgu Jiu-Petrosani-Simeria (intersection with DN 7);

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- DN 67 (Rm. Vâlcea – Horezu – Tg. Jiu), important access road that connects/intersects three European roads with high tourist traffic: E81 - at Rm. Vâlcea, E79 – at Târgu Jiu and E70 at Drobeta Tr. Severin;

- DN 67B, which connects the towns of Târgu Cărbunești in Gorj county and those in Vâlcea county, respectively: Grădiștea - Zătreni - Tetoiu - Gusoieni - Prundeni - Drăgășani municipality. (Around these important communication routes there is a vast network of county roads, with high density);

- DN 7A, which connects the localities of Brezoi (Vâlcea county) and Petroșani (Hunedoara county), respectively to the municipality of Deva (in the east, it intersects the European road E79), an important access road, as in the future it may constitute a factor of decongestion of the traffic going in the east on the European road E 79 and in the west on the European road E 81, these intersecting in the west near the town of Brezoi.

Of the total length of public roads in the South-West Oltenia Region, of 11,351 km, 3,350 km are lightly paved, 1,932 km are paved and 603 km are covered with earth.

In Sinteza Strategiei Master Planului General de Transport, pentru creșterea conectivității rutiere între polii de creștere economică ai României, sunt prevazute urmatoarele proiecte (pentru teritoriul regiunii Sud-Vest Oltenia):

Express road	Estimated value (billion eruo)	Length	Implementation time
Drobeta Tr.Severin -Lugoj	1345,6	142,0	2025-2032
Craiova - Drobeta Tr.Severin	615,16	104,0	2026-2032
Pitești – Craiova	968	121,0	2018-2023 (unfinished)

1.2.2 Train transport

The railway network in operation, in 2017 (according to INS), of 990 km, represents 9.2% of the national total network. The electrified lines have a length of 507 km, representing 51.2% of the length of the railways that cross the region (above the national average of 37.4%) and 12.6% of the total of the national electrified tracks. However, the density of railways in the region is the lowest in the country – 33.8 km/1000 km², being below the national average (45.2 km/1000 km²). The main railway junction is Craiova with connections to the localities in the region and in the country.

In 2020, at the level of the Southwest Oltenia region, the situation of the railway transport infrastructure was the same as in 2017 and in 2011. In the period 2011-2020, the railway network in the region did not register improvements.

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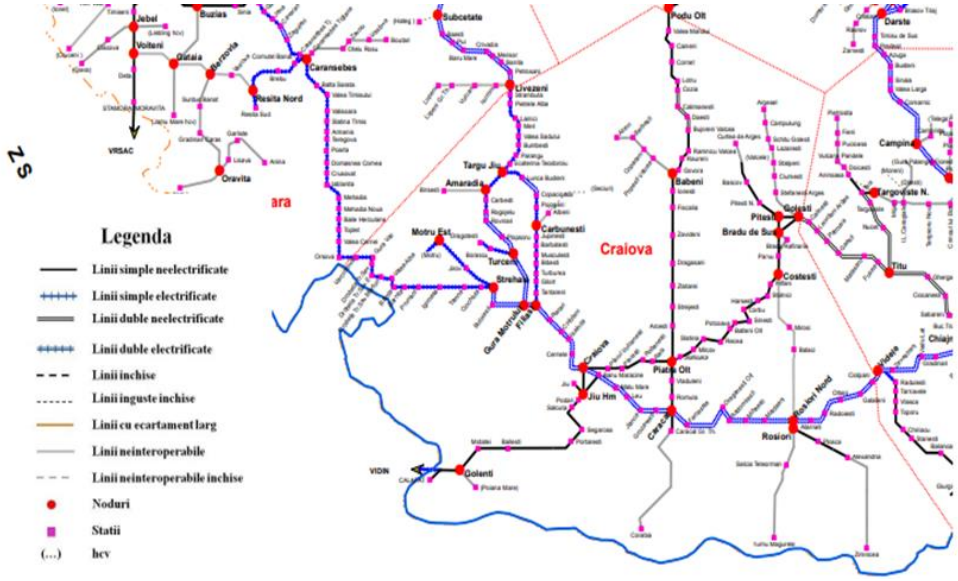

Figura nr. 11- SW Oltenia region train network

The main railway line that crosses the region is the line 900 Bucharest (north) – Rosiori (north) – Craiova – Filiasi – Caransebes – Lugoj – Timisoara (north) - Stamora Moravița, with a total length of 533 km and a gauge of 1435 mm.

Highway 900 crosses the region from east to west, through Dolj, Olt and Mehedinți counties, being the only double line in the region.

The second most important is the highway 200 Craiova - Simeria and crosses the region from south to north. These are the only electrified lines. Other important lines are Craiova – Calafat, Strehaia – Motru, Craiova - Piatra-Olt – Râmnicu Vâlcea. Piatra Olt is a railway node with direct connections to Râmnicu Vâlcea, Pitesti, Caracal and ensures the local connection between highways 900 and 200. However, all these are simple, non-electrified lines.

Despite the challenges faced by the railway system in recent years, it still has an important potential to contribute to the development of the region.

However, the plain area - along the Danube, from Drobeta Turnu Severin to Calafat and from Calafat to Corabia, as well as the hilly region between Târgu Cărbunești and Ocnele Mari, does not benefit from a railway network at all, and between the municipalities of Târgu Jiu and Motru, there is no direct connection. The development of the station in the municipality of Corabia is important to ensure the interconnectivity of naval-rail transports. The lack of connections and efficient intermodal facilities between the rail and inland waterway networks is an obstacle for the export of low-value-added products from the region (mining, agricultural products, etc.). EU policy clearly stipulates the objective of balancing the share of transport modes and promoting low-polluting and energy-efficient ones, placing these transport objectives at the heart of the overall sustainable development policy.

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Moreover, there is no direct railway connection from Râmnicu Vâlcea to Pitesti and Bucharest.

The city of Craiova is one of the most important railway junctions in Romania, being located at the intersection of the central TEN-F highway 900 Bucharest-Craiova-Timișoara, from here with connections to Serbia (Moravița) and Hungary (Curtici) with line 912 Craiova-Calafat - Vidin, also part of the central TEN-F network (former pan-European corridor IV) and with the secondary line Craiova-Pitesti. A second important railway center of the county is Filiași, located at the intersection of highway 900 with secondary lines 201 and 221 to Târgu Jiu-Petroșani-Simeria, which are part of the global TEN-F network. Among these lines, main line 900 and secondary line 221 are double electrified, line 202 is single electrified, and the rest of the lines are single non-electrified.

Mehedinti county is crossed from east to west by highway 900 Bucharest Nord - Roșiori - Craiova - Filiași - Drobeta Turnu Severin - Caransebeș - Lugoj - Timișoara - Stamora Moravița.

As far as Gorj County is concerned, despite the challenges faced by the railway system in recent years, a phenomenon specific to other counties in the region, it still has an important potential to contribute to the development of the county. This fact is due, in particular, to this very good connectivity in the former and current mining areas, the already existing infrastructure being able to serve potential investments (for example, in the case of the city of Turceni, where the investment made by Lafarge (gypsum factory) can be served both the railway infrastructure and the conveyor belts, so that the movement of goods and raw materials does not affect the road transport network).

In Vâlcea county, the railway network connects the development region Bucharest-Ilfov (Bucharest) and the development region Centru (Sibiu) on the route Bucharest - Piatra Olt - Râmnicu Vâlcea - Sibiu, and between the South-West region Oltenia (Craiova) and the Central region (Sibiu) on the route Craiova - Piatra Olt - Râmnicu Vâlcea - Sibiu. Inside the county, it connects Băbeni - Alunu.

The CF station in Craiova, the largest in the region, was modernized in 2010, the investment amounting to around 5 million Euros. The other railway stations in Dolj county are in an advanced state of decay and lack modern facilities, including intermodal facilities. The Slatina CF station and the Râmnicu Vâlcea CF station were modernized through POS-T, FEDR, the physical status in December 2015 being 100% for the Slatina station and 78.6% for the Râmnicu Vâlcea station.

Regarding the safety of railway traffic in the region, most of the stations are equipped with the system of electrodynamic centralization with relays (CED) of the tracks and signals. (The electrodynamic centralization installation (CED) is a set of electronic equipment, with which the traffic officer, by means of a synoptic desk or other means, commands and controls in safe conditions the execution of routes and the release of traffic or traffic light signals maneuver).

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In the Drobeta Turnu Severin, Craiova and Golenti stations, electronic centralization installations were put into operation (raising the traffic safety level to the maximum SIL4 level, according to EU norms). In the Corabia station, the signaling system is through "TM-keys with block" stations - installations for securing the locks with keys and mechanical block.

The difficulties in rail transport come from the very bad state of the infrastructure, constantly degraded or very outdated in relation to the new standards, in some cases even non-existent. The infrastructure situation is considered the main problem that causes the transport system to malfunction.

The railway network in Romania is structured in interoperable and non-interoperable infrastructure. The interoperable railway infrastructure is the one that can be connected to the trans-European railway infrastructure, being administered in accordance with the provisions on the free access of the railway operators and developed in accordance with the technical norms of interoperability adopted at the European level. The non-interoperable railway infrastructure is that related to local traffic, connected or not to the interoperable railway infrastructure, managed and developed on the basis of specific internal regulations. Depending on the technical characteristics of the lines and the maximum allowed speed, the traffic sections are classified into categories that have an influence on the way of charging.

In the Southwest Oltenia region, non-interoperable lines are as follows:

- In Dolj - Golenti county - Poiana Mare - simple non-electrified

- In the county of Valcea - Băbeni - Popești Vâlcea - Copăceni - Berbești - Alunu - simple non-electrified

- In Gorj county - Tg. Carbunești-Albeni – electrified simple

Amaradia – Bârsești – simple electrified

Albeni – Seciuri line – closed line.

-In the county of Olt - Caracal - Corabia - simple non-electrified.

An important characteristic of the railway transport infrastructure in the region is determined by the presence of the IV Railway Corridor, on the Sofia-Thessalonica, Sofia-Istanbul branch, which connects Arad, Timisoara, Craiova and Calafat. This section is part of the priority project TEN-T 22, Railway axis Athens - Sofia - Budapest - Vienna - Prague - Numberg/Dresden.

An important event for the development of the transport infrastructure was the completion, in 2013, of the works on the Vidin-Calafat bridge over the Danube and its opening to traffic. The bridge allows the movement of both cars and trains, and in addition to the two lanes of road traffic in each direction, it also has a railway line, thus contributing to ensuring a direct

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flow for passenger and freight traffic, to the increase railway transport capacity and reducing the time required to travel the Craiova - Golenti - Vidin distance.

1.2.3 Naval transport

The Danube is an international waterway that stretches from the Black Sea to Sulina in Romania, via Belgrade in Serbia, Croatia, Budapest in Hungary, Bratislava in Slovakia and Vienna in Austria, to its source in the Black Forest Mountains from Germany. Its total length is 2,845 km. It is navigable up to km 2,411, at Bamberg, where it connects to the Rhine, via the 171 km long Bamberg/Kelheim canal.

The Danube is part of the priority axis TEN-T-18: the river transport axis Rhine/Meosia-Main-Danube and provides Romania and other countries through which it passes new opportunities for the development of water transport.

The Danube River is divided into 3 sectors:

- Upper Danube - from the sources - km 2900 - to Gonyu - km 1791;
- Middle Danube - from Gonyu - km 1791 - to Drobeta Turnu Severin - km 931;
- Lower Danube - from Drobeta Turnu Severin - km 931 - to Sulina km 0.

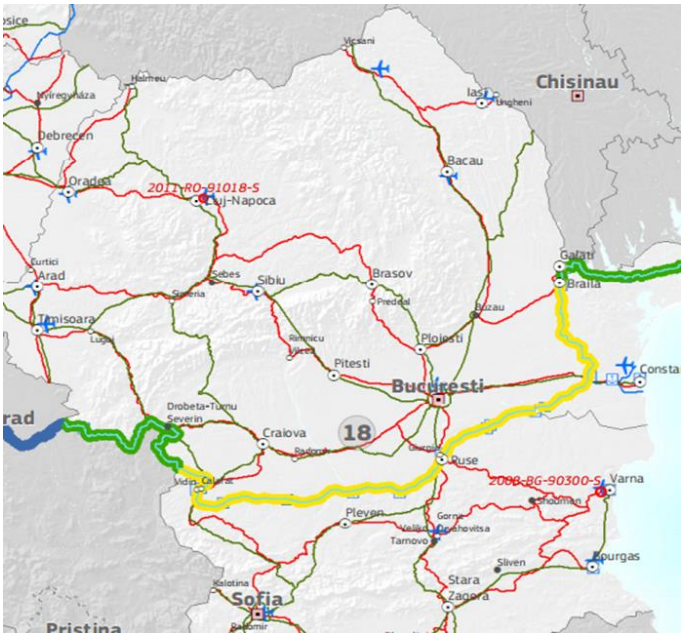

Figura nr. 12- waterways - Priority axis 18 (river)

In the lower Danube sector are the counties of Mehedinti, Dolj and Olt, which have the advantage of being located on the navigable course of the Danube, thus being connected to the national and European network of waterways. In Olt county, the port infrastructure is

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provided only in the city of Corabia, which has a developed port, in Mehedinți county, the port infrastructure is provided by the ports of Drobeta Turnu-Severin and Orșova, the rest of the ports belonging to the South-West Oltenia region providing the port infrastructure of Dolj county.

Romania has the largest share in the Danube basin, almost 30%, conditions in which traffic on waterways is almost exclusively carried out on the Danube, navigable from Baziaș (at the entrance to Romania) to Brăila for vessels with a draft of 2 m, and on the maritime Danube, between Brăila and Sulina, for ships with a draft of up to 7 m. The authority that administers the ports of the river Danube crossing Romania is APDF, the Danube River Ports Authority, based in Giurgiu. The company performs the function of port authority in all Danube river ports, from Baziaș to Cernavodă, with the exception of Zimnicea and Turnu Măgurele ports, which are under the administration of the Teleorman Local Council. APDF uses both the naval transport infrastructure, which was granted to it by the Minister of Transport, as well as the goods in its own patrimony. In the activity area of APDF Giurgiu there are 7 Romanian river ports, which are part of the European TEN-T transport network, respectively: Moldova Nouă, Drobeta Turnu Severin, Calafat, Giurgiu, Oltenita, Călăraşi and Cernavodă.

Along the 1,075 km of the Danube in Romania, the 20 cities located on the Romanian shore are also river ports, of which 5 belong to the Oltenia region: Orsova, Drobeta Turnu-Severin, Calafat, Bechet and Corabia. In addition to these, the Oltenia region also has the ports of the communes: Svinita, Dubova (where the port of Tisovița is also located), Gruia, Cetate and Rast.

The ports of Drobeta-Turnu-Severin and Orșova are the most important in the Oltenia region, having the highest level and volume of transported goods in the region. The port of Drobeta-Turnu-Severin ranks 4th in the country when it comes to the level and volume of transported goods, after the ports of Constanța, Galați and Tulcea. However, the ports of Calafat, Corabia and Bechet recorded the highest increases in the level and volume of cargo shipments in 2018 compared to 2010 in the S-W Oltenia Region. The Port of Corabia has a 1126 m mooring front on the Danube and 15 berths for mooring and operation. Following the restoration of the dike, the erosion of the left bank of the Danube stopped. The operation of this port is significantly reduced due to the poor condition of the river vessel berths, as well as the adjacent dock platforms along these berths.

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Figura nr. 13- ports on the Danube

The Danube currently functions as a natural barrier for road/rail transport. It has three bridges in the Romanian section and two dams at the Iron Gates I and II. Port authorities are responsible for the maintenance of port infrastructure and quays. CN APDF SA Giurgiu (public property of the Romanian state) is the port authority for all ports located in the SV Oltenia region. As part of the trans-European transport network, the Danube has potential for the development of tourism in the areas adjacent to the river and in the Delta and for the improvement of activities in river ports, being part of the development of combined transport.

In 2020, 38.54% less goods were transported through the ports of Oltenia than in 2010 (2717 thousand tons in 2010, 1670 thousand tons in 2020). In 2020, the international transport of goods (thousands of tons) through the ports of the Southwest Oltenia region represented 29.58% of the total goods transported through the ports of the region and 3.7% of the total goods transported internationally, at the level of all river ports from Romania.

The international transport of goods by waterways, in 2020, in Oltenia was carried out mainly through the ports of Drobeta Turnu Severin (63.97%) and Orșova (23.08%) and in smaller volumes through the ports of Calafat (5.06%)), Corabia (7.29%) and Bechet (0.063%).

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1.2.4 Air transport

In the South-West Oltenia region there is only one airport, located in Craiova, in Dolj County, which is managed by the Dolj County Council.

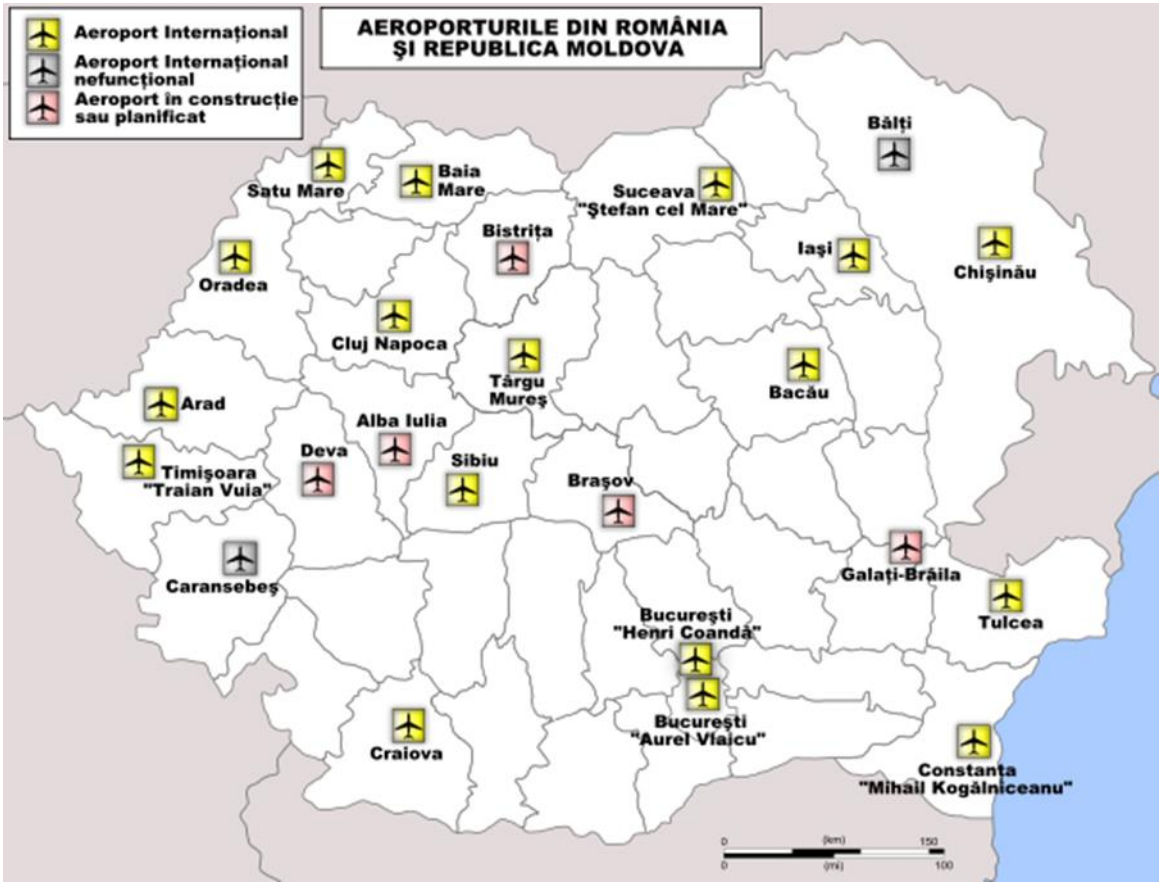

Figura nr. 14- airports in Romania

Craiova Airport is located seven kilometers from the center of Craiova, on the Craiova-Bucharest road (DN65, E574) and serves the entire area of Oltenia, being the closest air gateway for the 5 counties: Dolj, Gorj, Mehedinti, Olt and Vâlcea .

Craiova International Airport serves both passenger traffic and aircraft movements in the South-West area of Romania. It has modern infrastructure.

The runway has an area of 2500 x 45 m, the taxiway has an area of 380 x 25 m, and the embarkation/disembarkation platform has an area of 24,000 m², 8 parking spaces for type C aircraft, PCN 52 R/ D/W/T.

At Craiova Airport, the security system complies with ICAO rules, with 6 X-Ray devices (RAPISCAN) available, with the possibility of processing 600 passengers/hour, with 2 separate flows of passengers and luggage for departures and arrivals.

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Craiova International Airport has the competent infrastructure, the main concerns being related to the continuous increase in the quality of services provided, the conditions for the arrival, departure and ground handling of aircraft in national and/or international traffic, the provision of airport services for the transit of people, goods and mail, as well as services of national public interest, while protecting the natural resources of the environment.

In Craiova, in the southern part, 4.5 km from the city center, located at the exit from Craiova towards Podari, on DN 56, the Balta Verde airfield has existed for many years, a circular land with a radius of 5 km. The airfield is shared by the Balta Verde Craiova Sports Aeroclub, the gliding and parachuting sections, Aviasan and aeromodelists. The Balta Verde aerodrome is authorized and is included in the unique register of aerodromes/heliports, with authorization certificate A47, under the name Craiova-Sud (Soş. Craiova-Calafat km 4.5, Craiova, Dolj) LRCW (Source: AACR – Unique Register of Airports -airfields-heliports).

1.2.5 Alternative transport (pedestrians' facilities and bicycle infrastructure)

Dolj County

Municipality of CRAIOVA

According to the provisions of the Sustainable Urban Mobility Plan for the Craiova Growth Pole (PMUD Craiova), the metropolitan area of Craiova, the pedestrian modal share is 1% at the level of the metropolitan area and 6% at the level of the municipality of Craiova.

Pedestrian facilities

PMUD Craiova mentions that one of the objectives of the urban regeneration of the historic centers is to encourage gentle modes of transport, but especially walking. Thus, also in Craiova, through the CIVITAS Modern project, the central area was included in an urban regeneration program that included the pedestrianization of this area.

In general, the main arteries and streets in the central area of the Craiova municipality, as well as the major arteries rehabilitated in recent years, benefit from sidewalks in relatively good condition and which offer a relatively sufficient space for pedestrian circulation.

On the entire network of the municipality of Craiova, most of the pedestrian crossings are not pre-marked. This leads to serious damage to traffic safety, especially on arteries with at least two lanes per direction. Also, pedestrian crossing signs are placed only on the right side even on streets with 2-3 lanes in each direction. In these cases, it is recommended to double

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the pedestrian crossing indicators by placing them including in the median area, where there are lane dividers, pedestrian refuges (both for crossings and for public transport stations).

Pedestrian crossings near educational institutions (nurseries, kindergartens, schools, high schools, universities) are treated insufficiently. In most cases, there are no elementary signs like "Attention children!". For these locations, pedestrian crossings must be provided with "reinforced" signaling. The following can be adopted: pre-signaling, non-slip red carpets (on deceleration sectors), pedestrian parapets (for channeling pedestrian traffic towards the pedestrian crossing markings).

In Romania, and implicitly on the territory of the Craiova Growth Pole, in rural towns, but sometimes even in cities, uneven sidewalks are not provided at the edge of the carriageway of the roads, whether we are talking about national or local roads (DJ, DC). In the situation where they exist, the sidewalks are not arranged along the entire length of the road. Sometimes they are partially found in the vicinity of the built fronts and allow the movement of pedestrians without exposing themselves to the risk of moving on the road side. The same situation can be found on some streets of the municipality of Craiova.

In the rural area, county and municipal roads are used jointly for car traffic, for pedestrian and bicycle traffic, but also for the traffic of agricultural or animal-drawn vehicles. The use of the shared carriageway generates major risks for traffic safety.

Bicycle infrastructure

According to what is mentioned in the PMUD Craiova, at the level of the municipality there are two marked pedestrian routes, on Caracal Street and Calea București, and only one dedicated bicycle infrastructure, on Strada Râului. At the same time, the existing rakes are located in the central area and in the vicinity of the Nicolae Romanescu park, there are no such facilities on the tracks.

Figura nr. 15- bicycle way Calea Bucuresti

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The velo infrastructure at the pedestrian level of Căia Bucureşti is non-compliant and presents incompatibilities and conflicts between pedestrian and velo flows, with public transport stations along the route. In some cases, the velo track occupies most of the pedestrian area. The existing bicycle infrastructure on Caracal street is represented by a marking at the pedestrian level and shows discontinuities at the intersections. At the same time, in the area of public transport stations, the track has missing sections, so travel is difficult, there are conflicts between pedestrians and cyclists.

Figura nr. 16- bicycle way Caracal street Craiova

The only infrastructure dedicated to cycling in the city is on Strada Râului, the cycle route being protected from road traffic by a 1.00m wide green alignment. The length of the track is 3.8 km.

Figura nr. 17- bicycle way Raului street

The infrastructure is safe and can represent an efficient and convenient transport alternative. On the other hand, along the route there is no tall vegetation that would shade the route and

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make travel much more comfortable, especially in summer.

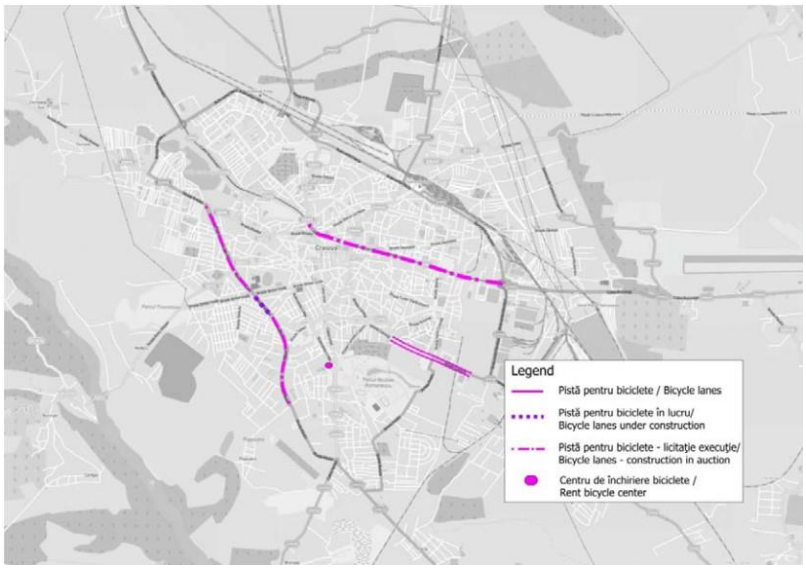

Figura nr. 18- the map of cycling paths in Craiova

Micromobility services are being developed and expanded at the level of the municipality of Craiova, which has ride-sharing and bike-sharing services.

For ride-sharing services, ETWOW services are available on the territory of the municipality of Craiova, being accessible from the showroom on Calea București. Rates for ridesharing services start at 45 lei per day.

The municipality does not implement a bike-sharing bicycle rental system.

Also, a series of inadequate layouts of the existing runways on Caracal Street were found:

- in public transport stations (directed towards the alveoli intended for stopping public transport vehicles);

- the lack of continuity of the track routes on Caracal Street and those planned or under construction on Calea Bucureşti and Râului Street, respectively;

- inadequate layout (inadequate alignments and connections) of the track in the area of intersections, crossings and public transport stations; not bringing the runways to the level of the roadway (especially at crossings);

- in most cases there is no appropriate treatment regarding the crossings of side streets, alleys, road accesses. The crossing is not marked and/or the route of the runway is not aligned with the alignment of the pedestrian crossing. On the other hand, according to current legislation, in such situations the cyclist is obliged to cross the pedestrian crossing on foot, not on a bicycle;

- poor landscaping, often without safe spaces in front of curbs, fences, vegetation, urban furniture, poles and trees, etc.;

- the horizontal signaling is deficient, and the vertical one is missing;

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- lack of orientation indicators for cyclists;

- lack of physical anti-parking devices to protect the space dedicated to pedestrians and cyclists;

- lack of bicycle facilities - parking lots - in areas of interest such as train stations, shopping centers, stadiums, parks, etc.

The operational objectives of PMUD Craiova oscillate between objectives and measures:

• Reduction of greenhouse gas emissions;

• Reduction of toxic emissions;

• Reducing the impact of noise on the population;

• Reduction of energy consumption;

• Reducing the journey of private cars;

• Increasing the use of non-motorized transport and public transport;

• Consolidation of short-distance mobility;

• Consolidation of electro-mobility.

The last four objectives can also be seen as measures, since the preliminary impact is not directly related to the environment, but to the change in the mode of transport.

Traffic and transport infrastructure are by their very nature disturbing factors for the quality of the urban environment. There are three main impact areas:

• Blocking with cars the public space for pedestrian circulation and for social activities;

• The impact on life, in general and on social activities, through noise, gas emissions and affecting safety (eg for children);

• Barrier effect of road traffic (affecting crossing opportunities, especially on sectors with high speed and/or high volumes of traffic).
The operational objectives are:

• Expansion of public space without being used for parking and/or motorized transport;

• Reducing the impact of traffic on residential areas or areas with social functions, by reducing traffic volumes/noise levels of adjacent roads;

• Reducing barrier effects, by reducing traffic volumes and speed levels on local roads, especially in residential areas.

Scenario 3 of the PMUD Craiova proposes a new mobility management, oriented towards strong public transport and strict policies for sustainable transport. To put this scenario into action, measures related to the development of public transport, the abolition of many

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parking spaces on the streets, more restrictive parking policies, the reduction of vehicle speeds, a traffic management that includes all areas, development of the bicycle network.

At the level of Dolj county (https://www.mdlpa.ro/userfiles/pnrr_componenta11/anexa2.pdf) 995 km of cycling routes have been identified:

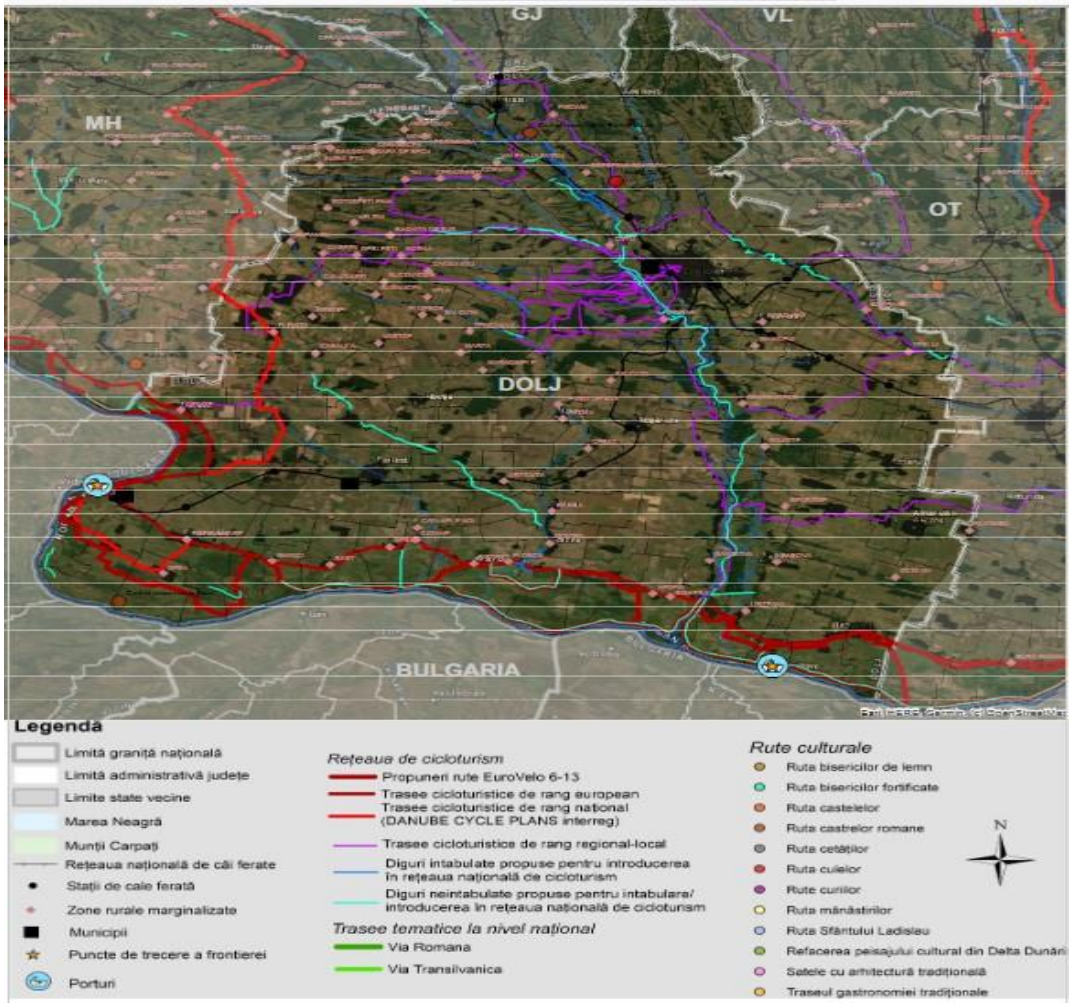

Figura nr. 19- the map with cycling pathways in Dolj County

Dolj county benefits from a series of routes for bicycle use, most of them without specific infrastructure, but using the road.

