

Bratislavský kraj

General information

T: Considering the linear character, the issue of Pan-European wide transportation networks cannot be divided into description of spatial structures at regional level. Therefore, following section describes pan-European multimodal ITF corridors on the Slovak part of the DONAUREGIONEN area:

- multimodal corridor No. IV. (Berlin/Nuremberg - Prague) national border Slovakia/Czech Republic - Kúty - Bratislava/Rusovce - national border Slovakia/Hungary located for road infrastructure (D2 motorway in Slovakia) and Kúty - Bratislava - Štúrovo - national border Slovakia/Hungary located for railway (Slovakia railway lines No. 110, 111, 130 and 132) infrastructure (Budapest - Romania/Turkey/Greece)
- multimodal corridor No. V. branch Va. (Austria) - Bratislava/Jarovce - Žilina - Košice - Záhorská Ves - ierna nad Tisou - (Uzhgorod - Lvov), located for road (D1 motorway in Slovakia) and railway (in southwestern Slovakia conventional line No. 120) infrastructure
- multimodal corridor No. VII. Danube waterway.

TI: Bratislava Region has insufficient energy sources and therefore is mainly dependent on electric energy import from neighboring regions. Bratislava Region is among all the best supplied and equipped region by energy and water management infrastructure.

Road Network

Region's operational motorways D1 (with sections E75, E58, E571), Bratislava - Žilina - Košice - national border Slovakia/Ukraine and D2 (with sections E65, E75) national border Slovakia/Czech Republic - Kúty - Bratislava/Jarovce - national border Slovakia/Hungary have radial arrangement. In the section of national border Slovakia/Austria - Bratislava/Jarovce motorway D4 is in duty. Scheduled completion of D4 motorway till 2018 on routes Bratislava/Jarovce - Rovinka - Ivanka pri Dunaji north - Bratislava/Rača - Marianka - Stupava south - national border Slovakia/Austria - Marchegg creates a starter for circularly arranged, capacity transport road infrastructure. D1 and D2 motorways are now completed and in operation. D1 motorway in partition Bratislava - Trnava is currently under modification (till 2015), providing the increase of capacity from 4-lane to 6-lane alignment. The planned expressway R7 Bratislava - Dunajská Streda - Nové Zámky - Lučenec complements the radially organized system of capacity communications. Putting into operation of R7 expressway in section Bratislava - Dunajská Streda is expected till 2017.

Structure of the most important I. class roads I/2, I/61 (with sections of E58), I/63 (with sections of E575) essentially follows the structure of motorways and expressways. Mentioned roads, which pursue the roads of motorways and expressways, also take over the function of accompanying roads for slow traffic, which is excluded from access to the motorways or expressways. II. class roads of regional importance are connecting Bratislava with its regional hinterland Záhorie, Podkarpatský residential stripe and Žitný Ostrov. The highest importance is attributed to road II/502 Bratislava - Trnava, which serves the settlement stripe on the eastern side of the Malé Karpaty. Only road II/503 has the character of regional round road connecting settlements in the hinterland of Bratislava, Šamorín - Senec - Pezinok - Malacky. Remaining regional roads have a predominant radial orientation to the city center of Bratislava.

In the territory of the Bratislava region are places to borders crossing with the neighbouring countries of the Schengen area. On the border with Austria it is the road crossing Bratislava/Jarovce - Kitsee on D4 motorway, Bratislava/Petržalka - Kitsee, Bratislava/Petržalka - Berg on the roads and ferry on the River Morava Záhorská Ves - Angern.

Railway Network

Similarly as in the road infrastructure, Bratislava region is the important crossroad of railway network. Railway lines No. 110 (C-E61) national border Slovakia/Czech Republic - Trnava - Kúty - Devínska Nová Ves - Bratislava, No. 132 (C-E61), Bratislava - Bratislava/Rusovce - national border Slovakia/Hungary and No. 130 (C-E52), Bratislava - Galanta - Štúrovo - national border Slovakia/Hungary are part of a multimodal corridor No. IV. Corridor No. Va includes railway line No. 120 (C-E63) Bratislava - Žilina, which is currently being upgraded for line speed of 160 km/h. Modernization of railway lines No. 110 and No. 130 is expected in the programming period beyond 2013. These lines are classified as the highest category of international importance. Besides to the corridor routes, track No. 111 (C-E52) national border Slovakia/Austria - Devínska Nová Ves and (C-E63) national border Slovakia/Austria - Bratislava/Petržalka also have international importance.

Currently, construction and reconstruction of the following lines in the city of Bratislava, are being prepared in the frame of priority project of European importance:

- line Bratislava/Nové Mesto – M.R. Štefánik Airport
- line M.R. Štefánik - Bratislava/Central freight station
- line Bratislava/Predmestie – Bratislava/Filiálka – Bratislava/Petržalka
- line Bratislava/Filiálka – Bratislava/Nové Mesto

Amendments and changes No. 1 KURS 2001 in anticipated period consider addition of the following lines in the city of Bratislava:

- line M. R. Štefánik Airport – Bernolákovo
- line M. R. Štefánik Airport – Bratislava - Vajnory.

Line No.131 Bratislava - Dunajská Streda – Komárno is included into the category with supraregional importance.

Lines No.112 Zohor – Plavecký Mikuláš and No.113 Zohor - Záhorská Ves are of regional and local importance.

Places designated for border crossing with neighbouring Schengen area countries – Bratislava/Devínska Nová Ves – Marchegg, Bratislava/Petržalka – Kitsee on borders with Austria a Bratislava/Rusovce – Rajka at the state border with Hungary.

Waterways and Ports

Danube river is the most important water road, located in the south boarder of covered regions. Water road Danube (arterial water road E80) is classified as multimodal corridor No. VII. In terms of agreement criteria AGN is Slovak part of Danube integrated into class of water roads VIa. As a part of european project with priority interest No. 18 is improvement of shipping conditions for sector Vienna – Bratislava.

In area of capital city is situated port AGN (P 80-38) Bratislava, located at river's kilometer 1867,0. Port Bratislava is divided into part Pálenisko and Zimný prístav. Port Bratislava/Pálenisko has terminal of combined transportation based on agreement AGTC. Strategical development of port predicts construction of so called New port for Pálenisko locality with partial utilization of pool Lodenica. Within the scope of New port in pool Pálenisko positioning of Mineral oil transship center is expected, which operates, at present, by ecologically insufficient way on free lapse of Danube. There is also passengers' port situated in Bratislava, in direct join with center of town.

Project of construction between water roads Danube – Oder – Elbe includes also territory of Bratislava. European agreement about main inland water roads AGN classifies connection between Oder and Danube as part of arterial water road E30 and connection between Elbe and Danube as part of arterial water road E20. Water road Morava - Danube – Oder – Elbe is, based on remade proposal of European parliament decision and Council of Europe about main streams of Community for the development of the trans-European transport network on Slovak republic territory, situated in east line of channel along river Morava. From area of Záhorská Nová Ves channel is directed into Austrian territory, with delta into Danube in Vienna country. Remade European Parliament decision and Council of Europe does not expect channel extension from Záhorská Nová Ves to Bratislava.

Air Transport

The most important public personal airport of Slovakia is M. R. Štefánik airport Bratislava. The airport is included in airport network TEN-T, within the scope of Slovakia it is classified as part of main network of airports for international transportation. The airport provides regular and irregular personal transportation, as well as freight transport. The airport is licensed to provide flights also to outside Schengen area. The airport distance from city center is only 7 km. Runway system of airport is made by two orthographic take off and landing runways and turn off runways. This system makes it possible to land of all kinds of regularly used aircrafts – from the smallest ones, single-engine aircrafts to aircrafts of Boeing 747 type. Since summer 2010 new airport capacity terminal is in operation.

Multimodal Transport System and Terminals

AGC railways designated for combined transport operation within region based on AGTC agreement are mentioned in part devoted to railway, marked as C-E together with numerical symbol. Water road dedicated by AGN for providing of combined transport AGTC is Danube water road and Morava water road, as a part of Danube – Oder – Elbe connection.

There are located two combined transport terminals in operation in Bratislava region territory at present time, more precisely in city of Bratislava. Terminal located in Bratislava/Pálenisko port (water/railway/road) provided the second largest volumes transloading in Slovak republic in 2007. The ÚNS Bratislava terminal (railways/road)

realizes almost 15 times smaller output like Bratislava/Pálenisko terminal. In city part Bratislava/Rusovce RoLa transship point is located, which is not in operation at present time. Transship points in Bratislava ÚNS, at the port Bratislava/Pálenisko were constructed in 70. - 80. years of past century as container transships points of Council of mutual economic assistance (RVHP), with priority specification and facilitated by technical equipments for manipulation only with 20-feet ISO containers manipulation. The common feature of terminals in Bratislava is their elderliness, in case we consider length of loading track, transloading equipments, information systems and access to the road or to the railway. National strategic and reference framework and Operational program Transport 2007-2013 expect combined transport terminal's modernization in Slovak republic, which include also terminals: Bratislava ÚNS and Bratislava/Pálenisko. Based on AGTC agreement Bratislava terminals will be part of state conceived network of basic public ports of combined transportation providing european standard services.

Electric Energy Networks and Installations

Bratislava Region is mainly dependent on electric energy import due to insufficient local power sources. Part of the regional electricity consumption is covered by hydroelectric, thermal and combined cycle power production. Sources are located in the capital Bratislava with 110 kV output.

Regional power sources:

- Combined Cycle Power Plant Bratislava, Vajnorská (218 MW)
- Thermal Power plant West Bratislava, Lama (25 MW)
- Thermal Power plant East Bratislava, Vajnorská (25 MW)
- Hydroelectric Power Plant unovo (24 MW)

Transmission grid of Bratislava Region consists of two 400/110 kV electrical substations Podunajské Biskupice and Stupava and network of 400 kV power lines with support from external substations Križovany and Gabíkovo (Trnava Region). Electricity is distributed by 110 kV network with direct connection to major industry consumers and by 110/22 kV distribution substations to low voltage network.

Gas and Oil Supply and Distribution

Major natural gas transmission and supply is provided by transit VHP pipelines. At border with Trnava Region (Transmission station Plavecký Peter) the gas transit splits into two flows in direction of Czech Republic (Lanžhot) and Austria (Baumgarten) by two separate pipelines. Natural gas is mainly imported from Russian Federation (national production is about 3%). Regional deposits of natural gas and crude oil are located in Malacky district. Region is equipped with underground natural gas storage facilities Láb (3 units with 2,13 billion m³ and 4th unit with 620 mil. m³ of capacity) connected to VHP network.

Share of municipalities supplied by natural gas in Bratislava Region is reaching 100 %. Natural gas transmission is provided by HP pipelines (2.5 – 4.0 MPa). Distribution network consists of gas control stations and MP and LP lines. Natural gas supply network provides optimal conditions for current and future needs of the whole region.

Bratislava Region especially Slovnaft refinery is supplied with crude oil by branch of Družba pipeline. Družba (southern part) crosses Slovakia from Ukraine to the Czech Republic. It serves as a transit pipeline, supplying European countries from the rich oil fields in the Urals and Western Siberia.

Telecommunication Network

Telecommunications infrastructure in Bratislava Region provides currently all available telecommunications services in the desired scope and range. The key elements of telecommunications network are digital nodes, optical transmission network, access network, radio-relay routes and GSM mobile network with technological stations. The main telecommunication axes are in these directions: Bratislava – Malacky - Czech Republic, Bratislava – Pezinok – Trnava, Bratislava – Šamorín – Dunajská Streda, Bratislava – Rusovce – Hungary, Bratislava – Vienna.

Water Protection and Management

Bratislava Region plays an important role in the field of water management. Geographical and hydrological characteristic of the region is defined and essentially influenced by major border rivers of European importance, Danube and its tributary Morava. Danube forms with Little Danube the biggest river island in Europe, the Rye

Island (Žitný ostrov), which contains large ground water reserves and is one of the most fertile agricultural areas in Slovakia.

Water reservoirs

The biggest artificial water reservoir in the region is unovo reservoir, integral part of Gabíkovo waterworks complex (capacity of 111 mil. m³) located downstream of Bratislava. Together with supply channel (196 mil. m³) regulates water level and serves as a water accumulation for power plant.

Drinking Water Sources

The ground water sources of Bratislava Region are located mainly within alluvial sediments of the river Danube. Bratislava City is fully supplied by its large capacity ground water sources (Siho 480 l/s, Rusovce 770 l/s, Peňiansky forest 330 l/s) and local sources within the city surrounds. Eastern part of the region, districts Pezinok and Senec, are mainly supplied by long-distance ducts from external large capacity sources (Šamorín 900 l/s and Kalinkovo) located on the Rye Island in Trnava Region; their local resources are insufficient. Other sources of regional importance and sufficient capacity are present at foothills of Little Carpathians supplying the whole Malacky district.

Drinking Water Supply

Water supply framework of Bratislava Region consist of five regional mutually interconnected drinking water distribution systems (Šamorín long-distance supply system and Bratislava, Záhorský, Podhorský and Senecký networks) covering all the three districts and Bratislava City. These long-distance water ducts and subsequently regional and local networks ensure stable and more than sufficient distribution of drinking water.

From total number of 72 municipalities and Bratislava City, only three settlements do not have properly built up public water network. The current situation in potable water supply of Bratislava Region is appropriate and comparing other regions satisfactory. The overall share of households supplied by drinking water is 95.9 % (2008). The district Senec (83.1 %) has the lowest share in the region, following by districts Malacky (87.3 %) and Pezinok (91.8 %). The best situation is in Bratislava City with share of 99.6 %.

Wastewater Treatment

Current situation in wastewater management in Bratislava Region is acceptable compared to other regions, but still not sufficient; the share of inhabitants connected represents 85.27 % (2008). In comparison to year 1996 with share of 79.83 %, the development shows only slight increase (5.4 %). Nevertheless the 10.6 % gap between connection of households to sewer network and their supply with potable water is acceptable and is the smallest from all the three regions. Bratislava City is the only town in the region having a properly built-up sewer system, where the share of households connected to public sewage collection system reached 98.4 % (2008), what is far above the Slovakian average. Having regard to technical condition of the sewer systems, and considering the special significance of water resources protection, extensive improvement of infrastructure will be needed in the near future.

In spite of the overall regional satisfactory situation in wastewater treatment, an obvious quantitative difference is evident between districts. Apart from Bratislava district the share of household connections drops significantly to 60 % or below (districts Pezinok 60.46 %, Malacky 55 % and Senec 50.86 %). Generally the situation in proper wastewater treatment in the region is moderate, the public sewer system is established in 40 municipalities out of 73 (54.8 %). These apparent discrepancies show the different approach to development of towns and technical support of rural areas.

Flood Prevention and Protection

Flood risk management in Bratislava Region is mainly aimed at flood prevention and protection measures concerning two major watercourses Danube and Morava. Danube (border river with Hungary), Morava (border river with Austria and Czech Republic) and all the main regional rivers are completely equipped with flood protection works (Q100). Morava flows into the Danube at Devín, the same point where the Danube enters the region from neighbouring Austria, traversing further through Bratislava city with reinforced flood embankments (Q1000) and leaving the region divided at Gabíkovo waterworks between the power canal and old Danube channel. Gabíkovo waterworks consist of unovo reservoir (upper part in Bratislava Region) and a supply canal and outlet canal for power plant (Trnava Region). Operation of the Gabíkovo hydraulic structures enables transformation of flood waves in the Danube River bringing better flood risk protection; with water level

regulation and stream stabilisation provides year-round navigability. Positive environmental aspects include improved quality of potable water and groundwater level stabilisation and clean renewable energy production. In recent years, the risk of floods has dramatically increased, mostly due to the climate changes. Each flood varies in hydrological features and is directly dependent on various geomorphologic, geologic and hydrologic characteristics of the region. Current situation uncovers increased risk, vulnerability and the need for more effective flood protection measures.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,038	0,047	0,051	0,057
Density of Railways - length of total railway network per km square	0,074	0,074	0,074	0,074
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	2403,7	4416,24	2654,55	3449,35
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	100	100	100	100
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	100	100	100	100
Electric energy supply (Share of dwellings connected)(%)	100	100	100	100
Natural gas (Share of dwellings connected)(%)	91,55	100	100	98,63
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)			27,2	67,8
Drinking water supply (Share of dwellings connected)(%)	93,08	95,41	95,76	95,86
Wastewater treatment (Share of dwellings connected)(%)	79,83	83,78	84,26	85,27
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,04	0,05	0,05	0,04

Trnavský kraj

General information

T: Considering the linear character, the issue of Pan-European wide transportation networks cannot be divided into description of spatial structures at regional level. Therefore, following section describes pan-European multimodal ITF corridors on the Slovak part of the DONAUREGIONEN area:

- multimodal corridor No. IV. (Berlin/Nuremberg - Prague) national border Slovakia/Czech Republic - Kúty - Bratislava/Rusovce - national border Slovakia/Hungary located for road infrastructure (D2 motorway in Slovakia) and Kúty - Bratislava - Štúrovo - national border Slovakia/Hungary located for railway (Slovakia railway lines No. 110, 111, 130 and 132) infrastructure (Budapest - Romania/Turkey/Greece)
- multimodal corridor No. V. branch Va. (Austria) - Bratislava/Jarovce - Žilina - Košice - Záhor/ ierna nad Tisou - (Uzhgorod - Lvov), located for road (D1 motorway in Slovakia) and railway (in southwestern Slovakia conventional line No. 120) infrastructure
- multimodal corridor No. VII. Danube waterway.

TI: Trnava Region holds the dominant role in the field of electric energy production in Slovakia. Region also deserves the highest attention from the aspect of water management serving as the supraregional drinking water resource.

Road Network

The territorial structure of road communications in Trnava region reflects mutual coherence and connectivity of regional, economic and landscape structure with Bratislava region. A large number of working and studying citizens from Trnava region travel daily to Bratislava. The most heavily burdened road communications currents go along the radially organized communications from the area of the region to the center of Bratislava. This concerns the D1 motorway continuation (with sections E75, E58, E571), and D2 (with section E65), the scheduled R7 expressway, parallel roads I/2, I/61 and I/63 (with sections E575). Motorway D1 continues north through Považie, in the route of multimodal corridor Va and in the route of the most important Slovak road link, through Northwestern Slovakia region. In Trnava area there is a motorway D1 and expressway R1 (with sections E58, E871) crossroad, which is connecting Southwestern and Central Slovakia. The radially oriented route structure is complemented by important route I/51 national border Slovakia/Czech Republic - Holí - Trnava - Nitra. In Velký Meder road I/63 (with section E575) divides into I/39 (E575), directed to border crossing Slovakia/Hungary Medve ov - Vámosszabadi.

Road I/51, extended by the road II/507 and II/506, creates North-South axis of Trnava region connecting Senica and Záhorie, located in Trnava region, with the center of the southern part of the region in Dunajská Streda.

In Trnava region are places to traverse borders c with neighbouring Schengen countries. In addition to the passage of road I/51 in Holí, there are other border crossings with Czech Republic including Trnava - Beclav motorway D2, Trnava - Lanhožt road II/425 and Skalica - Sudom ice road II/526 with Czech Republic. The only border crossing with Hungary is in Medve ov.

Railway Network

The following lines of highest international importance, pass across Trnava Region: No. 110 (C-E61) national border Slovakia/Czech Republic - Trnava - Kúty - Devínska Nová Ves - Bratislava, No. 120 (C-E63), Bratislava - Žilina and No. 130 (C-E52), Bratislava - Galanta - Štúrovo - national border Slovakia/Hungary. Additional connections of corridor railways are also included on lines No. 120 (C-E63) and No. 130 (C-E52) through the railway line No.133 (C-E63) Leopoldov - Galanta. The category of railway lines with supraregional importance include lines No. 133 Trnava - Sered, No.116 Trnava - Kuty No. 131 Bratislava - Dunajská Streda - Komárno, No. 141 Leopoldov - Zbehy - Kozárovce No. 144 Kúty - Holí - Skalica, No. 115 Holí - national border Slovakia/Czech Republic. The lines with local and regional importance include line No. 117 Brezová pod Bradlom - Jablonica.

Places designated for border crossing with neighbouring Schengen area countries - Brodské – Lanžhot, Holí – Hodonín and Skalica – Sudom ice nad Moravou at the state border with Czech Republic.

Waterways and Ports

Danube water road is, on main part of Trnava region, situated in axis of water scheme Gabíkovo channel. As belonging of European project with priority interest No. 18 is improvement of shipping conditions in sector

Palkovi ovo – Mohá . Sector begins below water scheme Gab íkovo in Trnava region territory and continues to Hungary through territory of Nitra region. In region territory is not, and is not planned, construction of Danube port.

Water road Váh (E81) is, based on agreement AGN, inland water road connected with arterial water road Danube. North oriented from area below water scheme Krá ova is Váh water road planned in territory of Trnava region. The channel axis is designed in route and sections of already existing energetic channel of Váh as well as in sections of water reservoir and natural river basin Váh. In terms of AGN agreement criteria is water road Váh on section Sere – Žilina projected for water road class Va. AGN agreement specifies localization of planned ports at river Váh P 81-03 Sere at river's kilometer 73,8-74,3, P 81-04 Hlohovec at river's kilometer 124,4-124,7 and P 81-05 Pieš any at river's kilometer 124,4-127,7.

Air Transport

The Pieš any airport is part of Slovakia main airport network for international transportation. The airport has public, personal character. At present time airport provides only charter type of personal transportation.

Multimodal Transport System and Terminals

The AGC railways dedicated for combined transportation operations specified by AGTC agreement are mentioned in part devoted to railway transport, marked as C-E together with numerical symbol. By AGN water road dedicated for combined transportation operation AGTC is Danube water road, Váh water road and Morava water road, as part of Danube – Oder – Elbe connection.

The AGTC agreement considers combined transportation water/railway terminal creation in Váh port Ša a.