The Craiova-Braniște-Podari-Pădurea Ciumați-Pădurea Măturici-Pădurea Bucovăț is 48 km long, starting from the center of Craiova, passing through Tineretului Park, passing by the Coșuna Monastery, towards Bucovăț. Cross the river Jiu, on the European road E79, towards

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Podari. Follow the paved road to the Ciumați Forest, field paths and forest roads until the DJ 552 exit.

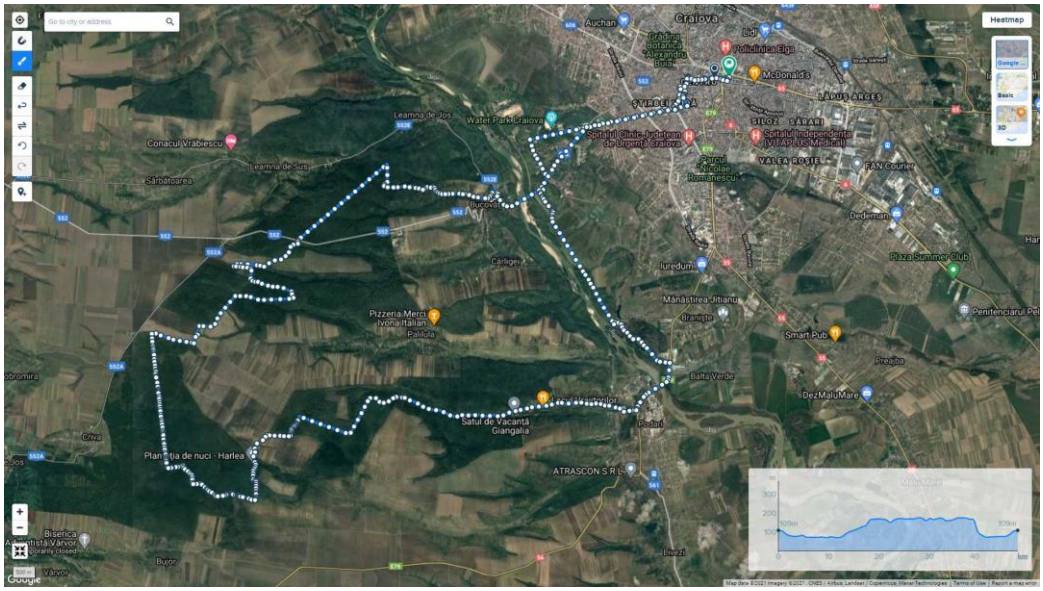

Figura nr. 20- the map with Craiova-Pădurea Bucovăț route

The Craiova-Bucovaț-Palilula-Podari-Bucovaț route is 30 km long, crosses Tineretului Park, follows DJ552, then DJ552E, towards Leamna de Jos. The Bucovăț forest is crossed on a forest road, returning to DJ552 towards the Cetate. The Măturici Forest goes through the forest road, then follows the communal road of the Palilula commune. The Ulm Valley is bordered by forests, you reach the Jiu river, the route goes along the river bank, until the town of Bucovăț.

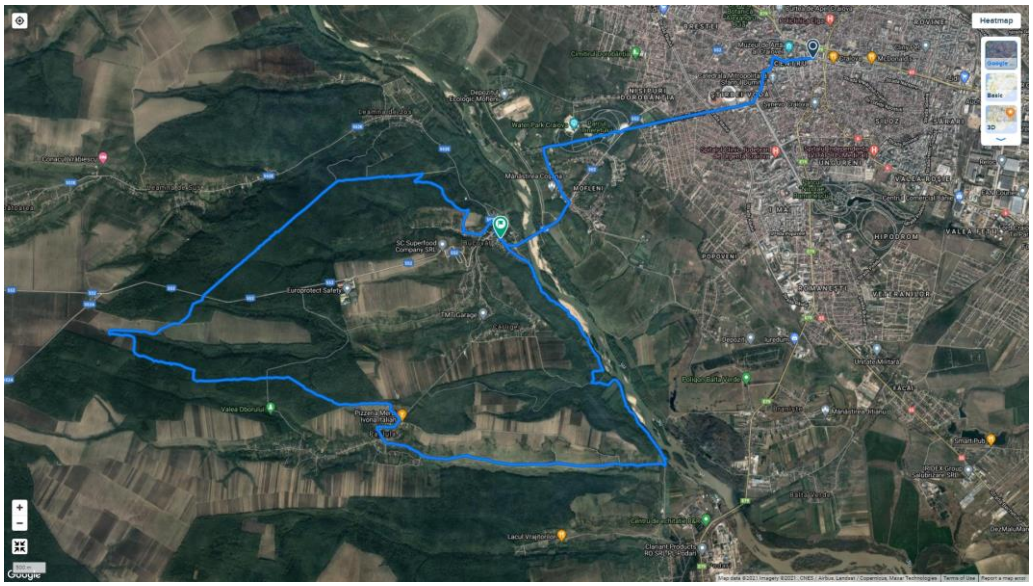

Figura nr. 21- Craiova-Bucovăț-Palilula-Podari-Bucovăț route

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Dolj County is traversed by shorter sections of national routes, including:

The Craiova-Fetești route, with a total length of 436 km, on the road, of which approximately 80 km are within the radius of Dolj county, from Craiova to beyond Dăbuleni, at the crossing into Olt county.

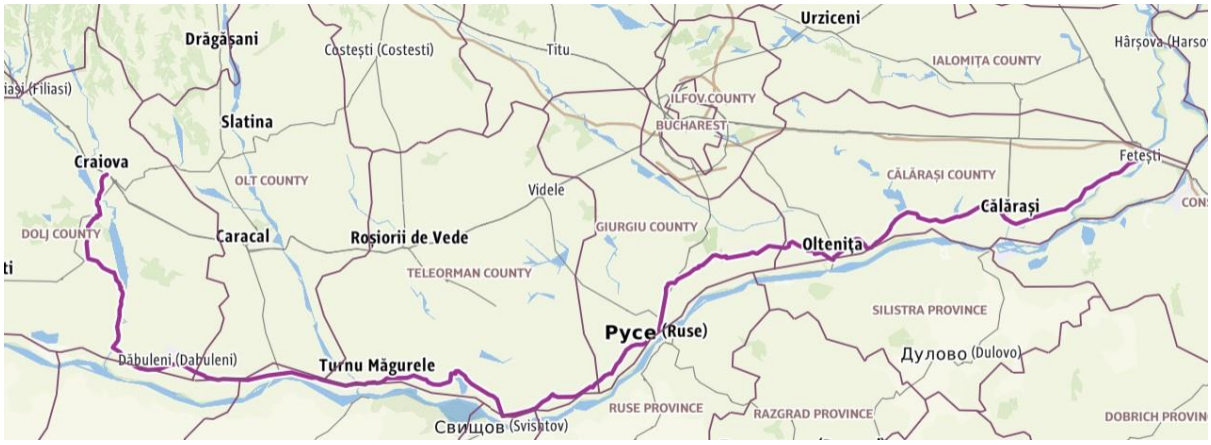

Figura nr. 22- Craiova-Fetesti route

The Calafat-Fetești road route, with a length of 482 km, on the banks of the Danube, from west to east, starts in Calafat, runs approximately 120 km on the territory of Dolj county and passes to Olt county, to Fetesti.

Figura nr. 23- Calafat-Fetesti route

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Gorj County

TÂRGU-JIU MUNICIPALITY

Pedestrian facilities

The sustainable urban mobility plan of the municipality of Târgu-Jiu for the period 2021-2027 mentions that the road transport network of the municipality of Târgu-Jiu is provided with sidewalks for the movement of pedestrians. There are also pedestrianized leisure areas in parks, squares and the central area.

Bicycle facilities

Currently, the municipality of Târgu-Jiu does not have the separate infrastructure for the use of bicycles, the street tram being used jointly with motor vehicles. The questionnaires applied online for the realization of the PMUD revealed a preference of 81% of the respondents regarding the use of a bicycle or public transport for daily trips, in favor of the use of a personal vehicle, the small size of the city being an important factor for this option.

However, there are many people who cycle through the city using the carriageway along with vehicles. Thus, from Târgu Jiu start a series of routes that aim at the surroundings:

The asphalt route Târgu Jiu – Arseni – Lăzărești, 56 km long, follows Nicolae Titulescu street, with several options for traveling through the city, either on Unirii str., Petrești str., Mărășești str. or Tudor Vladimirescu blvd. Ecaterina Teodoroiu, passing by the Museum of Popular Architecture in Gorj, following Bumbești str. and DJ665 Lăzărești.

JSB Romania proposes a cycling route through the city of Târgu Jiu, starting from Piața Prefecturii, Traian str., blvd. Ecaterina Teodoroiu, Lotrului str., Hidrocentralei str., Bicaz str., blvd. Brâncuși, 14 October str., Luncilor str., Termocentralei str., Victoriei str., 9 Mai str., Ana

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Ipatescu str., Unirii str., Tudor Vladimirescu str., Ioan C. Popilian str., Traian str., Griviței, Traian str., Gral str. Ghe. Magheru, Tudor Vladimirescu str., up to Piața Prefecturii.

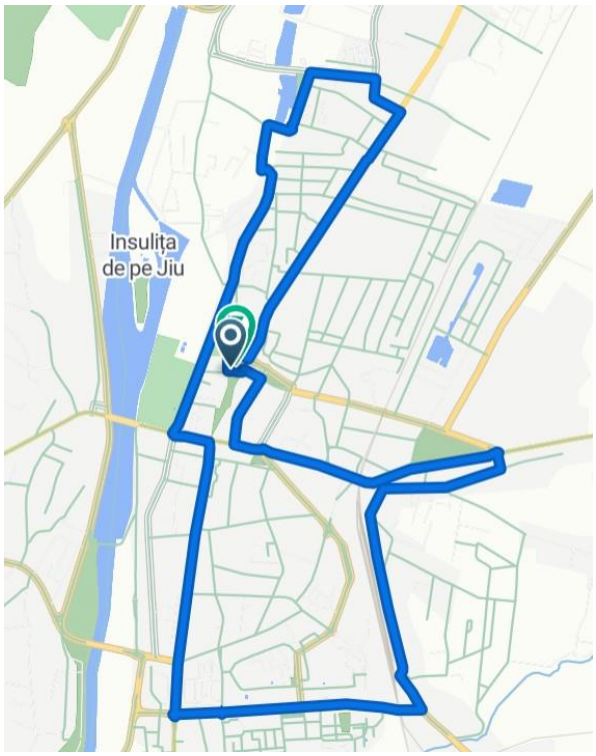

Figura nr. 24- JSB Târgu Jiu route

The TRIX Bike Târgul Jiu – Blahnita de Sus route is 39 km long on the road, using local roads, through several municipalities and villages.

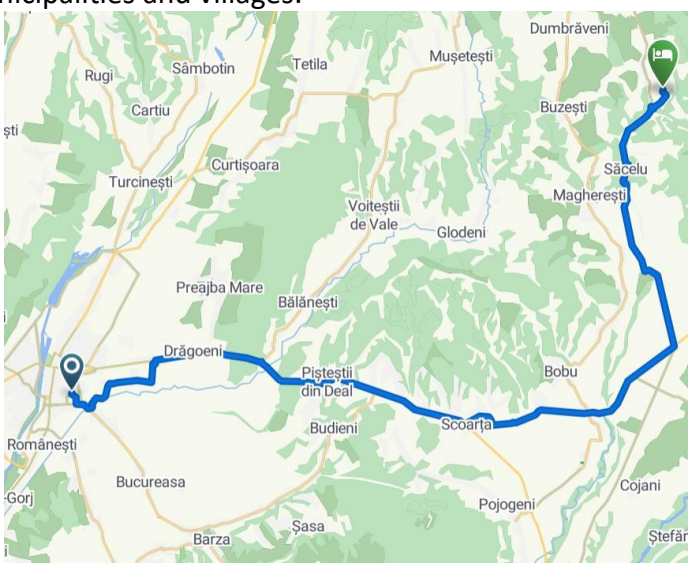

Figura nr. 25- TRIX Bike Tg. Jiu-Blahnița de Sus route

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At the level of **Gorj** county (https://www.mdlpa.ro/userfiles/pnrr_componenta11/anexa2.pdf) 224 km of cycling routes have been identified**:**

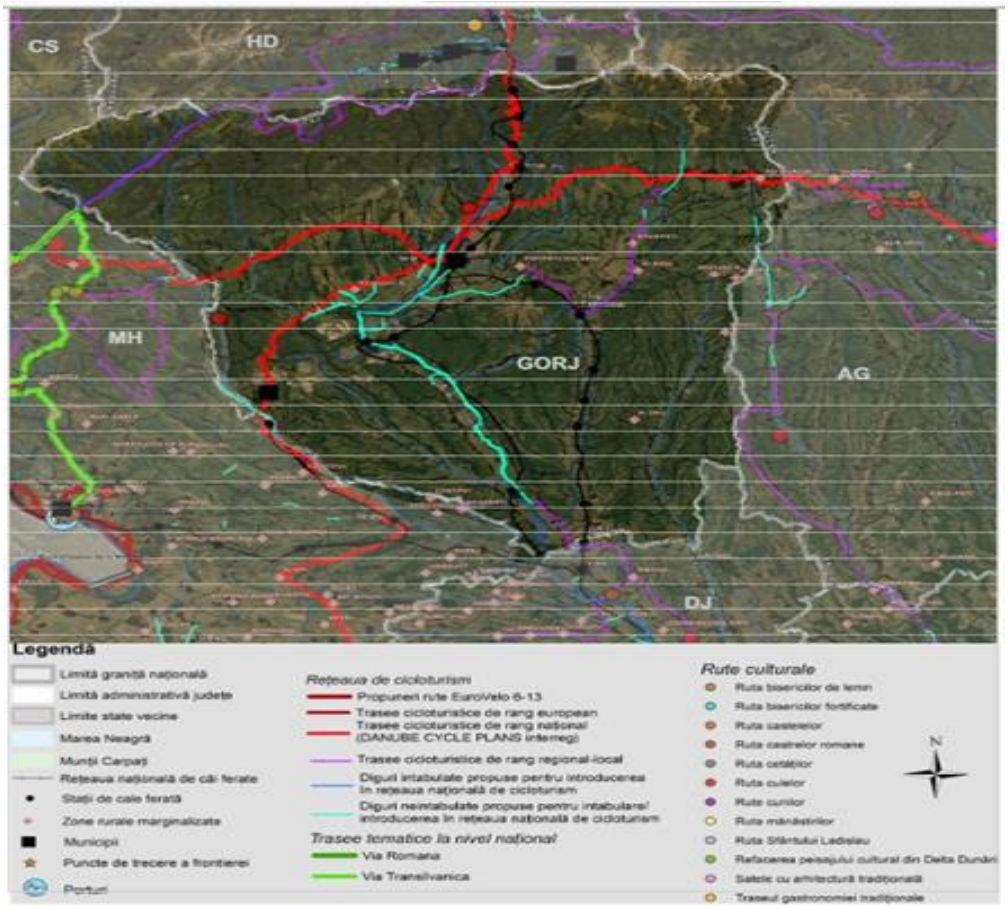

Figura nr. 26- the map with cycling pathways in Gorj County

The northern part of Gorj county is dominated by the Parângului mountains, the Vîlcanului mountains and the Godeanu mountains, crossed by transverse valleys, which allow communication lines, some of which are also used for cycling, especially on mountain trails.

The Straja route is 47 km long. From Uricani it goes through a long valley to the ridge of Mount Vulcan, over the Straja peak (1868 m), to the Transvâlcan road, then the MTB Flow route from Pasul Vulcan-Gondola SVC is reached. After the flow route from the valley station of the cable

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car, turn towards Uricani on paved roads through Vulcan. The route runs on a combined terrain, mostly macadam, forest road and path.

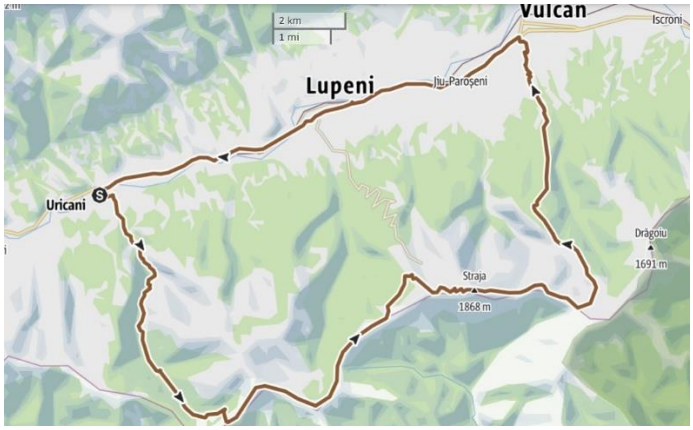

Figura nr. 27- Straja route

The **Balomir-Straja route**, with a length of 30 km, runs mostly on forest roads and paths (21 km) and asphalt (9 km).

Figura nr. 28- Balomir-Straja route

The Transalpina-Căpățânii route is approximately 64 km long and starts from the base of the gondola of the Voineasa-Transalpina ski area, mostly using asphalt roads, but also forest roads.

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Figura nr. 29- Transalpina-Munții Căpățânii route

The Arcanu Bistrițu Vaja mountain trail is a 130 km long mountain trail that starts in Lupeni, follows the DN66A for 32 km and 92 km on forest roads.

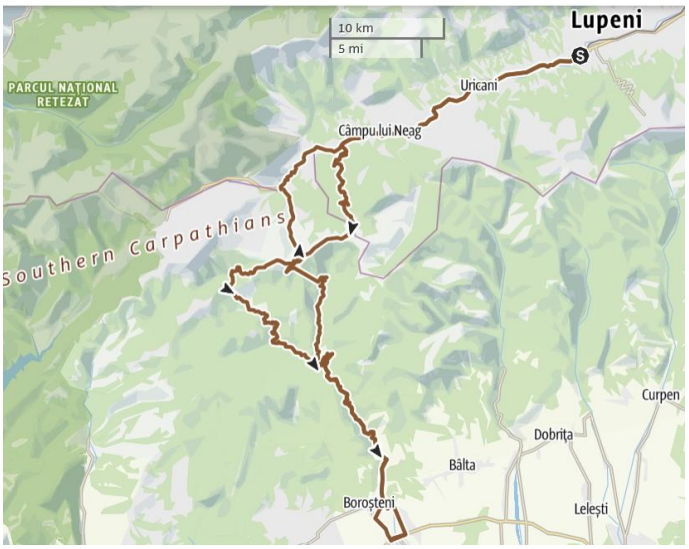

Figura nr. 30- Arcanu Bistrițu Vaja route

The Straja peak mountain trail is a very short trail, 1.3 km long, on the ridge, under the Straja Vf. chairlift.

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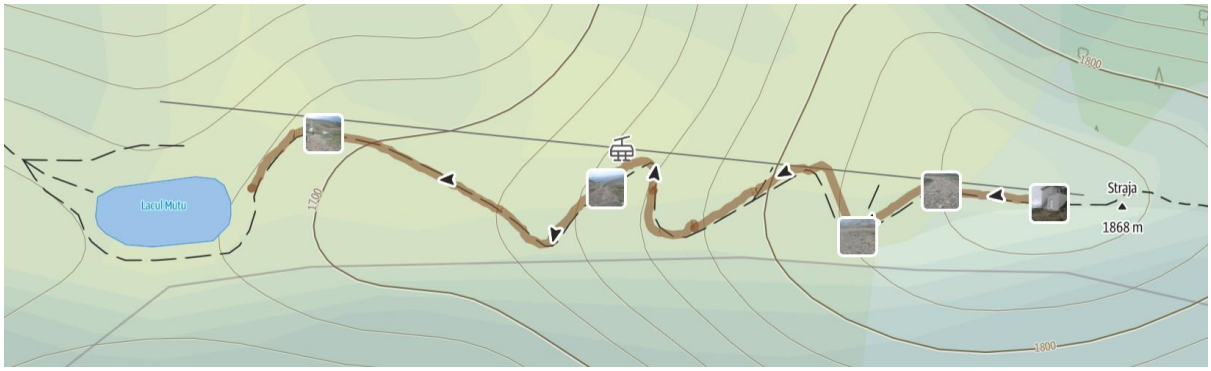

Figura nr. 31- Straja peak route

Transalpina MTB is a 24 km mountain route starting from the Straja chairlift, on paths parallel to DN 67C, to the relay on Cerbu Mountain, bypassing Cerbu Mountain and returning to the starting point of the Straja Mountain chairlift.

Figura nr. 32- Transalpina MTB route

The **mountain route Bumbești Jiu-Pleșa-Schela-Arsuri-Sâbotin-Bumbești Jiu**, of approximately 55 km, starts from Bumbești Jiu, towards Vf. Straja, towards the Roman/Transvâlcan road and returns on this road to DJ664, through Schela, Arsuri, Sâmbotin, Bumbești Jiu.

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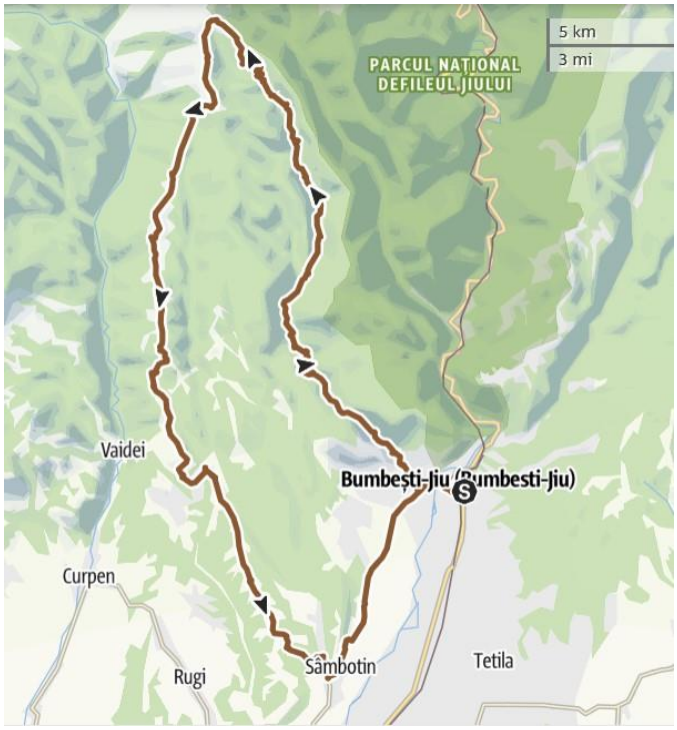

Figura nr. 33- Bumbesti Jiu-Sâmbotin-Bumbesti Jiu mountain bike route

The Lupeni-Izbucul Cernei mountain route is approximately 100 km long, starting from Lupeni, on DN 66A, through Câmpu lui Neag, to Izbucul Cernei, on a forest road.

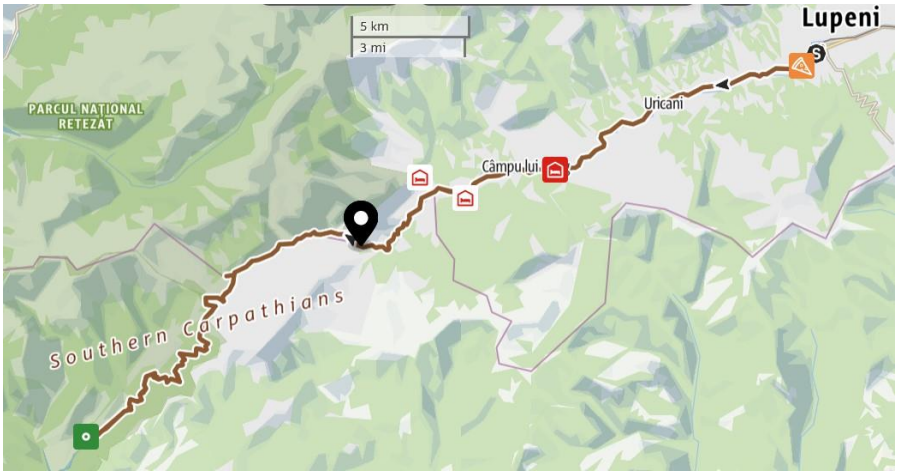

Figura nr. 34 - Lupeni-Izbucul Cernei route

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Mehedinti County

DROBETA-TURNU-SEVERIN MUNICIPALITY

Pedestrian facilities

At the level of the municipality of Drobeta Turnu Severin, according to the answers recorded during the interviews regarding the mobility of the population for the realization of the PMUD, almost 32% of the respondents declared that they move frequently on foot.

Pedestrian travel is the second travel alternative after traveling with one's own car, according to the research done to determine transport preferences.

The major, preferential pedestrian routes Crisan Street, Revoluţiei Blvd., Splai Mihai Viteazu, Şincai St., Independţie St., Tudor Vladimirescu Blvd. in the Eastern area, are much more frequent and denser than those in the old city center.

Bicycle facilities

The way of urban conformation of Drobeta Turnu Severin municipality makes the area that concentrates the majority of the population next to the objectives of daily interest to have a favorable dimension for pedestrian and bicycle trips. With a length of 4 km (without the industrial area) on the north-south axis and a maximum width of 10 km on the east-west axis (without Dudașu Schelei and Gura Văii) it falls into the category of cities favorable for non-motorized travel. This aspect is given by the fact that the size allows crossing the city from north to south in less than 50 minutes on foot or 15 minutes by bike. The major difficulty regarding non-motorized travel is given by the lack or under-dimensioning of the necessary infrastructure as well as the presence of natural and anthropogenic obstacles, such as the Crihala river to the northeast, respectively the railway route to the south, in the area of the Danube embankment.

According to the Sustainable Urban Mobility Plan of the municipality of Drobeta-Turnu-Severin, the bicycle modal share is 14%.

Also, PMUD, on page 109, mentions that Drobeta Turnu Severin is the only important city in Romania through which two corridors of the European cycle track network pass, namely EuroVelo 6 Atlantic – Black Sea (Nantes – Constanţa 4,448 km) and Ruta 13 Cortina of Iron (Barents - Black Sea 10,400 km). The Romanian sector within EuroVelo 6 has a total length of 1075 km and stretches along the Danube between Baziaş and the Black Sea. In Romania, the itinerary consists of 5 sections: Jimbolia - Deta; Deta - Bela Crkva; Bela Crkva - New Moldova; New Moldova - Dubova and Dubova - Kladovo. The entire itinerary is mostly on paved and flat bike paths, where shade and rest areas can be found. The cycle paths follow four national

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roads (225 km), a European road (33 km) and a county road (22 km). All categories can use the route given the relatively low risk to health and safety.

Through the implementation of a project with European funds, through the 2014-2020 ROP, the Drobeta-Turnu-Severin municipality created 9,599 km of routes suitable for bicycle use and an automatic bicycle rental system. The value of the project was 7.9 million lei. The bicycle paths run along several streets of the city: Carol I, Theodor Costescu, Traian, Anghel Saligny, Mihai Viteazul, Prelungirea Orly, Crișan, Gheorghe Anghel.

In Mehedinți county (https://www.mdlpa.ro/userfiles/pnrr_componenta11/anexa2.pdf) 165 km of cycling routes have been identified:

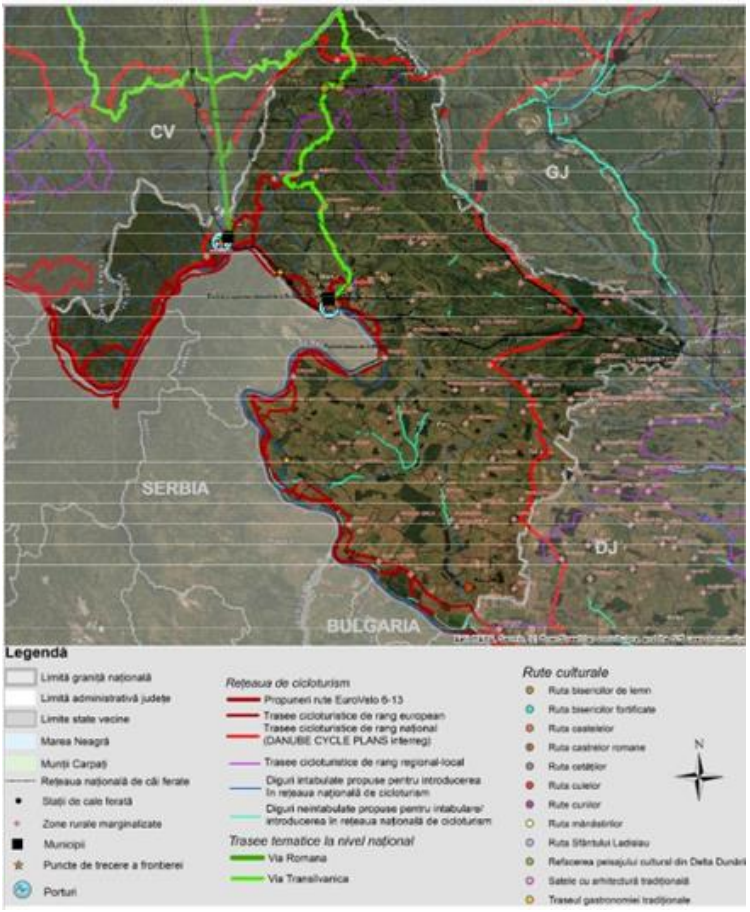

Figura nr. 35- the map of cycling in Mehedinți County

In **Mehedinți County**, there are a number of routes that can be traveled by bicycle:

Orșova-Dubova-Svinita route, over 48 km. It starts from Orșova, on the DN6/E70 national road, crossing the bridge over Cerna Bay. The exit from Orșova is a climb of several kilometers on Dealul Moșului, followed by a descent towards Eșelnița, continuing on the banks of the Danube, with its spectacular gorge.

Cycling is carried out on the road, on its asphalted surface, in common with motor vehicles.

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During this route you can visit the Tabula Traiana, by boat, the monument erected by Trajan to mark the march of the Roman troops in Dacia; the face of Decebalus, which is the tallest rock sculpture in Europe; the Mraconia monastery, first attested in 1453; Mraconiei bay and Dubova bay; the Veterani cave – the sanctuary of Zamolxis; Ponicova cave, accessible only by boat, from the Danube.

The route that can be crossed by bicycle is the starting point for numerous hiking trips.

The route Drobeta-Turnu-Severin – Gura Văii – Orșova, of 43 km, starts from Drobeta Turnu Severin, and the direction is towards Gura Văii. After about 14 km you can see the Portile de Fier I dam, with the Hydropower Museum. Along the way are the Cracul Crucii and Cracul Găișoara nature reserves, as well as the Gura Văii-Vârciorova Natural Park.

The route runs on the paved road, together with the vehicles.

The Băile Herculane – Ponoarele route is 76 km long, uses the road, together with vehicles. It starts from Baile Herculane, towards Ponoarele – Baia de Aramă. You can visit Grota Haiducilor, a cave with three openings, lit naturally through a cleft in the mountain; Adam's cave, heated by hot steams from the depths; Vânturatorea Waterfall, which offers an impressive natural spectacle; The 1.5 km long Izverna cave, traversed by an underground river. At Ponoarele, the God's Bridge impresses - a natural bridge; Ponoarele Cave, Lilac Forest, Zâtonul Mare/Mic Lake and Câmpul cu Pieezuri.

The mountainous area benefits from a series of mountain bike trails, thus:
The Terra Romana trail, part of the Via Transilvanica trail, is a 69.4 km mountain bike trail, of which 7.7 km are paved roads, 11.1 km macadam, 18.4 km forest roads , 3.6 km of path and 28.6 km of roads with different surfaces, like this:

Figura nr. 36- Via Transilvanica route

The Creasta Mehedințiului mountain route from Cireșu, with a distance of 50.6 km, on a paved or forest road, with an altitude difference of 1165m, marked with the blue dot.

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Figura nr. 37- mountain bike Cireșu route

The mountain route Dubova-Eibenthal -Dubova starts from Valea Satului, on forest roads, over a distance of 49.4 km, in a circuit that passes through the picturesque mining village of Eibenthal and ends in Dubova.

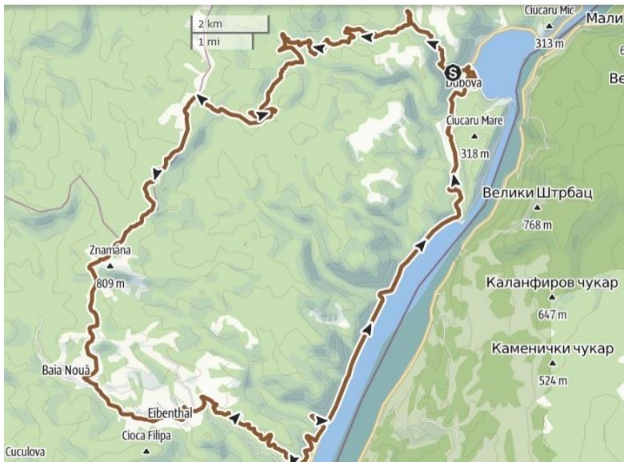

Figura nr. 38- traseul montan Dubova-Eibenthal

The mountain route Orșova-Laz-Eșelnița-Dealul Moșului-Gratca-Orșova, with a length of 23.2 km, on forest, macadam, cobbled and asphalt roads, in open fields or through the forest, from Orșova to Eșelnița, through the valley Crivinei, up to the national road.

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Figura nr. 39- Orsova – Eșelnița mountain route

The Ineleț mountain route is a route with a length of 17.6 km, it runs, for the most part, on paths, partly on the national road 57.

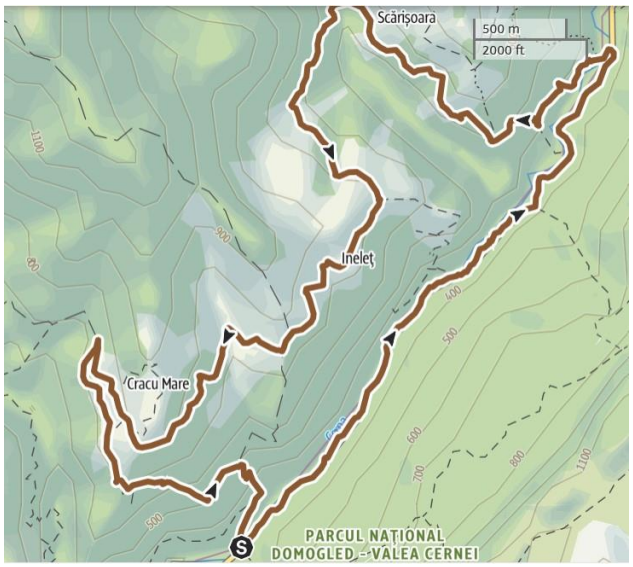

Figura nr. 40- mountain route towards the village Ineleț

The mountain route to the Isverna cave is 54 km long, starting from the Isverna commune and returning to the same point, passing through Bobic's Cornet with a visit to the Isverna Cave.

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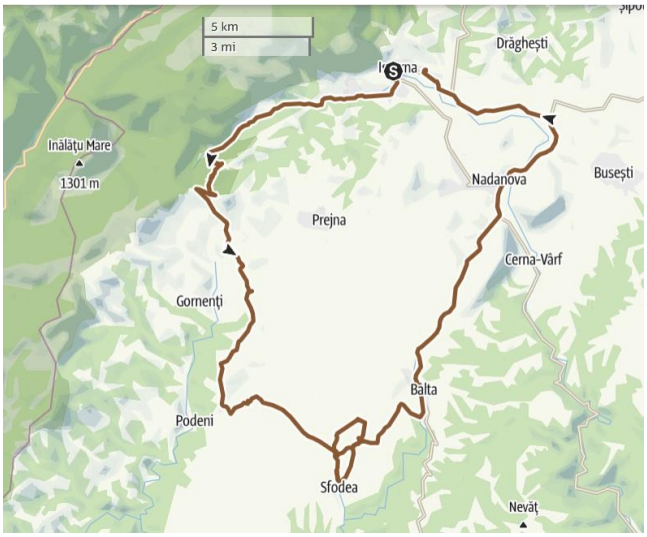

Figura nr. 41- cave Isverna mountain trail

The mountain circuit through the Mehedinti Plateau that connects the villages in the area, partly on Via Transilvanica, partly on the MTB route of the GeoPark Mehedinti Adventure competition, with departure and arrival in Isverna, has a length of 50.1 km, uses local roads.

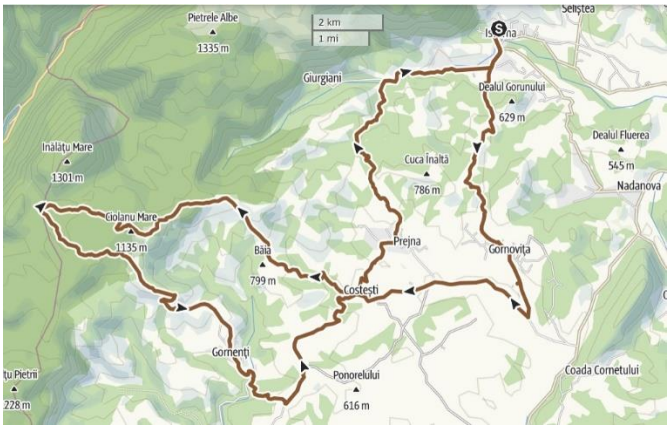

Figura nr. 42- mountain route Isverna

The Cerna mountain route, Via Transilvanica, is 69.6 km long, starting from Obirsia Closani and ending in Drobeta Turnu Severin, using county and municipal roads.

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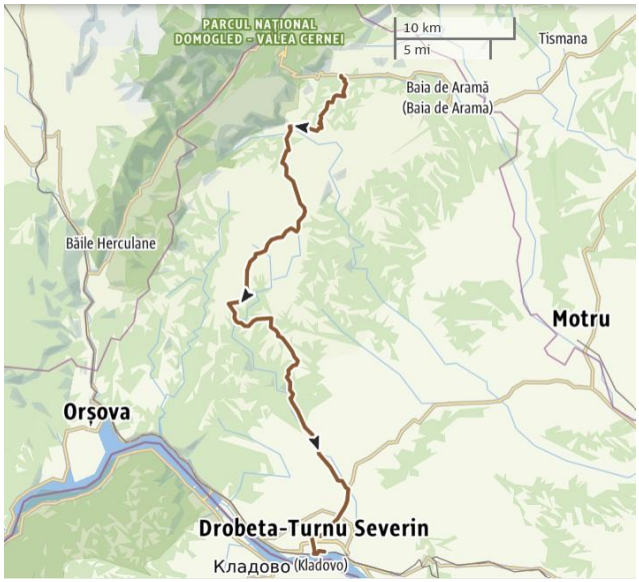

Figura nr. 43- mountain route Cerna Via Transilvanica

The Brebina-Cerna Varf-Malovăț-Blata-Isverna-Brebina mountain route is a road route of 127.1 km.

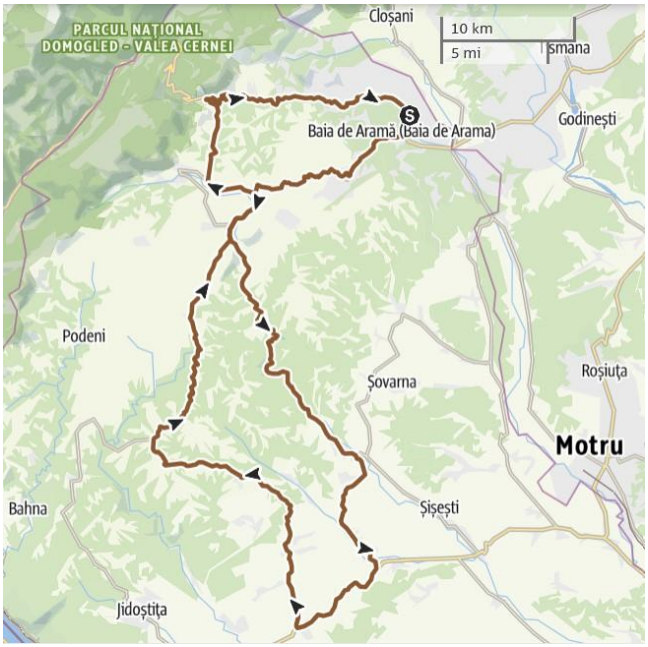

Figura nr. 44- road route Brebina- Cerna Peak-Brebina

The mountain route Herculane/Dumbrava – Cabana Buta – Herculane/Dumbrava has a length of 198.7 km, running on national roads DN 66A, DN 67D, DJ 672.

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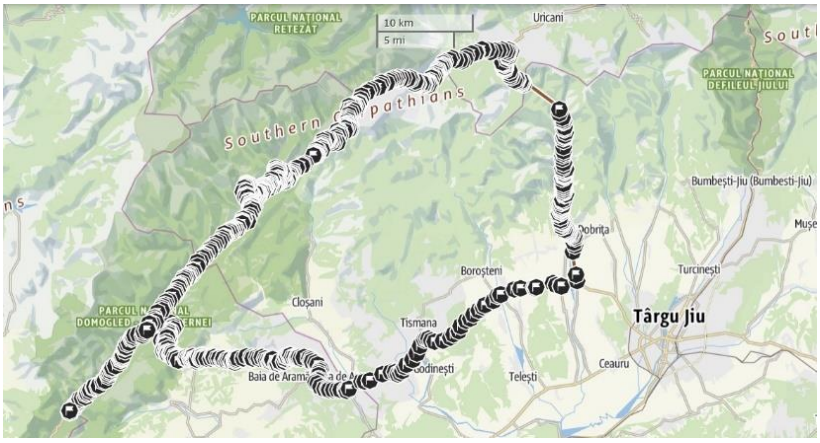

Figura nr. 45- mountain route Herculane-Cabana Buta

Olt County

SLATINA MUNICIPALITY

The sustainable urban mobility plan for the municipality of Slatina, which covers the period 2017-2030, expresses the strategic vision of the municipality for this period, and among the specific objectives: OS8. Infrastructure that encourages sustainable travel and efficiently serves residential areas and OS9. Modern and functional road system.

Pedestrian facilities

Walking is an accessible and attractive form of travel for the city's residents, as can be seen from the modal weight of 36.3% of pedestrian trips, out of the total number of trips made in the city. This value was determined based on home interviews and traffic censuses.

In the municipality of Slatina there are 0.95 ha of public pedestrian spaces, concentrated in the central area of the city, in the vicinity of the most important commercial areas of the city. The pedestrian space is created in the vicinity of the Esplanada park, and the pedestrian routes continue through the park and connect the Esplanada area with the historic center.

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The pedestrian space is properly equipped with urban furniture, there are enough rest spaces, as well as vegetation to provide shade areas. Public lighting is adequate in this area.

Figura nr. 46- pedestrians area in center Slatina

Most streets have sidewalks, but there is also a significant share of streets without sidewalks or with small sidewalks. The total length of streets without sidewalks is 29.54 km. A significant share of approximately 20% of streets with degraded sidewalks was noted.

Public spaces are, to a large extent, inaccessible to people with reduced mobility due to differences in level and the lack of flatness of pedestrian circulation at street crossing points. Reduced accessibility is caused by the absence of ramps or the existence of ramps with non-compliant slopes. Another problem encountered is the non-correlation of accessible spaces on both sides of the roadway.

According to PMUD, there are 309 pedestrian crossings within the radius of the city of Slatina. In areas with road safety problems, in order to increase the degree of crossing safety, pedestrian crossings have been raised. Currently, there are 21 uneven crossings.

Bicycle infrastructure

According to PMUD, cycling has a low modal share, representing only 0.7% of total daily trips. The insufficiency of bike lanes is one of the main travel problems identified in the household survey, carried out for the implementation of the PMUD, with a weight of 13% of the total responses.

In the traffic study developed by S.C. K.X.L. LLC In 2014, bike lanes are proposed for the following roads: A.I. Cuza, Artilleriei, Cireasov, Cornisei, Pitesti, Primaverii and Drăgăneşti. Analyzing the recommendations of the study, it can be seen that most tracks are proposed on the existing sidewalk, with a height limit compared to the exclusively pedestrian space. On the streets of A.I. Cuza, Artilleriei, Cireasov, Cornisei, Pitesti, Primaverii are proposed runways with a size of 1 m/direction with the mention that they can be arranged in both directions or on one side of the street, in this case having a total size of 2 m. For the street In Draganesti, it is

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proposed to widen it and create tracks of 1.2 m/direction, in continuation of the road space and the delimitation of the tracks with poles.

According to the PMUD analysis, in 2017, the distribution of transport modes in the municipality of Slatina was dominated by the use of motorized vehicles (48%), the use of bicycles is at a very low level (0.7%), for which the explanation was the lack of bicycle lanes. However, an important representation of walking is observed (36.3%), due to the size of the city, which allows this mode of travel.

According to Olt TV (https://www.olttv.ro/olt-tv-new/administratie/2023/06/14/slatina-traversata-pe-bicicleta--), in the city of Slatina, the development of bicycle tracks began on May many city streets.

Up to the intersection in the area of the Oltul store, the bike path was laid out on the road. Starting from here, it was moved to the sidewalk, because the dimensions of the street do not allow the layout of the runway.

According to the project, the investment for the development of bicycle tracks in Slatina amounts to 2.7 million lei.

The investment provides for the construction of tracks over 14 kilometers, on four sections of the city:

-Section 1 - Olt Beach - House of Youth Culture;

- Section 2 - Strada Ecaterina Teodoroiu - Strada Drăgănești;

-Section 3 – Strada Cireașov – Strada Artilleriei;

-Section 4 - Crisan Street - Nicolae Titulescu Boulevard.

Figura nr. 47- pista biciclete pe blv. Al Cuza

At the level of Olt County (https://www.mdlpa.ro/userfiles/pnrr_componenta11/anexa2.pdf) 457 km of cycling routes have been identified:

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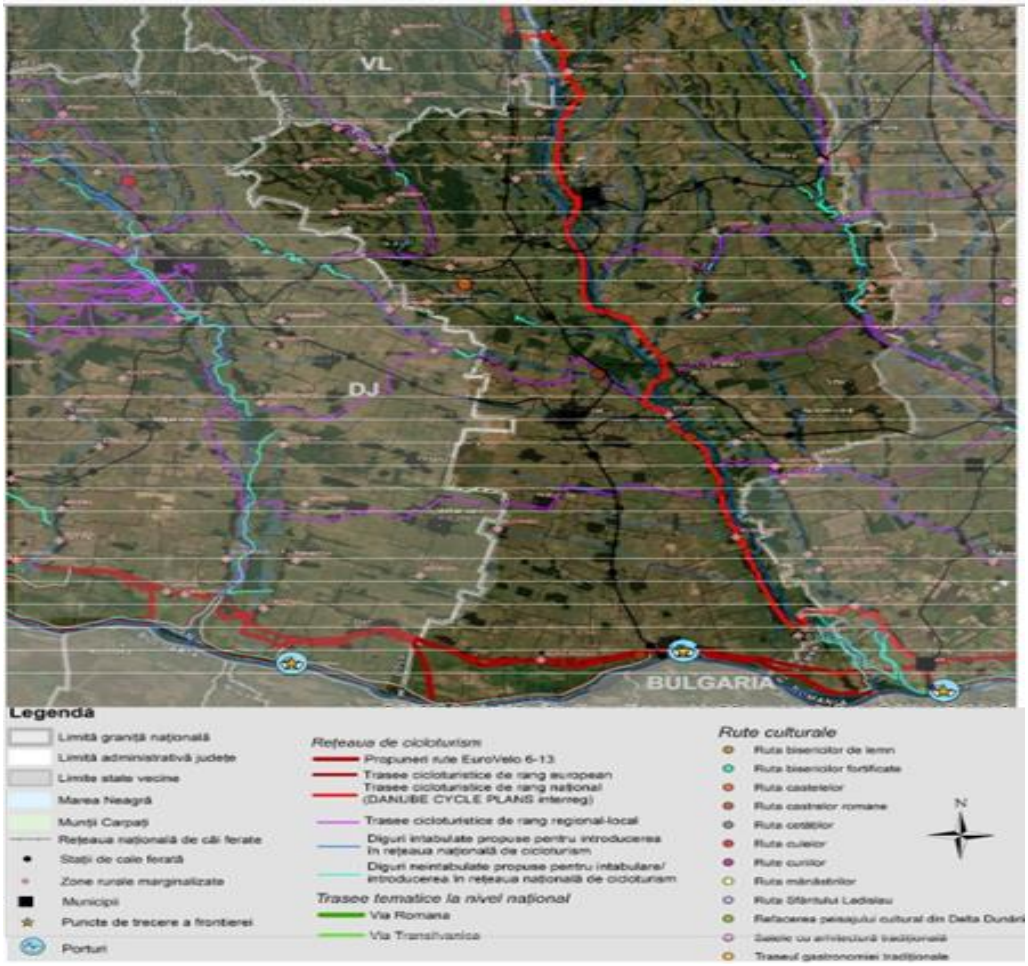

Figura nr. 48- the map with cycling pathways in Olt County

Olt County is traversed by shorter sections of national routes, including:

The Craiova-Fetești route, with a total length of 436 km, on the road, of which approximately 45 km are within Olt County.

Figura nr. 49- Craiova-Fetesti route

Project CycleRight is implemented within the frame of INTERREG Europe Programme, co-funded by the European Regional Development Fund (ERDF).

The Calafat-Fetești road route, with a length of 482 km, on the banks of the Danube, from west to east, starts in Calafat, runs approximately 45 km on the territory of Olt county and passes to Teleorman county, to Fetesti.

Figura nr. 50- Calafat-Fetesti route

The Slatina-Tomeni route, on both banks of the Olt River, with a length of 52 km, runs off-road, on cobblestone, macadam or sand paths.

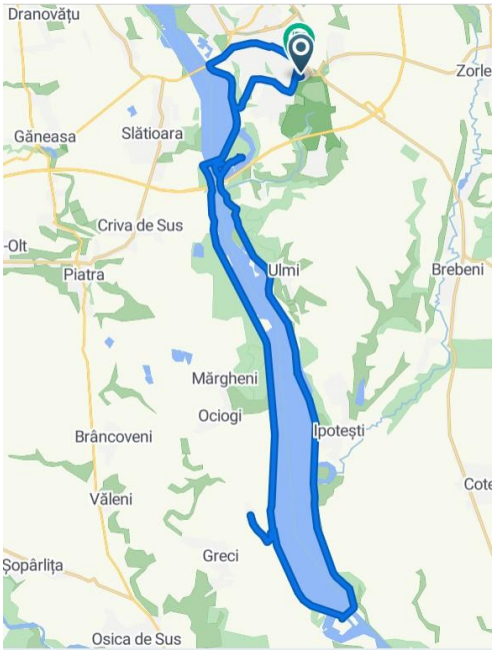

Figura nr. 51- Slatina-Tomeni route

The circuit Slatina-Arcesti-Dranovatu-Barasti-Bechet-Bistrita-Ganeasa-Dranovatu-Arcesti-Slatina dam measures 54 km, on macadam, gravel or sand surfaces, with the Olt river crossing over the Arcesti dam.

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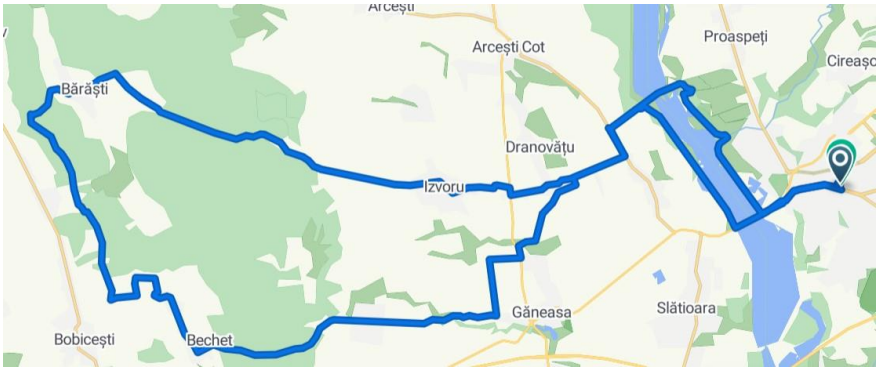

Figura nr. 52- Slatina - Dam Arcesti circuit

The Slatina-Ibăneşti route is 64 km long, runs along the left bank of Olt, on paved and macadam surfaces.

Figura nr. 53- Slatina-Ibănesti route

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Vâlcea County

RâMNICU-VâLCEA MUNICIPALITY

Pedestrian facilities

The sustainable urban mobility plan of Râmnicu-Vâlcea Municipality, updated in 2021, mentions that the entire road transport network in the city is provided with sidewalks for pedestrian movement. The sidewalks are wide, in very good condition, they ensure accessibility and safety for pedestrians, encouraging this type of movement.

However, there are also streets without sidewalks, with a length of 103 km, representing 48% of the total length of the network, located mainly on the outskirts.

A big problem in the congested areas of the city, but also in those of houses, is the lack of parking spaces, which prevents pedestrian movement in the best conditions, pedestrians being sometimes forced to bypass cars parked on the sidewalk, moving on the roadway.

In the city, there are 4 areas intended exclusively for pedestrians: Scuarul de la gără, Episcopieia, Mircea cel Bătrân and Revoluției.

Bicycle infrastructure

The construction of facilities for bicycles started in the municipality of Râmnicu-Vâlcea with the arrangement of 5,280 m of bicycle lanes on Bdul. Dem Rădulescu and Bdul Tineretului.

There are 2 functional bike rental stations available, in partnership with a local company: one station in the parking lot next to the Ascension Cathedral (Ostroveni) with 20 modern bikes and one in the parking lot next to the Youth House (Ostroveni) with 15 ports and 10 bicycles.

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Although the infrastructure dedicated to cycling is not very developed, the road is shared by cyclists with cars to travel on different routes. Some examples of routes for cycling are:

Calea lui Traian-strada Daniil Ionescu route, about 6km, inside the city, on local roads.

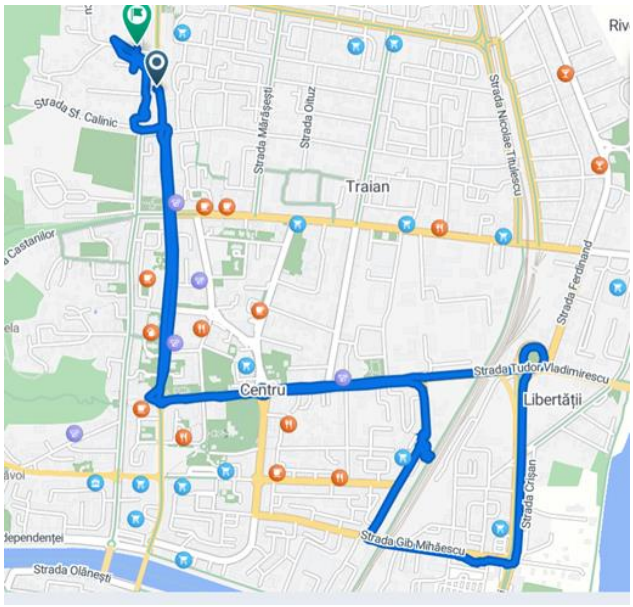

Figura nr. 54- Calea lui Traian – str. Daniil Ionescu route

The Ostroveni Street – Teodor Bălășel Avenue route, 6.4 km long, starts from the Ostroveni lake area, crosses the city to the northwest, on Tineretului Boulevard, Nicolae Bălcescu Boulevard, Calea lui Traian and Bălășel Avenue, on the carriageway of local roads.

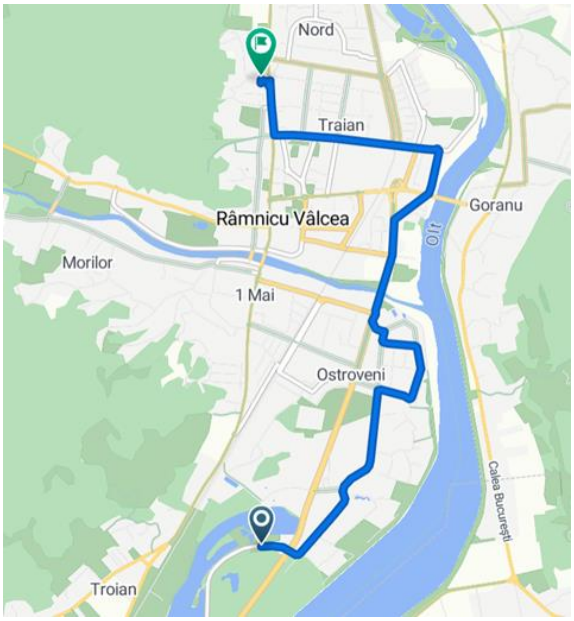

Figura nr. 55 street Ostroveni-Aley Bălășel route

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At the level of Vâlcea county, a number of 274 km of cycling routes have been identified (https://www.mdlpa.ro/userfiles/pnrr_componenta11/anexa2.pdf).

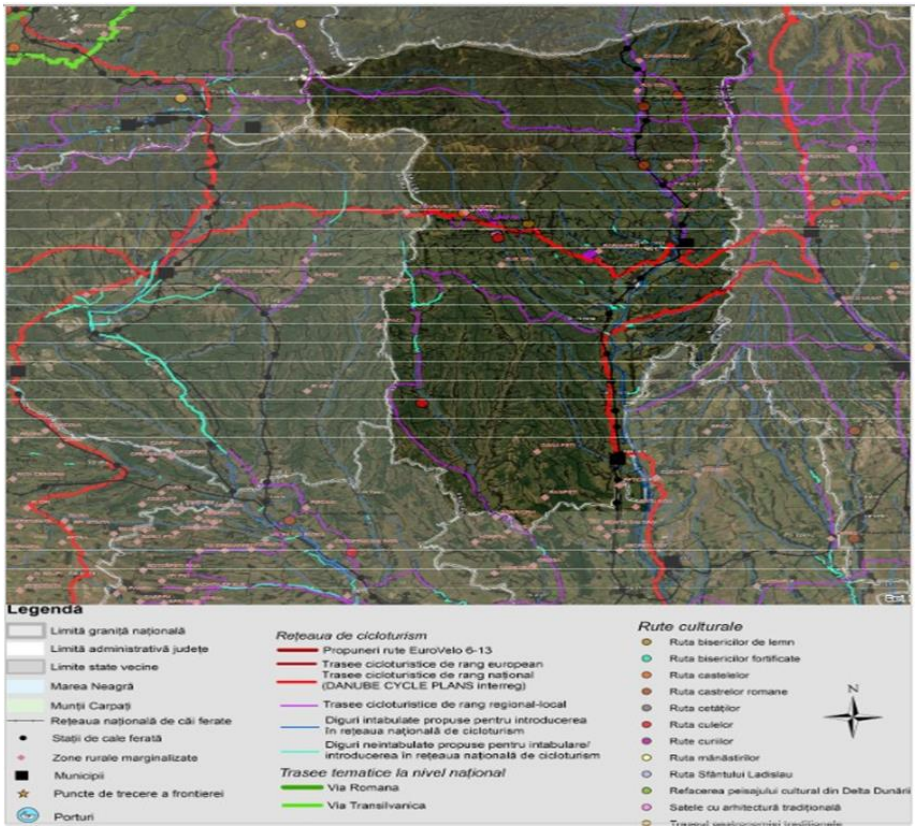

Figura nr. 56- map with the cycling pathways in Vâlcea County

Vâlcea County is dominated by mountains, which are crossed by various communication routes, along which you can ride a bicycle. Some mountain routes that can be covered by bike are:

The "țara Loviștei" bicycle route, about 75 km long, starts from Brezoi, from the Lotru Train Station. Cross the Olt River on the Gura Lotrului Dam and enter the national road DN7 / E81 towards Sibiu. You go along the Oltului Valley, passing through Corbu and Proieni and, after the Albioara Viaduct, you reach Calinesti. Enter the county road DJ 703M in Tara Lovistai. The route continues on the national road DN 7D, not modernized, through Pripoare towards Poiana. You pass from Valcea county to Arges county through Pasul Clocoticiu, the road, the same road, becomes a county road again, DJ 703H, and you reach Valea Topologului in Salatrucu. On Valea Topologului it continues, through Valeni, to Suici. Enter the county road DJ 703G towards Calimanesti. Over the Topolog River. Further on, go towards Paltenu and pass from Arges county to Valcea county, reaching Robaia. Then, through Scaueni, Stoenesti, Seaca, Berislavesti, along the Salatrucel River valley, you reach Salatrucel. On the same road, through

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Jiblea Veche, passing Oltul on the dam of the Calimanesti Reservoir Lake, you reach Calimanesti. The Calimanesti train station is the final point of the bicycle route.

The Căpățânii Mountain route: Petrimanu - Curmătura Oltețului - Polovragi - Horezu - Tomșani - Băbeni, 100 km long, runs on non-modernized roads. The road leads gently along the bank of the Latorita river, towards the Galbenu reservoir, after which, at the crossroads where there is a sign to the left "Curmatura Oltețului 6 km", the actual climb into the Căpățânii Mountains begins. Boulder road, but practicable on bicycles or partly alongside bicycles. Passing from Valcea county to Gorj county. Fairly good forest road, beaten, dusty and deceptively gravelly. Cheile Oltetului Natural Reserve. Asphalted roads in the Polovragi area. From Polovragi, take the county road DJ 665 to reach the national road DN 67, towards Miloștea. Passing from Gorj county to Vâlcea county. The route continues on county road DJ 646, Tomșani.

The Latoriței Mountain route: Lotru Station - Brezoi - Valea lui Stan - Mălaia - Ciungetu - Petrimanu, about 70 km starts from Lotru Station, from the Oltului Valley, towards Proieni and Calinesti. Cross Oltul on the Gura Lotrului Dam and enter the national road DN7 / E81 towards Corbu. You are walking on the road, on a road with congested traffic, with a large number of TIRs. In Proieni you enter a secondary road to reach the village and the Church. Go around Balta Proieni and exit DN 7 / E81 again, to reach Călinești. From there, on the Oltului Valley, it returns to Brezoi. From Brezoi, the ascent begins on the national road DN 7A, on Valea Lotrului, towards Lake Brădișor, passing through Valea lui Stan, Păscoaia and Sălistea, a road with good asphalt, on a gentle slope, with serpentines. After Brădișor Lake, the road passes through Mălaia and reaches Mălaia Lake. At the confluence of the Lotru river with the Latorita river, you enter Valea Latoritai, on county road DJ 701D, towards Ciungetu. From Ciungetu you go further, through Cheile Latorita, on the bank of Latorita, towards Petrimanu Lake. Good partial road, accessible and accessible by bike.

The route Călimănești - Cabana Cozia - Berislăvești - Jiblea Veche - Păușa - Căciulata, about 65 km long, starts from Călimănești, on Calea lui Traian (DN 7 / E81). From Călimănești go on the county road DJ 703G and cross the Călimănești Lake dam, a common section with the Călimănești - Căciulata ring road, in Jiblea Veche. From Jiblea Veche continue on DJ 703G, passing through Sălătrucel and Seaca, towards Brădișor. The asphalt ends after Seaca and you enter a county road, a country road, the county road DJ 703N, towards Brădișor and then Dângești and climb up to Cabana Cozia and the Vârful Cozia relay. From Dângești you go to Călimănești, with a detour through Berislăvești. From Jiblea Veche, continue on the Călimănești - Căciulata ring road, with little truck traffic, to Păușa, on the banks of the Olt river. Return to the national road DN 7/E81, through Căciulata, in Călimănești.