At present time there is new, modern equipped terminal of combined transportation (railway/road) in Dunajská Streda, which realizes the largest volumes of transloading in Slovakia. The terminal exploits from its advantageous position at Hungarian border and from lack of trasloading capacities in north Hungary, what proves in realization of transloadings of containers also for subjects in Hungary. There is terminal of combined transport (railway/road) in operation in Sládkovi ovo. Papers of combined transport potential in Slovakia prove effectiveness of combined transport terminal (railway/road) construction, classified into network of combined transport basic public ports providing, based on AGTC agreement, European level services dedicated for area of transport – gravitation region Southwest Slovakia. Slovakia transport government department decided for its localization in Leopoldov (Šulekovo) area.

Electric Energy Networks and Installations

Trnava Region integrates the most important national electric energy sources including hydroelectric and nuclear type. Hydroelectricity is generated by two hydro-electric power plants Gab íkovo and Madunice. The nuclear power plant Bohunice (EBO) V2 is located in Trnava district, where electricity is generated by two units operating since 1984 and 1985 (two other units of NPP V1 were shut down according to Accession Treaty by the end of 2006 and 2008).

Regional power sources:

- Nuclear Power Plant V2 Bohunice (2x440 MW)
- Hydroelectric Power Plant Gab íkovo (720 MW)
- Hydroelectric Power Plant Madunice (43 MW)

Power transmission grid of Trnava Region is based on 400 and 220 kV power lines which are interconnected with electrical grids of neighbouring regions and countries (Czech Republic and Hungary). Key elements of the transmission grid are two 400 kV electrical substations Križovany and Gab íkovo and 220 kV electrical substation Stupava. Distribution of electricity is provided by 110 kV lines.

Trnava Region has also significant geothermal energy resources located in districts Galanta and Dunajská Streda, utilised mainly in health care and agriculture sector.

Gas and Oil Supply and Distribution

Natural gas supply of Trnava Region is provided by transit (3 x DN1200 & DN1400) and interstate (700/55) VHP pipelines. At border with Bratislava Region (Transmission station Plavecký Peter) the gas transit splits into two separate flows in direction of Czech Republic (Lanžhot) and Austria (Baumgarten). Natural gas is mainly imported

from Russian Federation (national production is about 3%). Regional deposits of natural gas and crude oil are located in Senica district.

Natural gas supply is provided by transmission HP pipelines (2.5 – 4.0 MPa). Distribution network consists of gas control stations and MP and LP lines. Technical condition of natural gas infrastructure network is good. Share of municipalities supplied by natural gas in Trnava Region is 94 % (2008). In 10 years period the rate has increased significantly from 78.5 % what improved the overall environmental situation.

Crude oil pipeline Družba traverses Slovakia from Ukraine to the Czech Republic, delivering crude oil from Russian Federation to European market, crossing the northern part of Trnava Region with southwest branch to Slovnaft refinery.

Telecommunication Network

Telecommunications infrastructure in Trnava Region provides currently telecommunications services at sufficient level. Despite rapid development significant regional disparities are present. Bad accessibility of rural areas result in partial broadband unavailability. The key elements of the network are digital nodes, optical transmission network, access network, radio-relay routes and GSM mobile network with technological stations. The main telecommunication axes are in these directions: Bratislava – Pezinok – Trnava, Trnava – Nitra, Trnava – Senica – Czech Republic, Bratislava – Šamorín – Dunajská Streda, Dunajská Streda – Komárno, Trnava – Piešťany – Nové Mesto nad Váhom.

Water Protection and Management

Trnava Region has the utmost importance from the aspect of water management. The three major rivers of European and national importance traverse the territory; bordering rivers Danube and Morava, and main inland river Váh. Other important rivers include Little Danube, Dudváh and Myjava. Danube forms together with its tributary Little Danube the Rye Island (Žitný ostrov); the biggest river island in Europe with enormous ground water reserves.

Water reservoirs

There are 9 significant water reservoirs with capacity over 1 mil. m³ present in Trnava Region. Two major water dams serving primarily for electricity production; hydroelectric plant Gabíkovo (110.0 mil. m³ on Danube) and hydroelectric plant Kráľová (45.02 mil. m³ on Váh river). Subsequently Sava water dam (12.5 mil. m³ on Váh), part of hydro power plant complex Madunice, which serves mainly as a water reserve for Nuclear power plant Bohunice.

Drinking Water Sources

Trnava Region is the most important drinking water supplier for neighbouring Bratislava and Nitra Regions. The best quality potable water sources with utmost importance and large capacity are located in districts of Dunajská Streda and Galanta (Gabíkovo 1040 l/s, Šamorín 900 l/s, Jelka 754 l/s), which are part of the Protected Water Management Area Rye Island. Other good quality potable water sources with sufficient capacity are located in area of Trnava Hills (190 l/s), foothills of Little Carpathians (Dobrá Voda 100 l/s, Dechtice 230 l/s) and alluvial sediments of Váh river in Piešťany district (Veľké Orvište 357 l/s, Borovce-Rakovice 125 l/s). Trnava Region is supplied purely from its ground sources.

Drinking Water Supply

Drinking water supply of Trnava Region is provided mainly by regional long-distance supply systems and additionally by local sources and conduits. Major drinking water distribution networks are Trnava-Dobrá Voda-Veľké Orvište system (covering districts Trnava, Piešťany and Hlohovec), Senica water supply network and Jelka-Galanta-Nitra long-distance system reaching out to neighboring Nitra Region.

The current state of the potable water supply in Trnava Region is unsatisfactory and worst in comparison to Bratislava and Nitra Regions. The district Dunajská Streda with best ground water sources is the worst supplied in the region with only 77.8 % (2008). The share of households supplied by drinking water is 85.6 % (2008). A very slight change comparing to 1996 rate of 78.1 %. Other districts with low share not reaching 90 % are Senica, Piešťany, Skalica and Trnava. The best situation is in Hlohovec (95.8 %) and Galanta (95.3 %) districts with share above 95 % of supplied inhabitants. These districts have also nearly all settlements connected. From a total of 251 settlements of the region, the public water network is established in 209 (93.3 %). The lowest number of settlements supplied has the district Skalica (71.4 %) following with Dunajská Streda district (74.6 %).

Wastewater Treatment

The development of sewer networks is generally far behind the development of potable water supply what has its negative side effects on the environment. In the Trnava Region the situation has bettered, comparing years 1996 and 2008 the share of inhabitants connected to public sewer system has raised about 9.5 % from 42.09 % to 51.59%, achieving the fastest growth of all the three regions. The share of number of settlements connected has quadrupled (8.8 % in 1996 to 38.7 % in 2008), but still doesn't reach status of Bratislava Region with share above 54 %. Public sewer system is established in 97 municipalities out of 251 and the current status is very unsatisfactory. The worst situation is on south in Dunajská Streda district, where the rate drops below 40 % of connected inhabitants. The best situation is in Skalica (66.3 %) and Trnava districts (64.1 %). Other districts move between 45 % and 55 %.

Flood Prevention and Protection

Both border rivers Danube and Morava have got proper flood protection systems (Q100) built up all along the flow. Morava enters the region at Skalica town and is regulated along the whole frontier with Czech Republic. Downstream of Bratislava is located Gabíkovo dam complex, the main flood protection works consisting of unovo reservoir (upper part in Bratislava Region) continuing with lower part of unovo reservoir and power plant's artificial supply canal and outlet canal (Trnava Region). Potential floodwater is divided between the power canal and the 40-km-long old Danube channel. Operation of the Gabíkovo hydraulic structures enables transformation of flood waves in the Danube River. Gabíkovo waterworks, besides clean energy production, positively influence regional environmental, hydrological and transport situation. With stabilisation of stream the quality of potable water and groundwater levels improved; the most important advantage is reinforced protection against floods. River Váh traverses the region with properly built up flood protection dikes along whole river length starting in Piešťany town at Sava dam down to Kráľová water dam.

In recent years, the risk of floods has dramatically increased, mostly due to the climate changes. Each flood varies in hydrological features and is directly dependent on various geomorphologic, geologic and hydrologic characteristics of the region. Current situation uncovers increased risk, vulnerability and the need for more effective flood protection measures.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,016	0,023	0,023	0,023
Density of Railways - length of total railway network per km square	0,033	0,033	0,033	0,033
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	0	0	0	0
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	79,16	79,33	79,39	79,44
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	100	100	100	100
Electric energy supply (Share of dwellings connected)(%)	100	100	100	100
Natural gas (Share of dwellings connected)(%)	78,49	88,84	93,23	94,02
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)			11,7	38,1
Drinking water supply (Share of dwellings connected)(%)	78,09	81,87	84,62	85,55
Wastewater treatment (Share of dwellings connected)(%)	42,09	44,48	51,12	51,59
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	1,39	1,39	1,38	1,37

Nitriansky kraj

General Information

T: Considering the linear character, the issue of Pan-European wide transportation networks cannot be divided into description of spatial structures at regional level. Therefore, following section describes pan-European multimodal ITF corridors on the Slovak part of the DONAUREGIONEN area:

- multimodal corridor No. IV. (Berlin/Nuremberg - Prague) national border Slovakia/Czech Republic - Kúty - Bratislava/Rusovce - national border Slovakia/Hungary located for road infrastructure (D2 motorway in Slovakia) and Kúty - Bratislava - Štúrovo - national border Slovakia/Hungary located for railway (Slovakia railway lines No. 110, 111, 130 and 132) infrastructure (Budapest - Romania/Turkey/Greece)
- multimodal corridor No. V. branch Va. (Austria) - Bratislava/Jarovce - Žilina - Košice - Záhor/ ierna nad Tisou - (Uzhgorod - Lvov), located for road (D1 motorway in Slovakia) and railway (in southwestern Slovakia conventional line No. 120) infrastructure
- multimodal corridor No. VII. Danube waterway.

Road Network

Following European multimodal corridors go through the region:

- corridor n. IV. Berlin/Nuremberg – Prague – Kúty – Bratislava – Budapest – Constanta / Thesaloniki /Istanbul for roads, Czech Republic – Kúty – Bratislava – Nové Zámky / Komárno – Through Nitra region, which lies easterly from the Trnava region, pass road communications leading to Central Slovakia. Expressway R1 (with sections of E58, E571), Trnava - Nitra continues to Zvolen and the scheduled R7 expressway will after assembling create road communications in west – east direction. Expressway R1 in the territory of Nitra will be operational in 2011. There are currently two I. class roads - I/63 and I/75 - in the corridor of the planned expressway R7. The existing road traces the significant lack of continuity, namely in the section between Dunajská Streda and Nové Zámky. Road I/66 (with section E77) with North-South direction is situated along the enclave of Ipe river toward Šahy. The road connects the northeastern region of Central Slovakia (Horehronie) with Poiplie and continues toward the territory of Hungary. Construction of expressway R3 is planned in the I/66 road corridor. The expressway through Martin – Zvolen – Šahy – Budapest is conceived as part of a network of additional connections between corridor motorways. Date of launch, in the territory of Nitra, is not yet determined.

The main North-South oriented road of the region is the road I/64, creating a communication axis Ponitrie. In 2008, road R8 Nitra - Topo any - R2 crossroad, located in the northern part of the territory of Nitra, was integrated into the network of Slovak expressways. In the broader international context, the southern part of the road I/64, ending with the border crossing with Hungary, has higher importance than the northern part of the road. Road connection I/64 in the section of Nitra (R1) - Nové Zámky - Komárno - Komárom (Hungarian motorway M1) has a high potential for international traffic. Also, road I/76 has North-South direction, linking R1 expressway corridor with the southern part of county and city Štúrovo. Regional II. and III. class roads, which are locally supplemented by I. class routes, create a communication infrastructure network with good transport accessibility.

Places designated for border crossing with neighbouring Schengen area countries – Hungary only - are located in Komarno, Štúrovo, Salka and Šahy. The passage in Komárno is located on route I/64 Komárno – Komárom, in Štúrovo it is route I/63 Štúrovo – Estergom, in Šahy it is route I/66 Šahy - Parassapuszta. Passage Salka - Letkés is located on road III/510006.

Railway Network

The main railway line in Nitra Region is line No. 130 (C-E52), Bratislava - Galanta - Nové Zámky - Štúrovo - national border Slovakia/Hungary. Railway line No. 135 (C-E61) Nové Zámky - Komárno - national border Slovakia/Hungary is included in the complementary network interconnecting corridor railway lines. In Palárikovo, the railway line No. 130 (C-E52) is connected to railway No. 150 Nové Zámky - Zvolen which is part of complementary excluding-corridor railway network. Mentioned lines are included in the category of international importance.

In the category of lines with supraregional importance, the following are included: No. 131 Bratislava - Dunajská Streda - Komárno, No.141 Leopoldov - Zbehy - Kozárovce and No. 140 Nové Zámky - Šurany - Nitra - Zbehy/Lužianky - Prievidza. Line No. 140 with the track No. 135 are creating North-South region railway axis, located in Nitra River valley. Lines No. 136 Komárno – Kolárovo, No. 134 Šala – Neded, No. 142 Zbehy – Radošina, No. 151 Ú any nad Žitavou – Zlaté Moravce, No. 152 Levice - ata – Štúrovo and No. 153 ata - Zvolen have regional and local importance.

Places designated for border crossing with neighbouring Schengen area countries - Komárno - Komárom and Štúrovo - Szob at the state border with Hungary.

Waterways and Ports

Danube water road is in region territory situated in channel axis route of river basin. Danube - Palkovi ovo – Gönyü water roads' sections, located in Nitra, Trnava region and enkov in Nitra region are included into complicated sections of nautic. Nautic's future through mentioned sections of Danube is unclear. As a reason of unrealized construction of water scheme Nagymáros is nautics through mentioned sections provided by classic modification of river basin, which are in long term perspective unmaintainable.

Based on AGN agreement Danube ports are located P 80-40 Komárno at river's kilometer 1767,1 and P 80-41 Štúrovo at river's kilometer 1722,0. Mentioned ports are also included in AGTC agreement about terminals of combined transportation. Physical plan of Komárno city expects transformation of west port's part function connected with new functional utilization for passengers' water transportation supplemented by community services. East pool is more suitable for development of port and other port activities. Štúrovo port, oriented on personal transportation is located in stabilized localization without any additional requirements on function or localization changes.

Absence of Nagymáros water scheme is significant also in case of water road Váh (E81) operation. Lower part of Váh water road at river kilometer 0 to 70,0 is officially declared as regular water road for large ships. In a matter of fact is shipping through this part depending on improvement of nautical flow by means of Krá ova water scheme's basin. Already mentioned remedy is possible to use only in limited frequency, depending on preferred energetic function of water scheme Krá ova and on limited possibilities of shipping routes parameters. Without backwater of Váh in section beyond Kolárovo – water kilometer 25,0 – is full – value nautic through Váh impossible and Váh does not satisfy the conditions for insertion into the network of European water roads of international importance that way, as in AGN agreement is formulated. In case Nagymáros water scheme is not implemented, requested backwater of Váh is possible to provide only by Kolárovo water scheme implementation. The AGN agreement considers present integration of water road Váh on Komárno – Sere section in shipping class Va. And with final classification in shipping class VIa. Based on AGN agreement Váh's ports will be located P 81-01 Komárno at river's kilometer 0.0, P 81-02 Ša a at river's kilometer 54.4-54.8.

Air Transport

The Nitra airport – Ve ké Janíkovce is public personal airport with authorization to provide international transport. The airport has supraregional importance. Personal transportation is provided by small aircrafts commercial flights.

Multimodal Transport System and Terminals

AGC railways dedicated for combined transport operations within region are, based on AGTC agreement described in railway devoted part, marked as C-E together with numerical symbol. Water road Danube and water road Váh are water roads of AGC assigned for combine transport operation AGTC.

There is not terminal of combined transport operating in Nitra region territory. Combined transport services are provided through terminals in Bratislava and Trnava region. Container transship point RoLa in Nové Zámky has been closed. The AGTC agreement considers creation of combined transport terminal water/railway in Váh port Ša a.

Electric Energy Networks and Installations

Nuclear power plant Mochovce, located in the north-east of the region, is the main source of electric energy of supra-regional relevance and belongs to the core section of electricity supply system of the Slovak Republic. Two units are in operation since 1998 and 2000; each with 470 MW installed capacity. Remaining two units are now being built; 3rd unit is planned to be put into commercial operation in 2012, 4th unit year after, increasing the total installed capacity up to 1880 MW.

Regional power sources:

- Nuclear Power plant Mochovce (2x470 MW)
- Combined Cycle Power Plant Levice (82 MW)
- Hydroelectric Power plant Krá ová (45 MW)

Basis of electric power supply system of Nitra Region form 400 kV power lines. Length of the network in the region is 523, 3 km. It connects 400/110 kV electrical substation Ve ký ur (collecting output from Mochovce nuclear power plant). The 400 kV network crosses the region to the north in direction of hydro-electric plant Liptovská Mara and to the south towards Hungary – Göd. Length of 110 kV network in the region is 756,3 km and it supplies 110/22 kV transformer substations, which are the most important part of the electric energy distribution. There are 21 of 110 kV substation transformers in the region, with output of 1313,2 MVA.

Gas and Oil Supply and Distribution

Through the region, by east-west direction passes transit gas pipeline, which provides a transit of gas from Ukraine to European market. Volume of the transported gas is 20 % of total EU consumption. Also one of the four compressor plants of transit gas pipeline is located in the region (Ivanka pri Nitre).

The current situation in connection of the settlements and supplying of the gas is satisfactory. The share of settlements connected to the gas pipeline system varies from 74.6 % in Levice district to 100 % in Nitra, Ša a, Topo any and Zlaté Moravce districts.

Nitra Region is crossed by Druzhba pipeline delivering crude oil from Russian Federation. Druzhba (southern part) crosses Slovakia from Ukraine to the Czech Republic. It serves as a transit pipeline supplying Europe.

Telecommunication Network

Within a framework of telecommunication network modernisation, progressive extension of access network and modernisation of cable lines are planned. Implementation of FITL (optical components in the network) technology is planned in the future. The access to the telecommunications network infrastructure is satisfactory in the whole region. Local low accessibility of rural areas results in partial broadband unavailability, but generally the Nitra Region is provided by telecommunications services of desired scope and range. The main telecommunication axes are: Trnava – Nitra – Levice (Želiezovce) – Žiar nad Hronom, Dunajská Streda – Komárno, Komárno – Hurbanovo – Nové Zámky – Nitra – Topo any – Prievidza, Komárno – Šamorín, Šamorín – Želiezovce – Šahy – Ve ký Krtíš.

Relevant element of the internet network in the region is a nodal point of the SANET (Slovak Academic Network) located within Slovak University of Agriculture.

Water Protection and Management

Nitra Region compared with Bratislava and Trnava Regions represents more complex situation regarding the problematic of water management. The region is crossed by four most important national and regional rivers Váh, Hron, Ipe (Danube's tributaries) and Nitra. Váh enters the region at Pieš any town and flows into the Danube at Komárno town; Hron enters the region at Kozárovce village, and flows into the Danube at Štúrovo town together with Ipe, which flows into the region near Šahy town. The whole southern frontier with Hungary is formed by Danube and Ipe. Other important regional rivers include Žitava, Sikenica, Krupinica and Little Danube, with which the Danube creates the Rye Island. Containing the largest ground water reserves, the Rye Island is one of the most fertile agricultural areas in Slovakia, from which Nitra Region takes the south-eastern part.

Water reservoirs

Four water reservoirs with capacity over 1.0 mil. m³ are present in Nitra Region, two of them are used mainly for agricultural and recreational purposes. Water reservoir Ve ké Kozmálovce (3.23 mil. m³) on the river Hron, serves as source of service water for Nuclear power plant Mochovce. Water reservoir Selice (6.5 mil. m³) is build to ensure inland water transportation on Váh river.

Drinking Water Sources

The main drinking water resources of Nitra Region are located outside of the region primarily in Trnava Region (major large-capacity sources Gab íkovo 1040 l/s and Jelka 728 l/s) and partly in Tren ín Region. Other important localsources of ground water are located within alluvial sediments of river Danube, Váh, Nitra and Žitava.

Drinking Water Supply

Three main regional supply systems, dependent on external large-capacity sources, include the biggest Gab íkovo system (districts Zlaté Moravce, Nové Zámky, Levice, Komárno and Nitra), Jelka – Galata – Nitra system (districts Nitra and Ša a) and Ponitriansky network (districts Nitra and Topo any). These large scale networks

cover about 75 % of drinking water consumption; the 25 % gap is ensured by local networks and sources. The development of the network in the region is subordinated to actual situation of external resources.

The current state of the potable water supply in Nitra Region is not fully sufficient, but compared to other regions nearly satisfactory. The share of households supplied by drinking water is 90.5 % (2008). The districts Zlaté Moravce (81.2 %) and Komárno (83.8 %) have the lowest share in the region, other districts approach 90 % or are far above. The best situation is in Topoľčany district (99.8 %) followed by Šaľa (97.5 %) and Nové Zámky (96.5 %) districts. From a total of 354 settlements of the region, the public water network was established in 311 (at least in the part of settlement), what is 90.4 %. Counting four districts with absolute or nearly 100 % share of municipalities supplied by drinking water; namely Šaľa, Nové Zámky, Topoľčany and Komárno. The lowest share has Levice district (78.7 %).

Wastewater Treatment

The share of inhabitants living in households connected to sewage was 46.8 % (2008). There are 83 public sewage systems registered in the region. Public sewage system is established or in construction in 103 municipalities out of 354. Total number of municipalities with sewage water treatment plant is 67.

Current situation in wastewater treatment of settlements in Nitra Region is the worst comparing to Bratislava and Trnava Regions. The gap between development of sewer network and regional coverage of potable water supply is the biggest, with negative side effects on the environment. Only ¼ of municipalities have built and functional sewer system. The share of inhabitants connected to sewer system doesn't reach 50 %. The development progress in whole region is slow, twelve years are represented by only 5,5 % increase (41.24% in 1996 to 46.81 % in 2008). The worst situation is on south in Komárno district, where the rate drops to 30 %. The best situation is in Nitra district (above 60 %) and Šaľa (55 %).