The route Călimănești - Căciulata - Lotrisor Waterfall - Lunca - Bujoreni - Râmnicu Vâlcea, with a length of over 50 km, starts from Călimănești, on Calea lui Traian, on the national road

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DN7/E81, through Căciulata, going along the banks of Oltului (Oltului Valley and Cheile Oltului), about 5 kilometers to the tourist stop/motel Lotrisor and Valea Lotrisor, on a paved road with little traffic. Follow the accessible forest road, with stones and boulders, 2 kilometers, on the bank of the Lotrisor stream. Going on DN 7, we return, passing by the Cozia Veche Hermitage - Sfântul Ioan la Piatra and through the Căciulata resort, in Călimănești. From Călimăneşti, take the national road DN7/E81 (Calea lui Traian), towards Râmnicu Vâlcea.

The Căciulata - Valea Păușa - Stănișoara Monastery - Turnu Monastery - Călimănești route, over 25 km long, starts from Călimănești, on Calea lui Traian (national road DN7/E81), towards Căciulata. You cross the bridge over the Olt river, cross the railway and go down a narrow road where there are also some steps to pass, past the houses, arriving in Paușa. From Păușa you enter the Cozia National Park, on the Păușa - Stănișoara Monastery forest road. On Valea Pauşa, passing by the Valea Marului Hut, the road is uphill, with a smaller or larger slope in sections, next to rocks and quays. At the exit from the forest there is a steep climb. The second part of the route, from Stănișoara Monastery to Turnu Monastery, on the red lane marker towards Turnu Monastery. The path entered the forest and reached a stream. The road through the forest is interrupted from place to place by fallen trees. From the Turnu Monastery it continues towards the Olt river bank. The route ends in the Monastery.

The Cozia route: Mănăstirea - Şerbănești - Seaca - Băbuești - Jiblea Veche, approximately 35 km long, on asphalt, macadam roads, cobblestones or mountain paths.

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1.3 The regional network and its interconnection

According to the Regional Development Plan (PDR) of the Southwest Oltenia region 2021-2027, the Southwest Oltenia Region is crossed by three priority axes of the European transport network (TEN-T):

• Priority axis 7 (road) – former Pan-European Corridor IV (southern branch: Lugoj – Drobeta Turnu Severin – Craiova – Calafat, with the option Șimian – Maglavit);

• Priority axis 18 (Danube river) – former Pan-European Corridor VII;

• Priority axis 22 (railway).

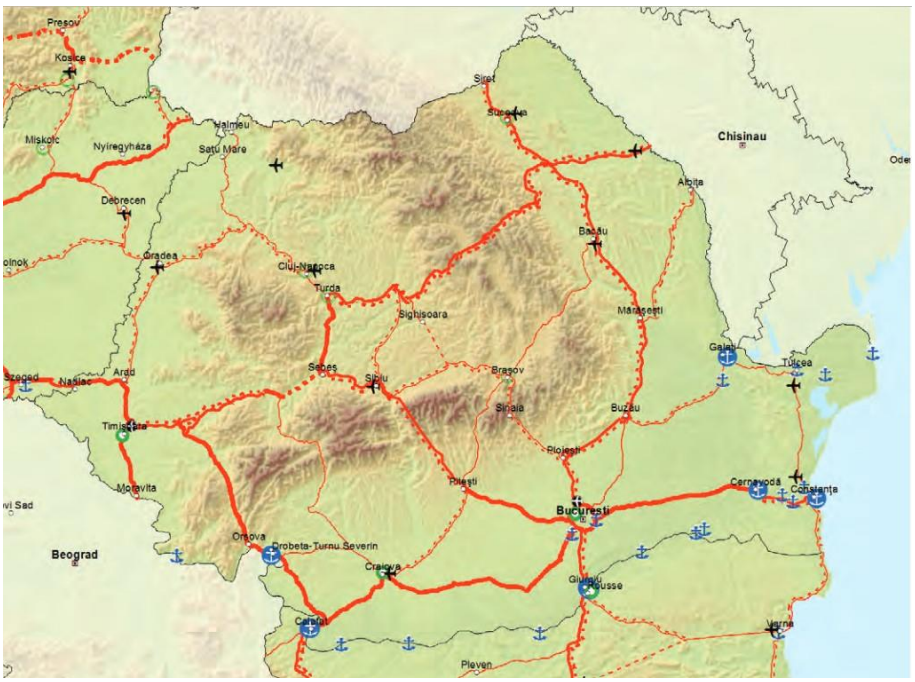

Figura nr. 57- TEN-T Romania map

The basic network: (TEN-T Core) includes**:**

- (connection with the West region – Timisoara) Orsova – Drobeta Turnu Severin – Calafat (connection with Bulgaria – Vidin border crossing);

- Calafat – Craiova – Caracal – border of Teleorman county (connection with Alexandria);

- Mălureni - Râmnicu Vâlcea – Câineni (on the Pitesti – Sibiu branch).

Border crossing points (road): Drobeta Turnu Severin (Iron Gates I) and Calafat.

The extended network (TEN-T Comprehensive) includes:

- Drobeta Turnu Severin – Craiova;

- Filiași – Târgu-Jiu – Bumbești-Jiu – border of Hunedoara county;

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- Craiova – Balș – Slatina- Colonești - the border of Arges county (on the Craiova – Pitesti branch).

Of the total of 2201 km of national roads crossing Oltenia, 21.81% (480 km) are in Dolj County and represent 19.68% of the total of 2439 km of public roads that Dolju had at the end of 2020. In Dolj, the network of national roads, most of them take place in the plains, the area of relief favorable for driving at high speeds. Dolj County benefits from the presence on its territory of several routes that are part of the central and global TEN-T network.

The national/European roads in the county are: DN 6 (E 70, E 79) Bucharest-Alexandria-Caracal-Craiova-Filiași-Drobeta Turnu Severin-Caransebeș-Timișoara-Cenad (border with Hungary) - in good condition, because benefited from modernization works from European funds. It is part of the central (Bucharest-Craiova) and global (Craiova-Filiași) TEN-T network and connects the municipality of Craiova with the border with Hungary, Serbia, Bulgaria, as well as with the municipality of Bucharest; DN 65 (E 574) Craiova-Pitesti – part of the global TEN-T network, connects Craiova, Slatina and Pitesti, as well as with the A1 Motorway, DN 56 (E 79) Craiova-Calafat – part of the central TEN-T network . The road connects the city of Craiova and the southwest area with the new bridge from Calafat and the Balkan area; DN 56A Drobeta Turnu Severin – Calafat – part of the central TEN-T network significantly reduces the distance to be traveled from the west of the country to the new bridge from Calafat and to the Balkan area; DN 66 Filiași-Târgu Jiu-Petroșani-Deva – part of the global TEN-T network, ensures the connection of the southwestern area of the country with that of Transylvania. DN 55 Craiova-Bechet – provides connection from the municipality of Craiova and the localities in the south of the county, as well as with the border crossing point at Bechet. DN 55A/DN 54A Calafat-Bechet-Dăbuleni-Corabia - ensures the connection between the port towns on the Danube, being parallel to the river, with prospects for tourist function. DN 65C Craiova-Bălcești-Horezu – connects the municipality of Craiova with the localities in the north of Dolj county, as well as in Vâlcea county. DN 6B Craiova – Hurezani – connects the county seat municipality with some rural localities in the northwestern area of Dolj and with part of Gorj county. From the total network of national roads administered by the Regional Directorate of Roads and Bridges Craiova, S.D.N. Craiova manages 454 Km.

19.40% (427 km) of the national roads in the region are located in Gorj County, with a share of 18.72% in the total of 2,280 km of public roads in Gorj County. In Gorj, the national road network runs mostly in the mountain area. In Gorj, the connections with the main transport axes are made through the secondary national roads with the code number 67 (67, 67 B, 67 C, 67 D), which connect the main towns of the county and the neighboring counties, connecting the European road E 79 (Budapest – Oradea – Beiuş -Brad – Deva – Petroşani – Tg-Jiu – Craiova – Bechet – Vidin – Sofia), the European road E70 (Constanța – Bucharest – Pitesti – Craiova – Drobeta Turnu Severin – Timisoara – Belgrade) and the European road E60 (Budapest) – Arad-Deva – Brasov – Ploiesti – Bucharest – Giurgiu – Sofia – Athens).

From the total network of national roads managed by the Regional Directorate of Roads and Bridges Craiova, S.D.N. Targu-Jiu administers 377.78 Km.

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14.13% (311 km) of the national roads of the region are located in Olt county, they have a weight of 13.18% in the total of 2,359 km of public roads of the county. In Olt, from the point of view of the relief, the road network runs in the plain area, which favors their frequent snowfall. There are 6 metal bridges on the national road network of Olt County, with a total length of 1,600 ml. The road network includes: 6 national road routes, of which: 2 European road routes, E70 (DN 6) and E574 (DN 65), 1 main national road route DN 64 and 3 secondary national road routes DN 54, DN 54A, DN 67B.

Public roads, for the most part, cross localities, the traffic speed being reduced on these sectors. Also, the width of the road platform is not adequate, due to the narrow front of the property line. National road DN 6 is classified as European road class A, suitable for international traffic, and national road DN 65 is classified as European road class B, suitable for international traffic. The national road DN 65 has long sections that are not compatible with the requirements imposed by the "European Agreement on the most important international traffic arteries (AGR)". The main road axes at the county level are provided by the county roads that ensure the transversal connection in the direction of the European roads.

From the total network of national roads managed by the Regional Directorate of Roads and Bridges Craiova, S.D.N. Slatina administers 301.68 Km.

24.03% (529 km) of the national roads that cross the region are located in Valcea county and represent 22.79% of the county's total roads (2,321 km). The classified road network of Vâlcea county, according to H.G. no. 540/2000 regarding the approval of the classification of public roads into functional categories, with subsequent amendments and additions, includes, along with county and communal roads, 1 route of the European national road E81 (DN 7), 2 routes of main national roads (DN 64, DN 67) and 6 routes are secondary national roads (DN 7A, DN 7D, DN 65C, DN 67B, DN 67C, DN 73C).

The northern area of the county is crossed by: DN67 (Râmnicu-Vâlcea – Horezu – Târgu-Jiu), with connection to the European roads: E81 – at Râmnicu-Vâlcea, E79 – at Targu-Jiu and E70 – at Drobeta-Turnu-Severin ; DN 7A crosses the north of the county in the East-West direction and connects Vâlcea county and Hunedoara county. From north to south the county is crossed by:

- DN 64 connects the Municipality of Râmnicu-Vâlcea with the Municipality of Drăgășani and provides access to Olt County, to the European road E571.

- DN 65C connects the cities of Horezu and Bălcești and towards Dolj county.

The most important road in the county is the European road E81, which connects Vâlcea county with Sibiu and Argeș counties.

From the total network of national roads administered by the Regional Directorate of Roads and Bridges Craiova, S.D.N. Ramnicu Valcea manages 482.26 Km.

In Mehedinti county are located 20.63% (454 km) of the national roads that cross the region and represent 23.73% of the county's total roads (1913 km). The 2 European roads that cross

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the county are: E70: Moravița (border with Serbia) - Timișoara - Drobeta Turnu Severin-Craiova - Caracal - Alexandria - Bucharest - Giurgiu-Pod Giurgiu (border with Bulgaria) and E771: Drobeta Turnu Severin - Portile de Fier I (border with Serbia).

The Drobeta Turnu Severin national roads section administers the network of national roads in Mehedinți county. Almost 120 km of the network are intended for international traffic. DN 67 Drobeta Turnu Severin - Motru is in the same category of road with heavy traffic, on which a large volume of coal is transported, which is carried out by heavy vehicles. This situation requires high volume repair work. The Drobeta Turnu Severin section has the highest average density of bridges, returning 18 ml of bridge per km of road, compared to 11.7 ml, the average on DRDP Craiova, the highest density of 230 ml/km being on DN 6 in the area Iron Gates I.

From the total network of national roads managed by the Regional Directorate of Roads and Bridges Craiova, S.D.N. Drobeta Turnu-Severin manages 270.73 Km.

There are road border crossing points: at Drobeta-Turnu Severin to Serbia, at Bechet the crossing to Bulgaria is carried out only by ferry and at Calafat, where the crossing to Bulgaria is carried out on the Calafat-Vidin bridge.

The Calafat-Vidin Bridge is a rail and road bridge over the Danube, connecting the cities of Calafat (Romania) and Vidin (Bulgaria). The bridge is part of the Pan-European Transport Corridor connecting (terminal points) the German city of Dresden with the Turkish city of Istanbul and the Greek city of Thessaloniki. The bridge was put into use on June 14, 2013. In accordance with the negotiations between the parties, on February 27, 2013, Memorandum no. 8615/RF/26.02.2013 with the subject: "Approval of the signing of the Agreement between the Government of Romania and the Government of the Republic of Bulgaria for the establishment of a mixed commercial entity - operator of the new combined Bridge (road and rail) between the two states over the Danube River between the cities of Calafat (Romania) and Vidin (Republic of Bulgaria)".

1.4 Urban networks

According to the PDR 2021-2027, the number of kilometers of city streets increased constantly in Romania, in the period 2011-2019, simultaneously with the increase in the number of km of modernized streets. At the end of 2019, Romania had 1.89% more streets than in 2016 and 13.7% more than in 2011. A more pronounced increase was recorded in terms of km of modernized streets which, in 2019, increased by 6.59% compared to the end of 2016 and by 28.38% compared to 2011.

The degree of modernization of city streets was, at the end of 2019, 70.54%, 3.11 percentage points higher than in 2016 (67.43%).

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The South-West Oltenia region has the smallest network of street infrastructure, owning 9.67% of the national total of city streets and only 10.11% of the national total of modernized city streets.

Region	North-west	Center	North-east	South-east	South Muntenia	Bucuresti Ilfov	South-west	West
Total	4276	4437	4071	3798	3950	4357	**3066**	3736
Modernized roads	2887	3107	2485	2784	2985	3111	**2261**	2735
Degree of modernization	67,51%	70,02%	61,04%	73,30%	75,56%	71,4%	**73,74%**	73,20%

The highest degree of modernization of the street infrastructure is recorded in the South-Muntenia region, where 75.56% of the city streets are modernized. Compared to the national average (70.54%), this region registers a positive variation of 5.02%.

Ranked 8th among regions in terms of km of road infrastructure owned, as a percentage of the national total, the South-West Oltenia region has a degree of modernization of 73.74%, with a positive variation compared to the national average, of 3, 2%

Oltenia has a network of 3,066 km of streets (9.67% of the total national network), of which 2,261 km are modernized (10.11% of the total km nationally modernized).

In Oltenia, the most extensive road infrastructure network is owned by the counties of Dolj 26.12% (801 km), Olt 24.23% (743 km) and Vâlcea 23.74% (728 km), of the total city streets in the region. The modernized streets are distributed 26.66% (603 km) in Dolj county, 23.88% (540 km) in Vâlcea county and 20.74% (469 km) in Olt county. The smallest networks are owned by the counties of Gorj 17.86% (404 km) and Mehedinți 10.83% (245 km).

The highest degree of modernization of the street infrastructure is recorded, however, in Gorj county, where 86.32% (404km), of the total city streets, are modernized, and the lowest, in Olt county, with 63.12% (469 km) streets are modernized. The modernization of city streets remains an open problem, especially in Olt county (63.12%), a county where the degree of modernization is below the regional average (73.74%) and below the national average (70.54%).

Public transport

Trams, buses, minibuses and trolleybuses are the main means of public transport, while the metro can only be found in the Bucharest-Ilfov region, and in the north-west region the feasibility study for the future metro line was approved.

In the South West Oltenia region, buses and minibuses are mostly used in public transport, trams being used only in Craiova, and trolleybuses only in Târgu Jiu. The fleets of cities and

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municipalities that own this service have been modernized in recent years through various funding programs, acquiring new vehicles, many electric, as will be described below.

Localities that until recently did not have a public transport service, have established this service and purchased modern electric buses and minibuses or are planning to do so.

The Dolj County Council submitted and won the project for equipping schools with 24 electric minibuses in the localities: Afumati, Braloșita, Drănic, Rast, Pleșoi, Amarăștii de Jos, Teslui, Argetoaia, Bratovoiești, Catane, Coțofenii din Dos, Desa, Drăgotești , Murgași, Perișor, Sopot, Vîrvoru de Jos, Valea Stanciului, Bârca, Bistreț, Celaru, Caraula, Gângiova and Șimnicu de Sus. The value of the "Green school transport for students from Dolj county" project is 36 million lei.

The public transport service in the **City of Craiova** is under the authority of the City Hall of Craiova and is provided by the Autonomous Transport Authority of Craiova - R.A.T. (subordinate to the City Hall, which operates the tram line, 11 bus lines and 6 minibus lines).

The vehicle fleet of the operator R.A.T. includes: 29 trams and 180 buses.

In 2021, a contract was concluded for the supply of 17 new trams, 25 meters long, with the Polish manufacturer PESA. After homologation and technical approval, the first 9 trams entered regular service on the streets of Craiova, on March 16, 2023. The car fleet of Craiova was modernized in 2021 with 16 Solaris electric buses, in 2022 with 22 electric buses, including 22 stations of slow recharging and 8 fast recharging stations, and in 2023 with 30 electric buses and 37 charging stations.

In 2022, the **city of Segarcea** purchased 3 Karsan eATAK electric buses. The project is part of the investment: "Integrated system of sustainable urban mobility in the city of Segarcea, Dolj county: Development of bicycle paths and pedestrian infrastructure, modernization of the road used by public transport, development of bus depots and bus stations".

"Electric minibuses for students from Vâlcea county" is the project that will be implemented until December 2024 in Vâlcea county. The project is financed from European funds through the National Recovery and Resilience Plan, 26 educational units will benefit from electric minibuses, facilitating students' access to quality education.

The total value of the financing contract is 35,905,346.40 lei, of which the eligible value from PNRR is 30,172,560.00 lei, and the value of the related eligible VAT is 5,732,786.40 lei.

The investment will lead to the improvement of transport conditions for a number of 3,882 students from the 26 educational units located in rural areas, isolated or disadvantaged areas from a geographical or socio-demographic perspective, by providing 26 (electric), ecological, environmentally friendly and with low energy consumption, thus facilitating the access of children and young people to education, by protecting the environment at the same time.

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Local public transport in the Municipality of Râmnicu Vâlcea operates on the basis of a management delegation contract assigned directly to the municipal operator S.C. ETA S.A. The urban public transport network consists of 24 lines, on which 125 stations are located. According to the traffic schedule, the succession interval at peak traffic hours is between 10 and 60 minutes, varying depending on the route. According to the measurements made during the preparation of the P.M.U.D., the average daily number of trips made on working days is 14,559, and on non-working days 5,503.

The alignment of the park with the requirements of sustainable development and the modernization of the embarkation-disembarkation stations, the introduction of a traffic management system, in the municipality of Râmnicu Vâlcea, are part of the daring projects developed, in the last four years, by ETA, with the aim of bringing excellence in transport public.

The ETA bus depot went through a complete modernization process, built its own gas filling station for the CNG buses in the fleet, having 35 new CNG buses. A new traffic management system with dispatcher was implemented, a new ticketing system, made by Altimate, with new validators, where payment can be made using contactless cards. The boarding/disembarking stations have been modernized, equipped with an information board, where the bus lines passing through the station are displayed, as well as the time the traveler has to wait until the next bus arrives.

The Intra-Community Transport Development Association (ADIT) was established, between the municipality of Râmnicu Vâlcea and all the surrounding balneoclimatic resorts. It will go to Călimănești, Căciulata, etc. For these routes, ADIT has accessed European funds and tender procedures are to be started, for the new fleet of 39 electric urban buses and the necessary infrastructure.

The resort town of Calimanesti

In June 2024, the signing of a 15 million euro financing contract was announced at the headquarters of ADR Sud-West Oltenia and marks the beginning of a project aimed at developing the infrastructure for public transport in Călimănești.

As part of the project, four electric buses will be purchased and a bicycle rental system will be implemented in several key areas of the resort, including Jiblea Noua, the Turnu Monastery area and Căciulata. Also, six charging stations for electric buses will be placed and important streets will be modernized, such as Garii str., Oltului str., Barajului str. and others.

Bălcești Town

In 2022, the city of Bălcești started the project through which the local public transport service is established, which aims to build a bus base for public transport, set up an intermodal

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terminal, build 10 local public transport stations, purchase 3 electric buses with the length of 10m, the purchase of an electric minibus and the implementation of the integrated ticketing system for e-ticketing passengers.

The city of Horezu

In 2024, the "Modernization of the passenger transport service at the Horezu Functional Urban Area, Vâlcea county" project was started, which will be divided into four objectives as follows:

• Object I – setting up the bus depot;

• Object II – purchase of 2 electric buses, 2 electric minibuses, 4 slow charging stations and 4 vending machines for travel tickets;

• Object III – modernization of 44 public transport stations;

• Object IV – construction of a public transport command and control center.

The value of the project is 24,860,432 lei, through the Southwest Oltenia Regional Program 2021-2027, and the implementation period is 35 months.

The Mehedinți County Council signed in March 2024 the contract for the purchase of 31 electric minibuses, through PNRR, for the transport of students from isolated localities, to reduce the risk of school dropouts, through the "Electric minibuses for students" program. The town halls that applied for the distribution of these electric minibuses are: Bâcleș, Baia de Aramă, Bălăcița, Balta, Braniștea, Breznița Ocol, Butoiesti, Căzănești, Corcova, Devesel, Drobeta Turnu Severin, Dumbrava, Gogoșu, Grozești, Gruia, Ilovăț, Isverna .

In the **Municipality of Drobeta Turnu Severin**, the local public transport of people through regular routes was concessioned to the operator S.C. Urban Public Transport Drobeta S.A. over a period of 6 years. The service is mainly used by pensioners and students. Due to the low level of the company's income, no investments are foreseen in the modernization and efficiency of the car fleet. Investments are underway to build 3 new stations. The company provides a quarterly report on the transport capacity and the number of passengers. In the future, the possibility of promoting cultural events by means of public transport, as well as their use for the dissemination of information of public interest, will be evaluated. There are 51 stations, of which 25 are unequipped.

Drobeta Turnu Severin City Hall started a project to purchase 6 electric buses with funding from the 2014-2020 ROP, of which the first 2 buses were delivered in 2023.

The "Electric minibuses for students of Gorj County" project is financed under the National Recovery and Resilience Plan of Romania, Component C15 - Education, Reform 6: Updating

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the legislative framework to ensure ecological design, construction and equipment standards in the pre-university education system , Investment 10: Development of the network of green schools and purchase of green minibuses and is implemented on the basis of the Financing Agreement no. 11998/12.09.2023, signed between the Ministry of Education, as coordinator of reforms and/or investments, responsible for Component C15 – Education of the National Recovery and Resilience Plan (PNRR) and financier for the call for projects "Electric minibuses for students" and Gorj County UAT, through the County Council, as beneficiary.

The 22 electric minibuses will reach the following localities: Negomir, Roșia de Amaradia, Glogova, Slivilești, Dănciulești, Drăgotești, Prigoria, Baia de Fier, Bălești, Borăscu, Căpreni, Crasna, Licurici, Logrești, Vladimir, Bumbești-Pițic, Hurezani , Polovragi, Runcu, Stănești, Peștișani and Săulești.

The **city of Rovinari** and the commune of Drăgușești carried out the project "Development of urban mobility in UAT Rovinari and UAT Drăgușești, by modernizing the local public transport system". Specifically, Rovinari town hall intends to buy three electric buses, bundled with five bus charging stations: two with fast charging – one in Rovinari and one in Drăgușești commune – and three with slow charging, an e-ticketing system.

In the **municipality of Târgu Jiu**, local public transport is provided by the operator S.C. TRANSLOC S.A. In order to meet the need to travel by public transport, the transport operator operates two types of networks: the bus transport network and, starting from 1991, a trolleybus transport network on a 13.5 km double track route. The means of transport provided by the operator serve 8 routes and a number of 73 stopping points. The structure of the public transport routes is radial, all 8 routes starting from the city center to the component localities of Târgu Jiu municipality. The routes of the two types of means of transport overlap the central area, which is heavily trafficked, both by residents of the city and by residents of the neighboring communes, but especially by tourists, as the Brâncuşi complex is also located in this area.

The car fleet reported by the operator consists of 12 trolleybuses and 10 buses (of which 2 proposed for scrapping). The fleet includes two variants of trolleybuses (E212 and E217), which have a maximum number of passengers of 100 and 150 respectively. As for buses, there are 9 UDM buses and 1 SCANIA bus.

All public transport vehicles are equipped with an on-board computer and ticket validators, and 7 of them with GPS.

Prin proiectul ”Extindere transport public cu troleibuzul în municipiul Târgu Jiu - Etapa I”, s-a propus realizarea conectării coridorului principal de mobilitate urbană (definit prin HCL nr. 338/2020) cu zona periferică de sud a Municipiului Târgu Jiu, din zona centrală pe străzile Teromocentralei și Victoriei, prin DN66 / E79, către ruta națională Craiova – Târgu Jiu, asigurând și conectivitatea cu zona periurbană adiacentă. Prin realizarea investiției, se va extinde rețeaua de troleibuze de la str. Termocentralei (Shopping City Târgu Jiu), pe strada

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Termocentralei, Aleea Victoriei and str. Victoriei with the increase in the number of passengers, the reduction of traffic with personal cars in the municipality and implicitly the reduction of air pollution. The existing contact network will be intervened to connect the extension to it in the two roundabouts from Victoriei str. and Termocentralei str. Through the project, a catenary contact network with a length of approx. 3.1 km simple track, with concrete support poles on Termocentralei str. and Aleea Victoriei and Mannesmann-type metal poles or similar, direct current supply of the contact network from rectification substation no. 3 under construction and from a new recovery substation that will be executed as part of the complementary project "Multimodal terminal and Park&Ride base" (which will be submitted for funding through PR). The newly created route will be integrated with functional digitized systems, and the means of transport that will serve it are equipped with e-ticketing systems and enrolled in the integrated public transport prioritization system. The parking policy will be implemented on the newly created route, in order to regulate unauthorized parking on the trolley line area. The project is also complementary to the project regarding the development of the CET area according to the approved PUZ.

Through the project "Extension of public transport with the trolleybus in the municipality of Târgu Jiu - Stage II", it is proposed to connect the main urban mobility corridor (defined by HCL no. 338/2020) with the southern peripheral area of the Municipality of Târgu Jiu, from the central area on Teromocentralei and Victoriei streets, via DN66 / E79, towards the Craiova – Târgu Jiu national route, ensuring connectivity with the adjacent peri-urban area. The project provides for the extension of the existing contact network, single track, over a length of approx. 3.1 km (direction complementary to stage I), between Str. 9 May. on Str. Victoriei, Victoriei alley, via Termocentralei street, re-entering 9 Mai street through the roundabout at City Mall, then connecting to the existing contact network, via 9 Mai street, after the Mall roundabout.

The Olt County Council implements the project "Purchase of electric minibuses for school students in Olt County", financed under the National Recovery and Resilience Plan, Component C15: Education, Reform 6: Updating the legislative framework to ensure ecological design, construction and equipment standards in the pre-university education system, Investment 10: Development of the network of green schools and purchase of green minibuses - call "Electric minibuses for students". Beneficiaries of the project are school units from Balș, Bobicești, Brebeni, Corabia, Dobrosloveni, Fărcașele, Gostavătu, Ianca, Izvoarele, Morunglav, Movileni, Obârșia, Perieți, Piatra Olt, Pleșoiu, Rotunda, Sprâncenata, Studina, Valea Mare, Vitomirești.

Currently, public bus transport in the **Municipality of Slatina** is carried out by the public operator S.C. Loctrans S.A. It operates on 27 routes, covering 39 km of road network and having 62 stations.

The public transport fleet includes 10 KARSAN electric buses, 8 SOR brand electric buses and 3 KARSAN thermal minibuses.

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At the level of the public transport system, traffic management solutions are not implemented to ensure access prioritization for public transport means, which is why buses often cross areas affected by congestion and bottlenecks in traffic flows, which leads to significant delays and non-compliance with the traffic schedule. These aspects influence the choices that users make when traveling in favor of the personal vehicle.

In May 2024, the feasibility study and technical-economic indicators were approved for the investment objective: "Establishment of the public transport system with ecological buses at the level of **Caracal Municipality**", an integrated project, which contains 4 investment objectives:

- Purchase of ecological buses for local transport and related charging stations;

- Construction of a terminus station for public transport;

- Bus depot construction related to local public transport;

- Construction of public transport station; Implementation of an integrated ticketing system for e-ticketing travelers.

The project will be implemented until 2027. Now, the city of Caracal does not have a public transport system.

Through the project "Local public transport with ecological means in the **City of Drăgănești-Olt and the Commune of Mărunței**", worth over 9.4 million lei, including VAT, three electric buses will be purchased that will circulate in the city of Drăgănești, but will connect and with the neighboring town - Marunței. At the same time, three slow electric charging stations and one with fast charging will be placed. Through this project, the public administrations in Mărunței and Dragăneşti-Olt communes want people to give up their personal cars and choose public transport, which means less traffic on the roads in the areas, but also a cleaner environment.

Through the project "Green mobility in the **communes of Osica de Sus and Șopârlița**, regarding the purchase of non-polluting minibuses for community purposes", with a value of over 3.5 million lei, non-polluting means of public transport will be provided in the two communes.

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1.5 Multimodality characteristics at the level of the counties of the region

Multimodality refers to the use of several modes of transport to make a trip or to facilitate mobility in each area. This concept involves the integration of different forms of transport, such as:

- Public transport (buses, trams, trains);
- Individual transport (bicycles, motorcycles, cars);
- Walking.

The purpose of multimodality is to provide users with flexible and efficient travel options, improving accessibility and reducing traffic congestion. By combining these modes of transport, the aim is to optimize travel time, reduce carbon emissions and promote a healthier lifestyle by encouraging the use of bicycles and walking. In the context of urban development, multimodality is essential for creating more sustainable and environmentally friendly cities, facilitating efficient mobility and reducing dependence on personal automobiles.
The sustainable urban mobility plans of the main cities in the South-West Oltenia region represent the main tools for strategic planning of urban mobility for periods extending up to 2030.

CRAIOVA MUNICIPALITY

Multimodal facilities

The PMUD foresees, very briefly, without detail, the implementation of multimodal facilities at the ends of the tram line, in the PECO Severinului area, the Bănie (Shell) area and the Electroputere Passage area, organized on the Park&Ride principle.

TÂRGU-JIU MUNICIPALITY

Multimodal facilities

In September 2023, the feasibility study was carried out for the creation of a "Multimodal terminal and Park&Ride base" in the municipality of Târgu Jiu, the Termocentralei station, outside the city center, which will integrate with public transport. Termocentralei Street is part of the bypass belt of the city. The terminal will have two functional areas: the area intended for public transport, with two platforms for passengers, where 6 trolleybuses will be able to park, and the public parking area with 304 places for cars, 39 places for minibuses and 10 places for coaches/buses. The terminal building will be equipped with a command center, a dispatch room, ticket sales point, waiting area, parking payment machines and other spaces for carrying out the activity.

Chapter 6.2. The directions of action and operational projects in the PMUD mention a series of projects considered for the realization of multimodality, as follows:

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- P 36. Modernization of public transport stations and the installation of interactive equipment to bring them to the "Smart Bus Station" standard, which will ensure the modernization of public transport stations, by installing interactive equipment such as: information panels on the arrival of the vehicle of public transport in stations, touchscreen panel for real-time information, including intermodal exchanges and origin-destination travel solutions, video cameras, environmental sensors, etc.
- P 37. Increasing the performance and accessibility of public transport by introducing the concept of intelligent intermodal transport terminals, which will ensure the creation of intelligent intermodal terminals, which provide information on the possibilities of intermodal exchange, especially between public transport and trips by bike: public transport stations, traffic charts, bike-sharing stations, availability of bikes in bike-sharing terminals, etc.