Flood Prevention and Protection

The Nitra Region embodies, due to its geomorphologic characteristic, mostly lower and middle flows of the main national and regional rivers, that all discharge to Danube. Both border rivers Danube and Ipeľ and major regional rivers Váh, Nitra, Žitava have got proper flood protection systems (Q100) built up all along the flow. Hron is protected partially with flood defence in only 17 km length (from the confluence with the Danube up to Bída village). Nitra Region represents a typical example of human reshaped agricultural landscape with large artificial drainage systems of inland waters. The river Váh, but especially Nitra, Žitava and Ipeľ have their bodies nearly or completely altered or changed as part of joint flood protection programme and requirements of agriculture in past years. Despite these extensive measures the current situation in flood protection of this region is at the bounds of sustainability as the risk of floods has increased dramatically in recent years. The climate change accompanies erratic weather conditions which uncover increased vulnerability and inevitable need for more effective flood protection measures.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0,003	0,003	0,003
Density of Railways - length of total railway network per km square	0,031	0,031	0,031	0,031
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	248,39	565,27	484,46	630,47
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	79,76	79,58	79,39	79,33
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	71,72	71,74	71,83	71,86
Electric energy supply (Share of dwellings connected)(%)	100	100	100	100
Natural gas (Share of dwellings connected)(%)	61,96	88,86	91,5	91,81
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)			6,5	30,5
Drinking water supply (Share of dwellings connected)(%)	73,58	83,38	87,2	90,52
Wastewater treatment (Share of dwellings connected)(%)	41,24	42,36	43,72	46,81
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,08	0,08	0,08	0,08

Budapest f város

General information

Through Budapest following European roads are passing:

- motorway E75 and E60 (connecting the Northwest and Southeast) and
- motorway E77 (connecting Budapest with the North) and
- motorway E71 (connecting the Southwest and Northeast)
- motorway E73 (connecting Budapest with the East).

Territory of the Budapest is connected to the European railway network system.

There is one waterway passing through the territory of Budapest, that is International waterway E80 Danube.

Following multimodal corridors cross Budapest, corridor IV, V, V/b, VII (the Danube), X/b.

Road Network

The road network of Budapest has been developed in the recent years especially by the development of highway network. This way the inner traffic of the city, especially heavy traffic has decreased, but with the development of the agglomeration with the growing number of commuters, road traffic is a growing problem and can only be solved via the development of public transportation.

At the moment there are 5 highways going out of the city and these are connected by Mo ring, which is being developed throughout the past 20 years but is still far from ready.

Railway Network

Budapest is the centre of the Hungarian railway network, with three large stations. From Budapest a 7,607 km network radiates through the country with various connections the larger towns.

The Hungarian MÁV is the national railway company, with lines running through Budapest. MÁV Start Zrt is the passenger transport; whereas, MÁV Cargo Zrt is freight transport. Budapest houses the Déli, Keleti, Nyugati and Kelenföld Railway Stations. The Keleti Railway Station is the largest MÁV station in Budapest, located in the 8th district on Baross Square. The Keleti Railway Station, whose beautiful facade was built between 1881 and 1884, connects Budapest to international destinations such as Vienna, Belgrade, Prague, Berlin, Venice and Zurich. The Kelenföld Station, although smaller than the other three, is known for being overcrowded as all passengers and cargo must pass through this station to access the western part of Hungary. The Nyugati Station is known for its shopping and is adjacent to a shopping mall.

Waterways and Ports

Budapest has three major ports, of which two are located in the city centre and serve passenger transportation, these are located at: V. Belgrád rakpart (international) and V. Vígadó tér (inland). South of the city, on the west side of Csepel Island lies the largest Free Port anywhere on the Danube, with an annual turnover of more than 3 million tonnes.

The mainland area operated by the Freeport of Budapest Logistics Ltd. providing full port services is about 108 hectares . In its three operating basins there are 18 ship stands. There is a covered warehouse area of 115,000 sqm within the Port. The company operates a private railway and ship factory and there is a Ro-Ro terminal within the Port. In 2005 the Port became a national public traffic port. One of the main activities of the Freeport of Budapest Logistics Ltd. consists of property renting within which there is a free area of 240 thousand sqm, covered storing area of 76 thousand sqm and 3 thousand sqm office area used by more than 70 lessees. The container terminal featuring the only Hungarian capacity of loading at water-side and operating within the Freeport enables the infiltration into the probable Danubian container transportation boom.

The Port features a significant development area providing the possibility for other activities besides the port-logistics functions in the very nearby of the City centre, in a Budapest district with a good perspective and facing a significant development.

Air Transport

Budapest Ferihegy International Airport (Hungarian: Ferihegyi Nemzetközi Repül tér or simply Ferihegy)(IATA: BUD, ICAO: LHBP) is the international airport serving the Hungarian capital city of Budapest, and the largest of the

country's five international airports. The airport offers international connections primarily within Europe, but also to Africa, Asia, the Middle East, and North America. In 2008, the airport served 8 443 053 million passengers. The airport has two runways: 3,707 and 3,010 made of concrete/asphalt.

From 1 September 2005, re-opened Terminal 1 serves all low-cost carriers. This terminal is divided by a glass wall into Schengen and Non-Schengen destinations.

Terminal 2A (originally Terminal 2, then renamed in 1998) was inaugurated on 1 November 1985, served mainly the flights of Malév Hungarian Airlines, but from 30 March 2008, it serves all Schengen destinations.

Although connected to Terminal 2A, it is referred to as a separate terminal (opened in December 1998). It serves all non-Schengen destinations.

An expenditure of 261 million euros is planned for expanding and modernising the airport's infrastructure. Among the projects are:

- Terminal expansion, including the construction of the 'BUD Skycourt' between terminals 2A and 2B
- 'Airport City' project, including a business park and a hotel with conference facilities
- New car park
- New piers
- Apron development
- New air cargo city.

Multimodal Transport System and Terminals

Inland waterway corridor VII (the Danube) passes through Budapest.

Terminal infrastructure is only partially developed (Budapest-Csepel free port).

At the moment there are four multimodal logistic centres in Budapest:

Harbor Park – Regional role

Budapest Intermodal Logistics Centre (BILK) – Intermodal

MÁV Kombiterminál– Intermodal

Budapest-Csepel Freeport – Intermodal

Electric Energy Networks and Installations

The voltage of electric basic network in Hungary is 220, 400 or 750 kV. The 400 kV network is the basic network of the country, which supplies transformation stations at the more significant nodes and in this way attending the main distribution and the distribution networks. The 220 and 120 kV voltage network is the main distribution network of the country. The main distribution networks are branched-out into further distribution networks, with 10, 20 and 35 kV voltage. The large industrial plants are connected to the main distribution network, while smaller industrial consumers and consumer transformation stations join to the distribution network. The low voltage distribution network supplies with energy the smaller consumers and plants, as well as the public lighting is also operated through this network. The low voltage distribution network has a voltage of 0,4 kV (3 x 400/230 V).

Electric energy is produced in 2 bigger and 5 smaller power plants of Budapest. The city is linked to the 750 kV line via Albertirsa substation, from which 400 kV lines reach the capital.

Gas and Oil Supply and Distribution

The capital city is mostly provided with natural gas by Budapest Gas Works CO (formerly F GÁZ Group) even in today's liberalised gas market. This company delivers gas to nearly 800 000 eligible consumers within the so-called universal service segment at Budapest and 18 villages in the region.

Telecommunication Network

General assessment: the telephone system has been modernized and is capable of satisfying all requests for telecommunication service.

The domestic system is digitalized and highly automated; trunk services are carried by fiber-optic cable and digital microwave radio relay; a program for fiber-optic subscriber connections was initiated in 1996; competition among mobile-cellular service providers has led to a sharp increase in the use of mobile cellular phones since 2000 and a decrease in the number of fixed-line connections.

The number of analogue telephone lines is declining: in 2001 it was 871 522, but in 2008 it was only 622 179. The number of internet connections in the region in 2008 was 472 610 (27% of national).

Water Protection and Management

Water bases, which ensure nowadays, or which will provide the drinking water in the future, is assigned in the county, and their protecting areas are appointed too.

The rate of the households connected to drinking water network is 99 percent, connected to sewage network is 96,7 percent. The primary public utility scissors (length of sewage network/ 1000 m drinking water network) is 1088 m (in 2008)

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,045714286	0,045714286	0,045714286	0,045714286
Density of Railways - length of total railway network per km square	0,466	0,466	0,466	0,466
Water Transport - freight transfered through ports in the region per 1 000 inhabitants				602,3129008
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				0
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				0
Electric energy supply (Share of dwellings connected)(%)	100	100	100	100
Natural gas (Share of dwellings connected)(%)	85,845377801	88,830978593	85,694380043	84,699545970
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0	41	60
Drinking water supply (Share of dwellings connected)(%)	98,765495583	98,381764208	98,017475276	98,996821793
Wastewater treatment (Share of dwellings connected)(%)	90,168775596	92,588399910	95,707099316	98,091259931
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				0,00195618

Pest megye

General Information

Road Network

Pest county embraces Budapest, therefore it is very much dependent on the road network development of Budapest. Pest region is actually the size of the agglomeration, with more and more commuters, therefore road network development is needed. At the moment there are 5 highways going through Pest county reaching Budapest: M1, M3, M5, M6 and M7. These are connected with the ring Mo highway, that has been under construction for the past 20 years but is far from ready, as its northwestern sector is still missing. The reconstruction of the main roads has more or less been completed in the past years, but the permeability and quality of the secondary roads is a problem.

Railway Network

Waterways and Ports

Air Transport

Multimodal Transport System and Terminals

Inland waterway corridor VII (the Danube) passes through Pest county, but there is only one terminal in the region based in Százhalombatta. This port is built on the electric power plant and oil refinery of the settlement, so this is a terminal of closed use.

At the moment there is one officially designated logistic centre with regional role in Biatorbágy, called Rynart Transport Logistics Centre.

Electric Energy Networks and Installations

The voltage of electric basic network in Hungary is 220, 400 or 750 kV. The 400 kV network is the basic network of the country, which supplies transformation stations at the more significant nodes and in this way attending the main distribution and the distribution networks. The 220 and 120 kV voltage network is the main distribution network of the country. The main distribution networks are branched-out into further distribution networks, with 10, 20 and 35 kV voltage. The large industrial plants are connected to the main distribution network, while smaller industrial consumers and consumer transformation stations join to the distribution network. The low voltage distribution network supplies with energy the smaller consumers and plants, as well as the public lighting is also operated through this network. The low voltage distribution network has a voltage of 0,4 kV (3 x 400/230 V).

Electric energy is produced in Százhalombatta power plant south of Budapest. The county has good electric system, as the lines going to the city of Budapest crosses the region, and substations of Göd, Alberisrsa, Martonvásár, Bicske etc. are situated in this area. The city of Budapest is embraced by 400 and 220 kV lines.

Gas and Oil Supply and Distribution

The 90,6 percent of households is connected to gas network (in 2010). The average gas consumption is 1445,9 m³/household in 2010.

Telecommunication Network

General assessment: the telephone system has been modernized and is capable of satisfying all requests for telecommunication service.

The domestic system is digitalized and highly automated; trunk services are carried by fiber-optic cable and digital microwave radio relay; a program for fiber-optic subscriber connections was initiated in 1996; competition among mobile-cellular service providers has led to a sharp increase in the use of mobile cellular phones since 2000 and a decrease in the number of fixed-line connections.

The number of analogue telephone lines is declining: in 2001 it was 351 469, but in 2008 it was only 283 095. The number of internet connections in the region in 2008 was 224785 (12,9% of national).

Water Protection and Management

Water bases, which ensure nowadays, or which will provide the drinking water in the future, is assigned in the county, and their protecting areas are appointed too. The rate of the households connected to drinking water network is 93,6 percent, connected to sewage network is 65,0 percent. The primary public utility scissors (length of sewage network/ 1000 m drinking water network) is 694 m (in 2008)

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0,019865478	0,020960425	0,021116847	0,034881902
Density of Railways - length of total railway network per km square	0,0961	0,0961	0,0961	0,0961
Water Transport - freight transfered through ports in the region per 1 000 inhabitants				431,1092121
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				0
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)				100
Natural gas (Share of dwellings connected)(%)	68,27589044	78,73574085	85,01865129	88,06933897
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				50,69724642
Drinking water supply (Share of dwellings connected)(%)	81,18	89,81	91,78	98,19
Wastewater treatment (Share of dwellings connected)(%)	20,64	38,01	55,02	72,27
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				0,001138056

Fejér megye

General Information

Road Network

Fejér county is situated relatively in the centre of the country, therefore highway density is high above national average (31 km/100km²). There are the major transportation corridors in Fejér county, with roads 1, 6, 7 and 8. There are highways running parallel to these, but normal road connections are missing, only secondary roads exist in these directions, so there is a need for the so called M8 road development.

Pest county embraces Budapest, therefore it is very much dependent on the road network development of Budapest. Pest region is actually the size of the agglomeration, with more and more commuters, therefore road network development is needed. At the moment there are 5 highways going through Pest county reaching Budapest: M1, M3, M5, M6 and M7. These are connected with the ring M0 highway, that has been under construction for the past 20 years but is far from ready, as its northwestern sector is still missing. The reconstruction of the main roads has more or less been completed in the past years, but the permeability and quality of the secondary roads is a problem.

Railway Network

Waterways and Ports

Air Transport

Multimodal Transport System and Terminals

Inland waterway corridor VII (the Danube) passes through Fejér county, but there is only one terminal in the region based in Dunaújváros. This port is built on the steel factory "DUNAFERR" of the settlement, but it is one of the few free ports of Hungary.

At the moment there is one officially designated logistic centre with regional role in Székesfehérvár, of Logisztar Ltd.

Electric Energy Networks and Installations

The voltage of electric basic network in Hungary is 220, 400 or 750 kV. The 400 kV network is the basic network of the country, which supplies transformation stations at the more significant nodes and in this way attending the main distribution and the distribution networks. The 220 and 120 kV voltage network is the main distribution network of the country. The main distribution networks are branched-out into further distribution networks, with 10, 20 and 35 kV voltage. The large industrial plants are connected to the main distribution network, while smaller industrial consumers and consumer transformation stations join to the distribution network. The low voltage distribution network supplies with energy the smaller consumers and plants, as well as the public lighting is also operated through this network. The low voltage distribution network has a voltage of 0,4 kV (3 x 400/230 V).

There are no major power plants in the region of Fejér county. Three 400 kV lines cross the county but there is only one substation situated in Martonvásár with 400 and 220 kV lines.

Gas and Oil Supply and Distribution

The 85,4 percent of households is connected to gas network (in 2010). The average gas consumption is 1016,1 m³/household in 2010.

Telecommunication Network

General assessment: the telephone system has been modernized and is capable of satisfying all requests for telecommunication service.

The domestic system is digitalized and highly automated; trunk services are carried by fiber-optic cable and digital microwave radio relay; a program for fiber-optic subscriber connections was initiated in 1996; competition among mobile-cellular service providers has led to a sharp increase in the use of mobile cellular phones since 2000 and a decrease in the number of fixed-line connections.

The number of analogue telephone lines is declining: in 2001 it was 137 427, but in 2008 it was only 100 112. The number of internet connections in the region in 2008 was 71708 (4,1% of national).

Water Protection and Management

Water bases, which ensure nowadays, or which will provide the drinking water in the future, is assigned in the county, and their protecting areas are appointed too.

The rate of the households connected to drinking water network is 96,6 percent, connected to sewage network is 68,5 percent. The primary public utility scissors (length of sewage network/ 1000 m drinking water network) is 638 m (in 2008).

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0,018582244	0,018582244	0,018582244	0,030970406
Density of Railways - length of total railway network per km square	0,1124	0,1124	0,1124	0,1124
Water Transport - freight transfered through ports in the region per 1 000 inhabitants				2919,352468
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)				0
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				0
Electric energy supply (Share of dwellings connected)(%)				100
Natural gas (Share of dwellings connected)(%)	75,736600580	81,763348858	86,685859092	87,493911783
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				42,59257059
Drinking water supply (Share of dwellings connected)(%)	91,762217023	95,236881214	96,294369885	96,543674788
Wastewater treatment (Share of dwellings connected)(%)	41,590290294	52,868753070	63,795261970	68,530749949
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				0,010632986

Komárom-Esztergom megye

General information

Road Network

The road network of Komárom-Esztergom county is dense compared to other regions, the motorway density is 22, main road density is 91, total road density is 393 km/1000 km². The region lies between Vienna and Budapest, so the main transportation corridor of Hungary crosses the county with motorway M1. There is a need for a new north-south transportation corridor from Komárom in the direction of Székesfehérvár.

Railway Network

Waterways and Ports

Air Transport

Multimodal Transport System and Terminals

Inland waterway corridor VII (the Danube) runs on the North of Komárom-Esztergom county, but there is only one terminal in the region based in Komárom-Sz ny. This port is relatively small and has no multimodal connections, but its development takes part in the local and regional development plans.

At the moment there is one officially designated logistic centre with regional role in Tata, of Raksped Ltd.

Electric Energy Networks and Installations

The voltage of electric basic network in Hungary is 220, 400 or 750 kV. The 400 kV network is the basic network of the country, which supplies transformation stations at the more significant nodes and in this way attending the main distribution and the distribution networks. The 220 and 120 kV voltage network is the main distribution network of the country. The main distribution networks are branched-out into further distribution networks, with 10, 20 and 35 kV voltage. The large industrial plants are connected to the main distribution network, while smaller industrial consumers and consumer transformation stations join to the distribution network. The low voltage distribution network supplies with energy the smaller consumers and plants, as well as the public lighting is also operated through this network. The low voltage distribution network has a voltage of 0,4 kV (3 x 400/230 V).

There is a major power plant in the region based in Oroszlány. At the moment there is one Three 400 kV lines crossing the region.

Gas and Oil Supply and Distribution

The 47,4 percent of households is connected to gas network (in 2010). The average gas consumption is 1464,8 m³/household in 2010.

Telecommunication Network

General assessment: the telephone system has been modernized and is capable of satisfying all requests for telecommunication service.

The domestic system is digitalized and highly automated; trunk services are carried by fiber-optic cable and digital microwave radio relay; a program for fiber-optic subscriber connections was initiated in 1996; competition among mobile-cellular service providers has led to a sharp increase in the use of mobile cellular phones since 2000 and a decrease in the number of fixed-line connections.

The number of analogue telephone lines is declining: in 2001 it was 101 672, but in 2008 it was only 77 428. The number of internet connections in the region in 2008 was 52098 (3,0% of national) .

Water Protection and Management

Water bases, which ensure nowadays, or which will provide the drinking water in the future, is assigned in the county, and their protecting areas are appointed too.

The rate of the households connected to drinking water network is 94,8 percent, connected to sewage network is 80,1 percent. The primary public utility scissors (length of sewage network/ 1000 m drinking water network) is 777 m (in 2008)

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,021633554	0,021633554	0,022075055	0,022075055
Density of Railways - length of total railway network per km square	0,1136	0,1136	0,1136	0,1136
Water Transport - freight transferred through ports in the region per 1 000 inhabitants				1558,705833
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				0
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)				100
Natural gas (Share of dwellings connected)(%)	27,718176018	38,798640597	43,348784827	46,243211106
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				41,85654144
Drinking water supply (Share of dwellings connected)(%)	93,850105772	94,888115200	94,929570568	94,808304142
Wastewater treatment (Share of dwellings connected)(%)	51,866122695	68,406358280	76,139683679	80,117781277
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				0,079453613

Győr-Moson-Sopron megye

General information

Road Network

Railway Network

Waterways and Ports

Air Transport

There is one significant airport in the county: Győr-Pér Airport (Hungarian: Győr-Pér repülőtér) (IATA: QGY, ICAO: LHPR) is a public commercial airport with international operation capability. The airport is located on highway 81, about 15 km from Győr city centre. It lies next to route 81 towards Székesfehérvár, easily accessible from the M1 highway. The direction of the airport is shown by traffic signs in the village of Pér. Ground travel times to major cities depend on the density of traffic, and are approximately the following:

- To Győr approx. 10 min.
- To Vienna approx. 50-70 min.
- To Budapest approx. 50-60 min.
- To Bratislava approx. 40-60 min.

Győr-Pér Airport Development Ltd. was founded in 1994 with the aim of utilizing a former military grass airfield and development to an international regional airport. The airport is currently operated by Győr-Pér Airport Ltd. It has two runways: a 1450 m long asphalt surface and a 1134 m long grass covered field.

The number of passengers and amount of moved cargo is rapidly growing, in 2003 they were 2387 passengers and 2870 kg, in 2008 13,289 people and 171.620 kilograms.

Multimodal Transport System and Terminals

Inland waterway corridor VII (the Danube) runs on the North of Győr-Moson-Sopron county, but there is only one terminal in the region based in Göny (agglomeration area of Győr) The demarcated area of the Győr-Göny National Public Traffic Harbour on 110 hectares is situated at river-kilometre 1794.00 of the Danube, at the mouth of the Danube of Moson, 38.5 km from the geographic midpoint of waterway Danube-Rhine-Main; the majority of the harbour's traffic is represented by the transshipment of bulk products..

The port has recently been developed by EU and national cofinancing and offers loading of piece-goods with a mobile crane, Big-Bag loading and RO-RO loading as well as offices of customs, border wardens and water police. At the moment besides Győr-Göny Public Port there are two other officially designated logistic centres in the region. These are: GySEV Terminal of Sopron (intermodal centre based on railroad transportation) and R. Quehenberger Spedition Ltd. Of Győr (local role).

Electric Energy Networks and Installations

The voltage of electric basic network in Hungary is 220, 400 or 750 kV. The 400 kV network is the basic network of the country, which supplies transformation stations at the more significant nodes and in this way attending the main distribution and the distribution networks. The 220 and 120 kV voltage network is the main distribution network of the country. The main distribution networks are branched-out into further distribution networks, with 10, 20 and 35 kV voltage. The large industrial plants are connected to the main distribution network, while smaller industrial consumers and consumer transformation stations join to the distribution network. The low voltage distribution network supplies with energy the smaller consumers and plants, as well as the public lighting is also operated through this network. The low voltage distribution network has a voltage of 0,4 kV (3 x 400/230 V).

There are no major power plants in the region of Győr-Moson-Sopron county. Győr is an important substation with junctions in the direction of Slovakia, Austria, Szombathely, Litér and Budapest. These are 400, 220 kV and Double-system lines.

Gas and Oil Supply and Distribution

The 74,8 percent of households is connected to gas network (in 2010). The average gas consumption is 972,3 m³/household in 2010.