- According to the provisions of PUZ Târgu Jiu, the "Multimodal terminal and Park&Ride base" project, which will be submitted for financing through PR, has the following objectives:
- Parking arrangement (including green spaces and aesthetic vegetation), with modern facilities that will ensure both the comfort of the citizens (and implicitly the attractiveness of the terminal) and the safety of the parked vehicle, being equipped with the following automatic access control facilities, electronic tolling solution, with multiple payment facilities integrated with the public transport system, so as to allow preferential pricing for those who use the park&ride parking lot, local video surveillance;
- Access roads for local public transport, cars and minibuses/tourist coaches;
- The network of electric vehicle charging stations, made with multi-standard chargers, both low-power (typically up to 22kW) available for citizens who leave their cars in the parking lot for longer periods, but also high-power fast chargers (typically 75kW) for those in transit;
- Bus station (building for passengers and platforms for shared public transport), modern and aesthetic, with waiting areas for passengers, space for shared transport drivers and attendants and a technical space;
- The platforms for the local public transporter, in number of 6 (six), will be numbered and equipped with information boards, so that the route and timetable can be easily identified by travelers;
- Extension of the contact line for shared transport with the trolleybus on Termocentralei street from the existing roundabout at the intersection with Aleea Victoriei to the objective and contact network of the premises for the platforms dedicated to local shared transport;
- The public lighting will be of the "smart" type, equipped with motion and presence sensors, both inside the building and in the parking lot;
- Photovoltaic panels: to compensate for high electrical consumption;

The Park&Ride infrastructure will support the zonal policy of discouraging private car transport and the orientation towards sustainable modes of transport - public transport, cycling, walking. The use of parking by the citizens of the Metropolitan Area implies a decrease

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in the number of trips in the municipality of Târgu Jiu using the car and the use, instead, of the public transport system, which will generate a reduction in CO2 emissions, as well as in other polluting emissions generated by road transport. By creating this type of facility, the goal is to encourage the modal shift from private to public transport and, as the case may be, to non-motorized modes of transport.

DROBETA-TURNU-SEVERIN MUNICIPALITY

Multimodal facilities

Chapter 9.6 The intermodal structure and necessary urban planning operations of the PMUD provides for the implementation of a project for the placement of bicycle racks in public transport stations that will facilitate the provision of intermodality between various types of transport. The future facilities will support a direct and efficient modal exchange and better accessibility to the inner city. They should also be associated with bicycle parking or bicycle rental systems once they are implemented on an urban scale.

The same is recommended for the main existing public transport stations, located in areas with particular commercial and pedestrian potential, such as neighborhood centers or the area of institutions of wide public interest. These points must be identified and analyzed, and modal nodes will be proposed in which several modes of transport intersect, in an efficient manner and which facilitate a comfortable transition from one to another, depending on the needs.

SLATINA MUNICIPALITY

The sustainable urban mobility plan for the municipality of Slatina, which covers the period 2017-2030, expresses the strategic vision of the municipality for this period, and among the specific objectives: OS8. Infrastructure that encourages sustainable travel and efficiently serves residential areas and OS9. Modern and functional road system.

Multimodal facilities

Chapter 6.1. from the PMUD – Directions of action and projects for the transport infrastructure, provides for the creation of a multimodal point in the area of the CFR train station and the bus station, through urban redevelopment and the provision of specific functions, which offer the possibility of easy transfer from one mode of transport to another. Access facilities to rail transport, public transport, represented by buses, as well as a bike-sharing point could be arranged in this area. Electric vehicle charging stations could also be installed in the areas.

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RÂMNICU-VÂLCEA MUNICIPALITY

Multimodal facilities

The "Do something" scenario, described in the PMUD, foresees, among other projects, the creation of multimodal terminals, which will ensure the exchange between inter/intra-county and local transport, taking over the flows of travelers arriving in the city and re-embarking and in local, ecological and modern means of public transport. The terminals will be equipped with waiting rooms, points of sale and ticket vending machines, passenger information systems, video surveillance systems, facilities for the disabled, boarding/disembarking platforms, bicycle parking facilities, upgraded sidewalks for easy access. The financing of the action is eligible, according to the PMUD, through the South-West PR 2021-2027.

1.6 Funding opportunities

This sub-chapter lists the funding opportunities for the development of bicycle infrastructure, without details regarding the projects that have been carried out or are being implemented, they will be presented in chapter 4.2, by program category. Thus, at this moment, the programs that have the development component of the cycling infrastructure are the following:

• THE SOUTH-WEST OLTENIA REGIONAL PROGRAM 2021-2027, priority 4 – sustainable urban mobility estimates the creation of 110 km of cycle paths as a result of promoting sustainable urban mobility.

• The National Recovery and Resilience Plan (PNRR);

• Administration of the Environmental Fund - programs financed through the AFM.

The SV Oltenia Regional Program 2021-2027 is based on the existing needs and challenges at the level of the region, considering the RT conclusions from 2019/2020. The program reflects the guidelines of the EU Cohesion Policy for 2021-2027 and supports the fulfillment of the policy objectives assumed at the EU level.

The program's strategy has the role of supporting the policy objectives assumed at the EU level through some types of investments that contribute to regional competitiveness, innovation and digitalization, energy efficiency, mobility and connectivity.

Priority axes and specific objectives of the Strategy:

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Priority axis 1 - A competitive region through innovation, digitization and dynamic enterprises

- Strengthening research and innovation capacities and the introduction of advanced technologies;

- Boosting the growth and competitiveness of SMEs;

Priority axis 2 - A region with Smart cities

- Supporting the digital transformation of the regional economy and areas of public interest and reaping its benefits for citizens and businesses;

Priority axis 3 - A region with environmentally friendly cities

- Optimizing the use of resources by supporting and promoting energy efficiency, reducing carbon emissions and urban regeneration through the development of green infrastructure in the urban environment;

Priority axis 4 - An accessible region

- Increasing mobility and connectivity through the development of a modern and sustainable road transport infrastructure;

Priority axis 5 - An educated region

- Increasing access and participation to a quality, modern education, correlated with the requirements of the labor market;

Priority axis 6 - An attractive region

- Increasing the potential of culture and tourism as vehicles of economic and social cohesion and development;

Priority axis 7 - Technical assistance.

The 2021-2027 Regional Program Strategy, annex V, includes a series of interventions eligible for ERDF funding, including:

- 073 - Clean urban transport infrastructures, worth 20,040,000 euros;

- 074 - Clean urban transport rolling stock, worth 50,000,000 euros;

- 075 – Bicycle infrastructures, worth 25,000,000 euros.

According to the Guide for public transport in cities, through Specific Objective 2.8 - Promoting sustainable multimodal urban mobility, as part of the transition to an economy with zero carbon dioxide emissions, the action - "Support for sustainable and sustainable urban transport", the call for projects no. PR SV/Orașe/4/2.8/2023, specific activities will be supported that lead, mainly, to improving the efficiency and attractiveness of the public

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transport system, including transport for students, travel times, accessibility, transfer to public transport travelers (intermodal) and non-motorized modes of transport.

Point II. Infrastructure support for active (non-motorized) transport modes includes:

- **Creation/modernization/expansion of pedestrian routes**

This activity can only be carried out together with other investments in road infrastructure (bicycle paths, lanes dedicated to urban public transport). Also, it is not mandatory that these constructed/modernized/extended pedestrian areas/routes are part of the road body. Within the projects, this activity must be integrated with other activities leading to the improvement of mobility at the level of the study area (connecting public transport stations or ensuring pedestrian access to public transport stations).

The following sub-activities may be considered eligible:

• Construction/modernization/expansion of exclusively pedestrian areas, where car traffic will be restricted, except for supply and emergency vehicles;

• Construction/modernization/expansion of priority pedestrian areas, used as shared spaces for pedestrians and urban public passenger transport routes, especially for the public passenger transport system.

• Building/modernizing/expanding pedestrian routes, including by building/modernizing/expanding sidewalks and limiting the use of this space for car parking;

• Construction/modernization/extension of bridges/passages/pedestrian walkways or both for bicycles and pedestrians, without the road traffic component, only if they are part of the route/pedestrian area (not as a separate investment);

• Within the semi-pedestrian/pedestrian routes/areas, urban furniture, accessibility components (elevators) can be installed and the public lighting related to these routes/areas can be built/modernized/extended on a point-by-point basis, but also for bicycle ones (not the lighting street-road that serves the carriageway part of the streets), this sub-activity contributing to increasing the comfort of using non-motorized modes of transport.

• Installation of systems to reduce/ban the circulation of cars in certain areas.

- **Investments in cycling infrastructure, bicycle rental systems**

Bike tracks/paths built/upgraded/extended by the project must be integrated into a continuous urban network, already existing or proposed to be created by the project or through complementary projects, which provide links to areas of local or touristic importance of the city /ZUF.

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Built/modernized/extended bicycle tracks/paths must have a minimum width adapted to the safe movement needs of the estimated flow of cyclists10, must be separated and/or protected from the traffic of other vehicles, according to legal provisions and according to the requirements of the achievement indicator RCO58, being reserved for this type of travel.

In the situation where the cycle tracks/trails are part of the road body, this activity can be carried out independently of investments in the road infrastructure.

It is not mandatory that these built/upgraded/extended cycle tracks/paths are part of the road body.

The following sub-activities are considered eligible:

• Construction/upgrade/extension of cycle tracks/paths, including construction/upgrade/extension of bridges/passages/walkways for bicycles or both bicycles and pedestrians, without the road traffic component, but only as part of the bicycle route (not as a separate investment), the location of monitoring systems;

• Purchase and installation of grids, purchase and installation of video surveillance cameras for bicycle parking (for example, if the applicant has a functional video surveillance system that can be expanded for bicycle parking);

• Construction of bicycle parking lots;

• The construction/modernization/extension of the public lighting system that serves these bicycle paths or the paths/trails for bicycles and pedestrians, but the street-road lighting that serves the carriageway part of the streets is not eligible. This subactivity will contribute to increasing the comfort of using non-motorized modes of transport.

For this activity, the territory of the UAT in the urban functional area may be eligible, in compliance with the requirements of section 3.13 of this guide, but only in the context of linking them by bike tracks/routes to the city.

The National Recovery and Resilience Plan (PNRR) is designed in such a way as to ensure Romania's development, by supporting the level of adaptation to crisis situations, in the context of recovery after the COVID-19 crisis, as well as capitalizing on the potential for economic development, through major reforms and key investments.

Component 11 – Tourism and culture, Reform 2 - Creation of the framework for the operationalization of cycling routes at national level, Investment 4, provides for the implementation of 3,000 km of cycle paths.

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Administration of the Environmental Fund - programs financed through the AEF

According to the Guide to financing bicycle lanes, the objective of the Bicycle Lanes Program is to develop the bicycle infrastructure in Romania by financing bicycle lanes. The purpose of the Program is to improve the quality of the environment by reducing greenhouse gas emissions by stimulating the use of non-polluting transport, simultaneously with the reduction of motorized traffic. The financing of the Program is made from the revenues resulting from the sale of greenhouse gas emission certificates collected from the Environmental Fund within the limits of the commitment and budgetary credits provided for this purpose through the annual budget of the Environmental Fund, approved according to the law.

Funding is granted for each category of applicant, as follows:

a) UAT - Bucharest Municipality - maximum 50,000,000 lei;

b) the subdivision of the Municipality of Bucharest - maximum 30,000,000 lei;

c) UAT – first rank municipality - maximum 25,000,000 lei;

d) UAT – rank II municipality - maximum 20,000,000 lei;

e) UAT – city – maximum 15,000,000 lei;

f) commune with less than 5,000 inhabitants - maximum 2,500,000 lei;

g) commune with more than 5,000 inhabitants - maximum 5,000,000 lei;

h) UAT - county - maximum 15,000,000 lei.

Within the projects, the maximum amount that can be financed for the construction of one km of cycling tracks and which represents 100% of the total amount of eligible expenses is:

a) 1,000,000 lei/km for bicycle lanes that involve works on sites separated from the road, not designed as a sidewalk or roadway;

b) 350,000 lei/km for bike lanes that require work on the existing roadway or sidewalk.

We analyzed the program run by AFM for this purpose and identified only one request for enrollment in the program, namely request no. VELO01202241700083, submitted by the Ciupercenii Noi commune, which was rejected by the authorities.

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2 Strategic context

2.1 General consideration

During the 2007-2013 programming period, the regions of the European Union were divided into two categories, depending on income: less developed regions and more developed regions. The European Commission established, for the 2014-2020 financial year, the creation of so-called "transition regions", whose GDP per capita is between 75% and 100% of the European Union average.

The three defined categories will be eligible for investments in the period 2021-2027 as follows (according to https://ec.europa.eu/regional_policy/en/2021_2027/#23):

- The less developed regions, whose GDP per capita is less than 75% of the European Union average, will continue to have maximum priority within this policy. The maximum co-financing rate is set at 85% in less developed regions, but also in ultra-peripheral regions;

- The transition regions, whose GDP per capita is between 75% and 100% of the European Union average, will have a co-financing rate between 60% - 70%;

- The more developed regions, with a GDP per capita equal to or greater than 100% of the European Union average, will have a co-financing rate between 40% - 50%.

The Southwest Oltenia region falls into the category of "less developed" regions, being characterized by a GDP per capita lower than 75% compared to the average of the European Union.

The European document "EU Cycling Strategy. Recommendations for Delivering Green Growth and an Effective Mobility in 2030" is the result of the review of policies related to the use of bicycles, which will determine the development of the bicycle network, so that cycling covers a higher modal share, reduce the mortality rate among cyclists and ensure increased safety for those who use this mode of travel.

At the national level, several official documents promote the use of the bicycle directly or indirectly. Between these:

- **Romania's General Transport Master Plan** establishes the guidelines for a sustainable development, one of its estimated results being: "A sustainable (sustainable) transport system", objective also supported by the implementation of the present project;
- **National Strategy for Road Safety**, whose priority is to separate slow traffic from transit by building roads dedicated to slow vehicles,
- such as: agricultural machinery, carts, bicycles. In the case of bicycles, apart from local traffic, tourist traffic - cycle tourism - can be taken into account in certain pilot sectors, given that there are currently, in member states of the European Union, international

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cycle tourism networks that connect the big cities through " green roads" dedicated exclusively to bicycles. The priority development of all types of green roads is also considered, including those that do not intersect with the main road transport routes.

- **National Strategy for Sports** for the period 2023 – 2032, approved by HG 444/2023, which mentions cycling among the priority sports that must be considered for the development of the necessary infrastructure;
- **Romania's National Strategy for the development of tourism** in the period 2023-2035, it provides for the creation of the framework for the operationalization of cycling routes at the national level and the development of 3,000 km of new national cycling routes throughout the country;
- **Decision no. 441 of March 30, 2022, for the approval of the Methodological Norms** on the creation, arrangement and homologation of cycle tourism routes establishes the methodological norms regarding the creation, arrangement and homologation of cycle tourism routes, as well as establishing the institutions responsible at the central and local level for the operationalization, maintenance and monitoring of the cycle tourism infrastructure;
- **Bicycle Infrastructure Design Guide**, developed by the Organization for the Promotion of Alternative Transport - OPTAR and the Ministry of Regional Development and Public Administration according to the collaboration protocol no. 53507/07.06.2016;
- **Sustainable urban mobility plans** are the documents aimed at promoting and implementing the necessary measures for sustainable mobility, improving the quality of life of citizens in areas with heavy traffic, through the transition to ecological modes of travel, reducing fuel consumption and reducing air pollution, increasing the comfort and accessibility of bicycle travel.

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2.2 Technical characteristics regarding the construction of cycling paths

According to the Guide for the design of bicycle infrastructure, the space required for the safe movement of the cyclist is determined by the following values:

a) Width of the vehicle and of an adult user;

The width of a bicycle and its user is usually 0.75 meters, but may exceed this width in the case of a large person or in the case of cargo bicycles.

b) The sinuosity necessary to maintain balance on two wheels;

Beginners, cyclists with heavy luggage, those who climb ramps or those who leave from the place have more sinuosity of the bike. This usually ranges between 0.2 and 0.8 meters.

c) The lateral distance required when overtaking between bicycles;

Sinusoidal riding on a bicycle requires, when overtaking between bicycles, to keep a lateral distance of at least 0.5 meters.

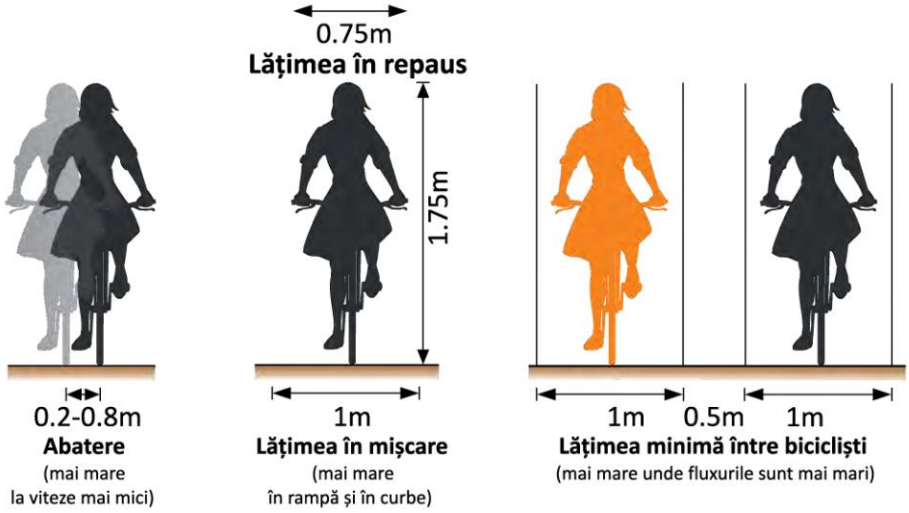

Figura nr. 58– The needs of the bicycle user

d) Lateral distance from road traffic;

Turbulence caused by road traffic can throw a cyclist off balance. The safety distance from road traffic must be at least 1.5 meters. If traffic calming measures are applied and the maximum speed is 30 km/h, the safety distance can be at least 1 meter.

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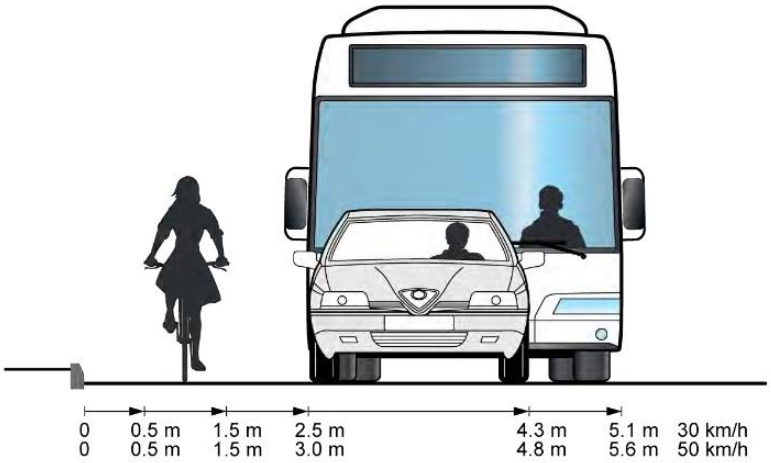

Figura nr. 59– the recommended lateral distance in general traffic

e) The space required to safely perform the overtaking maneuver and to perform the mandatory signals that must be performed when changing the direction of travel and when stopping;

Turns and stops must be signaled by cyclists 25 m before performing the maneuver. The road administrator must ensure that there is sufficient space to carry out these signals safely.

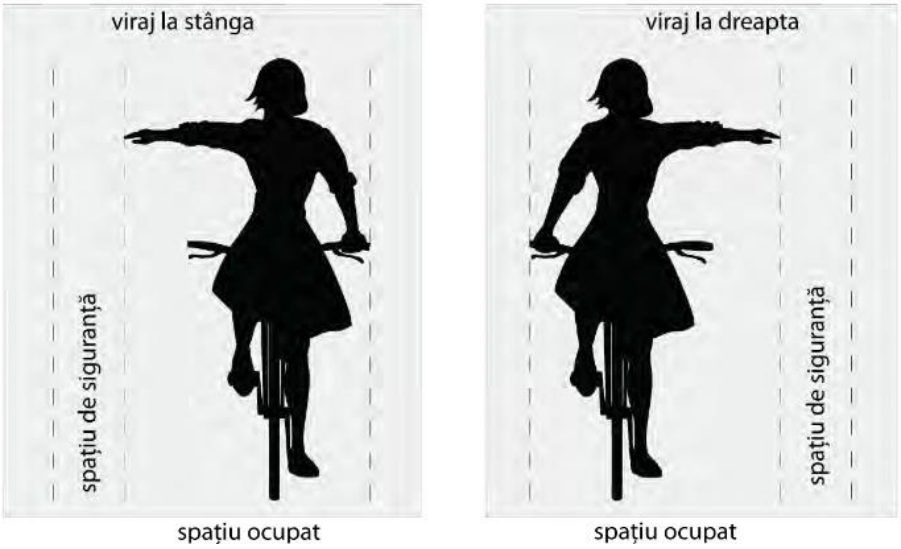

Figura nr. 60– The space occupied when making the mandatory turn signals

f) Distance from nearby obstacles;

The pedal reaches 7 cm from the ground or even lower when the bike makes a turn. Therefore, the safety space in the vicinity of the cycle paths must be free of any obstacle. The safety space in the vicinity of bicycle paths must have a minimum width of 0.5 meters.

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When space is limited, curbs can be side or traffic dividers. Their height must be a maximum of 5 cm to avoid the pedal hitting them. Curbs with edges or corners that can aggravate the consequences of an accident in the event of an impact will not be used.

The gauge of bicycle paths must ensure a clear passage height of 2.50 meters, as in the following figure:

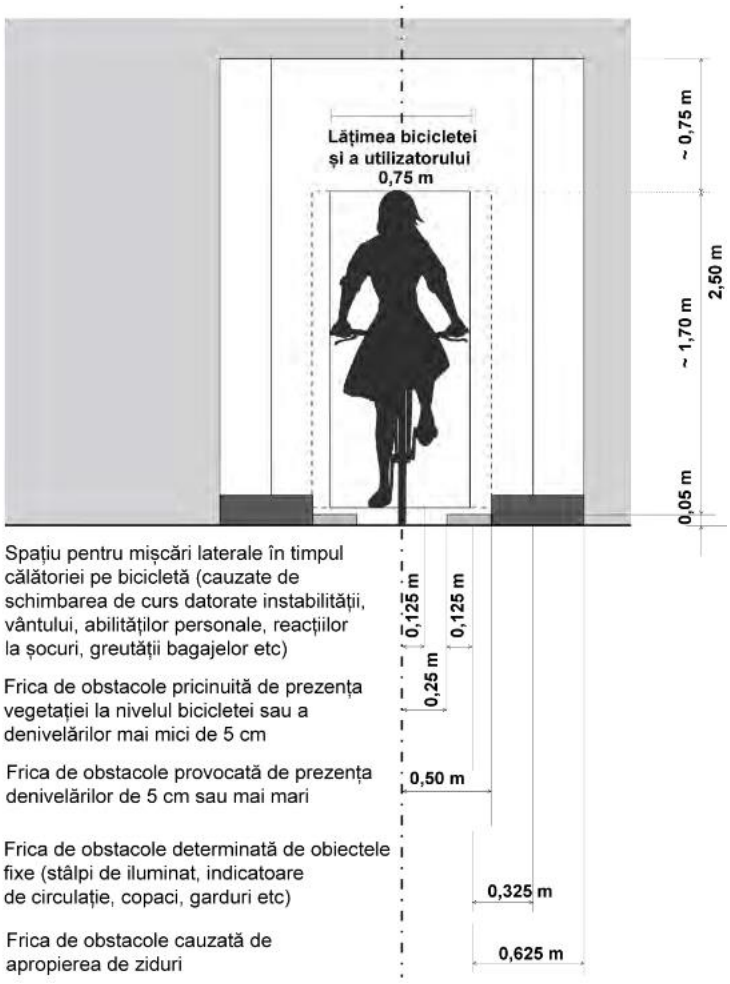

Figura nr. 61- Distance to nearby obstacles

g) Space required in turns.

When cornering, the space occupied by the cyclist increases with higher speed, as he leans towards the inside of the corner. That is why, in addition to the safety space, in the inner area of the turn no obstacles higher than 1 m will be placed less than 1 m from the bicycle path.

The principles of creating bicycle infrastructure:

- Minimum qualitative criteria:
- Safe;
- Direct;
- Cohesive;

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- Comfortable;
- Attractive.

- Safety is undeniably the basic requirement and must be the primary concern in the planning and implementation of bicycle infrastructure. Equally important is the perception of safety, which influences the decision to use the bicycle or electric scooter.
- Directness. In terms of distance, the directness criterion of a bicycle utility route is calculated by relating the distance of the route to the straight-line distance between the ends of the route. This bypass ratio must be a maximum of 1.2 or, exceptionally, a maximum of 1.4.
  In the case of recreational routes, where attractiveness plays an important role in the choice of route, this ratio will not be taken into account.
- Cohesion refers to the extent to which routes can be cycled from any starting point to any destination without interruption.
- The comfort of the infrastructure makes cycling a pleasant experience.
- Attractiveness. Cycle routes must integrate with the specific aesthetics of the area, such as the design of green spaces, shopping streets, etc.

The set of priorities in the design and construction of bicycle paths:

	Rețeaua traseelor utilitare	Rețeaua traseelor de agrement
1.	Sigură	Sigură
2.	Directă	Atractivă
3.	Coezivă	Coezivă
4.	Confortabilă	Confortabilă
5.	Atractivă	Directă

a) **Bicycle paths**

Allocation of space for bicycle infrastructure

On 4-lane streets, there is a fair sharing of individual motorized traffic and alternative modes of travel must be a priority.

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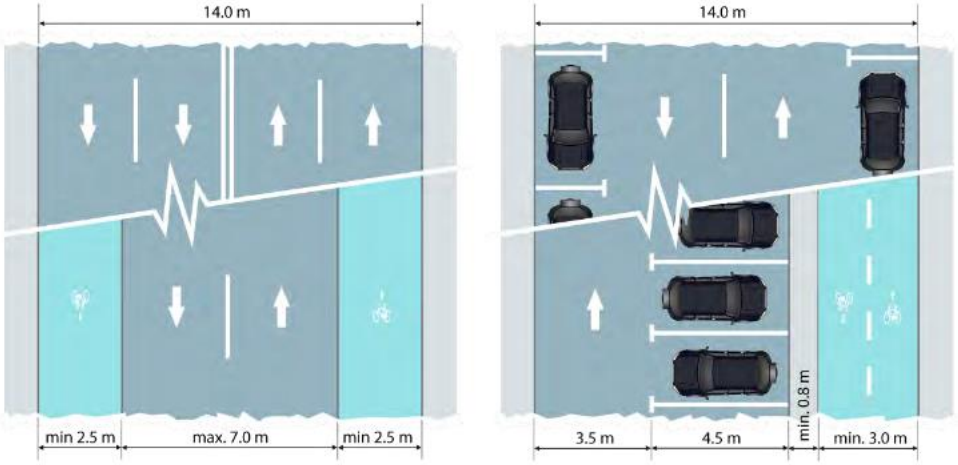

Figura nr. 62- example of redistribution of space in the case of a street with 4 traffic lanes

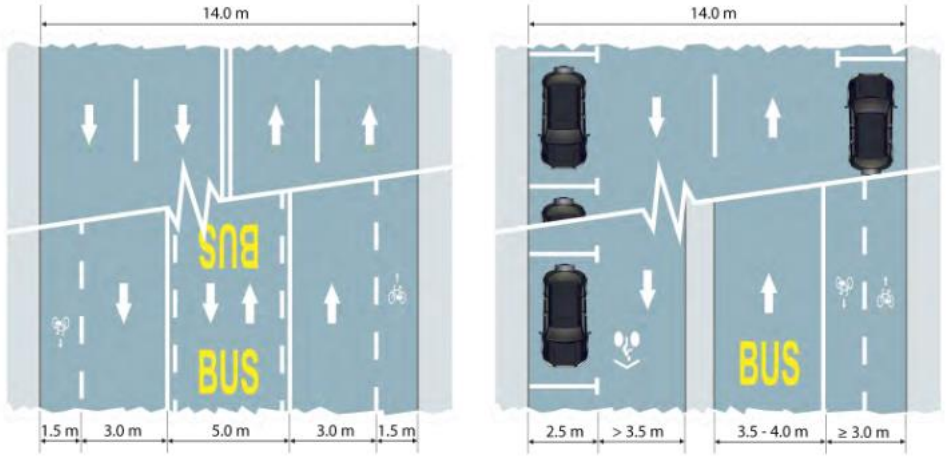

Figura nr. 63– examples of redistribution of space in the case of a street with 4 traffic lanes

The cancellation of lateral parking lots on the road side, the narrowing of car traffic lanes or the elimination of a direction of traffic for general traffic are options for redistributing the road surface in order to develop the infrastructure dedicated to alternative transport.

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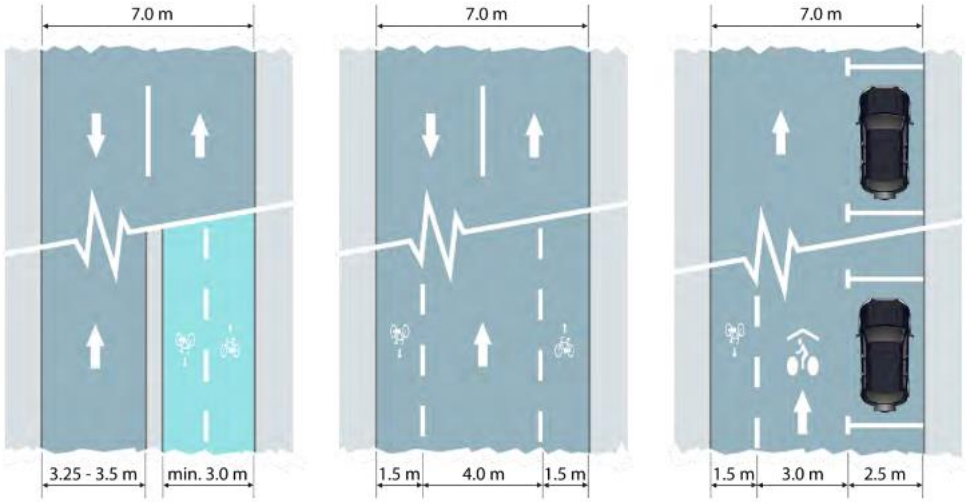

Figura nr. 64- Examples of redistribution of space in the case of a street with two traffic lanes

Cycle lanes are designed between pedestrian and motorized flow, where they exist. In this way the artificial creation of conflict points is avoided.

b) Bicycle paths on sidewalks

The legislation prohibits riders of bicycles or electric scooters from riding on the sidewalk, but allows the narrowing of sidewalks, in compliance with standards and regulations, to create bicycle lanes. Bicycle lanes will be set up on the sidewalk only if, at intersections with secondary streets, there is a space of at least 5 meters long between the bicycle lane and the road with priority for the vehicle to stop and the driver to secure himself without blocking the bicycle path.

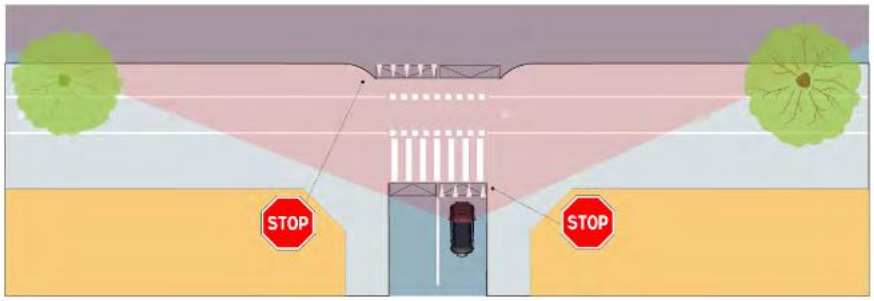

Figura nr. 65- The driver must have visibility, according to safety regulations

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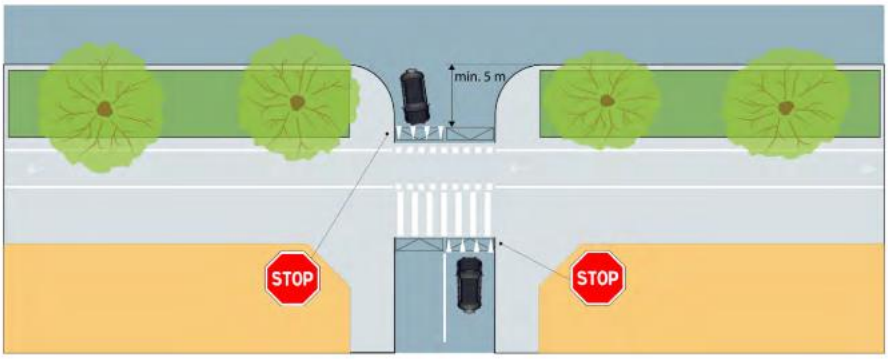

Figura nr. 66- If the visibility required for insurance cannot be ensured at the stopping point, the space between the bike path and the priority road must be at least 5 meters

c) Bike paths in parks

To complement the network of cycle paths, cycle paths can be set up in parks. They must be separated from pedestrian traffic and have as few intersections with pedestrian flows as possible. At intersections with pedestrian routes, pedestrians will have priority.