Telecommunication Network

General assessment: the telephone system has been modernized and is capable of satisfying all requests for telecommunication service.

The domestic system is digitalized and highly automated; trunk services are carried by fiber-optic cable and digital microwave radio relay; a program for fiber-optic subscriber connections was initiated in 1996; competition among mobile-cellular service providers has led to a sharp increase in the use of mobile cellular phones since 2000 and a decrease in the number of fixed-line connections.

The number of analogue telephone lines is declining: in 2001 it was 151 745, but in 2008 it was only 120 913. The number of internet connections in the region in 2008 was 74130 (4% of national).

Water Protection and Management

Water bases, which ensure nowadays, or which will provide the drinking water in the future, is assigned in the county, and their protecting areas are appointed too.

The rate of the households connected to drinking water network is 98,4 percent, connected to sewage network is 84,5 percent. The primary public utility scissors (length of sewage network/ 1000 m drinking water network) is 865 m (in 2008)

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0,016634981	0,017110266	0,016872624	0,022338403
Density of Railways - length of total railway network per km square	0,0954	0,0954	0,0954	0,0954
Water Transport - freight transfered through ports in the region per 1 000 inhabitants				507,2850938
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				0
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)				100
Natural gas (Share of dwellings connected)(%)	47,29207686	65,12524663	70,90031513	74,12252077
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				41,00065265
Drinking water supply (Share of dwellings connected)(%)	96,181118061	93,517280256	98,291002547	98,410415813
Wastewater treatment (Share of dwellings connected)(%)	45,34244698	64,47517556	79,45783922	84,48689727
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				0,238694462

Baranya megye

General information

Road Network

Baranya was a relatively isolated region of Hungary in the transportational aspect until the past year. This is due to its location: it is wedged in the corner of East-Croatia, the Mecsek Mountains and the Danube. The only major transportation corridor running through the region was road number 6. Pécs becoming European Capital of Culture in 2010 made it necessary to reach a significant headway in accessibility: highway M6/M60 was built connecting the city to Budapest, but connecting infrastructure is still missing: the encircling section of the highway M60, the Bóly-Croatian border section of M6 or a Danube bridge at Mohács.

Railway Network

Railway accessibility is highly determined by natural conditions and thus is underdeveloped: compared to its distance, the time accessibility to Budapest is one of the lowest of the region, as the major line from the capital is running on a circuitous path in the river valley of Kapos and then circling the Mountain area of Mecsek.

This is the only electric line of the region, destinations Pécs-Mohács, Pécs-Szigetvár-Barcs, Pécs-Sellye, Pécs-Magyarbóly or Pécs-Bátaszék and the connecting lines of these towns are recently been reopened after being closed in 2007, but are in a bad condition, all are unelectrified.

Waterways and Ports

Air Transport

One airport is situated in Baranya county, located 6 kilometers south of Pécs in the municipality of Pogány. As of April 2003, the local city owners and authorities have taken the time to build a new asphalt runway which is 1500 meters long and 30 meters wide. In 2004 the airport was able to install an instrument landing system and runway lighting. From the fall of 2005 to the spring of 2006 a new international terminal building was built for the opening ceremony of scheduled service from the airport. With this the airport was now able to join the international network of flights.

The passenger traffic of the airport was 8849 in 2008. Since then the low number has even dropped (approximately 3000 passengers/year). The major problem is that 1500 meter asphalt is 200 meters short for a commercial passenger jet (used by discount companies), so we can not expect notable passenger growth in the near future. Its chances are even more low as nearby Osijek airport hosts discount companies since 2008.

Multimodal Transport System and Terminals

Inland waterway corridor VII (the Danube) runs on the East of Baranya county, but there is only one terminal in the region based in Mohács. This port is relatively small but the amount of the products transferred from the terminal was shrinking in the past few years. The port by the way has multimodal railway and road connections. With the joining of the EU the port became a border of Schengen zone.

At the moment there are one officially designated logistic centres with in Baranya county.

Electric Energy Networks and Installations

The voltage of electric basic network in Hungary is 220, 400 or 750 kV. The 400 kV network is the basic network of the country, which supplies transformation stations at the more significant nodes and in this way attending the main distribution and the distribution networks. The 220 and 120 kV voltage network is the main distribution network of the country. The main distribution networks are branched-out into further distribution networks, with 10, 20 and 35 kV voltage. The large industrial plants are connected to the main distribution network, while smaller industrial consumers and consumer transformation stations join to the distribution network. The low voltage distribution network supplies with energy the smaller consumers and plants, as well as the public lighting is also operated through this network. The low voltage distribution network has a voltage of 0,4 kV (3 x 400/230 V).

There is one major power plant in the region of Baranya county, situated in the capital of the region: Pécs. There is only one 400 kV transmission line crossing Baranya county from north to south creating a link between Paks and the Croatian border.

Gas and Oil Supply and Distribution

The 57,3 percent of households is connected to gas network (in 2010). The average gas consumption is 1029 m³/household in 2010.

Telecommunication Network

General assessment: the telephone system has been modernized and is capable of satisfying all requests for telecommunication service.

The domestic system is digitalized and highly automated; trunk services are carried by fiber-optic cable and digital microwave radio relay; a program for fiber-optic subscriber connections was initiated in 1996; competition among mobile-cellular service providers has led to a sharp increase in the use of mobile cellular phones since 2000 and a decrease in the number of fixed-line connections.

The number of analogue telephone lines is declining: in 2001 it was 128 643, but in 2008 it was only 94 081. The number of internet connections in the region in 2008 was 59105 (3,4% of national) .

Water Protection and Management

Water bases, which ensure nowadays, or which will provide the drinking water in the future, is assigned in the county (total of 108 pieces), and their protecting areas are appointed too.

The rate of the households connected to drinking water network is 97,9 percent, connected to sewage network is 73,0 percent. The primary public utility scissors (length of sewage network/ 1000 m drinking water network) is 440 m (in 2008)

The settlement structure of the county is characterized by small villages, so the unique wastewater treatments method has a special importance.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,0991	0,0991	0,0991	0,0991
Water Transport - freight transfered through ports in the region per 1 000 inhabitants				1039,268662
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				0
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)				
Natural gas (Share of dwellings connected)(%)	36,60990712	46,95778172	53,53723042	55,30828786
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				35,91830038
Drinking water supply (Share of dwellings connected)(%)	94,35178019	94,13131455	97,5887869	97,89370055
Wastewater treatment (Share of dwellings connected)(%)	52,17879257	60,66116863	70,08373902	73,00521409
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0,123458623	0,125808997

Tolna megye

General information

Road Network

The road network of Tolna county can be characterized by two features: the routes parallel to the Danube (E73), that is roads 6 (and M6 highway since 2010) and 56 are the main directions of traffic; Szekszárd is the focus point of the region's network (roads number 65 to North-West, 6 from North to South-West, 56 to South, M9 to East, 63 to North-North-West).

Railway Network

Waterways and Ports

Air Transport

Multimodal Transport System and Terminals

There are no multimodal transport systems or terminals in Tolna county.

Electric Energy Networks and Installations

The voltage of electric basic network in Hungary is 220, 400 or 750 kV. The 400 kV network is the basic network of the country, which supplies transformation stations at the more significant nodes and in this way attending the main distribution and the distribution networks. The 220 and 120 kV voltage network is the main distribution network of the country. The main distribution networks are branched-out into further distribution networks, with 10, 20 and 35 kV voltage. The large industrial plants are connected to the main distribution network, while smaller industrial consumers and consumer transformation stations join to the distribution network. The low voltage distribution network supplies with energy the smaller consumers and plants, as well as the public lighting is also operated through this network. The low voltage distribution network has a voltage of 0,4 kV (3 x 400/230 V).

Tolna is a hub in the Hungarian electric energy network as Paks, the most important source of electric energy is situated in this region. There are five major transmission lines crossing Tolna county in the direction of Toponár, Litér, Pécs, Szeged and naturally Budapest.

Gas and Oil Supply and Distribution

The 52,8 percent of households is connected to gas network (in 2010). The average gas consumption is 1159 m³/household in 2010.

Telecommunication Network

General assessment: the telephone system has been modernized and is capable of satisfying all requests for telecommunication service.

The domestic system is digitalized and highly automated; trunk services are carried by fiber-optic cable and digital microwave radio relay; a program for fiber-optic subscriber connections was initiated in 1996; competition among mobile-cellular service providers has led to a sharp increase in the use of mobile cellular phones since 2000 and a decrease in the number of fixed-line connections.

The number of analogue telephone lines is declining: in 2001 it was 76 737, but in 2008 it was only 53 880. The number of internet connections in the region in 2008 was 39133 (2,2% of national) .

Water Protection and Management

Water bases, which ensure nowadays, or which will provide the drinking water in the future, is assigned in the county, and their protecting areas are appointed too.

The rate of the households connected to drinking water network is 95 percent, connected to sewage network is 58,6 percent. The primary public utility scissors (length of sewage network/ 1000 m drinking water network) is 565 m (in 2008)

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0,00405077	0,00405077
Density of Railways - length of total railway network per km square	0,0866	0,0866	0,0866	0,0866
Water Transport - freight transferred through ports in the region per 1 000 inhabitants				4525,720538
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				0
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)				100
Natural gas (Share of dwellings connected)(%)	25,37308796	43,57851025	51,23816348	52,63302054
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				39,69870657
Drinking water supply (Share of dwellings connected)(%)	90,13142224	93,72437062	94,51092798	94,96424043
Wastewater treatment (Share of dwellings connected)(%)	29,92574488	38,81962107	53,54353278	58,58280497
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Bács-Kiskun megye

General information

Road Network

The base of the road network of Bács-Kiskun county is a network of two North-South - roads 51 and 5 (M5 highway) and minor, mainly West-East roads connecting the former two. These are 52, 53, 55. M5 was one of the first highways built in Hungary and first connected Budapest and the city of Kecskemét. The highway later on has been further developed and now runs to the Serbian border. The entrestrengthenment of the first-class roads has recently been done.

The lack of road network on the Serbian border hinders the development of the region.

Railway Network

The railway network of Bács-Kiskun county is based on two North-South lines that connect Budapest to Kiskunhalas-Kelebia-Serbian border and Budapest-Cegléd-Kecskemét-Szeged. Both lines are one track, electrified (25 kV, 50 Hz) lines. They are interconnected by 3 lines of which 1 is electrified and one is narrow gauge. Non-electrified lines to Dunapataj, Kalocsa and Baja are connected to Bp-Kelebia line, and minor non-electrified lines go to Jász-Nagykun -Szolnok and Csongrád county.

Waterways and Ports

The Port of Baja is to be found on the left bank of the Danube between 1479+140 and 1480+900 km-posts. Baja Public Port is the second most important Hungarian port of the Main-Rhein-Danube waterway system. Baja has a centuries-old tradition of shipping and port operation. It played a distinguished role as a transit station in the trade directed at the Far-East. The completion of the Danube-Main Channel resulted in intensified traffic from the South to the North, with ships under German, Belgian and Dutch flags sailing the Danube in increased numbers again, while the Balkan War temporarily disabled southbound traffic completely. Baja – by virtue of its geographical location on the Danube – is directly connected to the world, be it West or East, along the waterways. The town of Baja is the most important traffic junction of the region and of Southern Hungary. Due to its location and the proximity of three countries' borders Baja can become the logistics centre of the region.

Shipping of vehicles (Ro-Ro), docking of ships, customs services (customs declaration point as from 1 May, 2004), expedition, loading and unloading of general cargo, transport organisation, information service, facilities for drivers.

Scheduled: drinking water supply for ships, the discharge of bilge-water and waste.

Air Transport

There are no public airports in operation in Bács-Kiskun region. The airport of Kalocsa in military use until the transition, but the 2500 m runway has no operating system and is used occasionally, mainly for car racing. Kecskemét (MH 59. Szentgyörgyi Dezs) air base is in military use.

Multimodal Transport System and Terminals

There are no multimodal transport systems or terminals in Bács-Kiskun county.

Electric Energy Networks and Installations

The voltage of electric basic network in Hungary is 220, 400 or 750 kV. The 400 kV network is the basic network of the country, which supplies transformation stations at the more significant nodes and in this way attending the main distribution and the distribution networks. The 220 and 120 kV voltage network is the main distribution network of the country. The main distribution networks are branched-out into further distribution networks, with 10, 20 and 35 kV voltage. The large industrial plants are connected to the main distribution network, while smaller industrial consumers and consumer transformation stations join to the distribution network. The low voltage distribution network supplies with energy the smaller consumers and plants, as well as the public lighting is also operated through this network. The low voltage distribution network has a voltage of 0,4 kV (3 x 400/230 V).

Bács-Kiskun county has no power plants, thus it is only a corridor of electric energy with its 400 kV and 220 kV lines. These create link to Paks, Budapest, Békéscsaba, Serbia and Romania through Sándorfalva and Szeged substations.

Gas and Oil Supply and Distribution

The 76,5 percent of households is connected to gas network (in 2010). The average gas consumption is 1008 m³/household in 2010.

Telecommunication Network

General assessment: the telephone system has been modernized and is capable of satisfying all requests for telecommunication service.

The domestic system is digitalized and highly automated; trunk services are carried by fiber-optic cable and digital microwave radio relay; a program for fiber-optic subscriber connections was initiated in 1996; competition among mobile-cellular service providers has led to a sharp increase in the use of mobile cellular phones since 2000 and a decrease in the number of fixed-line connections.

The number of analogue telephone lines is declining: in 2001 it was 165 533, but in 2008 it was only 109 459. The number of internet connections in the region in 2008 was 75920 (4,3% of national).

Water Protection and Management

Water bases, which ensure nowadays, or which will provide the drinking water in the future, are assigned in the county, and their protecting areas are appointed too.

The rate of the households connected to drinking water network is 87,8 percent, connected to sewage network is 46,4 percent. The primary public utility scissors (length of sewage network/ 1000 m drinking water network) is 450 m (in 2008)

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,001894612	0,006631143	0,007223209	0,009117821
Density of Railways - length of total railway network per km square	0,0773	0,0773	0,0773	0,0773
Water Transport - freight transferred through ports in the region per 1 000 inhabitants				1411,496576
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				0
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)				100
Natural gas (Share of dwellings connected)(%)	60,78243135	69,10117716	73,26546147	74,61435236
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				31,93713533
Drinking water supply (Share of dwellings connected)(%)	84,10230093	84,48275862	86,86407342	87,7299478
Wastewater treatment (Share of dwellings connected)(%)	19,50858038	25,25094919	38,12178661	46,38330452
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				0,000936838

Osje ko-baranjska županija

General information

Osijek lies alongside the European traffic corridor Vc, which connects European North (the Baltic) and South (the Adriatic). The plans for this Transeuropean Budapest - Osijek - Sarajevo - Plo e highway construction within the Transeuropean Motorway Project (TEM) are under way. Different regions in the county are well connected with 1,698 km of roads and 269 km of railroads. Danube and Drava connect the county with the European inland waterway network. With two airports (Osijek and Klisa) in the vicinity, the county became a part of Croatian airports network as well.

Road Network

Osijek-baranja County has 498,062 km of state roads (15 in total), 645,97 km of county roads (94) and 554,60 km of local roads (116) adding up to the total of 1.698 km.

There are also around 180 roadside objects (underpasses, overpasses, bridges and culverts) on these roads. In addition, there are around 1400 km of other, non-selected roads.

Most cities (Osijek, akovo, Našice, Valpovo) have built beltways. With the completion of the first phase of Osijek western beltway construction which should continue north over the Drava river and connect with the state road to Beli Manastir and the Hungarian border, Osijek will be able to reroute large number of trucks currently going almost through the city center.

The County is connected to the west by the highway to Zagreb and the "Podravska magistrala" state road, while the north and south connections are not that developed with only state roads to Hungary and Bosnia and Herzegovina leading in those directions.

The complex Danubian traffic route Budapest-Osijek-Sarajevo-Plo e designated at the 1997 Helsinki Conference as the European corridor with demarcation V/C connects the European North and South with traffic roads, railways and inland waterways. European E-73 road from Plo e (Croatia) to Budapest (Hungary) connects with the E-77 road Budapest - Gdansk (Poland) as a part of the TEM project. TEM (Transeuropean Motorway) project is designed to serve as an international highway network connecting the Baltics with the Mediterranean, and represents one of the most comprehensive European regional projects.

This route has been designated as E-73, but it is known as D-7 in the Croatian Danube Region (138 km), M-17 in Bosnia and Herzegovina (433 km), and D-9 from Metkovi to Plo e (22 km).

The E-73 road, situated within the V/c Pan-European corridor, is one of the most important branches of the TEM/TER Project and an unavoidable route in combined transportation, especially with regard to the Vukovar-Šamac canal potential. Within a wider scope, the E-73 road connects the European north with the Adriatic and is of vital importance in establishing economic connections, traffic of passengers and goods, and in transfer of other types of human activity.

The area surrounding the European E-73 road from Plo e to Budapest and the E-77 road from Budapest to Gdansk is a natural north-south traffic axis, connecting the different physical environments and economic-transitional similarities between the Adriatic and the Baltic.

The demarked area with nearly 100 million inhabitants is of manifold significance and is especially promising when it comes to economic development and traffic growth.

Railway Network

There is a total of 269 km of railways in Osijek-Baranja County consisting of 86,2 km of main railways, 107,2 km first class railways and 30 km of second class railways.

There are 52 overall official railway sites – 22 terminals, 27 stations (8 of which operate on local routes), 2 cargo facilities i 1 freight forwarding facility.

Corridor Vc has the same significance for the railway traffic as it does for the road traffic of Osijek-Baranja County (i.e. the whole Slavonia and Baranja) by connecting it with Hungary to the north and Bosnia and Herzegovina and southern Croatian counties to the south.

Croatian geographical position puts Slavonia and Baranja to the crossroads of important European traffic routes. The announced railway modernization will have an impact to the passenger railway traffic. New and modernized rail cars will attract large numbers of passengers to the railway transport, with special emphasis on long journeys. Infrastructure refreshments will make railway more competitive to road transport due to lower prices and bigger comfort during longer journeys.

Waterways and Ports

The Danube flows along the eastern border of OBC in the length of 86 km, from the Hungarian border to somewhat behind the municipality of Erdut (where it enters Vukovar-Srijem County). The entire length is an international navigable waterway (from rkm 1433 to rkm 1347). In the navigable waterway of the river Danube in OBC currently there are no ports or landing stages. The construction of public dock and passenger terminals in Batina and Aljmaš are planned.

Along the Drava river waterway there are:

- Port of Osijek (Tranzit)
- Winter Marine in Osijek
- Public dock in Beliše
- Public dock in Donji Miholjac

The Port of Osijek is a public port of great importance to the Republic of Croatia and is run by the Port Authority Osijek. It has river, railway and road connections with an airport situated nearby. The Port has a favourable geographical and traffic position, due to important traffic corridors passing in the vicinity (Sava corridor running east-west and Danube corridor running north-south).

The public dock in Beliše is situated on the right bank of the Drava river. Low water levels and river flow throughout the year create significant traffic problems, which is especially visible in the winter months.

Air Transport

Osijek Airport, is international regional airport originally called “Zračna luka Osijek / Klisa” (IATA airport code: OSI; ICAO location indicator: LDOS) is the airport serving Osijek, Croatia. The airport is located 20 km east southeast of Osijek and is situated near the Osijek - Vukovar regional road, southwest of the village of Klisa. Airport is for public purpose, and it is operated by the Osijek Airport Ltd. The terminal building, with area of 1300 m², provides flow from 200 to 400 passengers per hour, i.e. 100,000 to 150,000 passengers per year.

The catchments area of the airport has a potential of 1,5 – 2,0 million people.

- The catchments area comprises a region of approximately 100 – 150 km around the airport (driving time about 1 - 2 hours)
- East Croatia, with its ~ 890.000 inhabitants, forms the core of the catchments area
- The catchments area extends to the bordering regions of Hungary (especially the region south of the city of Pecs), Bosnia Herzegovina (regions north of the city of Tuzla) and region Vojvodina in Serbia.

Multimodal Transport System and Terminals

Strategic documents of the development of Croatia comprise extensions of trans-European networks which are included in the document with plans and guidelines for the development of trans-European networks for South Eastern Europe (paper: “Transport and Energy Infrastructure in South Eastern Europe”). In 2005, the drafting of the National Strategy for ISPA Programme in the Transport Sector was completed, based on “the Strategy of Transport Development of the Republic of Croatia” adopted by the Croatian Parliament in November 1999 and on “the White Paper - European transport policy for 2010” but also taking into consideration the transport policy, development and corridors determined by TINA procedure as well as by decisions of the multimodal TEN network.

With regard to technologies applied within the Republic of Croatia, multimodal transport is in one of two primary forms, which are:

- container transport, and
- huckle-pack transport (Ro-La transport)

Container transport is the most widely spread combined transport technology which accounted for as much as 97 % of the total of performed multimodal transports by 1999.

Huckle-pack transport, i.e. the transport of truck swap bodies and complete road vehicles, has gradually been growing since 1996 so that the share of truck swap bodies in 1998 was 5 % and the share of complete road vehicles was 13 %.

The increasingly stronger demands of transporters aspire to the introduction of the Ro-La service on the Pan European corridor X and the section running through the Republic of Croatia.

The Republic of Croatia has established feeder service lines from Mediterranean ports to the ports of Rijeka and Ploče (the first feeder line, Rijeka/Ploče - Gioia Tauro - Malta, was established in 1999, and the second feeder line,

Rijeka/Ploče - Venice - Damietta - Piraeus, in 2001), which had a strong impact on the increase of container traffic, in particular from the port of Rijeka to the Croatian inland, mostly to the Zagreb container terminal.

In the present phase of the introduction of Ro-La technology in the Republic of Croatia, the Spača railway station turned out to be the most suitable location since, due to its geographical position and the vicinity of the motorway, it is the optimal solution for the diversion of the truck transport transit routes from Serbia and Montenegro as well as from Bosnia and Herzegovina.

Due to the OBC position and closeness to the European traffic corridor Vc (connecting European North and South), Danube and Drava connecting the county with the European inland waterway network, and two airports (Osijek and Klisa), and two major railway junctions (Osijek and Vinkovci), there are good preconditions for development of advanced transport models - integrated transport, multimodal transport and combined transport.