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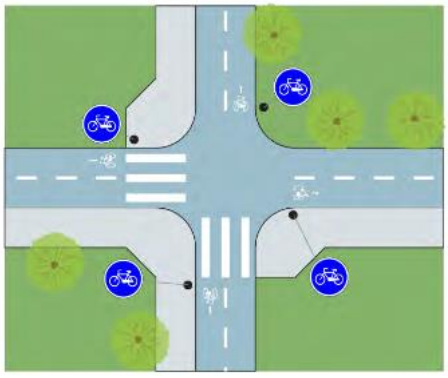

Figura nr. 67- Example of an intersection with pedestrian walkways and cycle paths in a park or public garden

Road wear and pavements

Regarding road clothing and pavements used on cycle paths, these

must meet the following requirements:

a) Flatness of the surface, in longitudinal and transverse profile

The flatness of pavements determines the horizontal and vertical vibrations experienced by cyclists and, as such, constitutes an important condition for a comfortable infrastructure for bicycle use.

To an important extent, flatness also determines the resistance that cyclists experience and, consequently, their energy consumption.

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b) Surface roughness

The roughness is largely determined by the surface texture, by the presence of roughness. The texture is important not only for the comfort of the cyclists, by limiting the loss of energy, but also for their safety and the traffic in general. The main characteristics of the texture are microtexture and macrotexture.

Microtexture, or low speed friction parameter, is the level of adhesion (of individual particles) that can be achieved at low speed. In conclusion, the lower the value of this parameter (< 0.50 mm), the more effective contact is ensured between the bicycle tire and the running surface.

Macrotexture, or degree of grip reduction, is the level of surface grip that can be achieved with increasing speed.

c) Homogeneity. Surface appearance

It must not present degradations in the form of excess bitumen, cracks, porous, open, sanded areas.

d) Water collection and drainage

Because cyclists pedal outdoors and are not protected from weather influences, special attention must be paid to the proper collection and disposal of water. Cycling through standing water is not comfortable.

Bicycle parking

Bike racks are important urban furniture elements, designed to facilitate the safe storage of the bicycle at the destination. The lack of bicycle parking spaces or their insufficiency is a major impediment that discourages the use of bicycles as a mode of travel.

Spaces where short-term or long-term public parking for bicycles or other two-wheeled electric vehicles are set up must be equipped with charging points or stations, as well as terminals/automatic machines or spaces for paying their rent. In the case of parking lots for employees managed by companies or institutions, it is preferable that they be equipped with changing rooms and showers.

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3 The results obtained in the 2014-2020 programming period and the current situation

Between 2014 and 2020, the South-West Oltenia region benefited from the development of bicycle infrastructure through European funds, especially through the Regional Operational Program (POR). The program was supported by the local public administration, which aimed to improve the cycling infrastructure. These initiatives were part of a wider effort to encourage the use of bicycles as an environmentally friendly transport alternative, thus facilitating mobility and reducing environmental impact in the Oltenia region. A series of projects were carried out in the five counties, as follows:

1. Bicycle infrastructure was built or developed in **Dolj County**, the identified data are as follows:

- the Craiova - Bucovăț - Pădurea Bucovăț route is a route of approximately 20 km, suitable for mountain biking (MTB). The route starts from Craiova and crosses the countryside to the Bucovăț forest.
- In the Youth Park in Craiova, an adventure park was set up with obstacle courses on the ground, which can also be traveled by bicycle. However, these routes are at high prices for the public.
- • The project for the development of the "Nicolae Romanescu" Park in the municipality of Craiova, Dolj county, had as its objective the stimulation of local development and the increase of the city's competitiveness by preserving, protecting and sustainably capitalizing on the local cultural heritage and promoting the elements of cultural identity. Thus, the project aimed at enhancing the value of the "Nicolae Romanescu" Park, one of the emblematic objectives of Craiova, considered one of the most representative monuments of landscape art in the country. The total area of the park is more than 96 hectares and includes, in addition to the ornamental plantations of trees and shrubs, an expanse of water of more than 4 hectares, consisting of a series of ponds with water lilies connected to each other by small waterfalls or crossed by footpaths , a lake with pleasure boats and an island which can be reached by two bridges. The park also has a 20-hectare racecourse, a velodrome, cycle tracks, roads, lanes and paths totaling over 35 kilometers in length. It is considered the largest natural park in Eastern Europe and the second largest in Romania (https://www.roreg.eu/assets/files/downloads/Buletin%20regional.pdf).

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Figura nr. 68- bicycle paths in Romanescu Park

The bicycle tracks along the alleys of the Romanescu Park came as a result of the repeated requests of the citizens of Craiova, who had the opportunity to use the velodrome built in the park, but could not reach it by pedaling. Thus, by drawing the demarcation line between the bicycle path and the pedestrian part, movement by bicycle was allowed.

Figura nr. 69– Romanescu Park bicycle path development area

- DJ552, **Craiova – Mofleni – Bucovăţ – Terpeziţa – Sălcuţa – Vîrtop – Caraula – Cetate**, km 4+200 – 71+771, 21,230 ml track for cyclists, 100% completed, was modernized. The value of the works is approximately 169.3 million lei, with non-refundable funding of 165.4 million lei, and the project is implemented by the County Council (CJ) Dolj, in partnership with the local public authorities in the seven municipalities that the road

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cross. Thus, the residents of the area will be able to reach Drobeta-Turnu Severin, Târgu Jiu and Bucharest much faster, via Pitesti or Alexandria. The rehabilitation of the 70 kilometers of road will reduce the time spent in traffic by 30%. In addition to asphalting the road, reinforcements are being made to nine bridges and 31 footbridges, new footbridges, drains and gutters are being built, 14 bus stops are being fitted with alveoli, sidewalks, pedestrian crossings, parking lots and bicycle lanes, road signs are being installed and speed limiters. Guardrails are also placed at dangerous curves and intersections and side roads are landscaped.

- Through the project "Integrated system of sustainable urban mobility in the city of **Segarcea**, Dolj county: development of bicycle paths and pedestrian infrastructure, modernization of the road used by public transport, development of bus depots and bus stations", financed under the Regional Operational Program 2014- 2020, PRIORITY AXIS 3, Supporting energy efficiency, smart energy management and the use of energy from renewable sources in public infrastructures, including public buildings, and in the housing sector, Specific Objective 3.2 – Reducing carbon emissions in urban areas based on plans of sustainable urban mobility, construction works were carried out, purchase of equipment for road works - sidewalks, construction of 6,420 square meters of bike lanes in the city of Segarcea (Str. Republicii 2,450 square meters, str. Unirii 3,970 square meters), stations. Completion stage – 53.39%.
- **The municipality of Craiova** implemented the project: "Development of ecological transport in the municipality of Craiova", financed under the Regional Operational Program 2007-2013, Priority Axis 1 "Supporting the sustainable development of cities - urban growth poles", to improve the mobility of the population in general and of the workforce on the two large East-West industrial platforms of the Craiova growth pole, with a direct impact on increasing the economic competitiveness of the Craiova Metropolitan Area, as a result of the rehabilitation of the road and public transport infrastructure.

Specific objectives:
• Reduction of noxious emissions generated by heavy traffic by encouraging the use of ecological means of transport, namely: trams, electric or hybrid vehicles and bicycles.
• Reduction of the costs and polluting emissions of public transport as a result of the rehabilitation of the electrical network of the tram line.
• Improvement of the road transport infrastructure in the Craiova metropolitan area, as a result of the modernization of 48,702.5 square meters of road surface.

1. Following the completion of the project, the following indicators were reached:
2. - Rehabilitated road surface – 48,702.5 sq m;
3. - Arranged bicycle tracks - 4765.2 sq m;
4. - Arranged parking lots – 2878.7 sq m;
5. - Equipped bus stations - 792 sq m;
6. - Tram platforms – 540 sqm;
7. - Rehabilitated contact line electrical network - 8100 m.

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2. In **Gorj County**, the situation is as follows:

• In **Motru**, road and sidewalk works were carried out, which included cycle tracks with a length of 4355 m;

• Cycle tracks were created along DJ675C, originating in DN 67B, crossing the towns of Targu Logresti, Popesti, Bustuchin, Poiana Seciuri, Seciurile, Rosia de Amaradia, Becheni, Corsoru, Alimpesti, Sarbesti, Ciupercenii de Oltet, up to DN67, length 6,190 ml;

• Bicycle tracks were built along DJ675B, which crosses the towns of Campu Mare-Albeni-Calugareasa-Prigoria-Zorlesti-Alimpesti, up to DJ675C, with a length of 1,110.00ml.

• The municipality of **Baia de Fier** implements a project of 5 million euros in the development of the tourist and leisure infrastructure, through which pedestrian paths, bicycle paths and rest stops were arranged over a distance of 8km, an outdoor amphitheater was built with brothels for folk craftsmen and a playground, an outdoor fitness space and a pump track for skateboards, rollers, scooters and bicycles have been set up. The total value of the project is 26.5 million lei, and the non-refundable financing - 25.3 million lei and will be completed in December 2024.

3. In **Mehedinți County**, the following were achieved:

The municipality of Drobeta-Turnu-Severin has created 9,599 km of routes suitable for bicycle use and an automatic bicycle rental system, thus contributing to the promotion of non-polluting urban transport.

The project "Alternative urban mobility system using automatic bicycle rental stations-Drobeta VELOCITY" is being implemented, and aims to develop an alternative public transport system, with the aim of decongesting traffic, reducing the level of pollution in central areas, while also aiming to increase quality life as a whole. The system components are:

- 21 automatic bicycle rental and delivery stations in various points of interest in the city - intelligent docking stations for the bicycle fleet (17 single stations and 4 double stations);
- 240 bicycles specially adapted for public traffic, made of light materials, equipped with safety systems and permanent GPS monitoring, mechanically or electrically operated, 5 tricycles for seniors, 5 tricycles for people with disabilities;
- Management center of the bike sharing system in order to ensure the uniform distribution of bicycles in the stations, 5 troubleshooting stations for emergency repairs and 5 private parking lots for bicycles.

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4. In **Olt County** the situation is as follows:

Two projects financed by the Regional Operational Program 2014-2020 were implemented in the municipality of Slatina:

- "Building infrastructure for bicycles", SMIS code 127372, through which extensive interventions were carried out in order to create the infrastructure for traveling by bicycle (bicycle paths). These included painting the surface of the bike path, making road markings specific to the demarcation and signaling of the bike path, installing specific road signs and installing panels with variable messages specific to bicycle transport. (http://www.primariaslatina.ro/rezumat_proiect_127372.html).

  The project has two stages:

  - stage I, 2017-2024 - unites the agglomerations of major urban functions identified in the municipality, network length–14 km;
  - stage II, 2024-2030 - development of a network of bicycle paths inside densely built neighborhoods, unites smaller agglomerations of urban functions; network length–10 km.
- **Sustainable mobility integrated project** (bicycle components and electric vehicles), SMIS code 127373. It has as its object two activities aimed at promoting alternative travel through: the introduction of a bike-sharing system, respectively the installation of electric charging stations and the introduction of a system of management of electric charging stations.

COMPONENT 1: The bicycle rental system ("bike-sharing") with the following elements:

- smart bicycle rental terminals;

- 5 smart bicycle drop-off and collection stations (Ecaterina Teodoroiu str., Piața Gării str., Al Cuza bd., Primăverii str., Lipscani str.);

- 110 smart bicycles equipped with on-board computer;

- 12 smart tricycles equipped with on-board computer;

- operation center with integrated software and hardware management and communications system (located in Drăgăneşti str. no. 25);

- logistics and distribution system;

- emergency bicycle repair stations;

- maintenance equipment kit.

COMPONENT 2: Support subsystem for electric vehicles (http://www.primariaslatina.ro/rezumat_proiect_127373.html).

- The project to modernize Văilor Street and Vintilă Vodă Street aimed to promote sustainable urban mobility, by making public passenger transport more efficient as a

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result of the rehabilitation of the streets on which buses travel. The modernization works of Văilor Street were completed in 2021 and consisted of both the restoration of the roadway and the sidewalks, as well as the placement of safety elements for pedestrians and cyclists.

Caracal City Hall has completed the construction of the first bicycle path in the city. Those who are passionate about pedaling have 2270 m of lane at their disposal to exercise on two wheels. The track route stretches from the entrance to the park on Cuza Vodă Street, continues along the outer edge of the lake to the stadium and back to the other side of the water.

Corabia City Hall implemented projects through which it created 11,590 m of bike lanes (achievement 97.3%), established two spaces where bicycles can be rented and created 15 locations with bicycle parking (achievement 90.65%).

5. In **Vâlcea County** the situation is as follows:

- **Râmnicu Vâlcea Municipality** has started the projects "Increasing urban, pedestrian and cycling mobility in Râmnicu Vâlcea Municipality - Component I" and "Increasing urban, pedestrian and cycling mobility in Râmnicu Vâlcea Municipality - Component II"

The 2 projects aim to create an integrated mobility corridor that will support the circulation of cyclists and pedestrians at the level of the Râmnicu Vâlcea Municipality through:

· construction of approx. 46.33 km of bicycle paths for the creation of a functional network, interconnected at the level of the Râmnicu Valcea Municipality, according to the provisions of the Urban Mobility Plan from North to South in the Municipality, as well as on the bed of the Olt River and the Olănești River;
· the construction of approximately 8 parking lots for bicycles (Strand Ostroveni, Mircea cel Bătran Park, Capela Park, Zoological Garden, Heads of public transport routes – Northern Dispatch, Hermes; Central Square);
· creation of 5 smart bicycle rental centers;
· capitalizing on the Olt and Olănești River bed by creating promenades - total length of approx. 15 km, including the construction of three bridges over the Olănești River dedicated exclusively to pedestrians and cyclists.

- The 1,281 km cycle track was created through the DJ 678 modernization project, at the border of Olt county: Dragoesti-Casa Veche-Dragioiu-Galicea-Bratia-Cremenari-Bercioiu-Ruda-Barsesti-Barza-Budesti (DN7- E81);
- Cycle tracks were made on both sides of DJ 703G, Jiblea - Sălătrucel - Berislăvești - Robaia - on the border with Argeș County, with a length of 16836 m (8418 m on each side).

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• Brezoi City Hall has implemented an investment project worth 3 million euros in urban mobility. 12 km of bicycle paths were laid out, three electric buses were purchased that students use for free, and a bicycle bridge over the Lotru River, a passenger station and a bus depot with an area of 2,000 square meters were built. The electric buses are 11 meters long, with a capacity of 25 seats and 65 standing. They are also equipped with air conditioning systems, wi-fi and ensure easy access for the elderly and people with locomotor disabilities thanks to the low floors and ramps they are equipped with. In the city of Brezoi, 11,425 m of cycle tracks were made along the Lotru river, left bank L=9,720 m, right bank L=1,705 m.

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4 Current plans and achievements/scheduled results in the period 2021-2027

4.1 Sustainable Urban Mobility Plans, Integrated Urban Development Strategies

The Sustainable Urban Mobility Plans (PMUD) of cities, municipalities and counties for the period 2021-2027 include a series of initiatives and projects aimed at improving bicycle infrastructure and promoting the use of this means of transport. These initiatives are part of a wider strategy of sustainable urban development, aiming to reduce traffic congestion, improve air quality and increase the quality of life for residents.

The integrated urban development strategies (SIDU) are key documents with the aim of ensuring a coherent vision of development at the level of municipalities, cities and metropolitan areas, translated into a portfolio of priority proposals, ideally supported by the community and financed by the European Union . As a planning tool, an Integrated Strategy (SIDU) must respond to local development needs by implementing a participatory process in which good governance, collaboration and community involvement represent pillars of development and ensure the long-term continuity of the development vision.

The sustainable urban mobility plan for the **Craiova** growth pole (PMUD Craiova), carried out in 2015 by the Lot 2 consortium: PTV Transport Consult GmbH, Search Corporation, TTK, PTV AG, in subsection 6.3.2. Encouraging trips by bicycle, proposes 3 action scenarios:

1. Creating/expanding an attractive and coherent network of cycle paths on the major street network by applying appropriate standards for cycle paths, so as to densify the cycle network in the central area, to ensure the connection of the main traffic polarizing points with the central area (parks, stadiums, railway stations, universities, densely populated residential areas, commercial areas);

2. Improvement/rehabilitation of existing cycle paths to appropriate standards;

3. Construction of bicycle parking facilities in public spaces with central functions: arrangement of parking lots.

For the proposals at the level of the localities of the Craiova growth pole, the following were taken into account:

- as far as possible the connection with the municipality of Craiova;

- reconfiguration of the transverse profile of roads in the area of rural settlements with sidewalks and bike lanes.

Among the recommendations related to spatial development planning with premises for the good reorganization of mobility are also those for favoring and encouraging non-motorized travel:

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- Prohibiting the authorization of enclaved areas, without public access streets, over long distances (e.g. fenced residential complexes with private access), which reduce the permeability of urban tissues, discourage non-motorized travel and encourage the use of cars;

- Planning and regulation of street profiles that contain traffic color for traveling by bicycle;

- Planning of "car-free" neighborhoods, in locations with good accessibility to TP. These neighborhoods are either neighborhoods with a motorization index of the inhabitants close to zero (having the option of public transport), or neighborhoods that are designed with underground perimeter parking lots and level 0 dedicated exclusively to non-motorized travel).

- Designing the inner streets of residential neighborhoods as well as other types of streets, either as pedestrian streets or as shared-space streets, according to the "home zone" model.

In all these types of shared spaces, "shared-space", inside neighborhoods (especially residential ones), vehicles have speed restrictions (max 20-30 km/h) and lose any priority pass.

Subchapter 2.4. Alternative means of mobility (cycling, walking and movement of people with reduced mobility), proposes a series of projects for the period 2016-2023:

• Completion of the bicycle network between the Brestai neighborhood and the Central Area;

• Study to identify routes and solutions for setting up bike lanes in the municipality of Craiova;

• Campaigns/actions to promote cycling and road education for all road users;

• Bicycle parking in the park area, for universities/faculties and for public institutions.

For the period 2024-2030, the following are proposed:

• Extension of bicycle parking in the park area, for Universities/Faculties, for public institutions and in the market area;

• Implementation of the municipal bicycle rental system;

• B+R type projects assume the arrangement of B&R type bicycle parking lots in the area of city entrance gates (stations, urban public transport terminals) and in the area of P&R type parking lots.

PMUD **Băilești**, co-financed from the European Social Fund, through POCA 2014-2020, targets the development period 2021-2027. PMUD correlates the proposals from the PUG of Băilești municipality and proposes:

- Park&ride parking development projects;

- The circulation of cyclists will, as a rule, take place on the road side. It is proposed to set up bicycle paths in the Cilieni recreation area, which will be completed with investments in an automatic bicycle rental system (bike sharing).

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The Integrated Urban Development Strategy of **Calafat** Municipality, Dolj County 2023-2027, proposes a series of projects that will contribute to the development and modernization of the city, among which:

- Establishment of a local public transport service for people, the purchase of electric buses and the charging infrastructure for them and the operationalization of the bus depot;

- Setting up a network of tracks, lanes and cycle paths and establishing cycling routes that make the most of the relevant tourist attractions in the area. Development of the bicycle network on the main NS-EV axes of the municipality according to PMUD Calafat, with the aim of facilitating access to the most important elements of local interest. The inclusion of the municipality of Calafat on two of the European bicycle lanes: lane 6 "Atlantic-Black Sea" and lane 13 "Iron Curtain Trail". In this sense, a cycle tourism route will be set up that will connect the Calafat municipality with regional tourist attractions of great interest in the area, such as: Ciupercenii Noi Ornithological Reserve, Wild Peony Reserve, Plenița, Radovan Forest, Răcarii de Jos Roman Castle, Casa Amza Pellea Memorial (Băilești), Bistreț Lake, Preajba-Făcăi Lake Complex, Sadova Monastery, etc. At least 18 km of cycle tracks will be built.

- Construction/arrangement of parking lots/bicycle racks in the municipality of Calafat. The locations where these velo infrastructure elements will be built will also take into account the location of the stations of the local passenger transport system.

- Completing the local public transport system by establishing the "Bike Sharing System" service in the municipality of Calafat. The Bike Sharing system is an innovative one for urban residences. Bicycles are used for increased mobility in the city, as a one-way means of transport and can be perceived as part of the public transport modes. The Bike Sharing system is different from traditional bike rental systems, which generally have a recreational purpose.

The PMUD of the city of **Segarcea**, carried out in 2018 by GS Business Solutions, proposes, in the "Do something" scenario, a series of projects:

- The purchase of ecological buses, the realization of the infrastructure for local public transport and the implementation of a traffic management system;

- Development of a network of tracks dedicated to the circulation of bicycles and a bike-sharing bicycle rental system.

According to the Integrated Urban Development Strategy of the municipality of **Târgu Jiu** 2021-2027, projects are foreseen that will have a significant impact on increasing the modal share of bicycle trips, respectively:

• proposed bicycle lanes - Șușita street - left and right, approximately 2000 m;

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• proposed sidewalks with bicycle lanes on the DN67 corridor Slobozia-Calea Severinului-Calea Bucuresti-Drăgoieni- L = approx. 8,000 km.

The PMUD for the city of **Bumbești-Jiu**, carried out by Sigma Mobility Engineering, in 2017, includes a series of measures/projects that will take place in the period 2020-2030:

4.2. The development of the network of tracks dedicated to the circulation of bicycles DC 3, Gh. Tătărăscu str., Gării str., Zorilor str., Castanilor str., Muzeului str., Gr.Al. str. Ghica, Trandafirilor str., Jiului str. Bicycle parking racks will be installed. The project is estimated at 400,000 euros.

4.3. Bike-sharing bike rental system comprising 5 rental points, bikes and management system.

The PMUD for the city of **Motru**, carried out by Sigma Mobility Engineering in 2017, includes the projects:

4.2. The development of the network of tracks dedicated to the circulation of bicycles on Macului str., Molidului str., Gării str., bd. Trandafirilor, Parcului str., Liceului str., Ațarului str., Aleea Teilor, Calea Tismanei, DJ671B, DC109, DC110, DC64A. They will form a continuous urban network that will provide connections with areas of local and peri-urban importance. Bicycle parking racks will be installed along the tracks.

4.3. The establishment of a bicycle rental system that will facilitate access to different areas of the city: the central area, the ends of the bicycle routes, areas with high population density, the terminal of the public transport network.

The **Rovinari** City 2023-2030 PMUD, carried out by Strategium consultancy for development, in 2023, proposes:

4.1. Increasing mobility in the city of Rovinari by developing bicycle and pedestrian infrastructure. The project aims to modernize routes dedicated to pedestrian traffic that connect the main objectives of the localities (public institutions, schools, high schools, markets, shopping centers, etc.) and the arrangement of sidewalks and pedestrian alleys in terms of ensuring the accessibility and safety of pedestrians, including those with special needs. At the same time, the project proposes the development of the bicycle path network along the same pedestrian routes. The estimated time horizon for implementation is 2026-2027 and will have as potential sources of funding PR SV Oltenia 2021-2027 Priority 4, the local budget and other sources of funding. Investment value 4,500,000 Euro.

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4.2 Setting up a theme park to raise awareness and promote the benefits of using bicycles. The development of a theme park for the education of cyclists has as its main objective the education of young people in order to use the bicycle in safe and secure conditions. This intervention has as its objective both the awareness of the population on the social advantages brought by the reorientation towards the use of non-motorized transport, as well as the promotion of the investments made. The campaigns will be organized through education and information sessions and will address all categories of people, but especially young people. The budget related to this project is 100,000 Euros, the funding source PR SV 2021-2027 Priority 7, as well as other government funds. The implementation period covers the 2026-2027 time horizon.

4.3 Organization of public information campaigns regarding the use of non-motorized transport. This intervention has as its objective both the awareness of the population on the social advantages brought by the reorientation towards the use of non-motorized transport, as well as the promotion of the investments made (pedestrian infrastructure, the development of networks of bicycle tracks and the establishment of the bicycle rental system). The campaigns will be organized through education and information sessions and will address all categories of people, but especially young people. The potential funding sources for this project are the Local Budget, respectively other funding sources such as the EEA Grants, the estimated budget having a value of 20,000 Euros, and the time period for implementation being 2024-2025.

4.8. Creating a coherent network of cycle paths, properly lit, connecting the main areas of interest. This intervention aims to increase the safety and comfort of transport and encourage people who want to use this non-motorized means of transport.

4.9. The development of the pedestrian infrastructure and the arrangement of a cycle track in the Roșia Jiu area. The project proposes the development of the infrastructure for pedestrians and the arrangement of a track for cyclists to connect the important points in the city with the Roșia Jiu area. The proposed implementation period is 2026-2027.

7.2. Construction of a "Park&Ride" type parking lot in the area of the Station. The construction of a "Park&Ride" type parking lot in the area of the Station will contribute to the reduction of greenhouse gases generated by trips within the city. The car park will have immediate connection to the local public transport system. The purpose of this car park is to encourage drivers from the vicinity of the city or external visitors to leave their car in a safe place in order to use public transport within the city limits.

PMUD **Drobeta Turnu Severin**, made by SC Fip Consulting, in the year 2021, mentions, on page 172, the fact that by 2050, Drobeta Turnu Severin will be a city of predominantly non-motorized journeys, both by capitalizing on landscaped public areas and the network of

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dedicated bicycle infrastructure, a city with a healthy public transport system, efficient and accessible to all the inhabitants of the municipality, with industrial areas developed and interconnected by transport systems and infrastructure with residential areas and leisure areas, a city that makes full use of the positioning on the banks of the Danube, both through the existence of a modern, attractive embankment, an example of good practice, but which at the same time unites the testimonies of the historical evolution of the city, highlighting its evolution from antiquity, through the medieval period and reaching a future assumed and embraced by its inhabitants.

The main dysfunctions identified following the PMUD analysis refer to:

o existing deficiencies at the level of pedestrian and bicycle mobility;

a deficient equipment of the public transport system;

o the negative effects generated by heavy trucks using the road network;

a reduced accessibility of the peripheral areas to the central area, induced by the constraints of the street network.

In the complete list of investment type interventions proposed in PMUD on page 180, the following can be mentioned:

- A02 – Crihala cycle track, 2.92 km long, in partnership with Apele Române, worth 7 million euros;

- A03 - Danube embankment - pedestrian connection between the two cities, including pedestrian crossings over the CF and pedestrian and bicycle route on the Danube bank, in partnership with APDF, MTI, CFR, in the amount of 6,297,958 euros;

- A06 - Restructuring of traffic on Chisinau - Horia - Rahovei str., to encourage non-motorized travel, Length of two-way bicycle track: 1.24 km in the amount of 2,027,079 euros;

- A07 - Network of 50 parking lots with 1,200 bicycle parking spaces in collective housing areas, worth 2,750,000 euros;

- A12 - Aluniș Park bicycle track, 1.1 km long, worth 1,048,000 euros;

- A13 - Drobeta Turnu Severin bicycle connection - Strand with thermal water, 2.2 km long, worth 2,096,000 euros;

- A14 - Calea Timisoarai velo track, with a length of 1.15 km, worth 1,095,634 euros;

- A15 - Strada Traian bicycle track, with a length of 0.279km, worth 265,811 euros;

- I01 - Corridor of sustainable mobility - CAROL I: roadway restructuring, bicycle path (2.2 km long), parking lot development, sidewalks, landscaping, in the amount of 4,636,998. Euros;

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- I04 - Reconfiguration of Crisan, segment between Bd. Revolutiei 16-22 Decembrie and Padure Crihala, by expanding the infrastructure for non-motorized travel, in the amount of 3,330,645 euros;

- I05 - Integrated mobility corridor - Independentei - Kiseleff: roadway restructuring, lanes dedicated to public transport and bicycles, sidewalk modernization and landscaping, cycle lane length of 1,952 km, worth 3,863,188 euros;

- I06 - Integrated mobility corridor Bd. Revolutiei 16-22 Decembrie: roadway restructuring, lanes dedicated to public transport and bicycles, sidewalk modernization and landscaping, in the amount of 1,987,000 euros;

- I07 - Corridor of sustainable mobility - Topolnitei - Dumitru Gheata: one-way traffic, roadway restructuring, dedicated bus lanes, bike path, parking lot design, sidewalks, public lighting, in the amount of 1,004,217 euros.

SIDU of **Orșova** municipality 2021-2027, in section 4 Directions of action. Development policies and programs, identify directions of action such as:

- Realization of parking lots, park&ride systems;

- Development and modernization of the infrastructure for pedestrian movements;

- Development of infrastructure and services for trips made with non-motorized vehicles;

- Improving the conditions for using non-motorized means of transport;

- Development of infrastructure and services for traveling with electric vehicles.

Among the proposed projects are:

- Establishment of local public transport through PR SV Oltenia 2021-2027;

- Purchase of ecological means of transport for local and student transport, through funds from the local budget and PR SV Oltenia 2021-2027;

- Development of a park&ride intermodal center, through funds from the local budget and PR SV Oltenia 2021-2027;

- Infrastructure modernization for non-motorized travel on the Danube embankment (Bulevardul 1 Decembrie 1918, Str. Grațca), through funds from PR SV Oltenia 2021-2027 and PNRR;

- Development of the bicycle path network - Str. Portile de Fier (between B-dul 1 Decembrie 1918 and Str. Eroilor), Decebal str. (Piata 1800 area), connection between Str. The Iron Gates and Str. Decebal, Str. Bradului, Str. Heroes (between B-dul 1 Decembrie 1918 and Str. Decebal),

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including the modernization of sidewalks, through funds from PR SV Oltenia 2021-2027 and PNRR;

- Establishment of bicycle rental centers within the public transport terminal, in the central area, in neighborhoods with high residential density, at the ends of the tracks, including infrastructure components (stations/rental kiosks, racks), means of transport (bicycles) and management components (hardware and software dispatch equipment).

Through the Sustainable Urban Mobility Plan for the municipality of **Slatina**, carried out in 2017 by SC DEVLINK COMTECH TECHNOLOGIES SRL, with reference to the period 2017-2030, interventions are proposed that include projects aimed at transport infrastructure, operational and organizational proposals. They were grouped into the 7 directions of action:

- Road infrastructure

- Public transport

- Non-motorized travel

- Parking policy

- Traffic management and ITS

- Complex areas and intermodality

- Education, information, and awareness measures.

In the field of non-motorized travel, the following projects are proposed, to be implemented in the period covered by the PMUD:

- P3.1 - Creation of bicycle infrastructure

Description:

Stage I - 2017-2024 - unites the agglomerations of functions identified in the municipality - network length - 14 Km. Completed.

Stage II - 2024-2030 - development of the network inside densely built neighborhoods, unites smaller agglomerations of functions, with network length - 10Km.

Bicycle infrastructure must comply with the following guiding principles:

o Attractiveness - integration into the landscape;

o Safety - limiting conflicts between cyclists and other modes of transport and ensuring the personal safety of users;

o Coherence - continuous routes and easy to identify in traffic;

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o Connectivity - ensuring links from the origin of the journey to the destination;

o Direct connection - routes as short as possible, without deviations that increase the travel distance.

The infrastructure will include, in addition to the bike lanes, dedicated parking lots near the points of interest. To increase safety when traveling at night, the project also includes the modernization of street lighting along the length of the bike lanes.

- P3.2 - Introduction of a bike sharing system

Description: Stage I - 2017-2023 - Establishment of 5 rental points with 20-25 bicycles in each point.

Stage II - 2024-2030 - Expansion of the bicycle rental system depending on its efficiency and demand for use.

- P3.3 - Development of pedestrian infrastructure in the municipality of Slatina

Development of pedestrian infrastructure on all streets that do not have sidewalks. If the prospect (ampriza) of the street is not sufficient for the creation of sidewalks of at least 1.8 m (accessibility condition according to NP 051-2012) it is recommended to introduce areas with priority for pedestrians (shared space) - residential areas according to the code road.

To increase safety when traveling at night, the project also includes the modernization of pedestrian lighting.