Port of Osijek is in project preparation process for "Building the inter-modal infrastructure" which includes also the access road and railway gauge.

Electric Energy Networks and Installations

Electro-energy infrastructure includes the production, transmission and distribution.

Currently, the production of electric energy is being carried out only in the Osijek city. The entire production is directed in the unique electro-energy system from which necessary quantity is being drawn. In addition to this, electric energy is produced in the industrial energy plant within the frame of agro-industrial conglomerate Beliše, but it is meant exclusively for the purposes of conglomerate. Transmission of electric energy is based on transmission systems of 400 kV, 220 kV and 110 kV. At the 400 kV voltage transmission is performed by one transformer station TS Ernestinovo and three 400 kV power-transmission lines. At 220 kV voltage transmissions is performed by one transformer station and two power-transmission lines. At the 110 kV voltage transmission systems is made of the aboveground power-transmission lines and transformer station. It needs to be indicated that the biggest part of 110 kV of network was completely destroyed in the war.

Gas and Oil Supply and Distribution

Magistral gas pipelines network in the County is currently organized in two main directions and the whole County area is divided in 17 distribution sectors formed around the stations for measuring and regulation.

In the area of the County crude oil is drilled from eight oil fields: Bizovac-Štekovica, Štekovica-Benianci, Obod-Benianci, Kuanci/Kapelna-Benianci, and Crnac-Benianci.

The drilled oil from this area is mainly processed in the Sisak oil refinery. Parallel oil pipeline Đeletovci-Ružica is positioned on the JANAF pipeline route. Both pipelines of 11 km in length run across the area of the County.

Telecommunication Network

Fixed telecommunication network of the County includes several types of network with various purposes and which are an integral part of bigger networks, organized at national and global level.

The longest life span has a traditional telephone network (PSTN - Public Switched Telephone Network; in everyday's practice, also known as POTS - Plain Old Telephone Service). Its capacities are the biggest and its services cover all the towns, municipalities and settlements in the County area. The service of voice transmission is available to every resident and it is a legal obligation of T-Com, the largest telecommunication carrier and provider in the Republic of Croatia (formerly HT-Hrvatske Telekomunikacije d.d., Croatian Telecommunication).

The PSTN network in the area of the County is organized in two hierarchy levels: magistral level and access level. Access level is composed of access nodes (Retfala, Gornji grad, Donji grad, Beli Manastir and Đakovo), with its distributed parts, RSSs (Remote Subscriber Stage) situated in smaller settlements and smaller cities' districts, and pertaining access (cable) network around RSSs mainly built with cables with symmetric brass units serving as the transmission medium.

Magistral level of the County network is composed of two magistral commutation nodes (for channel commutation) located in the cities of Osijek and Đakovo (dual homeing) with the

pertaining network of connecting and magistral lines built in the last century, mostly based on the transmission of digital signals on optical media.

The deregulation of telecommunication market carried out in 2005, along with operators of significant market strength, new operators emerged in the area of fixed telephone network (currently H1 and Optima) as a competition in providing broad spectrum of telecommunication services.

At the level of the Republic of Croatia a monthly telecommunication traffic amounts to approximately 30,000,000 (thirty thousands million Euro).

Radio networks are a segment of telecommunication networks which uses one segment of frequency spectrum as a transmission medium. Organizationally, they are divided to the networks for end-users access to the nodes and telecommunication network services (fixed and mobile access networks) and radio networks for the transmission of information contents (telecommunication traffic, TV signals, etc.).

A separate segment make transmitter and repetitor networks which, for the diffusion of radio and television programs to the users, use medium-wave and UKV (UHF, VHF) radio spectrum area with amplitude and signals frequency modulation. Ground network of the transmitter for radio and TV content distribution in a digital form and with enhanced technical quality is in the process of the construction and it has started with experimental work.

In the ten recent years an explosive development has occurred in the so-called mobile telecommunication networks (NMT, GSM) which, for access to end-users, use the range of 900 MHz and 1,8 GHz, whereas until recently these networks were used for the transmission of a voice and short textual messages. There are several mobile telephony concessionaires active in the area of the County, of which two with its signal cover the entire territory and a large number of basic station and users (VipNet, CRONET).

In order to increase the range of possibility (speed of transmission) and introduction of new services (IM - Instant messaging, i.e. receiving and sending of Internet messages by mobile phone) further development of the 3G or UMTS networks has been planned. The introduction of the so-called HSDPA (High Speed Downlink Packet Access) i.e. fast access to Internet by mobile phone has also been foreseen for the near future. Mobile operators are soon introducing the speed of 1.8 Mbit per second, which will significantly surpass the speed of access to Internet by means of DSL technology, already present in the area.

Water Protection and Management

The Osijek - Baranja County water supply system is organized in seven water supply areas which although they cover the entire area of the County do not match its territorial distribution. Water supply areas are the following: water supply area of the Osijek city, Našice, Đakovo, Valpovo, Belišće, Donji Miholjac and Baranja. The management structure is based on companies providing utility services which are increasingly going through the process of transformation into capital firms with a concession profile. Except numerous firms managing water supply there is also a number of waterworks managed by utility companies in the ownership of municipalities. The most important water supply systems have the following characteristics:

- water supply area Osijek which supplies the Osijek city and its suburbs has approximately 400 km of compression pipelines and approximately 27,000 water connections. Within the frame of this water supply system the coverage is 92%. Big consumers which do not require sanitary quality of water have their own system of industrial water.
- water supply area Našice includes the town of Našice and parts of municipalities Donja Motičina, Podgora and Đurđinovac. The system is based on the using of underground waters. The total length of water supply network is 140 km. Except the central water pumping site Velimirovac, there is also water pumping site Toplice, located in the mountainous area, with a drilled well. There is one more water pumping site, Seona, for which hydrological research needs to be carried out.
- water supply area Donji Miholjac covers the town of Donji Miholjac. This water pumping site was built back in 1981 in the same time when water network was built. Currently, the water network numbers 1,600 connections for households and 100 companies. Works on the improvement of industrial water on the water pumping site Donji Miholjac are currently in process.
- water supply area Valpovo ensures the supply of households, industrial water, water for processing and industrial water. Water pumping site Jarjevac is designed as a compression-based supply system where, by

means of the pumps, the purified underground water is being pressured into transport and distribution network. Supply and distribution network extends in the total length of 58 km.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square				0,12
Density of Railways - length of total railway network per km square			0,06	0,06
Water Transport - freight transfered through ports in the region per 1 000 inhabitants			1095	1458
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)				99
Natural gas (Share of dwellings connected)(%)		41	45	59
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)			27	34,17
Drinking water supply (Share of dwellings connected)(%)			70	75
Wastewater treatment (Share of dwellings connected)(%)				45
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				2

Vukovarsko-srijemska županija

General information

For the whole area of Eastern Slavonia and Western Srijem routes of special significance are:

- Trans-European traffic corridor (Corridor X) which is connecting Western Europe with Middle East and the corridor which goes North-South (Corridor V) and connects Western Europe with Southern Adriatic Coast
- State and international traffic corridors which connect centres and areas in Croatia and complement, or are part of, the European traffic network, such as:

1) Podravina Corridor

2) Route which connects Northern, i.e., Eastern Croatia with South through Bosnia and Herzegovina. Due to its favorable geographical position, Vukovar-Srijem County (VSC) is easily accessible by all modes of transport (road, rail, water, air transport). This positioning is the base of VSC's development and it ensures County's status as a transport and logistics centre. Until the war, the County was a transport and logistics centre, but due to war casualties and damage, especially in rail infrastructure, this status had been lost. However, County's potential to regain the status is unquestionable.

Through the County a few European transport corridors pass: Corridor VII (Danube) and the Corridor X (Salzburg-Thessaloniki, passing through Croatia, section Zagreb-Bajakovo). While the road corridor X is in a very good condition, the rail corridor needs renewal. Renovation is currently underway, however, significant investment are still required, before rail corridor's quality gets on a level of European standards.

The quality of VSC's road network is generally in a bad condition, which is mainly consequence of the war destructions and inadequate maintenance during occupation. Since the reintegration until today, the roads have been continuously repaired, and according to the data from County's Roads Directorate from February 2006, 700km of roads had been built in the County.

Road Network

Road infrastructure was developed mainly to the Homeland War in Croatia, when Vukovar-Srijem County was an important transport and logistics center. The east-west Zagreb-Belgrade motorway passes through VSC, with four exits in to the County. Along with this, VSC has a mix of state, county and local roads totalling 715 km (472 km county and 243 km local roads). Cities (Ilok, Otok, Vinkovci, Vukovar and Zupanja) are interconnected with national roads, and other populated areas within the county, and local county roads.

Due to the relocation of heavy freight traffic, the faster the flow of vehicles in transit and increase traffic safety, are needed bypass around the towns of Vinkovci, Vukovar and Ilok. (eg D2 state road corridor through the center of the city of Vukovar). Currently they are prepared to start building projects bypass, and some stocks are already built and set up in function as a network of public roads.

Peripheral parts of the county are poorly connected with the county centers and highways, so it is necessary to build high-speed roads (eg Vukovar-Vinkovci and Ilok-highway) which would also serve as the bypass goes through the village and thus reduce travel time and increase traffic safety.

The quality of roads is still worse than in the other parts of Croatia. Since 2002 Programs for construction, reconstruction, modernization, and emergency maintenance of County and local roads have been primarily focused on rehabilitation, reconstruction and emergency maintenance. Construction was limited to a few shares of county roads (B. Greda - Štitar and St. Jankovci 2003., Bridge Lužac 2004., and the bridge over the river Bosut near Privlaka 2007. and 2008).

Railway Network

Strategic and favourable geo-strategic position of the County has enabled quick progress of rail traffic and development of Vinkovci as a passenger and cargo-shunting hub. However, despite the progress and investments in infrastructure renewal, Vinkovci still has not reached its pre-war importance. European Corridor 10 passes through VSC, and it is estimated that in 2009 total of 440.000 passengers had been transported. Considering all current investments and the ones which are in the future plans for rail restoration at the Corridor route, the County expects increased traffic and general strengthening of VSC as rail and logistics centre. Inter-modal transportation, i.e. better rail integration and usage of Danube for cargo transportation should contribute the expectations as well.

County's rail connectivity has been improved when rail route Vinkovic-Osijek was open in 2008. Currently rail traffic between the two counties is carried out in seven relations. Since there is no data about rail contribution in

total public transportation at the County level, it is hard to estimate a real part of the rail in County's total transport. Still, the rail takes a significant part in total cargo and passenger transportation in the County, and its comparable advantages such as safety, commodity, speed, ecological acceptability and price should increase that part even more.

Waterways and Ports

In Vukovar-Srijem County there are two international water ways: Rivers Danube and Sava. Danube is navigable through its entire length in Croatia and according to the European Agreement on main inland waterways of international importance (AGN) it is classified with class buoyance VIc. Danube is a river of international, regional and local traffic. Local passenger traffic takes place between Vukovar and Ba, where the ferry (from 2010. by ferry) transports passengers between two local border crossings. Sava is conditionally navigable with limitations associated to disordered waterway (not enough draught in some sectors, critical points, unspecified waterways, etc.). Existing traffic is dependent on seasonal conditions of water level and it is mostly of local and regional character. With a project of Sava waterway special planning and by upgrading the buoyance class to IV, international traffic all the way to Sisak would be restored again.

There are few infrastructure waterway facilities within Vukovar-Srijem County. Except the port of Vukovar and two passenger piers (Vukovar and Ilok) there is a loading dock in Ilok which is temporary and it serves for maintenance need of local industrial plant. There are plans to build a new county port in Ilok for which a concept solution has been designed. Development of the concept and main project as well as building dynamics of the port will depend on available financial sources. Furthermore, Croatia has no hangars where ships could stay during winters when ice appears, and all activities to gather necessary documentation (license) have been undertaken to build such hangar in Opatovac. The Croatian Government is backing a major initiative to construct a 61.5km multi-purpose Danube-Sava canal between Vukovar and Županja (Slavonski Šamac). This would significantly reduce transport time between the Port of Rijeka at the Adriatic Sea via Zagreb (280 km of railway), along the Sava river (306 km of waterway), through the Canal to the Danube (61.5 km of waterway), and onwards into Europe along the Danube.

Port of Vukovar lays on the 1335th km of the river Danube, sited on the right bank. Quay length is approx 800 m, and the port area width is average 50 m. Natural conditions allow navigation during 365 days a year, with a minimum water-level draft of 2,8 m.

Air Transport

VSC has no primary airports (the nearest airport is Airport Osijek). Nearby the town of Vinkovci there is a tertiary airport Bok (agricultural airfield) and an airport Sopot, whose flight operator is a club named "Vrabac". Airport Sopot is intended for periodical aircrafts take offs and landings handling and for education, for which the manufacturer has provided an option of landing on a grass runway (USS) and Maximum Take-Off Mass up to 5700 kg. The airport has a hangar for the acceptance and accommodation of aircrafts, control tower equipped with a radio connection as well as their own weather station.

Multimodal Transport System and Terminals

Due to the Vukovar-Srijem good position and closeness to the European corridor, river Danube with connecting the county with the European inland waterway network, and closeness of airport in Osijek, and railway junction in Vinkovci, there are good preconditions for development of advanced transport models - integrated transport, multimodal transport and combined transport

Electric Energy Networks and Installations

Vukovar-Srijem County does not produce energy for their own use. The main manufacturing facility from which electricity is supplied for this region is Osijek Thermoelectrane (TE-TO Osijek) situated in Osijek-Baranja County. Transmission activity in the Vukovar-Srijem County is managed by HEP-Osijek, and distribution activities in this area is HEP Distribution System Ltd. Elektra Vinkovci. In Elektra Vinkovci, there are four feeder supply substations TS 110/35 kV power to meet its electricity consumption. Looking at annual growth of load and average load TS 110/35 in 2009., which is total in average of 37%, and provided that in the next three years will not occur any greater buyer of power, there is no need to upgrade substations in terms of installed capacity.

In the County there are no sources of electricity owned by HEP, but there are three sources of electricity that are not owned by HEP. One is Sladorana Županja in which during the campaign of sugar beet 2 MW is delivered to

HEP network, while the other two are located in the area of Ivankovo, each with power of 1 MW, fueled by renewable energy source - biogas. Also, several studies of optimal technical solution for connection of several potential producers of electrical energy from renewable sources (biogas, biomass and solar energy) have been made, with total power about 30mW.

Losses of electricity in distribution (8.04%) were slightly higher than the national level average (7.2%). Looking at the losses from the previous periods within the distribution area of Elektra Vinkovci, the losses are reduced. This indicates that together with a construction of new electro energetic plants and machinery, reconstruction of existing object is also covered, still insufficiently.

Gas and Oil Supply and Distribution

Distribution and supply of gas conduct Plinara isto ne Slavonije, Ltd. Vinkovci and Prvo Plinarsko društvo Ltd.. Vukovar. Within distribution area of the PIS there are 44 404 households (City: Vinkovci, Otok, Ilok, Županja and 17 municipalities), from which 39.1% are connected to gas supply system. Distribution losses are amounted to about 4%. Within a distribution area of Prvo plinarsko društvo (City of Vukovar and 9 municipalities) gasification is implemented after 2002, and 44% of households have been connected, and the losses are very small, about 0.2%

Telecommunication Network

Water Protection and Management

Surface flows can not meet water supply requirements as they are in most part of the water levels are low, and rainfall is low and seasonally limited. Existing well field provide about 3000 l/s (Jelas: 400 l/s, Kopanica/B.Greda: 2000 L/s, Županja/Bošnjaci: 300 l/s, Vukovar-Trpinja 200 l/s, Lovas/Ilok 100 L/s, Vinkovci/Kanovci and Vinkovci/Cerna: 100-150 l/s), but some municipalities do not have a good supply of water, so it is necessary to increase capacity (Vukovar-Ceric, Bošnjaci, Cerna, V.Kopanica-Babina Greda).

Cities and towns of Vukovar-Srijem County are gradually connected to the regional water supply system Eastern Slavonia, with the source of quality water in municipality Sikirevci in Brodsko-posavskoj županiji (source Sikirevci capacity with 7 wells is 2000 l/s, currently using 3 wells with total capacity of 400 l/s).

At the regional water supply system in Eastern Slavonia, now are connected cities of Vinkovci and Županja and settlement Gradište, Cerna, Andrijaševci, Rokovci, Ivankovo, Mikanovci and Vo inci. Over 95% of the county are supplied with potable water. With the regional water supply system in Eastern Slavonia, part of the population are supplied from local water supplies. Parts of the county that local water supplies have the lowest acceptable water quality (pollution by heavy metals).

Condition of water supply infrastructure is bad. Water supply network is generally older than 30 years. Also present were large losses of water (eg over 50% in some local systems) as a result of war damage and lack due to old system (too small cross sections, an insufficient number of hydrants, valves for venting, etc.).

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square				
Density of Railways - length of total railway network per km square				
Water Transport - freight transferred through ports in the region per 1 000 inhabitants				
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)				
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)				99
Natural gas (Share of dwellings connected)(%)		41	41	50
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)				
Wastewater treatment (Share of dwellings connected)(%)				
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Beogradska oblast

General information

Two motorway pass through Beogradska oblast: motorway E75 and motorway E70. The region is the most important railway node in the country with international railways connecting Belgrade directly to Budapest/Vienna, Timisoara/Bucharest, Sofia/Istanbul, Skopje/Thessaloniki, Podgorica/Bar and Zegreb/Ljubljana/Venice. Two waterways pass through the region: E80 Danube and E80-12 Sava. Multimodal corridors passing through Beogradska oblast are road and railroad corridor X and inland waterway corridor VII (the Danube). Terminal infrastructure is only partially developed (railroad terminal "ŽIT" in Belgrade and Port of Belgrade). The main energy company is the Economic Association "Thermal Power Plant Nikola Tesla" plc with several subsidiaries: TPP "Nikola Tesla A", TPP "Nikola Tesla B" and TPP "Kolubara".

Road Network

Two European roads passing through Beogradska oblast are: motorway E75 (connecting the Baltic sea with the Mediterranean) and motorway E70 (connecting Zagreb with Bucharest). Both motorways are situated within the Pan-European Corridor X, connecting Salzburg to Thessalonica. The total length of motorways is 101.53 km, their density being 0.031 km/km². In several Belgrade municipalities (Savski Venac, Zvezdara and Novi Beograd), the density of motorway network is the highest among all municipalities in the Serbian part of the Danube area.

First class roads passing through Beogradska oblast are:

- M1: (Batrovci – Sremska Rača – Kuzmin – Sremska Mitrovica – Ruma – Peinci – Šimanovci) – Belgrade – (Ralja – Smederevo – Smederevska Palanka - Velika Plana – Markovac - Niš - Leskovac - Vranje - Preševo / Macedonian border),
- M1.9: Belgrade - (Pan evo - Vršac - Romanian border),
- M19: Belgrade town - Ostružnica - Umka - Bari - Obrenovac - Rvati - (Šabac - Loznica - Border with BiH),
- M22: (Horgoš - Novi Sad) – Belgrade – Lazarevac – (Ljig – Gornji Milanovac – Kraljevo – Raška – Novi Pazar – Ribari e),
- M22.1: (Horgoš – Subotica – Bačka Topola – Mali Ioš – Srbobran - Novi Sad - Sremski Karlovci – Inija - Stara Pazova) – Zemun,
- M23: (Mali Požarevac - Mladenovac - Topola - Kragujevac - Mrajeveci),
- M24.1: (Eka - Perlez - enta) - Padinska Skela - Krnjača.

The total length of 1st class roads is 237 km (100% asphalted), their density being 0.073 km/km².

The total length of 2nd class roads is 675 km, 96.30% being covered by modern carriage. Some municipalities do not have access to the network of 2nd class roads such as central Belgrade municipalities of Vračar, Savski Venac and Stari Grad. The Density of this network at the level NUTS 4 varies from 0.002 km/km² (Municipality of Palilula) to 0.5 km/km² (Municipality of Zvezdara), the average being 0.209 km/km².

According to the Spatial Plan of the Republic of Serbia 2010-2020, strategic priorities and projects (until 2014) include:

- Completion of the Belgrade bypass (sections A, B5, B6) within Corridor X, subsequent construction of section C (Bubanj Potok - Bole - Star evo - Pan evo east - Pancevo north),
- Rehabilitation of bridges over Sava and the Danube,
- Transformation of 1st class road into motorway E-763 (SEETO route 4): Belgrade - ača - Požega - Arilje - FC - tit (Duga Poljana) - Boljare (border with Montenegro);
- Transformation of 1st class road into a new part of motorway E-70 (SEETO route 4): border with Romania - Vršac - Pan evo - Belgrade.

Railway Network

Territory of the Belgrade County is connected to the European railway network system.

The main rail routes started from Belgrade to:

- E 70: west - to Sremska Mitrovica and the Croatian border,
- E 85: north - to Novi Sad, Subotica and Hungarian border,
- E 66: north east - to Pancevo, Vrsac and the Romanian border,
- E 70: south-east - towards Nis, Pirot and Bulgarian border,
- E 85: south - towards Nis, Leskovac and the Macedonian border,
- E 79: southwest - towards Valjevo, Uzice and Montenegrin border,
- E 85: south - to Lapovo, Kraljevo, Kosovo Polje, General Jankovi and Macedonian border.

The total length of railroads of international importance is 300,00 km. Through the territory of Belgrade County railroads of regional importance do not pass. The length of rail roads of local importance is 37,00 km. The density of international railroads is the highest in the City of Belgrade (0,09 km/km²), the average value being 0.03 km/km² per county.

Total number of transported passengers in 2008. is 624.037 and the total number of transported goods is 1,800.359 (t).

Planning the reconstruction, development and modernization of existing railway lines in Corridor X in double-track lines of high performance for mixed (passenger and freight) transport, combined transport and the projected speed of 160 km / h (where is possible 220 km / h) is priority on:

Corridor X - international "E" line:

E 70: Beograd - Stara Pazova - Šid – state border- (Tovarnik);

E 85: (Beograd) - Stara Pazova - Novi Sad - Subotica – state border - (Kelebija);

E 70 i E 85: Beograd - Niš .

Other international "E" line in the network is:

E 66: railway Belgrade - Vršac, which connects Serbia with Romania and Corridor X to Corridor IV, is planned as double-track and modernized for a speed of 160 km / h.

According to the Spatial Plan of Serbia 2010., it is planned to construct 10,00 km of new electrified railway lines and 92,00 km of railroads is planned to be upgrade to double track railroads.

The railway network should be complemented, and priorities are the following new lines:

- Beli Potok-Vin a-Most preko Dunava-Pan evo
- Mladenovac-Aran elovac-Topola-G.Milanovac- a ak
- Beograd-Obrenovac – Novi Sad

Waterways and Ports

There are two waterways in Beogradska oblast: international waterway E80 Danube and international waterway E80-12 Sava. The total length of waterways is 167 km (Danube 80.5 km and Sava 86.5). There is one port of international importance: the Port of Belgrade, situated at 1,168 km on the right bank of the Danube in the vicinity of Belgrade city centre, covering an area of 250 hectares. The port is located at the intersection of two Pan-European transport corridors (waterway corridor VII and road and rail corridor X), and it is an important transport, loading and cargo centre. Its most important parts are the international container terminal, railroad and road terminal, warehouses, customs facility and a number of auxiliary services. The port has direct railroad connection and is 5 km away from the nearest motorway.

Air Transport

There are 5 airports in Beogradska oblast: one of international importance, one of regional importance and 3 airports of local importance. "Nikola Tesla" airport is situated 12 km west from Belgrade CBD, in the Municipality of Sur in and it is the only airport of international importance. The Airport is managed by the government-owned company - Public enterprise "Aerodrom Nikola Tesla Beograd" and it is the only airport that provides passenger and cargo transport in the Serbian part of the Danube area. In 2008, the total number of passengers was 2,668,841, the total amount of transported goods was 8,764 tons, the total number of air-operations being 40,664.

Batajnica Airbase (airport of regional importance) is an airport located between the town of Batajnica and Nova Pazova, 20 kilometres northwest of Belgrade, in the Municipality of Zemun. It is a military air base of the Serbian Armed Forces. Progar Airport is an airport mostly used for agriculture purposes. Grass runway is located in the village Progar which belongs to the Belgrade's Municipality of Sur in. Belgrade-Lisi ji Jarak Airport is located 13 km north-east of the city of Belgrade, in the Municipality of Palilula. The airport is mostly used for pilot training and sport parachuting jumps, as well as cropdusting operations. The Zemun Polje Airport is located on the left side of the Belgrade-Novı Sad road, parallel to the railway for about 500-600 m before road turns towards Batajnica (Municipality of Zemun). The airport is mostly used for sport and amater planes.

Multimodal Transport System and Terminals

Two multimodal corridors pass through Beogradska oblast: road and rail corridor X and inland waterway corridor VII (the Danube). Terminal infrastructure is only partially developed at railroad terminal "ŽIT" in Belgrade and in the Port of Belgrade.

Development of intermodal transport is directly connected to reconstruction and construction works within the road and rail Corridor X, the revitalization of the railroad Belgrade-Bar and the construction of intermodal terminals. Along the corridors X and VII, important potentials exist for development of intermodal terminals, namely Belgrade logistic platform: along the axis Belgrade-Pan evo-Smederevo three multimodal terminals, together with the airport "Nikola Tesla", should link corridors X and VII and create a competitive logistic platform in the Southeast Europe. Connection with Corridor X will require large investments (east bypass around Belgrade). An intermodal terminal should also connect the river Sava with the corridor X.

Electric Energy Networks and Installations

The total length of transmission lines in Beogradska oblast is 619 km. In this NUTS 3 region, 8 substations of 400 kV, 5 substations of 220 kV and 17 substations of 110 kV transform a very high voltage electricity into lower voltage electricity. The length of 110 kV network is 292 km, the length of 220 kV is 201 km, the length of 400 kV network being 126 km. It is planned to expand the existing transmission network with 22 km of 400 kV transmission lines and 2 km of 220 kV transmission lines.

Three subsidiaries of the Economic Association "Thermal Power Plant Nikola Tesla" plc in Beogradska oblast are:

- TPP "Nikola Tesla A": 6 blocks, total available capacity 1,502 MW, the electric power generation being 8,752 GWh in 2007;
- TPP "Nikola Tesla B": 2 blocks, total available capacity 1,160 MW, the electric power generation being 8,620 GWh in 2007;
- TPP "Kolubara": 5 blocks, total available capacity 245 MW, the electric power generation being 1,1059 GWh in 2007.

Thermal power blocks of the Economic Association "Thermal Power Plant Nikola Tesla" plc with a total available capacity of 3,015 MW make 36% of the total capacity of the electric power system of Serbia. Production of four thermal power plants (one – TPP Morava, is not situated in the Danube region) within this economic association amounting to 16,412 GWh makes around 47% of the total production of the Electric Power Industry of Serbia. The Association use lignite transported from the Economic Association Mining Basin "Kolubara" plc.

TPP "Nikola Tesla A" is located on the right bank of the river Sava, 40 km upstream from Belgrade, in close vicinity to the town of Obrenovac. This is the largest power facility in Serbia. This power plant has an average annual power generation of 10 billion kWh. Through the transforming station 400/220 kV Obrenovac, built next to the power plant, energy goes into the system at voltage levels of 220 and 400 kV. The power plant has a daily consumption of about 56,000 tons of the Kolubara lignite. In addition to electric energy, this power plant also provides the heat for district heating in the town of Obrenovac.

TPP "Nikola Tesla B" is located on the right bank of the river Sava, 57 km upstream from Belgrade, between the villages Skela and Uš e, on the location called Vorbis. So far, the operation of its two units with total capacity of 1,160 MW has shown that this power plant is the strongest support of the power system of Serbia. Its units reached their full capacity right upon putting into operation; they keep having it for years, with the average annual service hours exceeding 6.000. Their economy has been proven by their heat rate below 11,000 kJ/kWh and their auxiliary power consumption of 5%. TPP "Nikola Tesla B" has an annual power generation of more than 7.5 billion kWh.

TPP "Kolubara" with total capacity 2x350 MW is located at the edge of Kolubara coal basin in the village of Veliki Crljeni. It is projected as a facility for combined generation of electric and calorific energy, intended for delivery of the heat to Belgrade. Its construction started in 1988. A part of the equipment for the thermal power plant is contracted and partly delivered (95% of the import part of boiler installation, steel construction, unit generator transformers, and generators are also in production). Construction and design works are also partly contracted and realised. Nearly 40 % of foreseen value of the plant is realised. Construction of the power plant and the mine have been financed so far out of own resources of EPS and commercial credits.

According to the Spatial Plan of the Republic of Serbia 2010-2020 strategic priorities until 2014 include construction of special facilities in Kolubara basin with combustion in circulation fluidized layer with the power around 200 MW, as well as the completion of construction commenced at Kolubara B blocks 700 W (2x350 W) in 2015/2016.

Gas and Oil Supply and Distribution

Natural gas is mostly imported from the far Siberian gas fields in Russia whereas 6% of total gas production comes from domestic gas fields in Banat. The sole company for transportation, distribution, warehousing and trading of natural gas in Serbia is the Public Company "Srbijagas". Serbian gas pipeline system, based on the

main pipeline Horgoš - Senta - Gospo inci - Batajnica - Velika Plana - Para in - Pojate - Niš, passes through Beogradska oblast together with the systems of income and distribution pipelines and urban distribution networks of medium and low pressure. The total length of very high pressure gas pipelines in Beogradska oblast is 80 km, the total length of high pressure gas pipelines being 50 km.

In Serbia and its Danube area there exist only crude oil pipelines but they don't pass through Beogradska oblast. One of the central storages of Serbian Oli Industry "NIS - Gazprom Neft" is located in this NUTS 3 region.

Telecommunication Network

In 2003, Public Company "Electric Power Industry of Serbia - EPS" equipped with optical cable in the ground wire interconnection sections towards Hungary (Belgrade – Obrenovac – Novi Sad – Subotica) and Croatia (Belgrade – Obrenovac – Sremska Mitrovica), with the total length of about 500 km. The total length of fibre optic cables in Beogradska oblast is 29 km.

The fixed telephone traffic and installations are being provided and maintained by the Joint Stock Telecommunication Company "Telekom Srbija". Division of Telekom Srbija, in charge of national fixed telephone services, is organized in four regional units (North, Belgrade, Centre and South), Beogradska oblast belonging to the unit Belgrade. In 2005, the total number of ordinary telephone subscribers in Beogradska oblast was 777,836 and of mobile subscribers 640,760.

Data on internet providers by NUTS 3 region do not exist. However, there were 15 cable providers in Beogradska oblast in 2008.

Water Protection and Management

The share of flood risk area in the total surface of Beogradska oblast is 23.9%. Water-protection infrastructure has to be reconstructed especially in the area of the Municipality of Zemun. There is a water barrage in the Municipality of Palilula.

In Serbia and its Danube area, there are no long distance or regional drinking water and sewage systems. Drinking water system of Beogradska oblast is considered to have regional character but it is not completed and does not exist as cartographic data. Currently, artificial Sava lake - Makiš is used for regional water supply. This water supply system will be improved in future and will become Sava - Belgrade regional water supply system. Artificial lake Rovni (in Kolubarska oblast out of the Danube region) is used for supplying the Municipality of Lazarevac. Two more artificial lakes for water supplying will be constructed within in Kolubarski regional water supply system to supply the same municipality. The capacity of underground water sources is 5,946 l/s in Beogradska oblast.

In 2008, 97.3% of all dwellings was connected to a public drinking and 95.9% to a public sewerage system in Beogradska oblast.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,031	0,031	0,031	0,031
Density of Railways - length of total railway network per km square	0,198	0,198	0,197	0,197
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	1159,65	1106,67	1370,77	1309,61
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)				
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)		99,67		
Natural gas (Share of dwellings connected)(%)				
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)		91,77		97,25
Wastewater treatment (Share of dwellings connected)(%)		74,17		95,86
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Borska oblast

General information

There is one E-road passing through Borska oblast. However, there is no railroad of international importance in this region. The sole waterway in Borska oblast is the Danube. There is one port of international importance - port "Prahovo". Bor Airport is situated near the town of Bor and it is the only airport in the region. Terminal infrastructure for multimodal transport is only partially developed at Prahovo port.

The Economic Association "Hydro Power Plants erdap / Iron Gate", plc has four subsidiaries, two of them being situated in Borska oblast.

Road Network

There is one European road passing through Borska oblast - E 771, coming from Niš and Zaje ar that are out of the Danube area, and going to Drobeta Turnu Severin in Romania.

There are no motorways in this region. First class roads passing through Borska oblast are:

- M24: (Melenci – Zrenjanin – E ka - Kova ica – Pan evo – Kovin – Radinac – Ralja – Mala Krsna – Požarevac – Selakovac – Zabrega – Velika Bresnica – Ku evo) – Majdanpek – Negotin – Veljkovo – border crossing point Bregovo,

- M25: Kladovo – Milutinovac – Brza Palanka – Slatina – Dusanovac – Negotin – Trnjane - (Zaje ar - Knjaževac - Niš - Merošina - Prokuplje - Podujevo - Priština - Lipljan - Suva Reka - Prizren- border-crossing point Vrbnica),

- M25.1: Kladovo/ erdap - Donji Milanovac - Golubac - Veliko Gradište - Topolovik – Požarevac.

The total length of 1st class roads is 319 km (92.16 % asphalted), their density being 0.091 km/km². The highest density of the road network can be found in the Municipality of Majdanpek (0.129 km/km²) and the lowest in the Municipality of Bor (0.054 km/km²). The total length of 2nd class roads is 474 km, 88.19 % being covered by modern carriage. The density of this network at the level NUTS 4 varies from 0.075 km/km² (Municipality of Kladovo) to 0.224 km/km² (Municipality of Bor), the average being 0.135 km/km². Borska oblast has the highest share of non-paved roads among all NUTS₃ regions in the Serbian part of Danube area (61.28%).

In the period after 2014, construction of bypass roads is planned around Majdanpek, Bor and Kladovo. Reconstruction works are planned on the 1st class road M24: (Požarevac - Ku evo) - Majdanpek - border with Bulgaria.

Railway Network

Railroads of international importance do not pass through Borska oblast. However, there are two railroads of regional significance, namely:

- Mala Krsna – Majdanpek – Bor - Rasputnica 2/Vražogrnac - Negotin - Prahovo port and
- Niš – Zaje ar - Vražogrnac - Negotin - Prahovo port.

The total length of railroads of regional importance is 104 km, their density being 0.03 km/km².

The total number of transported passengers in 2008 was 125,798 and the total amount of transported goods 522,701 (t).

It is planned to rehabilitate and modernize existing single-track railroads in this NUTS₃ region.

Waterways and Ports

The Danube, as the sole waterway in Borska oblast, pass in the total length of 164 km. Inland navigation on this sector does not happen only on the open river surface but also through water locks within the dams "Iron Gate 1" and "Iron Gate 2".

Port of Prahovo is situated on the 861 km on the right bank of the Danube. It has international importance and occupies an area of 70,473 m². It is meant for handling different loads such as ores and metal scrap, metal products, construction material, fertilizers, chemical products, machinery, transport equipments and finished products, agricultural products... Maximum depth is 5 m, permissible draft is 2,7 m, the coast is 560 m long and there is an available railway connection.

Air Transport

Bor Airport is situated near the town of Bor and it is the only airport in this region. It is, at the same time, an airport used for sports and as a training camp of the Serbian special police units.

Multimodal Transport System and Terminals

The only multimodal corridor is the inland waterway corridor VII (the Danube) whereas terminal infrastructure is only partially developed in Prahovo port.

According to the Spatial Plan of the Republic of Serbia 2010-2020, strategic priorities until 2014 include development and upgrade of infrastructure at multimodal/intermodal terminals.

Electric Energy Networks and Installations

The total length of transmission lines in Borska oblast is 416 km. Two substations of 400 kV, one substation of 200 kV and 8 substations of 110 kV transform very high voltage electricity into lower voltage electricity in this region. Length of 110 kV network is 263 km and length of 400 kV network is 153 km. It is planned to construct another 57 km of 110 kV transmission lines.

The Economic Association "Hydro Power Plants erdap/Iron Gate", plc has four subsidiaries, two of them being situated in Borska oblast:

- HPP "erdap 1" – with 6 units, the total capacity of 1,058 MW and electric power production of 5,199 GWh in 2007;
- HPP "erdap 2" – with 10 units, the total capacity of 270 MW and electric power production of 1,432 GWh in 2007.

Construction of HPP "erdap 1" began as early as 1964, through joint investment of Yugoslavia and Romania. The first units were put into operation in 1970, and the whole plant was put into operation on May 16th, 1972. The construction of HPP "erdap 2" officially began on December 3rd, 1977, and the first units were put into operation in 1985. This hydro power plant consists of a power plant, water lock, spillway and non-spillway dam, as well as a dam crossing in the middle of which is the border between Serbia and Romania. The project allows a possibility for construction of a railroad across the dam. The basic activity of these hydro power plants is not only electric power production, but also operation of water locks. HPP "erdap 1" has two-level water locks (ships enter the chamber and then they are "led" into the end water level of the Danube at the chamber end). In terms of chamber dimensions, these water locks are among the largest ones in the world.

HPP "erdap 1" is located on the main facility of the hydro-power and navigation system "erdap 1", 10 km upstream from the city of Kladovo or 943 km upstream from the mouth of the river Danube. Hydro power plant erdap 1 has 12 aggregates in total of the power of 176 MW, six of them belonging to Serbia and six to Romania. Six Serbian aggregates, which entered into operation between 1970 and 1972, have been in operation around 200 thousands hours by now. The greatest part of the basic equipment was produced in Russia. The main facility is symmetrical, with spillway-type dam in the middle of the Danube riverbed, a hydropower plant and a navigation lock on both Serbian and Romanian sides. There is a road running across the top of the dam. HPP erdap 1 has a relatively small volume of dynamic character, but through a daily operating regime with two peaks and HPP erdap 2 as a compensation reservoir, it manages to place a major production part into a variable portion of the load diagram. The power plant is a storage plant type and has short length water inflow and intake-generator-drainage structures, which enable a quick change of load. The generator is 175 MW. HPP "erdap 2" is located 80 km downstream from HPP "erdap 1". The main facility of "erdap 2" has 10 bulb-type hydro-units, each of 27 MW, making the total of 270 MW. The annual power generation in HPP "erdap 2" is about 1500 GWh. HPP erdap 2 is practically a compensation reservoir and the biggest part of production is placed into the constant portion of the load diagram. For that reason, it has no possibility to take part in the system flow-rate regulation. It is also limited by the navigation requirements ($Q_{min} = 2000 \text{ m}^3/\text{s}$) and allowed oscillations of water levels (60 cm) at the mouth of the river Timok.

Gas and Oil Supply and Distribution

There is no gas network in Borska oblast for the moment but it is planned to build a gas pipeline from Niš to Zaje ar, Bor, Negotin and Prahovo.

One of the central oil storages of NIS Gazprom Neft is situated in Prahovo.

Telecommunication Network

The total length of fibre optic cables in the Danube area is 330 km. These cables pass through Borski County in total length of 29 km.

As far as ordinary telephone lines are concerned, Borska oblast belongs to the Unit South of the Joint Stock Telecommunication Company "Telekom Srbija". The total number of ordinary telephone subscribers in the region in 2005 was 46,584 and of mobile subscribers 42,160.

Data on Internet providers at NUTS₃ level do not exist. However, there were four cable providers in Borska oblast in 2008.

Water Protection and Management

The share of flood risk area in the total surface of Borska oblast is 5.33 %. 84.51 % of dwellings are connected to a public drinking water network, 76.9% of dwellings being connected to a public sewage network.

The capacity of underground water sources is 215 l/s. Existent water barrages can be found on the river Banjska and lake Borsko. The two dams are erdap 1 and erdap 2 on the Danube. One dam is proposed to be built at Krivelj. Artificial lake Grlište, belonging to Timok regional water supply system, is used for supplying municipalities of Bor and Negotin. Three more artificial lakes are planned to be constructed within the same water supply system, namely Bogovina, Žukovac and Okolište. Four artificial lakes (Vitman, Gradac, Ku evo and Dubo ica) will be constructed within Mlava-Morava regional water supply system in order to supply municipalities in both Brani evska and Podunavska oblast as well as the Municipality of Majdanpek in Borska oblast.

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,03	0,03	0,03	0,03
Water Transport - freight transfered through ports in the region per 1 000 inhabitants			213,9	3889,9
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)		97,91		
Natural gas (Share of dwellings connected)(%)		0		
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)		69,59		84,51
Wastewater treatment (Share of dwellings connected)(%)		43,44		76,9
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Brani evska oblast

General information

European roads and railroads of international importance do not pass through Brani evska oblast. International waterway E80 - the Danube passes through the territory of this region in total length of 94 km. Kostolac Airport (of local significance) is situated on the bank of the Danube river. Multimodal terminal infrastructure is not developed. Fibre optic cables do not pass through Brani evska oblast neither.

Road Network

European roads and motorways do not pass through Brani evska oblast. However, following 1st class roads pass through this region:

- M24, section (Melenci – Zrenjanin – E ka - Kova ica – Pan evo – Kovin – Radinac – Ralja – Mala Krsna) – Požarevac – Selakovac – Zabrega – Velika Bresnica – Ku evo – (Majdanpek – Negotin – Veljkovo – border crossing point Bregovo),
- M25.1 erdap - Donji Milanovac - Golubac - Veliko Gradište - Topolovik – Požarevac).

The total length of 1st class roads in Brani evska oblast is 205 km (93.17 % asphalted), their density being 0.053 km/km². The highest density is to be found in the Municipality of Golubac (0.122 km/km²) and the lowest in the Municipality of Žagubica (0.018 km/km²). First class roads do not pass through the municipalities of Žabari and Petrovac.

The total length of 2nd class roads in Brani evska oblast is 484 km, 99.38 % being covered by modern carriage. Density of this network at the level NUTS 4 varies from 0.037 km/km² (Municipality of Ku evo) to 0.193 km/km² (Municipality of Malo Crni e), the average being 0.125 km/km².

In the period after 2014 it is planned to build a by-pass road around Golubac as well as to reconstruct 1st class road M-24, section Požarevac - Ku evo - (Majdanpek - border with Bulgaria).

Railway Network

Railroads of international importance don't pass through Brani evska oblast. However, there is one railroad of regional importance passing through this region: the railroad (Mala Krsna) – Požarevac - (Majdanpek – Bor - Rasputnica 2 - Vražogrnac). The total length of this railroad is 92 km, the density being 0.02 km/km². The railroad of local importance Požarevac - Požareva ki Sopot passes in total length of 10 km. In 2008, the total number of transported passengers was 69,725, the amount of transported goods being 196,640 (t).

Regional rail lines connect regions with the international network and have a great importance for regional development. It is planned to rehabilitate and modernize existing single-track railroad in Brani evska oblast.

Waterways and Ports

The sole waterway in Brani evska oblast is the International waterway E80 - the Danube. It passes in the total length of 94 km. There is no significant port in this NUTS 3 region. However, the Danube right bank (that belongs to this region) is arranged for the purposes of nautical tourism, reconstruction and construction of new docks and marinas being in progress in Veliko Gradište and Golubac.

Air Transport

Kostolac Airport, built in 1998, is situated on the right bank of the Danube river, 2 kilometers from Kostolac town centre (Municipality of Požarevac). It is a sport airport. Landing on this airport is unique, because the way of landing is over the Danube water plane. There is an international air show every August. The Airport is close to the ancient Roman city of Viminacium - an important historical and archaeological site.

Multimodal Transport System and Terminals

Inland waterway corridor VII (the Danube) pass trough the Brani evski County. Multimodal terminal infrastructure is not developed.

Electric Energy Networks and Installations

The total length of transmission lines in Brani evska oblast is 204 km. One substation of 400 kV and 5 substations of 110 kV transform very high voltage electricity into lower voltage electricity in the region. 110 kV

network is 96 km long whereas 400 kV network is 108 km long. Construction of new transmission lines is not planned.