The total length of the streets that require the provision of pedestrian infrastructure is 11.47 Km, evenly distributed over the two programming periods, thus:

- Stage I – period 2017-2023 - length of intervention streets – 5.73 Km;

- Stage II - period 2024-2030 - length of intervention streets - 5.73 Km.

- P3.4 - Creation of spaces and routes with priority for pedestrians in the central areas of the neighborhoods.

The spaces will be created within a radius of 300 m from the developed multi-storey car parks. Individual intervention area - recommended 500 - 1000 m2/location. To increase safety when traveling at night, the project also includes the modernization of pedestrian lighting.

In the PMUD of the municipality of **Caracal**, carried out in 2020, by SC Sigma Mobility Engineering SRL, the following interventions are proposed in the sustainable urban mobility sector, to fulfill the specific objectives regarding accessibility, environmental protection, safety and quality of life:

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- Setting up a non-motorized mobility corridor in the protected historical area.

This intervention involves the setting up of a non-motorized mobility corridor - the pedestrian, semi-pedestrian area (shared with bicycles, public transport and much reduced road traffic), in the historical area of the Victoriei Square. Estimated costs – 8,000,000 euros from PR 2021-2027.

- Development of the network of tracks dedicated to the circulation of bicycles.

We hereby wish to circulate by bicycle on the streets: bd. N. Titulescu, M Eminescu str., Piata Victoriei, Mărului str., Craiovei str., Miron Costin str., Gh. Doja str., Strandului str., Elena Doamna str., Ștefan cel Mare str., Mircea Vodă str. , Tudor Vladimirescu str., Neagoe Basarab str., Rahovei str., Târgul Nou str., Gl Magheru str., Dragoș Vodă str., Calea Bucharest, 1 Decembrie 1918 str., Răsăritului str., bd. Antonius Caracalla, Parângului str., Vornicul Ureche str., Anton Pann str., Vasile Alecsandri str. The runways will have sufficient width and will be separated from vehicular and pedestrian traffic. Funding is eligible through PR 2021-2027, in the amount of 675,000 euros.

- Establishment of bicycle rental centers within the public transport terminal, in the central area, in neighborhoods with high residential density, at the ends of cycle paths. The funding of 1,200,000 euros is eligible through PR 2021-2027.
- Purchase of electric means of transport for public transport. Value 1,200,000 euros from PR 2021-2027.

PMUD **Corabia** 2023-2030, carried out in 2023, by NOVATIQ VISION SRL, mentions in the list of projects for transport infrastructure, some related to non-motorized mobility:

4.1. Increasing mobility in the city of Corabia by expanding the bicycle and pedestrian infrastructure (DN54 and DN54A);

4.3. Organization of public information campaigns regarding the use of non-motorized transport;

4.8. EUROVELO route 6 Mehedinți-Dolj-Olt.

The PMUD of the city of **Drăgănești-Olt** was created by GS Business Solutions in 2022 and aims to improve urban mobility indicators until 2029. Also, the PMUD is a support for the preparation and implementation of projects and measures financed by PR SV Oltenia 2021-2027. The list of proposed projects/interventions includes:

4.3. Development of a network of bike paths in the city of Dragănești-Olt and the village of Comani, 10 km long, in the vicinity of the special conservation area ROSPA0106 Valea Oltului Inferior and ROSAC0376 Râul Olt between Mărunței and Turnu Măgurele;

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4.4. The development of a bike-sharing bicycle rental system, with 10 bikes available, in the vicinity of the special conservation area ROSPA0106 Valea Oltului Inferior and ROSAC0376 Râul Olt between Mărunței and Turnu Măgurele, which will include rental stations, management components - dispatch equipment;

4.5. The arrangement of 150 bicycle parking spaces in the key points of the city: commercial areas, service areas, educational institutions;

4.10. Campaigns to encourage non-motorized transport, numbering 6, through which the population will be informed and educated about the benefits of non-motorized travel - cycling and walking;

4.11. Creation of a regulation for the use of non-motorized means of transport - bicycles and scooters;

5.5. The arrangement of park&ride type parking lots on the outskirts of the urban area, with access to the major traffic network DJ546 and DJ546A, with 200 parking spaces;

7.1. Setting up an intermodal terminal to facilitate the transfer from inter-county public transport to local and bicycle transport, which will include a waiting room, machines for purchasing travel cards, boarding/disembarking platforms, bicycle parking.

In the Sustainable Urban Mobility Plan (updated) of the municipality of **Râmnicu Vâlcea**, made by SC Sigma Mobility Engineering SRL, in 2021, five priority areas of action for the development of the municipality are defined:

1. The relaunch and innovation of the local economic potential and at the level of the touristic metropolitan area;

2. Development of tourism at the local level;

3. Improving the conditions and quality of life of citizens by providing better basic and technical-building services and capitalizing on local culture and cultural heritage;

4. Improving the quality of the urban environment;

5. Development of the administrative capacity of public authorities at the local level.

92 projects were identified, of which 7 in the field of mobility, aimed at non-polluting travel:

- P8 – development of a pedestrian walkway in the Râureni area;

- P72 – construction of Park&Ride parking lots on the main entrances to the city;

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- P76 – introduction of the electric transport system;

- P82 – finalization of a network of bicycle paths at the level of the municipality;

- P83 – construction of bicycle parking lots;

- P84 – creation of bicycle rental points;

- P85 – the establishment of pedestrian zones, including the construction of three bridges over the Olănești River dedicated exclusively to pedestrians and cyclists.

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4.2 Regional Program (PR) 2021-2027 for the Southwest Oltenia Region

In the Southwest Oltenia region, the Regional Program (PR) 2021-2027 includes projects and measures aimed at developing bicycle infrastructure and promoting sustainable mobility. This is an essential component of the regional strategy for improving transport infrastructure and promoting a sustainable lifestyle. Among the projects aimed at the study area are:

Olt County

- The city of Corabia approved the project "Sustainable alternatives for local transport in the city of Corabia", in order to be financed by the south-west PR program Oltenia 2021-2027, priority 4, in the amount of 20,641,746 lei. Through this project, bicycle tracks with an area of 7,245 sq m, 1 m wide, sidewalks with an area of 7,595 sq m, access to properties - 6,450 sq m, green spaces - 13,800 sq m, elevation of dormitories and blowers - 200 pcs., will be built. borders – 9200m2, 2 bike-sharing stations – 10 bikes/station.

Dolj County

- The Urban Regeneration Project by revitalizing the 1 Mai area Craiova - proposed to be located in Craiova, 1 Mai area, the intersection of Știrbei Vodă Boulevard with 1 Mai Boulevard and up to the intersection of 1 Mai Boulevard - Calea Unirii (Nicolae Romanescu Park). The objective of the project is to redevelop green spaces, pedestrian routes, and car parking areas.
- The Urban Regeneration project through the revitalization of the central area - Piaţa Mihai Viteazul Craiova R.E.G.E.N.E.R.A.T.E. Craiova Piaţa Mihai Viteazul area, aims to rehabilitate an area of 4 hectares, between the streets A.I. Cuza, Plopşor, Kogălniceanu and Ion Maiorescu, with two new artesian wells and the restoration of the pedestrian area on Calea Unirii.
- The DJ641 modernization project, which provides for asphalting works, the construction of sidewalks, ditches, gutters, parking lots, bike paths, bus stations and bridge rehabilitation, from Mischii, Dolj county, to the border with Olt county. The length of the modernized road will be 44 km, the towns crossed: Preajba de Pădure, Viișoara, Drăgotești, Benești, Bobeanu, Popânzălești, Bojoiu, Robănești, Pielești, Gălești, Ghercești, Mlecănești, Mischii.
- Modernization of the green-blue infrastructure in the Municipality of Craiova through the establishment of the Cernele Park, with an area of over 6000 square meters. The land on which the future park is to be built has an area of 62,584 square meters, currently being "a degraded, swampy area with vacant land", the documentation states. APM Dolj issued the classification decision for the PUZ, in the area "park for the population with the complementary functions of sports, services, children's play, household, pedestrian or mixed pedestrian alleys, cycling, with the surface of green

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spaces of 50214 square meters". The implementation period will be 2 years, the investment value is 20 million euros.

Vâlcea County

Through the project "Urban rehabilitation Calea lui Traian" the realization of approx. 7 km of bike paths, along Traian's Way; properly demarcated and signposted, allowing movement without in any way embarrassing car or pedestrian traffic.

At the same time, the project also provides:

- ✓ installation of bicycle parking racks (23 pcs) in public spaces, in the vicinity of public institutions, museums, schools, as well as in the locations provided in the project site;
- ✓ a station to count cyclists;
- ✓ 2 bicycle repair stations.

4.3 Projects financed by the National Recovery and Resilience Plan (PNRR)

Romania's National Recovery and Resilience Program (PNRR) includes funds and measures dedicated to the development of transport infrastructure, including bicycle paths, in the South-West Oltenia region. PNRR is an important tool for stimulating investments in infrastructure projects that contribute to sustainable development and improving the quality of life.

PNRR offers an important opportunity for the development of cycling infrastructure in the South-West Oltenia region. By implementing cycleway projects and supporting sustainable mobility, the region can make significant strides in improving the quality of life, reducing environmental impact and promoting a healthy lifestyle. Investments in cycling infrastructure will help create more cycle-friendly cities and encourage the use of the bicycle as a means of everyday transport.Proiecte demarate prin PNRR:

“Eurovelo Route 6 Mehedinți-Dolj-Olt" project

Having as a strategic objective the support of sustainable transport through the development of the infrastructure of cycling routes at the national level, the project proposes the development of the said route, which constitutes a segment of the European-class cycling route EuroVelo 6 Atlantic - Black Sea, with a total length of approximately 4,700 kilometers , with the towns of Nantes (France) and Constanța (Romania) as terminus points and crossing 10 European states. The implementation of the project "EuroVelo Route 6 Mehedinți - Dolj - Olt" has the potential to contribute significantly to the increase of tourist attractiveness in the three counties, to international promotion and, as a whole, to the development of the areas

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crossed by the route, with important benefits for local communities , while promoting green, sustainable transport.

The project was submitted under the National Recovery and Resilience Plan, Component C11 – TOURISM AND CULTURE, Investment I.4 – Implementation of 3,000 km of cycling routes. For the implementation, Partnership Agreement No. 34729/09.12.2022, assumed by 43 partners from the 3 counties.

The duration of the contract is 40 months from the date of its signing and can be extended, but no longer than June 30, 2026.

Total length of the route in the three counties - 356 km, of which:

- 128 km Mehedinți, through the towns of Dr.Tr.Severin, Orșova, Salcia, Vrata, Gârla Mare, Pristol, Gruia, Gogoșu, Burila Mare, Deveselu, Hinova, Șimian, Eșelnita, Dubova, Svinita;
- 176 km Dolj, through the towns of Cetate, Maglavit, Calafat, Ciupercenii Noi, Desa, Poiana Mare, Piscu Vechi, Ghidici, Rast, Negoi, Catane, Bistreţ, Cârna, Măceşu de Jos, Gighera, Ostroveni, Bechet, Călăraşi and Dăbuleni;
- 52 km Olt, through the towns of Corabia, Ianca, Grojdibodu, Gura Padinii, Orlea and Gârcov.

• The city of **Balș**, Olt county, submitted project C10-I1.4-133, regarding "Construction of a bicycle path in the Balta Garii area in the city of Balș, Olt county", in the amount of 2,469,225 lei, which will take place in between December 2022 and February 2026.

The objectives of the project are:

- The construction of the running infrastructure for bicycles in the inner and outer areas of the locality (bicycle paths/bicycle lane);
- Ensuring the infrastructure for green transport - the bicycle track in the city of Balș, with a width of 2.4m, in the urban environment.

- In 2022, **Drobeta-Turnu-Severin** approved the project and related expenses for the "Calea Timisoarei velo track" project, with funding through the National Recovery and Resilience Program, in the amount of 2,343,205.2 lei. The indicator of the investment objective is the construction of a 2 km cycle track.
- In **Peștișani** commune, Gorj county, the "By bike to Brâncusi" project will take place. Bicycle tracks will be laid out in a length of about 3.3 kilometers. According to the documentation, the route for cyclists ensures the connection between the national road Târgu Jiu – Băile Herculane (DN67D) and objectives of local interest in the commune of Peștișani, respectively the Constantin Brâncusi House-Museum, the Hobita theme park, the wooden churches or accommodation spaces/farmhouses.
- **Işalnița commune,** Dolj county, started the implementation of the project "Infrastructure development for green transport - development of cycle paths in Işalnița commune, Dolj

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county", which will establish a bicycle path on the Ișalnița Cemetery/Church route - ANL blocks - DE501 , DE67, DE444 – Sitoaia village, with a width of 1m and safety zones of 0.5m on each side of the track. Two charging stations for electric vehicles will also be located. The estimated value of the investment is 3,196,048 lei.

- The Ministry of Development, Public Works and Administration (MDLPA) accepted the projects submitted by the Ministry of Environment, Water and Forests (MMAP) for the dikes managed by the National Administration "Romanian Waters", through the Olt Water Basin Administration, the Crișuri Water Basin Administration, the Administration Mureș Water Basin, Banat Water Basin Administration and Jiu Water Basin Administration. In the area of interest, the project "Rehabilitation of the crown of the defense dike and the creation of the infrastructure of the cycling route on the Zăval-Bechet sector, Dolj county" will be implemented - 25.3 km; beneficiary: "Romanian Waters" National Administration - Jiu Water Basin Administration.
- The Dolj County Council intends to start a joint project of the municipality of **Craiova** and four nearby towns for the creation of cycle-tourism routes. The mayors of Bucovăț, Breasta, Podari and Vârvor communes will identify the routes and establish the legal regime of the lands that will be crossed by bicycle paths. The network of tracks will connect regionally interesting objectives, such as the forest in the village of Palilula, the park in the village of Breasta or the lake Ciutura, in the area of the town of Vârvor.
- The project "Ensuring the infrastructure for green transport - cycle paths in the city of **Piatra Olt**, Olt County" was signed in 2023. The project has a total value of over 3.6 million euros, European funds and aims at the following: the creation of a track for bicycles with a width of at least 2.4 m in the urban environment in a length of 15 km, 6 stations (12 points) for recharging electric cars. The project implementation period is 12 months.
- The city of **Potcoava**, Olt county, will carry out the project "Development of the infrastructure for green transport - bike lanes in the city of Potcoava, in the amount of 1,288,762 lei;
- **Redea** commune, Olt county, will carry out the project "Building a bicycle track in Redea commune, worth 5,124,003 lei.
- **Sâmburești** commune, Olt county, started in December 2022, the project "Supporting alternative transport by building a circuit of bicycle paths in Sâmburești commune", with a duration of 36 months. The track will have a length of 3 km, the value being 738,405 lei.
- **Baia de Fier** commune, Gorj county announces the signing of financing contract no. 141975/15.12.2022 for the project "Construction of bicycle tracks in Baia de Fier Commune, Gorj county" code C10-I1.4-289. The project implementation period is 36 months between 16.12.2022 and 15.12.2025, this period including activities carried out before the signing of the financing contract. The general objective of the project is to ensure the infrastructure for green transport - bike lanes at the local level in Baia de Fier Commune, Gorj County, to support the green transition of the rural area.

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- The city of **Novaci**, Gorj county, signed a contract of 2.2 million lei for the financing of the project "Development of bicycle tracks in the city of Novaci".
- **Motru** municipality, Gorj county, approved the project "Construction of bicycle paths in Motru municipality, with a length of 2673 m, on Calea Tismanei str., Molidului str., Macului str., Ctin Rădulescu str., Tineretului str. The track will be delimited from the roadway by curbs and will have a width of 2.4m, with an asphalt concrete surface. The value of the investment 2,834,136 lei.
- The city of **Tismana**, Gorj county, starts the project "Ensuring the infrastructure for green transport at the level of the city of Tismana", financed by the National Recovery and Resilience Plan, Component C10 - Local Fund, I.1.4 - ensuring the infrastructure for green transport - bike lanes (and other light electric vehicles) at the local/metropolitan level. The track is 6 km long, the value of the project is 7,029,615 lei.
- **Polovragi** commune, Gorj county, started the project "Construction of bicycle tracks and other electric vehicles in Polovragi commune", implementation period December 2022-December 2024. The value of the project is 1,873,493 lei.
- The city of **Brezoi**, Vâlcea county, implements the project "Extending bicycle paths in the city of Brezoi", in the period between 11.01.2023 and 11.01.2025 and aims to create bicycle paths adjacent to the left and right banks of the Lotru river, between 2 bridges and namely: the Lunca Calului bridge and the Pascoaia bridge. The location of the work is located in the outskirts of the city of Brezoi, Valcea county, in the village of Pascoaia and the entire area occupied by the project is: 8,348.60 square meters. The bike paths will be built on a total length of 3211 m, composed of 3 sections: Section 1 is 705 m long and will be built on the right bank of the Lotru river from the Lunca Calului bridge to the Pascoaia bridge, from km 0 +000 at km O+705; Section 2 is 717 m long and will be built on the right bank of the Lotru river in continuation of section 1 towards the Pascoaia bridge, from km 0+705 to km 1+422; Section 3 is 1789 m long and will be built on the left bank of the river from the Lunca Calului bridge to the Pascoaia bridge, from km I+422 to km 3+211. The project is in the PT stage, the SF phase being completed in June 2023. The execution works will take place in 2024, and at the end of them, the residents and visitors of the city of Brezoi will be able to enjoy an extended length of local bicycle routes, with fewer GHG emissions, more movement and a healthier life if you have assets, more comfort if you have less congestion in traffic.
- The city of **Berbești**, Vâlcea County benefits from the project "Ensuring the infrastructure for green transport - bike lanes in the city of Berbesti, Valcea County", in the amount of 4,979,311 lei, approved for financing in 2022.
- **Fârtățești** commune, Vâlcea county benefits from the project "Ensuring the infrastructure for green transport - building bike lanes in Fârtățești commune, Vâlcea county", in the amount of 2,195,401 lei, approved for financing in 2022.

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4.4 Local campaigns and initiatives

Cycling promotion campaigns in the Southwest Oltenia region are essential to encourage the use of bicycles as an ecological and sustainable alternative to car transport. These campaigns are part of a broader sustainable mobility strategy that includes cycling infrastructure development and community education. Here are some ideas and strategies for successful campaigns in this region:

- **Caracal, Olt County**

The European Mobility Week is an initiative of the European Commission, through which, every year, between September 16 and 22, they try to find innovative solutions to current urban mobility problems (https://www.primariacaracal.ro/Săptămâna-europeana -of-mobility-September 16-22/).

On September 16, "Green Friday" and "Car-Free Day" are marked, in which the employees of public institutions and the inhabitants of the municipality are invited to leave their personal cars in the parking lot and choose a more ecological travel alternative. The initiative will be accompanied by information and education actions regarding urban mobility for schoolchildren - "Info-Mobility" and "Constantin Poroineanu Park Tour", dedicated to all age groups, community members who want to participate with bicycles, scooters, rollerblades, skateboards.

- In **Târgu Jiu**, the non-profit Be-Teen Association organized on September 1, 2024, in Aventura Parc Drăgușești, near the municipality of Târgu Jiu, the Green Bike Race 2024 event, co-financed from the Gorj county budget, which aims to increase the degree to raise awareness about the use of the bicycle as a non-polluting, green and sustainable means of transport and to promote proximity to nature through leisure activities. The event was attended by children and young people between the ages of 3 and 18.
- **Bike Fest Damila** (Măciuca commune, Vâlcea county) is an annual event designed to gather cyclists from all over the country to enjoy physical activity in nature. This event, now in its 11th edition, which started in 2013, is an opportunity to build friendships between participants, which helps to increase the sense of belonging to a wider community and promote positive values such as a healthy lifestyle through movement and love for the environment and nature. In 2024, Damila organized a mountain biking race over a distance of 37km, in a circuit starting from Măciuca commune, following Drăganu, Bătășani, Botorani, Linia Dealului and arriving in Măciuca.

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Figura nr. 70- MTB 37km race

The second organized race is the asphalt cycling race of 97km, with departure and arrival in Măciuca commune, through Măneasa, Tetoiu, Zătrenii de Sus, Grădiștea, Românești, Sărulești, Lădești.

Figura nr. 71- Damila asfalt 97km race

- At the end of November 2021, a signature collection campaign was launched to get the public authorities to get involved in the creation of bicycle lanes in the Olt Valley, between Râmnicu Vâlcea and Brezoi.

The campaign "We want a bike path in the Olt Valley! Sign the petition!" takes place on the Declic platform and aims to collect signatures to sensitize the town halls of six of the Valcea localities through which the Olt river passes: Râmnicu Vâlcea, Bujoreni, Dăeşti, Călimăneşti, Sălătrucel, Brezoi, but also the Vâlcea County Council, CNAIR and ABA Olt, for implementation of this project.

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The idea is not a first, as the initiative was also discussed at a meeting between local authorities and tourism employers, in September.

In the fall of 2020, Râmnicu Vâlcea obtained non-refundable European funding, of over 2 million lei, for the preparation of the technical documentation of a project aiming at the creation of over 46 kilometers of bicycle paths.

The interconnected network aims to cover the entire city and also aims to build pedestrian bridges and promenades for 15 kilometers along the Olt and Olăneşti cliffs. A project for the implementation of which 9 million euros would be needed.

- **Craiova on bike** is a campaign that took place in the period 2018-2021 and had as its objective the installation of bicycle racks in educational institutions (high schools) in the city. By the presence of the racks, cycling is encouraged among high school students, promoting a healthy lifestyle among young people. The "Craiova on bicycles" project aimed to promote the use of the bicycle as an alternative means of transport by educating eco-mobility behavior and by creating a space for dialogue in the community regarding the implementation of the urban mobility plan and facilities for cyclists (bicycle paths , bike parks, rent-a-bike centers). The organizer of the campaign, Junior Chamber International, is a non-profit organization of active young citizens between the ages of 18 and 40 who are dedicated to positive change in their communities.
- The event was resumed in 2024, with the April edition, part of the BikeforSDGs project, developed by the Junior Chamber International Craiova Association, which is an action dedicated to the citizens of Craiova and aims to make the general public and the media aware of the need to promote the use cycling as an essential component of sustainable urban mobility and a viable alternative to car transport alongside public transport and walking.

- **Pedala in Bănie** is an initiative born in 2018, initially dedicated to mountain biking, the sport that attracts more and more followers. Later, the actions also targeted long-distance running. The last action took place on June 15-16, 2024, where 100 km were run.

- The Slatina City Hall and the Slatina Local Council organized on May 21, 2023, at 11:00 a.m., the first edition of the sports event "Slatina Forest Race", a cycling competition addressed to all lovers of this sport. The event took place in the Strehareti Forest and was open to any cyclist who was at least 18 years old at the time of registration, professional or amateur, who owned a bicycle in good technical condition and a state of health that would allow a minimum of physical effort sustained.

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5 SWOT Analysis

SWOT analysis is a method used in the business environment to help project an overview of the company or a business idea, and evaluates the internal and external influencing factors of an organization, as well as its position on the market or in relation to competitors.

SWOT analysis is generally performed in the first phase of a project so that the elements of the analysis can form the basis of the project plan and can be used later in the project if the project encounters difficulties with planning, deliverables or budget ALLOCATION.

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Main themes	Strong points	Weak points	Opportunities	Threats
Urban cycling	- Sustainable urban mobility plans of municipalities and cities set measurable targets (km of cycle paths) in the period 2020-2030; - through the Southwest Oltenia Regional Operational Program 2014-2020, bicycle infrastructure was built; - European funds from PNRR are intensively used for the development of bicycle infrastructure; - There are campaigns to change behavior regarding the daily and/or recreational use of the bicycle; - There are awareness/education campaigns addressed to children, but also addressed to both children and adults; - There is national and local co-financing of projects aimed at urban mobility;	- There is no comprehensive cycling database; - The data related to the use of the bicycle are not collected; - The share of bicycle use in the transport model is very low, usually below 5%; - Using the road for cycling involves major risks, due to heavy traffic; - Data on bicycle use and cycling safety are not collected periodically, in a systematic manner; - There are no data on the share of bicycle use in rural areas, in order to be able to compare with bicycle use in urban areas; - Fewer campaigns to promote ecological modes of travel; - We have not identified country or region sales statistics for e-bikes; - There are no managers dedicated to cycling in the	- The general attitude towards cycling is positive; - Romania is among the largest bicycle producers in the EU, with 2.5 million bicycles manufactured in 2021; - The strategy of PR SV Oltenia includes a series of measures to adapt to climate change and mitigate climate change; - The SV Oltenia PR strategy comes with measures that support the development of local cycling infrastructure; - Romania's National Strategy for Tourism Development 2023-2035 promotes the development of local cycling networks that will contribute to the tourist attractiveness of our country; - Extending the application period of ROP 2014-2020 with PR 2021-2027, which provides the opportunity to continue	- Global warming could pose a threat to bicycle use in extreme temperature seasons; - Deficient arrangement of bicycle lanes; - The decision-making capacity of the political and administrative class for the development of projects financed with European funds; - The inability of local authorities to implement the provisions of development strategies and sustainable urban mobility plans; - The increase in the prices of construction materials and services during the course of the projects, so that rectifications of the allocated funds are necessary;

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Main themes	Strong points	Weak points	Opportunities	Threats
	- The Highway Code gives local and central authorities the power to take the necessary measures to improve cycling safety; - The territorial development, urban planning and constructions code has provisions regarding the development of bicycle tracks, the location of bicycle parking racks without a building permit; - There is collaboration at the level of local authorities in some cities and municipalities, as well as systematic interdepartmental coordination on cycling-related topics (departments responsible for transport and mobility policies, environment/energy/climate, health, tourism, police, education, finance); - There is systematic collaboration and consultation in some local authorities with	administrative units at the level of the region; - The infrastructure for cycling is insufficient, and the existing tracks have no continuity; - Cycling was not among the topics of political debate in the electoral campaign for the local elections in Romania in 2024; - There are no national guidelines for planning the cycling infrastructure; - No incentives are offered to encourage the use of bicycles; - There are not enough rakes for the safe parking of bicycles; - There are not enough or very few bike-sharing stations. - Lack of safe and continuous cycle paths: cities do not have a well-developed network of dedicated paths or paths that have been drawn on the road or pavement, without respecting	efforts to develop bicycle infrastructure; - The Social Impact Mitigation Fund (2026-2032) will generate significant funds to address transport poverty in the region.	- Heavy traffic and congestion: Heavy traffic and the presence of many motorized vehicles increase the risk of accidents and the fear of cycling. - Lack of education and awareness: both cyclists and drivers need more road education to understand and respect traffic rules. - Lack of political will and prioritization of cycling in transport policies: sometimes authorities do not allocate enough resources and do not make cycling a priority. - The tendency of political decision-makers to order measures and projects whose realization is only a marking of European directives, without the works always being

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Main themes	Strong points	Weak points	Opportunities	Threats
	(cycling) NGOs, environmental entities, educational institutions, tourism organizations, public transport operators, businesses, police.	all safety rules and requirements, both for cyclists and drivers or pedestrians. - Insufficient facilities for safe and accessible bicycle parking and storage in key areas of cities. - Lack of physical anti-parking devices to protect the space dedicated to pedestrians and cyclists. - Poor landscaping, often without safe spaces from curbs, fences, vegetation, street furniture, poles and trees. - The bicycle tracks have bumps and various undulations of the asphalt that do not allow moving at an effective speed (20-30 km/h), but instead produce vibrations and discomfort when moving. - Some cycle paths built circularly, following the edge of		practicable, functional and correctly carried out.

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Main themes	Strong points	Weak points	Opportunities	Threats
		cities, do not solve the problem of reducing car traffic by attracting cycling, as long as the route does not offer optimal travel options for residents' daily chores. The bypass route can be attractive for tourism and leisure walks.		
Regional network	- Approaches to create regional networks of cycle paths; - The SV Oltenia region has several points of tourist interest that can be exploited to promote bicycle tourism; - The submission of the "Eurovelo Route 6 Mehedinți-Dolj-Olt" project will ensure a national cycling route; - It is allowed to travel by train with detachable bicycles that can be stored without inconveniencing other passengers (free) or with non-detachable bicycles (for a fee).	- There is no regional network for bicycle use; - Difficult implementation of projects financed with European funds; - Weak collaboration of authorities at the regional level in the field of bicycle infrastructure; - Traveling by bicycle outside the towns is carried out using, in general, the carriageway; - The modernization of some county roads (example DJ552) also provided for the construction of cycle tracks, but these are found in the	- There is a regional investment budget dedicated to the 8 priorities of the Regional Program 2021-2027, among which priority axis 4 - Increasing mobility and connectivity through the development of a modern and sustainable road transport infrastructure; - Funding of the "Eurovelo Route 6 Mehedinți-Dolj-Olt" project; - The Romanian Cycling Federation, together with other local or private entities,	- The inability of the county and national authorities to put into practice the provisions of the development strategies; - Increase in the prices of construction materials and services during the development of the projects, so that rectifications of the allocated funds are necessary; - Poor coordination between different departments and levels of government: the lack of an

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Main themes	Strong points	Weak points	Opportunities	Threats
		localities crossed by the county road, it is not a regional track, which would make the connection between them.	organizes a series of cycling events throughout the year; - The SV Oltenia PR strategy comes with measures that support the development of infrastructure for regional cycling; - Romania's National Strategy for Tourism Development 2023-2035 promotes the development of regional cycling networks that will contribute to the tourist attractiveness of our country.	integrated approach can lead to ineffective implementation of measures; - Delays in the development of projects financed with European funds and their loss, which will cause the projects not to be carried out .
Multimodality	- The municipality of Târgu Jiu is the only one in the region that has submitted for financing a project for the construction of a park&ride terminal; - The sustainable urban mobility plans of the county seat municipalities address the issue of implementing multimodal terminals.	- There are no modern multimodal terminals in the region; - Multimodality is generally designed at local or metropolitan level, not regionally; - Putting into practice the provisions of the Sustainable Urban Mobility Plans regarding the implementation of	- Policy requirements and the existence of European funding programs for multimodal terminals.	- The inability to make decisions or the delayed decisions of the political and administrative class for the development of projects aimed at the implementation of multimodality; - Lack of integrated vision at regional level for multimodality measures.

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Main themes	Strong points	Weak points	Opportunities	Threats
		multimodal terminals is cumbersome and takes a long time; - Current transport infrastructure discourages cycling as an alternative to motorized transport.		

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Urban cycling

Strong points

In subsection 4.1. Sustainable Urban Mobility Plans (PMUD), Integrated Urban Development Strategies (SIDU), I have described in detail the PMUD/SIDU provisions of the municipalities and cities that have drawn up such programmatic documents. Most of these documents have mentions regarding the development of infrastructure for bicycle use, implementation strategies, responsible structures or persons, concrete projects, measurable in kilometers of bicycle lanes, their quality and execution deadlines.

Through the Southwest Oltenia Regional Operational Program 2014-2022, a series of projects for urban public transport and electric and non-motorized transport were financed. Chapter 3 – Results obtained during the 2014-2020 programming period and the current situation, the investments made or in the process of implementation are listed.

PNRR is a program financed with European funds that is intensively used by local authorities to build or develop infrastructure for bicycles, these being mandatory components within the measures to combat the effects of global warming, intense pollution in our cities, congestion and traffic intensive. As we described in chapter 4.3. Projects financed through the National Recovery and Resilience Plan (PNRR), the available European funds are a strong point in terms of financing projects for the creation of local, but also regional or even national cycle paths and part of the European networks. European funding is also an opportunity for the South-West Oltenia region to develop the cycle track network and reduce the gap it has with other regions of the country and with other cities in Europe, with an old tradition of using bicycles as a means of transportation.

In recent years, we have identified a series of campaigns that have been carried out at the level of the region to change the population's perception towards the use of bicycles for movement within the towns, for recreation and for sports. Some of these campaigns are described in chapter 4.4. Local campaigns and initiatives. To these are added the events organized by the Romanian Cycling Federation, in collaboration with non-profit organizations, local authorities or other entities concerned with this sport.

At the meeting of the stakeholders of this project, in August 2024, in Craiova, the representative of the University of Craiova - Faculty of Education and Sport supported the importance of cycling as a healthy way of travel and mentioned that he will campaign for the establishment of a cycling section in within the faculty, to train professionals who will be the engine of the development of this sport in the region.