The subsidiaries of the Economic Association "Thermal Power Plants and Mines Kostolac" plc are:

- TPP "Kostolac A" – with 2 blocks – total available capacity of 281 MW and production of 3,742 GWh in 2007;
- TPP "Kostolac B" – with 2 blocks – total available capacity of 640 MW and production of 1,328 GWh in 2007.

Thermal power blocks of the Economic Association "Thermal Power Plants and Mines Kostolac" plc with total available capacity of 921 MW, make 11% of the total available capacity of the electric power system of Serbia. The electric power production of this economic association is 5,170 GWh. Thermal power plants within this economic association use lignite extracted in the open-pit mines "irikovac", "Drmno" and "Klenovnik". In addition to the electric power generation, TPP "Kostolac A" produces heating energy for the cities of Kostolac and Požarevac. According to the Spatial Plan of the Republic of Serbia 2010-2020, strategic priorities until 2014 include construction of Kostolac B3 with the power up to 700 MW.

Gas and Oil Supply and Distribution

Brani evska oblast has no gas network.

One of the central storages of NIS - Gazprom neft in the Danube Region is located in the place of Turija, Municipality of Ku evo.

Telecommunication Network

Fibre optic cables doesn't pass through Brani evska oblast.

As far as fixed telephone traffic is concerned, Brani evska oblast belongs to the Unit Belgrade of the Joint Stock Telecommunication Company "Telekom Srbija". The total number of ordinary telephone subscribers in Brani evska oblast was 63,335 in 2005 and of mobile subscribers 52,481.

Data on the number of Internet providers by NUTS3 region do not exist. In 2008, there was one cable provider in Brani evska oblast.

Water Protection and Management

Competences for water management are entrusted to the Ministry of agriculture, forestry and water management (Republic Office for Waters), Public Water Management Company Srbijavode and local self-governments (municipalities and cities). However, other Ministries are also responsible for certain aspects of water resources management such as Ministry of Environmental Protection, Ministry of Health, Ministry of Public Administration and Local Self Government and Ministry of Infrastructure).

The share of flood risk area in the total surface of Brani evska oblast is 7.24 %. In 2008, 82.2% of dwellings was to a public drinking water network and 77.0% to a public sewerage network.

The capacity of underground water sources is 620 l/s. Four artificial lakes (Vitman, Gradac, Ku evo and Dubo ica) will be constructed in Mlavsko-moravski regional water supply system which will be in use then for supplying municipalities in both Podunavska and Brani evska oblast as well as the Municipality of Majdanpek in Borska oblast.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,023	0,023	0,023	0,026
Water Transport - freight transferred through ports in the region per 1 000 inhabitants			10528,3	1024,7
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)				
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)		97,95		
Natural gas (Share of dwellings connected)(%)		0		
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)		50,54		82,2
Wastewater treatment (Share of dwellings connected)(%)		22,85		76,97
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Podunavska oblast

General information

One E-road and two E-railroads pass through Podunavska oblast: motorway E75 and railroads E 70 and E 85: Belgrade - Niš. The sole waterway in Podunavska oblast is the Danube. The Port Department includes two units – The Old and New Port of Smederevo. There are two local airports in the region: one in Smederevo and another one in Smederevska Palanka. Multimodal corridors passing through Podunavska oblast are corridor X and inland waterway corridor VII (the Danube). Terminal infrastructure is only partially developed (Smederevo port).

Road Network

Motorway E75 passes in the total length of 56.64 km, the density of motorway network in Podunavska oblast being 0.045 km/km². The motorway does not pass through the Municipality of Smederevska Palanka.

Following 1st class roads pass through Podunavska oblast:

- M1: (Batrovci – Sremska Rača – Kuzmin – Sremska Mitrovica – Ruma – Peinci – Šimanovci – Belgrade – Rajla) – Smederevo – Smederevska Palanka - Velika Plana – Markovac,
- M1.1: Rajla – Radinac – Smederevo,
- M24: (Melenci – Zrenjanin – Eka - Kovača – Pančevo – Kovin) – Radinac – Rajla – Mala Krsna – (Požarevac – Selakovac – Zabrega – Velika Bresnica – Kulevo – Majdanpek – Negotin – Veljkovo – border crossing point Bregovo).

The total length of 1st class roads is 55 km (100 % asphalted), their density being 0.044 km/km². The highest density can be found in the Municipality / City of Smederevo - 0.093 km/km² and the lowest in the Municipality of Velika Plana - 0.029 km/km². First class roads do not pass through the Municipality of Smederevska Palanka.

The total length of 2nd class roads in Podunavska oblast is 225 km, 100 % being covered by modern carriage. Density of this network at the level NUTS 4 varies from 0.148 km/km² (Municipality of Velika Plana) to 0.223 km/km² (Municipality of Smederevska Palanka), the average being 0.180 km/km².

Railway Network

Following railroads of international importance pass through the territory of Podunavska oblast - E 70 and E 85: Belgrade – Niš. The total length of the railroads of international importance is 100 km. The density of international railroads is 0.08 km/km². The sole railroad of regional importance Mala Krsna – (Majdanpek – Bor - Rasputnica 2 - Vražođnac) passes in the total length of 10 km, the length of rail roads of local importance being 4 km. In 2008, the total number of passengers was 170,798 whereas the total amount of transported freight was 3,484.322 (t).

According to the Spatial Plan of Serbia 2010-2020, 27.8 km of international single-track railroads will be extended to double track ones. It is also planned to rehabilitate and modernize the existing single-track regional railroad. Reconstruction, development and modernization of existing railway lines is planned within the Corridor X, the priority on E 70 and E 85 being the increase of performance for mixed (passenger and freight) transport, combined transport and the projected speed of 160 km/h (220 km/h where possible).

Waterways and Ports

The sole waterway in Podunavska oblast is the international waterway E80 - the Danube. It passes in the total length of 25 km. The Port Department includes two units – The Old and New Port of Smederevo. The port of Smederevo belongs to the company US Steel Serbia. The company has plans to relocate the port to another area approx. 5 to 6 km outside the city centre. This should also lead to a relocation of the freight railroad terminal. The city of Smederevo plans to use the Old port as a passenger terminal once financial situation allows the implementation of such idea. The Port Department is completely equipped and U. S. Steel Serbia use it for the transport of raw materials and products. The New Port is located in industrial zone in Smederevo at the 1,111 kilometer of the Danube, next to M24 road, and motorway Belgrade – Niš. The current capacity of the New Port is 2.4 million tons. The Old Port is located at kilometer 1,116 on the right bank of the river Danube. It has an area of 31,000 m², maximum depth of 8 m, permissible draft of 5 m and a railway connection.

Air Transport

There is an airport of local importance 4 kilometers south-east of the town center of Smederevo, mostly used for sports and training flights for aircraft and gliders, agricultural airplanes and helicopters, parachuting jumps.

Another local airport in Podunavska oblast is situated in the Municipality of Smederevska Palanka. It is called Smederevska Palanka or Rudine Airport, it has a grass runway and serves for sports purposes.

Multimodal Transport System and Terminals

Both corridor X and inland waterway corridor VII (the Danube) pass through Podunavska oblast. Terminal infrastructure is only partially developed at Smederevo port.

Development of intermodal transport is directly connected to reconstruction and construction works within the road and rail Corridor X, the revitalization of the railroad Belgrade-Bar and the construction of intermodal terminals. Along the corridors X and VII, important potentials exist for development of intermodal terminals, namely Belgrade logistic platform: along the axis Belgrade-Pan evo-Smederevo three multimodal terminals, together with the airport "Nikola Tesla", should link corridors X and VII and create a competitive logistic platform in the Southeast Europe. Connection with Corridor X will require large investments (east bypass around Belgrade).

Electric Energy Networks and Installations

The total length of transmission lines in Podunavska oblast is 138 km. Two substations of 220 kV and 10 substations of 110 kV transform a very high voltage electricity into lower voltage electricity. Length of 110 kV network is 96 km, length of 220 kV is 11 km and the length of 400 kV network is 31 km.

Gas and Oil Supply and Distribution

Serbian gas pipeline system, based on the main pipeline Horgoš-Senta-Gospo inci-Batajnica-Velika Plana-Para in-Pojate-Niš, pass through Podunavska oblast together with the systems of income and distribution pipelines and urban distribution networks of medium and low pressure. The total length of very high pressure gas pipelines is 36 km, the total length of high pressure gas pipelines being 42 km.

Telecommunication Network

Fibre optic cables do not pass through Podunavska oblast.

As far as fixed telephone traffic is concerned, Podunavska oblast belongs to the Unit Belgrade of the Joint Stock Telecommunication Company "Telekom Srbija". In 2005, the total number of ordinary telephone subscribers in Podunavska oblast was 93,131 and of mobile subscribers 42,245.

Data on the number of Internet providers by NUTS3 region do not exist. In 2008, there were no cable providers in Podunavska oblast.

Water Protection and Management

Competences for water management are entrusted to the Ministry of agriculture, forestry and water management (Republic Office for Waters), Public Water Management Company Srbijavode and local self-governments (municipalities and cities). However, other Ministries are also responsible for certain aspects of water resources management such as Ministry of Environmental Protection, Ministry of Health, Ministry of Public Administration and Local Self Government and Ministry of Infrastructure).

The share of flood risk area in the total surface of Podunavska oblast is 25.17 %. In 2008, 82.9% of dwellings was to a public drinking water network and 78.6% to a public sewerage network.

The capacity of underground water sources in Podunavska oblast is 730 l/s. Four artificial lakes (Vitman, Gradac, Ku evo and Dubo ica) will be constructed in Mlavsko-moravski regional water supply system which will be in use then for supplying municipalities in both Podunavska and Brani evska oblast as well as the Municipality of Majdanpek in Borska oblast.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,046	0,046	0,046	0,045
Density of Railways - length of total railway network per km square	0,081	0,081	0,081	0,091
Water Transport - freight transfered through ports in the region per 1 000 inhabitants			2345,3	17043,1
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)				
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)		98,76		
Natural gas (Share of dwellings connected)(%)		0		
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)		55,52		82,88
Wastewater treatment (Share of dwellings connected)(%)		39,52		78,58
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Južnoba ka oblast

General information

With two pan-European corridors (X and VII) on its territory and a developed network of all kinds of transportation (except for air connections), Južnoba ka oblast has a very favourable transport situation not only in the Serbian part of the Danube area but also in entire country. The most important networks (international, national and regional) converge in Novi Sad where also an important international port is situated – Port of Novi Sad. This gives to Južnoba ka oblast an excellent opportunity for the development of intermodal transport and logistics. However, reconstruction and modernization works must take place if this is to be achieved.

Južnoba ka oblast plays a very important role in energy sector, too. This is particularly the case with gas and oil production and distribution as Novi Sad holds one of the two refineries in the country with an important gas node in the vicinity of the city and developed distribution network. The region also plays a significant role in the sector of telecommunications. Water management infrastructure in Južnoba ka oblast is developed but obsolete. The share of inhabitants connected to public drinking water and sewerage network is rather high.

Road Network

There is one motorway passing through Južnoba ka oblast: E 75 (Pan-European Corridor X branch B), section Subotica – Novi Sad being still under construction (extension to motorway width). The motorway passes through four out of 12 municipalities/cities (NUTS 4/LAU 1) belonging to Južnoba ka oblast (Vrbas, Novi Sad-grad, Srbobran and Temerin), the density of motorway network being the highest in the City of Novi Sad (0.060 km/km²). The total length of motorway in Južnoba ka oblast is 64.52 km, its density being 0.016 km/km².

As far as 1st class roads are concerned, following ones pass through Južnoba ka oblast:

- M3: (border crossing point Bogojevo – Odžaci – Kula) – Vrbas – Srbobran – Be ej – (Novi Be ej – Novo Miloševo - Kikinda - Nakovo / Romanian border),
- M7: border crossing point Ba ka Palanka – Novi Sad – (Zrenjanin – Žitiste – Nova Crnja - Srpska Crnja / Romanian border),
- M18: (border crossing point Ba ki Breg – Bezdán – Sombor – Odžaci – Srpski Mileti) - Ba – border crossing point Ba ka Palanka,
- M21: Novi Sad – (Irig – Ruma – Šabac – Valjevo – Kosjeri – Požega – Užice – Nova Varoš – Prijepolje – border crossing point Gostun),
- M22: (Horgoš) - Novi Sad – (Belgrade – Lazarevac – Ljig – Gornji Milanovac – Kraljevo – Raška – Novi Pazar – Ribari e),
- M22.1: (Horgoš – Subotica – Ba ka Topola – Mali I oš) – Srbobran - Novi Sad - Sremski Karlovci – (In ija - Stara Pazova – Zemun).

The total length of 1st class roads in Južnoba ka oblast is 305 km (100% asphalted), their density being 0.076 km/km². The highest density is in the City of Novi Sad (0.186 km/km²) and the lowest in the Municipality of Ba ka Palanka (0.019 km/km²). First class roads do not pass through the municipalities of Beo in, Sremski Karlovci and Titel.

The total length of 2nd class roads in Južnoba ka oblast is 521 km, 98.46% being covered by modern carriage. Density of this network at the level NUTS 4/LAU 1 varies from 0.063 km/km² (Municipality of Ba) to 0.306 km/km² (Municipality of Beo in), the average being 0.130 km/km².

According to the Spatial Plan of the Republic of Serbia 2010-2020, strategic priorities and projects (until 2014) in Južnoba ka oblast include:

- Completion of the second lane of motorway within Corridor Xb in the length of 107 km (section Horgoš - Novi Sad);
- Rehabilitation of bridges over the Danube in Novi Sad;
- Reconstruction and construction works on 1st class roads M7 and M18 (including construction of a link Ba ka Palanka – Šid).

After 2014, construction of bypasses is planned around Novi Sad and Sremski Karlovci.

Railway Network

There is one railroad of international importance passing through Južnoba ka oblast - E 85 (Pan-European Corridor X branch B): (border crossing point Kelebija – Subotica) – Novi Sad – (Belgarde – Niš – Preševo – border crossing point Tabanovci / Kraljevo - border crossing point eneral Jankovi). Its total length in the region is 66 km, the density of 0.02 km/km² being below the average value for the nine Danube regions in Serbia (0.03 km/km²).

Through the territory of Južnoba ka oblast railroads of regional importance pass in the total length of 98 km. The railroads of regional importance passing through Južnoba ka oblast are:

- Railroad no 21: Novi Sad – (Odžaci – Bogojevo) and
- Railroad no 30/31: Novi Sad – Sajlovo - Rimski Šan evi – Titel – (Orlovat).

The total length of the railroads of local importance is 155 km. In 2008, the total number of transported passengers in Južnoba ka oblast was 730,773, the total amount of transported freight being 592,961 t.

According to the Spatial Plan of the Republic of Serbia 2010-2020, 63.09 km of international single-track railroad will be widened to double track one in Južnoba ka oblast. It is also planned to rehabilitate and modernize both regional single-track railroads (no 21 and no 31), too. Railway network should also be complemented, the priority being given to the future railroad Belgrade – Obrenovac - Novi Sad.

Waterways and Ports

Waterway network of Južnoba ka oblast includes international waterway E 80 - Danube, passing in the total length of 170 km, Danube – Tisa - Danube Canal network (DTD), as a unique multi-purpose system (flood control, irrigation, water supply, waste water evacuation, navigation and tourism), passing in the total length of 153 km, and international/interstate waterway E 80-01 - river Tisa, passing in the total length of 74 km.

Južnoba ka oblast has two ports - Port of Ba ka Palanka and Port of Novi Sad. The Port of Ba ka Palanka is national port situated on km 1,295 km on the left bank of the Danube and covering the area of 1,100,000 m². The Port has a direct access to railway and road network. The maximum depth in the Port is 3 m whereas permissible draft is 2.5 m. Port of Novi Sad is 99,4% owned by the Republic of Serbia, the rest belonging to private persons. The port is located at kilometer 1254,00 on the left bank of the Danube. More than 80% of all goods in the Port of Novi Sad are bulk cargo. Most common goods are fertilizers, coal, coke, sugar pellets and agricultural products such as maize, grain and sunflower seeds. The total surface of covered area is 350,000 m². By way of 6,800 m long rail sliding, the Port is connected to the national and international railway system, the city of Novi Sad being an international railway node.

Air Transport

Airport of Novi Sad, known locally as Airport enaj is situated near the village of enej, 16 km north of Novi Sad, on the eastern side of the road M22/M22.1. The airport is mainly used for sports and agriculture purposes.

Multimodal Transport System and Terminals

Two multimodal corridors cross Južnoba ka oblast - corridor X and inland waterway corridor VII (the Danube). Terminal infrastructure is only partially developed (in the Port of Novi Sad). Development of intermodal transport is directly connected to reconstruction and construction works within the road and rail Corridor X. A connection should be made between roads, railroads and the Danube (corridors X and VII) in Novi Sad.

Electric Energy Networks and Installations

The total length of transmission lines in Južnoba ka oblast is 545 km. Two 400 kV substations, two 220 kV substations and 15 110 kV substations transform high voltage electricity into lower voltage electrical energy in this region. The network of 110 kV transmission lines is 313 km long whereas the network of 220 kV transmission lines is 130 km long, 400 kV transmission lines being 102 km long. It is planned to construct another 12 km of 110 kV transmission lines in Južnoba ka oblast.

Combined Heat and Power Plant "Novi Sad" is a branch of the Economic Association "Combined Heat and Power Plants Panonske" plc. It is located on the territory of the City of Novi Sad and has 2 blocks. The total available capacity of this plant is 208 MW, the energy generated in 2007 being 423 GWh. The plant generates electric energy, technological steam and heating. Natural gas is provided thanks to the connection made with the main gas pipeline, a fuel oil pipeline brings fuel oil whereas the Danube provides cooling water. According to the Spatial Plan of the Republic of Serbia 2010-2020, strategic priority until 2014 is to build a new block in the Combined Heat and Power Plant "Novi Sad", namely from 2011 to 2013.

Gas and Oil Supply and Distribution

Natural gas is mainly imported from the far Siberian gas fields of Russia whereas 6% of the total gas production comes from domestic gas fields in Banat. On the territory of Južnoba ka oblast there is a gas field near Srbobran.

Serbian gas pipeline system, based on the main pipeline Horgoš – Senta – Gospo inci – Batajnica - Velika Plana – Para in – Pojate - Niš and the systems of income and distribution pipelines and urban distribution networks of medium and low pressure, passes through Južnoba ka oblast in north-south direction. The total length of very high pressure gas pipelines in the region is 96 km, the total length of high pressure gas pipelines being 94 km.

In Serbia and the Danube area there exist only crude oil pipelines and they pass through Južnoba ka oblast in the total length of 171 km. NIS refining complex consists of two refineries, located in Pan evo (Južnobanatski county) and Novi Sad (Južnoba ka oblast) and which produce a whole range of petroleum products – from motor gasolines and diesel fuel to mechanical lube oils and feedstock for petrochemical industry. The maximum capacity of the product lines in the refinery of Novi Sad is up to 2.5 million tons of crude oil per year. Refineries in Pan evo and Novi Sad intend to increase the quality of finished products in line with the standard Euro 5.

Telecommunication Network

Telecommunication networks of the Electric Power Industry of Serbia (EPS) are connected with the networks of neighbouring countries through Optical Ground Wire (OPGW) Cable, placed above transmission lines between interconnection facilities, with the transmission systems of synchronous digital hierarchy. In 2003, EPS installed (from its own funds) an Optical Ground Wire cable along the interconnection lines towards Hungary (Belgrade – Obrenovac – Novi Sad – Subotica) and Croatia (Belgrade – Obrenovac – Sremska Mitrovica) with a total length of around 500 km. The total length of fibre optic cables in the Danube area is 330 km, these cables passing through Južnoba ka oblast in the total length of 66 km.

Južnoba ka oblast belongs to the unit North of the Public Company TELEKOM Srbija. In 2006, the level of digitalisation within this unit was 90.9%. The total number of ordinary telephone subscribers in Južnoba ka oblast was 233,487 in 2005 and of mobile subscribers 229,043. There were 8 cable providers in Južnoba ka oblast in 2008.=

Water Protection and Management

Competences for water management are entrusted to the Ministry of agriculture, forestry and water management (Republic Office for Waters), Public Water Management Company “Srbijavode” and local self-governments (municipalities and cities). However, other Ministries are also responsible for certain aspects of water resources management such as Ministry of Environmental Protection, Ministry of Health, Ministry of Public Administration and Local Self Government and Ministry of Infrastructure). On the territory of the Autonomous Province of Vojvodina, to which Južnoba ki County belongs, the competence is entrusted to the Public Water Management Company “Vojvodinavode”.

The share of flood risk areas in the total surface of Južnoba ka oblast is 25.95%. The Danube-Tisa-Danube system of canals was constructed for the purpose of both flood prevention and irrigation. However, the efficiency of existing structures needs to be improved. The priority is being given to the reconstruction of protection structures in the area of the city of Novi Sad. Existing water barrages in Južnoba ka oblast are situated at:

- Zmajevo (on the River Jegricka),
- Jegricka moore,
- Novi Be ej (on the River Tisa).

A dam is proposed to be built at Srbobran (on the River Krivaja).

In Južnoba ka oblast, 96.5% of dwellings are connected to a public drinking water network and 92.9% to a public sewage network. The capacity of underground water sources in Južnoba ka oblast is 1,634 l/s. Once established, the regional water supply system of Novi Sad will be able to provide water supply to all municipalities of Južnoba ka oblast.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,015	0,015	0,015	0,016
Density of Railways - length of total railway network per km square	0,066	0,066	0,066	0,079
Water Transport - freight transferred through ports in the region per 1 000 inhabitants			475,5	978,9
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)				
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)		99,24		
Natural gas (Share of dwellings connected)(%)		20,5		
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)		90,88		96,47
Wastewater treatment (Share of dwellings connected)(%)		49,76		92,88
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Južnobanatska oblast

General information

The only E-road passing through Južnobanatska oblast is E 70. There is also one international railroad - E 66. Two waterways passing through the region are E80 - the Danube and Danube-Tisa-Danube Canal network (DTD) of national importance. The sole port of international importance is "The Danube Port" in Pan evo. Vršac International Airport is used for air-taxi planes and civil aviation training. Multimodal corridor crossing Južnobanatska oblast is inland waterway corridor VII (the Danube). Terminal infrastructure is only partially developed (Pan evo Port). Pan evo Oil Refinery is also located in this region.