The existing regulations regarding the organization and construction of bicycle lanes are a strong point for projects to expand bicycle infrastructure. Thus, the Road Code art. 128, lit. e, stipulates that the authorities take the necessary measures to set up the necessary infrastructure for traveling by bicycle, with the approval of the traffic police. These measures

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are at the discretion of local authorities. The territorial development, urban planning and constructions code has provisions regarding the development of bicycle paths, according to art. 210, and regarding the placement of bicycle parking racks without a building permit, according to art. 211, point (5).

These regulations, together with existing funding programs and European policies that promote the development of sustainable mobility, are opportunities that the region has at its disposal, but which can turn into threats when they are not properly understood and applied in a practical way. Thus, an example of the situation is the one in Craiova, where the weak points of the completed bicycle tracks were identified (according to PMUD): inadequate layouts, lack of continuity of the tracks, unmarked crossing, lack or very low number of bike parking spaces. and the lack of devices to prevent vehicles from parking on bike lanes. These shortcomings are common to other localities.

According to the responses of some of the local authorities in the region, they have the capacity to maintain and repair the bicycle infrastructure created, to keep it in working order and to be attractive to the population. Also, some local authorities collaborate with organizations such as (cycling) NGOs, environmental entities, educational institutions, tourism organizations, public transport operators, businesses, police, but also within them, between departments, which constitute strong points.

Weak points

A weak point is the fact that there is no national, regional or local database on cycling, which is periodically updated, in order to have a clear and close to reality situation of this aspect. The only ones that measure this mode of travel are the cities that make or update PMUD or projects that are based on traffic studies. In rural areas, there are no transport mode measurement tools or databases, or even some collected at long time intervals. Thus, an evolution of the population's attitude towards cycling or its use is only an estimate without scientific or statistical bases. What PMUDs measure in cities, on the other hand, reveals a situation at the minimum limit of bicycle use: between 1, 2 or 5%, at most. This situation is determined by the poor network of bicycle paths, which do not ensure a continuous and safe movement inside or outside the cities. The use of the road by cyclists, in many cases, involves very high risks, given that the traffic is very congested, which in many cities also includes heavy traffic, in the absence of detour routes.

In general, the tracks dedicated to the use of bicycles are few in number, and in some localities, where they exist, they do not have continuity. In most of the analyzed localities, it was emphasized, through the analysis carried out in the realization of sustainable urban mobility plans, the absence of racks for the safe parking of bicycles, the lack or insufficiency of stations where tenants or tourists can rent bicycles. Another negative aspect highlighted is the fact that there are no devices to prevent vehicles from parking on cycle paths. Cycling on inadequate infrastructure can have negative effects on cyclists, on traffic in general, but also

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on public perception of this mode of travel. Without benefiting from the appropriate infrastructure, bicycle users can injure themselves, they can be the protagonists of serious accidents, due to their fault or the drivers' fault, or because of poorly maintained roads, without markings and with heavy traffic.

Another negative aspect is the fact that most local or county public institutions do not have managers responsible for bicycle infrastructure. Most of the answers of the authorities regarding the cooperation between public institutions or with non-governmental organizations were negative, there being no such coordination of the actions they undertake for the development of the area of which they are a part.

The unpleasant experience caused by improper conditions for using a bicycle while traveling, the stress caused by traffic and the absence of facilities such as bicycle parking areas, changing rooms at the destination, can discourage cycling.

Some cycle paths built circularly, following the edge of cities, do not solve the problem of reducing car traffic by attracting cycling, as long as the route does not offer optimal travel options for residents' daily chores. The bypass may be attractive for tourism and leisure walks, but it does little to reduce pollution and congestion.

Opportunities

The trend of bicycle use during the covid pandemic is estimated to have determined the use of this means of travel in proportion to 2-3% in large cities, but there is no exact statistic, only estimates of those concerned with the field. The President of the Romanian Cyclists' Federation (https://romania.europalibera.org/a/mersul-pe-bicicleta-/31420346.html) says that, over time, the mentality of Romanians has changed regarding cycling, and now they are no longer prejudiced against those who use this alternative means of transport to work. "The number of cyclists has increased noticeably in big cities compared to 5 or 10 years ago. I wouldn't risk making quantitative estimates, but 'ochiometrically' it can be seen that, in big cities, the percentage of people who travel by bicycle is somewhere between 0.5-1% and 2%. I don't think we have any big city in Romania that exceeds 2%, at most 3% in a few cities, although the potential is much higher".

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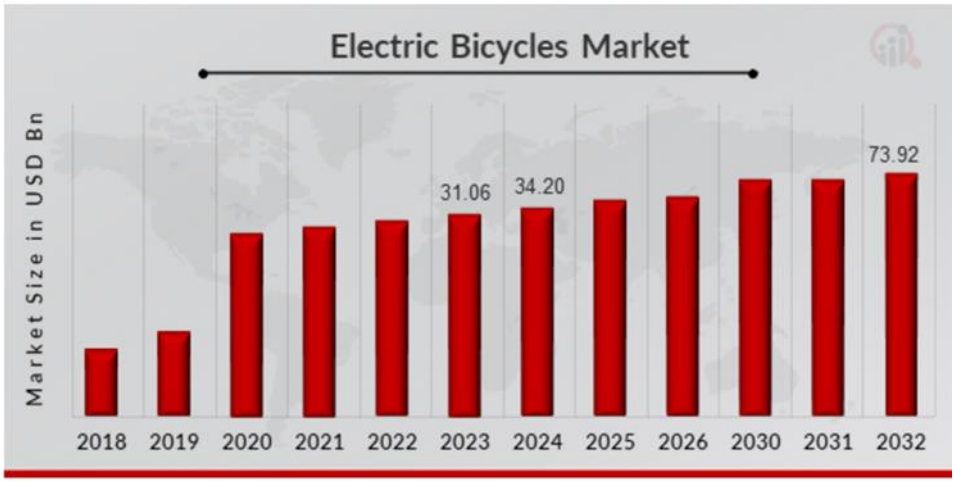

Figura nr. 72- Source: Secondary Research, Primary Research, MRFR Database and Analyst Review Source: https://www.marketresearchfuture.com/reports/electric-bicycles-market

The global e-bike market, valued at $49.1 billion in 2021, is expected to reach a value of $86 billion by 2028 at a CAGR (compound annual growth rate) of 9.8% during the forecast period 2022 -2028, according to a study by Vantage Market Research.

According to Mediafax, around 50,000 electric scooters are sold annually in Romania, with sales increasing by 10% in 2023, compared to 2022.

Since we have not identified concrete statistics regarding the number of electric bicycles sold and the sales trend in this area, the information of those from evoMag who estimated that in 2019 30,000-40,000 electric vehicles (bicycles and electric scooters) would be sold may be relevant. , of which 70-80% are electric scooters.

According to https://cursdeguvernare.ro/producatori-de-biciclete-din-romania-5-companii-de-pe-piata.html, with over 2.5 million bicycles manufactured in 2021, Romania is one of the largest European Union bicycle manufacturers and exporters.

Madirom Prod SRL, a company based in Timișoara, owned by the French group Decathlon, is the largest bicycle manufacturer in Romania. The company assembles bicycles in the VeloCity factory in Resita, Caraș-Severin county. In 2020, the factory assembled the 3,500,000th bicycle.

Eurosport DHS SA is another important player on the bicycle market in Romania. The company controlled by Chinese and German investors has a bicycle factory in Deva, in Hunedoara County. Most of the bicycle production is exported. For example, in 2015, 70% of the bicycle production from the factory in Deva went for export, according to the statements of the company's representatives for "Ziarul financiar".

Atelierele Pegas SRL is another bicycle manufacturing company from Romania. The company reinvented the Pegas brand, the famous bicycles produced during the communist period

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starting in 1972 at the Uzina Mecanică Tohan weapons factory in Zărnești. Entrepreneurs Andrei Botescu and Alexandru Manda bought the Pegas brand in 2012 and established the Pegas Workshops in Bucharest, resuming the production of bicycles that had been discontinued in 1989. The business also developed a franchise package through which those who want to enter into a partnership with the Workshops Pegas can convert their bike shops into a Pegas store or integrate a Pegas corner into the store. The fee for the Pegas franchise is 5,000 euros, according to the company's website.

Although local authorities have made important progress in terms of infrastructure development for bicycle use, there are still no managers dedicated to this mode of transport in town halls, county councils or other regional institutions.

The strategy of PR SV Oltenia and the investment budget of PR SV Oltenia 2021-2027 are tools that offer the opportunity to develop the region in a sustainable way. The investment budget is broken down by priorities, among which are those regarding sustainable urban mobility. Also, Romania's National Strategy for Tourism Development 2023-2035 promotes the development of cycle tourism networks that will contribute to the tourist attractiveness of our country. Considering that the region is traversed by very varied relief, which includes from the low plain of the Danube in the south, to the dry peaks of the mountains in the north, tourist attractions can be the opportunity to develop networks of cycle paths, from specially built ones, in the vicinity of public roads, up to the paths and forest roads that can be used for cycling, which have the potential to become an engine of tourism development.

The Social Impact Mitigation Fund for Climate Action (2026-2032) can provide revenue to finance measures and investments to increase the energy efficiency of buildings, renovate buildings, decarbonise heating and cooling systems in buildings and introduce low-emission mobility and transport zero and low. This fund can represent a new opportunity to finance sustainable development, to move towards more environmentally friendly modes of transport, which will provide the population with a healthier environment in which to live.

Threats

Global warming affects all areas of our country. In recent years, very high temperatures have been recorded for very long periods, with numerous records in this regard. These effects are threats to the use of bicycles during the summer in our country, which in the last two years has recorded an increasingly long period with very high temperatures, over 30 degrees, which does not encourage movement in the sun, more chosen if the cycle paths are built without vegetation cover.

According to the study of the European Environment Agency (https://cluj.info/reducerea-poluarii-aerului-utilizand-bicicleta-ca-mijloc-de-transport/), between 1990 and 2004, global carbon dioxide emissions increased by 27% from 20,463 to 26,079 million tons. Energy demand in the transport sector - a global indicator for transport emissions - increased by 37%

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in the same period. The USA and China are the countries with the highest greenhouse gas emissions. During the same time period, carbon dioxide emissions in the US increased by 19%, and energy demand in transportation increased by 28%. China recorded the fastest increase in carbon dioxide emissions and energy consumption in transport of 108% and 168%, respectively. At the level of the European Union, about 28% of greenhouse gas emissions are due to transport and 84% of them come from road transport, with the mention that 10% come from urban road traffic.

In order to sustainably develop a city, it is very important to act in two directions:

• Changing the behavior and attitude of citizens and

• Changing the planning and organization of urban spaces.

Transport and especially individual transport is not only a problem of energy consumption or emissions, but also of space. Looking at the streets of a city we will see cars on each side of them, large parking spaces in front of supermarkets or even covered parking lots. An ordinary car requires a parking space of 2.5 x 5m, i.e. 12.5 square meters. In contrast, a bicycle only requires an average of 1.5 square meters.

Cycling has a major role in any Sustainable Urban Transport Plan. It helps reduce congestion, local air pollution and emissions that cause global warming. 23% of car trips are less than 2 miles (approx. 3 km), a distance that can easily be covered by bike in less than 15 minutes. If people choose to make some of these trips by bike, we could have a considerable impact on local congestion and pollution.

Every year, between September 16-22, Europe celebrates the "European Mobility Week", which culminates, on September 22, with the "European Car-Free Day", a holiday promoted by the European Union, to promote the protection of the environment. Hundreds of cities and municipalities from all over Europe (of which 47 from Romania) and beyond are participating, between September 16 and 22, 2010, in the European Mobility Week, the largest worldwide event dedicated to sustainable urban travel.

Moreover, sometimes the attitude of politicians is to reject the continuation of its development, on the grounds that there are not enough citizens using the existing cycle paths. This can be a threat to the trend towards green mobility.

Another negative aspect and a threat is the fact that the use of sustainable, green modes of travel is not on the agenda of Romanian politicians. The year 2024 is the year of all levels of elections: European, local, parliamentary and presidential. However, during the local election campaigns, no politician promoted aspects of sustainable development, based on traveling with ecological means.

Improving the quality of urban life can be achieved by implementing a Sustainable Urban Mobility Plan, which in many cases would require a serious rethinking of urban planning. A

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city must be built for people and it should be a place where it is pleasant and safe to walk to shops, parks and schools, where streets can be crossed safely and allow cycling and even children to play operate safely, where the service is not very far away or can be easily reached by bus or tram, where buses move quickly on special bus lanes and have priority at traffic lights.

Price increases for materials and services are another type of threat, however, the downward trend in inflation may temper these threats.

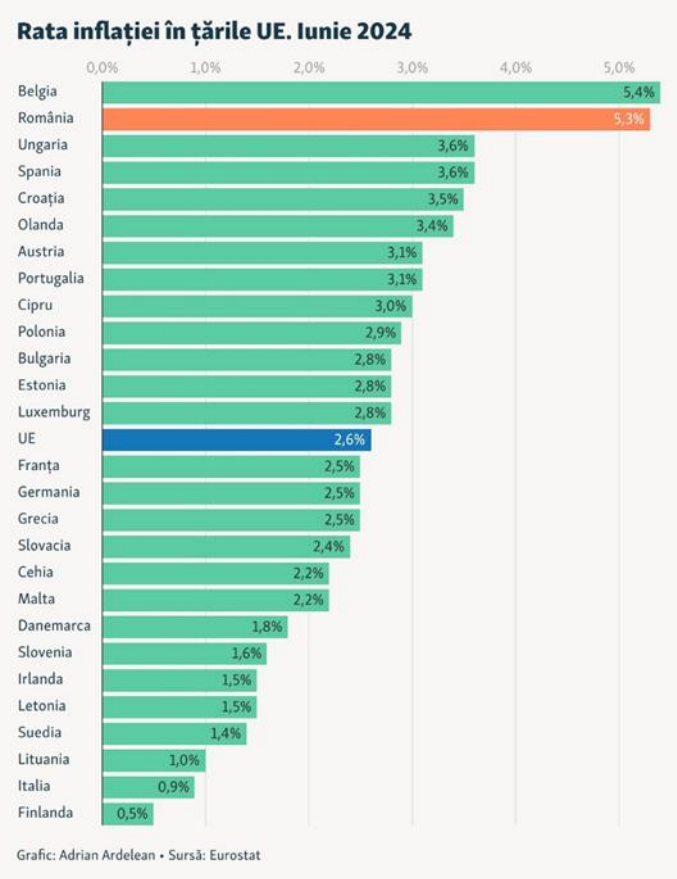

Figura nr. 73- inflation rate in EU countries June 2024 (https://romania.europalibera.org/a/inflatie-iulie/33075483.html)

In June, Romania was the EU member country with the second highest inflation rate, after Belgium, according to Eurostat. In June, according to the latest Eurostat updates, the EU member countries with the lowest annual inflation rates were Finland (0.5%), Italy (0.9%) and Lithuania (1%). At the other extreme, the EU member countries with the highest inflation rates were Belgium (5.4%), Romania (5.3%) and Hungary/Spain (3.6%). The National Bank of Romania (BNR) estimates that the annual inflation rate will continue to decrease in 2024, but at a much slower pace compared to 2023. In August, the National Bank of Romania (BNR) revised the inflation forecast for 2024 to 4.0%, from 4.9% previously.

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Regional cycling

Strong points

The strong points regarding the regional cycling networks in the south-west of Oltenia are not numerous. There is only one regional initiative in this regard, represented by the submission of the "Eurovelo 6 Mehedinți-Dolj-Olt" regional project, which is a segment of the EuroVelo 6 Atlantic - Black Sea European cycling route, with a total length of approximately 4,700 kilometers, with the towns of Nantes (France) and Constanța (Romania) as termini and crossing 10 European states. This route will cross the three counties of the region - Mehedinți, Dolj and Olt, passing through 40 localities (see details chapter 4.3.). Among the objectives that tourists who choose the bicycle as a means of transport, following this route, will have access to: the Medieval Fortress of Severinului, the "Marincu" Palace in Calafat, the Cetate Cultural Port, reserves and protected areas of community interest such as the Zăval Forest, Lake Bistreț, Sucidava Romano-Byzantine Fortress.

A strong point is represented by the fact that the population can travel by train in our country, using the class carriages, with a folding or dismountable bicycle, as hand luggage, without paying a separate ticket for it, provided it does not inconvenience others travel

The traveler can take a non-detachable bicycle in the free spaces of the car on trains made up of motor vehicles, for which he will pay at the ticket offices or on the train (when boarding from a station without a TFC ticket office), the fare related to bicycle transport . During the entire transport, the traveler will accompany and supervise the bicycle, so that it does not affect the safety and comfort of the passengers. The traveler is directly responsible for any damage caused during the transport of the bicycle. Bicycles are not accepted for transport: on the connections Bucharest North - H. Coandă Airport, Bucharest North - Brașov, Brașov - Câmpia Turzii - Cluj Napoca.

Strong points are constituted by the European funds, available through the South-West Oltenia Regional Program 2021-2027 and PNRR programs, with the help of which regional networks for traveling by bicycle could be developed.

Weak points

The fact that there is no regional infrastructure for bicycles causes cycling to use the carriageway, and very heavy road traffic can create safety problems for both cyclists and other road users.

Although county or local road modernization projects have been carried out or are being carried out (eg DJ552), which also provide for the construction of cycle paths, these are located in the localities crossed by the targeted road, they are not networks of paths or continuous tracks, which connect the localities. Thus, the use of the bicycle outside the towns is still carried out on the road side.

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The local and county authorities do not collaborate to build networks of bicycle paths, through financing with European or local funds, in order to offer the population the opportunity to travel with non-polluting, non-motorized means.

Opportunities

The South-West Oltenia Regional Program 2021-2027 provides for a budget dedicated to the 8 priorities, among which priority axis 4 - Increasing mobility and connectivity through the development of a modern and sustainable road transport infrastructure, through which local and county authorities can submit projects for the realization of networks of cycle paths. Through these projects, the main localities in the region could be connected, using non-polluting means of travel, they could also achieve the connection with the tourist attractions in the region. Romania's National Strategy for Tourism Development 2023-2035 promotes the development of regional cycling networks that will contribute to the tourist attractiveness of our country

The Romanian Cycling Federation organizes numerous cycling events and competitions throughout the year, addressed to all age and training categories. Each month is marked by a number of approximately 30 events, organized in all areas of the country. An example in the area of interest is the Road Grand Tour Karst Isverna MTB Race, which was organized in August, together with the Prahova County Cycling Association, in Isverna, Mehedinți.

Threats

With the exception of the project "Eurovelo Route 6 Mehedinți-Dolj-Olt", submitted for funding, for which the authorities of the three counties collaborated, the local, county or

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national public authorities do not have a strategy to approach the connectivity of bicycle networks, which would ensure a continuity of travel with non-motorized means of travel.

At the level of national strategies, whether they refer to regional development or to the development of tourism, measures are included to achieve sustainable mobility, to build cycling infrastructure, but, in reality, implementation is very deficient.

Another threat is the delay in the progress of the projects submitted for financing with European funds, which causes the set deadlines and the financed expenses to be exceeded, which leads to the non-fulfillment of the projects' objectives.

Multimodality

Strong points

The municipality of Târgu Jiu is the only one in the region that submitted a project for the construction of a park&ride terminal for financing. This is a beginning of applying the principles of multimodality, but only at the local level.

Most of the Sustainable Urban Mobility Plans of the county seat municipalities address the issue of implementing multimodal terminals at the local level.

Weak points

The fact that there are no multimodal terminals in the region is a weak point of the chapter, and the correction of this shortcoming is only at the script, programmatic level. From the provisions of the Sustainable Urban Development Plans, it appears that multimodality aims, for the most part, to transfer from county and inter-county public transport to local transport, not the possibility of using bicycles as an alternative to travel. The speed with which the provisions of the PMUDs are implemented is very low, the implementation stages are long-lasting.

The transport infrastructure that is being built or modernized does not include cycle tracks or they are laid out on the road or on sidewalks, inside cities and municipalities, without real safety elements that encourage the use of bicycles as a means of transport.

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According to the Country Specific Recommendations, adequate multimodal connectivity needs to be developed in many urban areas. Romania's regions are underperforming in terms of infrastructure compared to the EU average (European Commission, 2019).

In Romania, the infrastructure of the existing intermodal terminals (mostly public) is old, the systems are outdated and are not adapted to the evolution of demand. The limited number and capacity of current freight terminals restricts the ability to attract new markets that allow rail transport to compete more effectively with road transport, especially for intermodal flows. This led to the unfavorable evolution of container cargo transport in Romania, compared to European trends.

Opportunities

Policy requirements and the existence of European funding programs for multimodal terminals are opportunities that should lead public authorities to carry out projects that favor the transfer from public or individual motorized transport to ecological public transport or individual non-motorised travel. Financing programs with European funds explicitly include measures to improve the quality of life of EU citizens by reducing the use of polluting modes of transport.

Threats

The biggest threat regarding the implementation of multimodality is the inability to make decisions or the delayed decisions of the political and administrative class for the development of projects aimed at this field. Although Sustainable Urban Mobility Plans contain multimodality measures, they do not have comprehensive approaches that include all modes of transport, for which the entire available transport network should be rethought and restructured to favor green modes.

There is also no national or regional vision of multimodality, so as to include large areas of the region where travel is more efficient and greener.

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6 Good practices in the introduction of cycle tracks in urban areas

The European programs that have provided Romania with the opportunity to finance projects in the field of sustainable development are examples of good practices. Among the successful projects are those aimed at the construction or development of networks/paths for bicycles within cities, but also some that connect several localities, as a result of the good collaboration between the authorities in the region.

1. Thus, through the POR 2014-2020, the municipality of Slatina financed the project "Building infrastructure for bicycles", SMIS code 127372, through which extensive interventions were carried out in order to create the infrastructure for traveling by bicycle (bicycle paths). These included painting the surface of the bike path, making road markings specific to the delimitation and signaling of the bike path, installing specific road signs and installing panels with variable messages specific to bicycle transport (http://www.primariaslatina.ro/rezumat_proiect_127372.html).

Main Themes	Climatic resilience	Social inclusion/accessibility	Safety	Others
Urban cycling	x	x	x	
Regional network				
Multimodality				
Others				

The project has two stages:

- stage I, 2017-2024 - unites the agglomerations of major urban functions identified in the municipality, network length–14 km, as follows:

- Section 1 - Olt Beach - House of Youth Culture;

- Section 2 - Ecaterina Teodoroiu Street - Drăgănești Street;

- Section 3 – Strada Cireașov – Strada Artilleriei;

- Section 4 - Crisan Street - Nicolae Titulescu Boulevard.

- stage II, 2024-2030 - development of a network of bicycle paths inside densely built neighborhoods, unites smaller agglomerations of urban functions; network length–10 km.

The first stage of the project has been completed, with 14 km of cycle track, which starts in the west of the city, in the area of the municipal stadium, and runs on the road and on the sidewalk, depending on the space that the builder had at his disposal. It gives the city's

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residents the opportunity to move on the city's main arteries, detouring to the eastern end and returning to the west.

The second stage is to be carried out in the next period, it has not yet been translated into a project, the details are not available.

2. Approximately 9 kilometers of bike lanes were built in Drobeta-Turnu Severin. The money came from European funds, through the Regional Operational Program (ROP) 2014-2020.

Main Themes	Climatic resilience	Social inclusion/accessibility	Safety	Others
Urban cycling	x	x	x	
Regional network				
Multimodality				
Others				

The local public administration set out to develop urban cycling infrastructure, a non-polluting mode of transport, with the aim of increasing the safety of pedestrians and cyclists, reducing gas emissions, decongesting traffic, reducing noise and pollution levels in central areas.

The project has a total value of approximately 7.9 million lei and non-refundable funding of 7.5 million lei, being implemented within Priority Axis 4 – Supporting sustainable urban development, Investment Priority 4e – Promoting strategies with low carbon emissions carbon dioxide for all types of territories, especially for urban areas, including the promotion of sustainable multimodal urban mobility and adaptation measures relevant for mitigation, Specific Objective 4.1 – Reducing carbon emissions in county seat municipalities through investments based on mobility plans sustainable urban.

The investment consisted in the creation of a route for cyclists with a total length of 8,997 m, on the following streets in the municipality:

- Carol I (included between the intersection with Dimitrie Grecescu str. and the intersection with Theodor Costescu str.);
- Theodor Costescu (included between bd. Carol I and str. Traian) and the area of the intersection with str. Aurelian;
- Traian (included between the intersection with St. Theodor Costescu and the intersection with St. Anghel Saligny);
- Anghel Saligny (included between the intersection with Traian Street and the intersection with Tudor Vladimirescu Boulevard) and the intersection area with

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Constantin Brâncoveanu Street, Calomfirescu Street, Adrian Street, Mareșal Averescu Street;

- Mihai Viteazu – section 1 (included between the intersection with bd. Nicolae Iorga and the intersection with str. Prelungirea Orly);
- Mihai Viteazu – section 2 (included between the intersection with Prelungirea Orly str. and the intersection with Aluniș bvd.);
- Orly extension (included between the intersection with Mihai Viteazu Blvd. and the intersection with Crisan Street);
- Crișan – section 1 (included between the intersection with Prelungirea Orly str. and the intersection with Mihai Viteazu bldg.);
- Crișan – section 2 (included between the intersection with Mihai Viteazu Blvd. and the intersection with Revoluții 16-22 Decembrie Blvd.);
- Gheorghe Anghel (included between the intersection with bd. Tudor Vladimirescu and the intersection with bd. Mihai Viteazu).

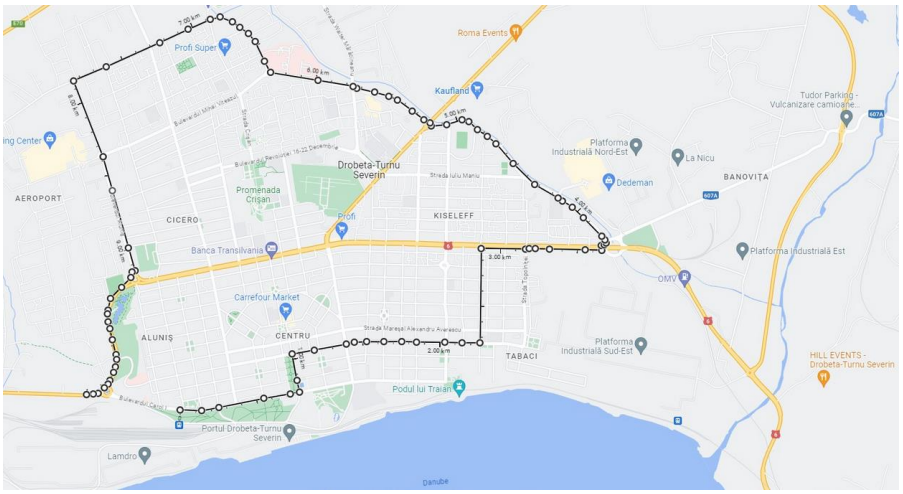

Figura nr. 74- bike lane Dr.Tr.Severin

The project's activities are complementary to those of another investment implemented by the Drobeta-Turnu Severin City Hall within the POR 2014-2020. It is about "Increasing urban mobility by modernizing and streamlining public transport, rehabilitating public transport carriageways, including bike lanes and creating an intelligent traffic management system", a project with a total value of approximately 84.5 million lei and non-refundable funding of 81.7 million lei, also submitted under Investment Priority 4.1.

Both investments will contribute to improving the quality of life of the city's residents, by reducing carbon dioxide emissions, reducing pollution, increasing the number of passengers using public transport and the number of cyclists.

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3. The modernization of DJ552, Craiova – Mofleni – Bucovăţ – Terpeziţa – Sălcuţa – Vîrtop – Caraula – Cetate, km 4+200 – 71+771, resulted in the creation of a 21,230 ml track for cyclists (section I – from Craiova to Terpezița , section II – 17 km of bike lanes, crossing the communes of Sălcuta, Vârtop, Caraula and Cetate). The value of the works was approximately 169.3 million lei, with non-refundable funding of 165.4 million lei, and the project is implemented by the County Council (CJ) Dolj, in partnership with the local public authorities from the seven municipalities on which the road crosses them.

Main Themes	Climatic resilience	Social inclusion/accessibility	Safety	Others
Urban cycling		x	x	
Regional network	x			
Multimodality				
Others				

Thus, the residents of the area will be able to reach Drobeta-Turnu Severin, Târgu Jiu and Bucharest much faster, via Pitesti or Alexandria. The rehabilitation of the 70 kilometers of road reduces the time spent in traffic by 30%. In addition to asphalting the road, reinforcements were made to nine bridges and 31 footbridges, new footbridges, drains and gutters are being built, 14 bus stops with alveoli, sidewalks, pedestrian crossings, parking lots and cycle paths are being installed road signs and speed limiters. Guardrails are also placed at dangerous curves and intersections and side roads are landscaped.

Figura nr. 75–DJ552 works map

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4. The "Sustainable urban mobility in the city of Brezoi" project, financed with funds from the 2014-2020 ROP, had the objective of reducing carbon emissions, encouraging the use of the public transport system, as well as increasing the attractiveness of the city of Brezoi.

Within the project there was also a component regarding the construction of a bicycle path, through which 11,425 m of bicycle paths were created along the Lotru River.

Main Themes	Climatic resilience	Social inclusion/accessibility	Safety	Others
Urban cycling		x	x	
Regional network	x			
Multimodality				
Others				

The current situation of the bike lanes in the city of Brezoi is presented in the figure below (https://www.primariabrezoi.ro/images/documente/attached/pmud_brezoi_2022-2027_copy_1.pdf).

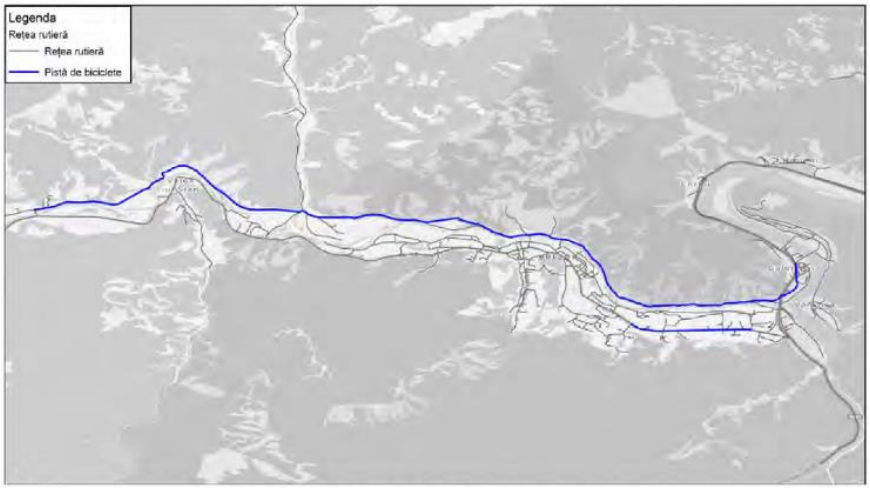

Figura nr. 76– Brezoi cycle tracks in 2023

The bike path is built on the left bank of the Lotru and connects the city of Brezoi with the localities that make up the city: Golotreni and Valea lui Stan. The width of the tracks is 2.2 m (1.1 m each way), asphalted with special asphalt for bicycle tracks, equipped with solar lighting poles.

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This project will be continued with another project financed by the PNRR, "Extending the bicycle path route in the city of Brezoi". Round 1 takes place between 11.01.2023 and 11.01.2025 and aims to create bicycle paths adjacent to the left and right banks of the Lotru river, between 2 bridges, namely: the Lunca Calului bridge and the Pascoaia bridge. The location of the work is located in the outskirts of the city of Brezoi, Valcea county, in the village of Pascoaia and the entire area occupied by the project is: 8,348.60 square meters. The bike paths will be built on a total length of 3211 m, composed of 3 sections:

- Section 1 is 705 m long and will be built on the right bank of the Lotru river from the Lunca Calului bridge to the Pascoaia bridge, from km 0+000 to km O+705;

- Section 2 is 717 m long and will be built on the right bank of the Lotru river in continuation of section 1 towards the Pascoaia bridge, from km 0+705 to km 1+422;

- Section 3 has a length of 1789 m and will be built on the left bank of the river from the Lunca Calului bridge to the Pascoaia bridge, from km I+422 to km 3+211.

The project is in the PT stage, the SF phase being completed in June 2023. The execution works will take place in 2024, and at the end of them, the residents and visitors of the city of Brezoi will be able to enjoy an extended length of the local bicycle routes, with less GHG emissions, more movement and a healthier life, you have more assets, more comfort, and less congestion in traffic.

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