Road Network

The only E-road passing through Južnobanatska oblast is E 70. There are no motorways in this region, however, following 1st class roads pass through it:

- M1.9: Belgrade - Pan evo - Vršac - Romanian border,
- M7.1, section (Zrenjanin – Se anj) – Plandište – Vršac – Bela Crkva – border crossing point Kalu erovo,
- M24, section (Melenci – Zrenjanin – E ka) – Kova ica – Pan evo – Kovin – (Radinac – Ralja – Mala Krsna – Požarevac – Selakovac – Zabrega – Velika Bresnica – Ku evo – Majdanpek – Negotin – Veljkovo – border crossing point Bregovo).

The total length of 1st class roads in Južnobanatska oblast is 255 km (100% asphalted), the density being 0.060 km/ km/km². The highest density is in the Municipality of Plandište - 0.089 km/km² and the lowest in the Municipality of Kovin 0.033 km/km². 1st class roads do not pass through the Municipality of Opovo. The total length of 2nd class roads in Južnobanatska oblast is 215 km, 100% being covered by modern carriage. Density of this network at the level NUTS 4 varies from 0.021 km/km² (Municipality of Pan evo) to 0.086 km/km² (Municipality of Kova ica), the average being 0.051 km/km².

According to the Spatial Plan of the Republic of Serbia 2010-2020, strategic priorities and projects (until 2014) include:

- Completion of the Belgrade bypass - construction of the section C (Buban Potok - Bole - Star evo – Pan evo east - Pan evo north),
- Transformation of 1st class road (M1.9) into new part of motorway E 70 (SEETO route 4): border with Romania - Vršac - Pan evo - Belgrade.

In the period after 2014, planning solutions in the field of road transport include activities in a particular direction of road network on the following 1st class roads:

- 1st class road (M-24) Kikinda - Zrenjanin - Pan evo - Kovin,
- 1st class road (M-7.1) Zrenjanin - Vršac - Bela Crkva,
- Construction of bypass Vršac.

Railway Network

The railroad of international importance passing through Južnobanatska oblast is E 66: Belgrade - Pan evo, Vršac - Romanian border. The total length of railroads of international importance is 84 km, the density being below the average (0.02 km/ km²). Through the territory of Južnobanatska oblast the railroads of regional importance pass in the total length of 43 km. These are: Pan evo – Zrenjanin – Kikinda – state border with Romania and Bela Crkva – Vršac – Zrenjanin. The length of railroads of local importance is 127 km. The total number of transported passengers in 2008 was 32,892 and the total number of transported goods 1,008,717 (t).

According to the Spatial Plan of Serbia 2010-2020, it is planned to construct 19,21 km of new electrified railroad in Južnobanatska oblast. International railroad E 66: Belgrade - Vršac, which connects Serbia with Romania and Corridor X to Corridor IV, is planned to become a double-track railroad enabling speeds of 160 km/h. The railway network should be complemented, the priority being given to the railroad Beli Potok - Vin a - bridge over the Danube - Pan evo.

Waterways and Ports

There are two waterways passing through Južnobanatska oblast:

- International waterway E80 the Danube
- National waterway system Danube-Tisa-Danube Canal (DTD).

The total length of waterways is 117.5km (the Danube 93.5 km and DTD 24 km). There is one international port on the Danube "The Danube Port" Pan evo. The port is situated on the 1,153 km on the left bank of the Danube, 20 km from Belgrade. The Danube Port occupies 240 hectares, bounded by the rivers Danube and Tamiš, international road E-70, shunting yard and navigable canal "HIP" Pan evo. Maximum depth is 4m, permissible draft 3m, the length of sidetracks being 12,507m. The Port has a railway connection. On the left bank of the river Danube there is also a port of national importance - Port "Kovin".

Air Transport

There are 4 airports in Južnobanatska oblast. Vršac International Airport is one of Serbia's busiest sport airports and Serbia's fourth international airport since December 28th, 2006. The airport is mainly used for air-taxi operations, pilot training, basic aircraft maintenance, and agricultural aviation. Airport is located in the Municipality of Vršac. Bela Crkva Airport is an airport located near the town of Bela Crkva, 4 kilometers west of the town railway station, in the village of Crvena Crkva. Kovin Airport is an airport located in the Municipality of Kovin. The airport is also near the town of Smederevo and some 50 km east of central Belgrade. The airport is a military one and is used by the Serbian Armed Forces. Pan evo Airport is an airport near the city of Pan evo. The airport is mostly used for sport. Airport is also used by Utva Aviation Industry (located in Pan evo) for testing aircrafts.

Multimodal Transport System and Terminals

The sole multimodal corridor passing through Južnobanatska oblast is Corridor VII - the Danube. Terminal infrastructure is only partially developed at Pan evo Port. Existing terminals have significant limitations, outdated equipment and lack of investments available for their further development. Intermodal transport in Serbia and its Danube area is mainly limited to importation of goods sent by sea-containers which then return empty to sea ports. Along the corridors X and VII, important potentials exist for development of intermodal terminals, namely Belgrade logistic platform (along the axis Belgrade-Pan evo-Smederevo) where three multimodal terminals, together with the airport "Nikola Tesla", should link corridors X and VII and create a competitive logistic platform in the Southeast Europe, and an intermodal terminal that should connect the river Sava with the corridor X.

Electric Energy Networks and Installations

The total length of transmission lines in Južnobanatski County is 312 km. Electricity transmission lines of 400 kV provide the transport of electricity from the generation sources to concentrated areas of customers. Two substation of 400 kV and 11 substations of 110 kV transform the very high voltage electricity into lower voltage electricity. The length of 110 kV network is 207 km, the length of 220 kV network is 53 km and the length of 400 kV network is 52 km.

According to the new Spatial Plan of the Republic of Serbia 2010-2020, it is planned to construct facilities for renewable energy distributed power generation, namely:

- Wind farm "Vra ev Gaj" in the Municipality of Bela Crkva,
- 300 MW Wind turbine ibuk in the Municipality of Kovin,
- 400 MW Wind farm "Vršac- Alibunar - Plandište",
- 188 MW Wind turbine "Bavaništansko polje" in the Municipality of Kovin,
- 60 MW Wind farm "Šušara" in the municipalities of Vršac and Bela Crkva,
- 5 MW Wind turbine "La Piccolina", in the Municipality of Vršac.

Gas and Oil Supply and Distribution

Natural gas is mostly imported from the far Siberian gas fields in Russia whereas 6% of total gas production comes from domestic gas fields in Banat. The sole company for transportation, distribution, warehousing and trading of natural gas in Serbia is the Public Company "Srbijagas". Serbian gas pipeline system, based on the main pipeline Horgoš - Senta - Gospo inci - Batajnica - Velika Plana - Para in - Pojate - Niš, does not pass through Južnobanatska oblast. The total length of high pressure gas pipelines in Južnobanatska oblast is 105 km whereas very high pressure gas pipelines do not pass through this region. Major gas fields in Južnobanatska oblast are Banatsko Novo Selo and Nikolinci.

In Serbia and the Danube area there exist only crude oil pipelines. They pass through Južnobanatski County in the total length of 38 km. Major oil field in Južnobanatski County is Jermenovci. Serbian Oli Industry (NIS) has two refineries, located in Pan evo (Južnobanatski County) and Novi Sad (Južnoba ki County) and producing a whole

range of petroleum products – from motor gasolines and diesel fuel to mechanical lube oils and feedstock for petrochemical industry. There is a NIS measuring station located near by the Pan evo Oil Refinery.

Telecommunication Network

Fibre optic cables pass through Južnobanatska oblast in the total length of 98 km. Service Division of Telekom Srbija, in charge of national fixed telephone services, is organized in four regional units (North, Belgrade, Centre and South), Južnobanatska oblast belonging to the unit Belgrade. In 2005, the total number of ordinary telephone subscribers in Južnobanatska oblast was 99,631 and of mobile subscribers 84,602. In 2008, there were 4 cable providers in Južnobanatska oblast.

Water Protection and Management

In Južnobanatska oblast, the share of flood risk area in the total surface of the region is 20.94%. The Danube-Tisa-Danube system of canals was constructed for the purpose of both flood prevention and irrigation. However, the efficiency of existing structures needs to be improved. Existing water barrages in Južnobanatska oblast are situated at Tomaševac and at Opovo (both on the River Tamiš).

The capacity of underground water sources in Južnobanatska oblast is 1,004 l/s. In this region, 93.2% of all dwellings are connected to a public drinking water network and 86.1% to a public sewage network. It is planned to establish Južnobanatksi regional water supply system.

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0,001	0,001	0,001	0
Density of Railways - length of total railway network per km square	0,08	0,08	0,08	0,08
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	4108,34	1621,55	3434,8	9130,47
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)		98,89		
Natural gas (Share of dwellings connected)(%)				
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)		87,77		93,16
Wastewater treatment (Share of dwellings connected)(%)		34,32		86,13
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Srednjobanatska oblast

General information

Transport infrastructure in Srednjobanatska oblast is more of a regional character though this region borders with Romania: there are no motorways and railroads of international importance, the Danube passes in the total length of only 7 km, Zrenjanin airport being only of local significance. However, when it comes to the extraction of gas and oil from domestic fields, this region is among the most important NUTS 3 regions in the Serbian part of the Danube area.

Road Network

There is no motorway in Srednjobanatska oblast. First class roads passing through the County are:

- M3: (border crossing point Bogojevo – Odžaci – Kula – Vrbas – Srbobran – Be ej) – Novi Be ej – Novo Miloševo - (Kikinda - Nakovo / Romanian border),
- M7: (border crossing point Ba ka Palanka – Novi Sad) – Zrenjanin – Žitište – Nova Crnja - Srpska Crnja / Romanian border,
- M7.1: Zrenjanin – Se anj – (Plandište – Vršac – Bela Crkva – border crossing point Kalu erovo / Romanian border),
- M24: (Subotica – Senta – Kikinda) - Melenci – Zrenjanin – E ka – (Kova ica – Pan evo – Kovin – Radinac – Ralja – Mala Krsna – Požarevac – Selakovac – Zabrega – Velika Bresnica – Ku evo – Majdanpek – Negotin – Veljkovo – border crossing point Bregovo).

The total length of 1st class roads in Srednjobanatska oblast is 233 km (100% asphalted), their density being 0.072 km/km². The highest 1st class road density can be found in the Municipality of Zrenjanin (0.105 km/km²) and the lowest in the Municipality of Žitište (0.042 km/km²). The total length of 2nd class roads is 204 km, 100% being covered by modern carriage. Density of this network at the level NUTS 4 varies from 0.014 km/km² (Municipality of Zrenjanin) to 0.137 km/km² (Municipality of Žitište), the average being 0.063 km/km².

According to the Spatial Plan of the Republic of Serbia 2010-2020, planning solutions in the field of road transport in the period after 2014 include activities on roads and road infrastructure of regional and multiregional importance, such as rehabilitation and reconstruction works on this network (raising quality of roads and road services, extension of the existing or construction of new sections, etc). Roads concerned in Srednjobanatska oblast are both M7.1 and M24.

Railway Network

There are no railroads of international importance Srednjobanatska oblast. Railroads of regional importance passing through this region are:

- Railroad n°30/31: Novi Sad – Sajlovo - Rimski Šan evi – Titel - Orlovat,
- Railroad n°40: (Pan evo) – Zrenjanin – (Kikinda – state border),
- Railroad n°43: (Bela Crkva – Vršac) – Zrenjanin.

The total length of the railroads of regional importance in Srednjobanatska oblast is 1,238 km, the density of regional railroads being above the average value for the nine Serbian Danube regions (0.04 km/km² against 0.03 km/km²). The length of the railroads of local importance is 63 km. The total number of transported passengers in Srednjobanatska oblast in 2008 was 117,926, the total amount of transported goods being 159,168 (t).

According to the Spatial Plan of the Republic of Serbia 2010-2020, rehabilitation and modernization is planned on the single-track railroads n°30/31 and n°40.

Waterways and Ports

Waterway network of Srednjobanatska oblast consists of the international waterway E80 Danube, passing in total length of 7 km, the Danube-Tisa-Danube Canal (DTD) as a unique hydro-engineering system for flood control and hydrotechnical, amelioration forestry, water supply, waste water evacuation, navigation and tourism, passing in the total length of 131 km and the international/interstate waterway E80-01 Tisa River, passing in the total length of 100 km. In spite of the number of waterways, there is no port in this region.

Air Transport

Zrenjanin Airport in Srednjobanatska oblast is situated only 7 kilometers southeast from the city of Zrenjanin, and east of the village E ka on the road Zrenjanin–Belgrade (M24), 75 metres above sea level. The airport is

registered as sports and trade airport, and is used for pilot training. Once reconstructed, the airport might become international airport, but today it is only an airport of local importance.

Multimodal Transport System and Terminals

The sole multimodal corridor in Srednjobanatska oblast is the inland waterway corridor VII (the Danube). Multimodal terminal infrastructure is not developed.

Electric Energy Networks and Installations

The total length of transmission lines in Srednjobanatska oblast is 226 km. Two substations of 220 kV and 6 substations of 110 kV transform high voltage electricity into lower voltage electricity in this region. The length of 110 kV network is 185 km while the length of 220 kV network is 41 km. Construction of new transmission lines is not planned in Srednjobanatska oblast.

Combined Heat and Power Plant Zrenjanin, located in the City of Zrenjanin, is a branch of the Economic Association "Combined Heat and Power Plants Panonske" plc with 1 block, the total available capacity of 100 MW and 50 GWh generated in 2007.

Gas and Oil Supply and Distribution

Natural gas is mostly imported from the far Siberian gas field of Russia. However, 6% of total gas production comes from domestic gas fields in Banat. Major gas fields in Srednjobanatska oblast are: Miloševo, Begejci, Žitište, Me a, Vojvoda Stepa, Rusanda, Banatski Dvor, Tilva, Elemir and Srpska Crnja.

Serbian gas pipeline system is based on the main pipeline Horgoš – Senta – Gospo inci – Batajnica - Velika Plana – Para in – Pojate - Niš and the systems of income and distribution pipelines and urban distribution networks of medium and low pressure. It has north-south direction and passes through Srednjobanatska oblast. The total length of very high pressure gas pipelines in Srednjobanatska oblast is 81 km, the total length of high pressure gas pipelines being 105 km.

In Serbia and the Danube area there exist only crude oil pipelines and they pass through Srednjobanatska oblast in the total length of 44 km. Major oil fields in Srednjobanatska oblast are Boka and Elemir. One of the central storages of the Serbian Oil Industry (NIS) in the Danube Region is also located in Elemir.

Telecommunication Network

Fiber optic cables do not pass through Srednjobanatska oblast. Service Division of Telekom Srbija, in charge of national fixed telephone services, is organized in four regional units (North, Belgrade, Centre and South), Srednjobanatska oblast belonging to the unit North where the level of digitalization is 90.9%. In 2005, the total number of ordinary telephone subscribers in Srednjobanatska oblast was 69,222 and of mobile subscriptions 39,989. In 2008, there was one cable provider in this region.

Water Protection and Management

Competences for water management are entrusted to the Ministry of agriculture, forestry and water management (Republic Office for Waters), Public Water Management Company Vojvodinavode and local self-governments (municipalities and cities). However, other Ministries are also responsible for certain aspects of water resources management such as Ministry of Environmental Protection, Ministry of Health, Ministry of Public Administration and Local Self Government and Ministry of Infrastructure). On the territory of the Autonomous Province of Vojvodina the competence is entrusted to the Public Water Management Company "Vojvodinavode".

The share of flood risk area in the total surface of Srednjobanatska oblast is 52.48%. The Danube-Tisa-Danube system of canals was constructed for the purpose of both flood prevention and irrigation. However, the efficiency of existing structures needs to be improved. The capacity of underground water sources in Srednjobanatska oblast is 648 l/s.

In Srednjobanatska oblast, 95% of dwellings are connected to a public drinking water network and 87.9% to a public sewage network.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,049	0,049	0,049	0,059
Water Transport - freight transferred through ports in the region per 1 000 inhabitants			818,2	815,5
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)				
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)		99,1		
Natural gas (Share of dwellings connected)(%)		46,05		
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)		85,42		94,97
Wastewater treatment (Share of dwellings connected)(%)		28,59		87,86
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Sremska oblast

General information

With two motorways, two railroads of international importance and two international waterways, Sremska oblast plays a significant role in the field of transportation, especially in a transit and cross-border context. However, multimodal terminals and services are not developed. Technical infrastructure is developed but needs to be modernized and reconstructed on some sections. Access to public to public drinking and especially sewage network was much higher in 2008 than before.

Road Network

Following motorways pass through Sremska oblast: motorway E75 (Pan-European Corridor X branch B) and motorway E70 (Pan-European Corridor X). The total length of motorways in this region is 118.24 km, the density of motorway network being 0.034 km/km². Out of seven municipalities in Sremska oblast, motorways do not pass only through the Municipality of Irig.

Following 1st class roads pass through Sremska oblast:

- M1: Batrovci – Sremska Ra a – Kuzmin – Sremska Mitrovica – Ruma – Pe inci – Šimanovci – (Belgrade – Ralja – Smederevo – Smederevska Palanka - Velika Plana – Markovac - Niš - Leskovac - Vranje - Preševo / Macedonian border),
- M18.1: border crossing point Sot - Šid - Adaševci,
- M21, section (Novi Sad) – Irig – Ruma - Pe inci,
- M22, section (Srbobran - Novi Sad – Temerin) – Beška - In ija - Stara Pazova - Novi Banovci – (Belgrade town – Barajevo – Stepojevac - Lazarevac),
- M22.1 section (Srbobran - Novi Sad - Sremski Karlovci) – In ija - Stara Pazova – (Zemun),
- M22.2: Maradik - Beška.

The total length of 1st class roads in Sremska oblast is 146 km (95.89% asphalted), their density being 0.042 km/km². The highest density can be found is in the Municipality of In ija (0.081 km/km²) and the lowest in the Municipality of Stara Pazova (0.023 km/km²). First class roads do not pass through the Municipality of Pe inci.

The total length of 2nd class roads in Sremska oblast is 372 km, 94.89% being covered by modern carriage. Density of this network at the level NUTS 4 varies from 0.074 km/km² (Municipality of Stara Pazova) to 0.147 km/km² (Municipality of Pe inci), the average being 0.107 km/km².

According to the Spatial Plan of the Republic of Serbia 2010-2020 strategic priorities and projects (until 2014) include activities on 1st class road M-18.1.

Railway Network

The railroads of international importance passing through Sremska oblast are E 85 (Pan-European Corridor X branch B): (Belgrade - Novi Sad - Subotica - Hungarian border) and E 70 (Pan-European Corridor X): (Belgrade) - Stara Pazova - Šid – Croatian border/Tovarnik. The total length of railroads of international importance is 116 km, their density being 0.03 km/km². Railroad of regional importance no 12: Ruma – (Šabac – Brasina – state border with B&H) pass in the total length of 35 km, the length of rail roads of local importance being 30 km.

In Sremska oblast, the total number of transported passengers was 420,784 in 2008, the total amount of transported goods being 272,133 t.

Reconstruction, development and modernization of existing railway lines in Corridor X in double-track lines of high performance for mixed (passenger and freight) transport, combined transport and the projected speed of 160 km/h (220 km/h where possible) is priority on E 70 and E 85. According to the Spatial Plan of Serbia 2010-2020, 18.37 km of international single-track railroad in Sremska oblast will be extended to a double track one. As far as regional railroads are concerned, rehabilitation is planned for the sole regional railroad Ruma – Šabac – Brasina – state border with Bosnia and Herzegovina.

Waterways and Ports

There are two waterways passing through Sremska oblast: International waterway E 80 Danube, passing in the total length of 54 km and E 80-12 Sava, passing in the total length of 127 km. There is one port of national importance on the river Sava: "Port of Sremska Mitrovica" (RTC Port Leget). The port is located on the left bank of the Sava River at rkm 133. It is connected to the main railroad line Belgrade - Zagreb (E70) and it has a direct

access to Belgrade - Zagreb motorway (E70). Covered warehouses occupy the surface of 20,000 m², open warehouses covering an area of 10 hectares.

Air Transport

Sremska Mitrovica Airport is an airport near the town of Sremska Mitrovica in Sremska oblast. It is also known as the Airport Veliki Radinci. Main operations on this airport include soaring gliding and sports in general, as well as ultra-light flying. Veliki Radinci Airport is an airport of regional importance. Stara Pazova Airport, also known as melik Airport is situated about 4-5 km off the road Stara Pazova-Golubinci (R 106) and is mainly used for ultra light planes and engine powered kites.

Multimodal Transport System and Terminals

Multimodal corridors passing through Sremska oblast are Corridor VII - the Danube and Corridor X. However, multimodal terminal infrastructure is not developed.

Electric Energy Networks and Installations

The total length of transmission lines in Sremska oblast is 547 km. There are two substations of 400 kV and 12 substations of 110 kV. Length of 110 kV network is 223 km, the length of 220 kV network is 81 km and the length of 400 kV network is 243 km. Combined Heat and Power Plant Sremska Mitrovica is a branch of the Economic Association "Combined Heat and Power Plants Panonske" plc, and is located on the territory of the City of Sremska Mitrovica. It has 3 blocks, the total available capacity is 45 MW, power generated in 2007 being 10 GWh.

Gas and Oil Supply and Distribution

Serbian gas pipeline system is based on the main pipeline Horgoš – Senta – Gospo inci – Batajnica - Velika Plana – Para in – Pojate - Niš and the systems of income and distribution pipelines and urban distribution networks of medium and low pressure. It has north-south direction and it passes through Sremska oblast. The total length of very high pressure gas pipelines in the region is 32 km, the total length of high pressure gas pipelines being 118 km.

Telecommunication Network

In Sremska oblast, fiber optic cables pass in the total length of 67 km. In 2003, the Electric Power Company of Serbia (EPS) equipped with optical cable in the ground wire interconnection sections towards Hungary (Belgrade – Obrenovac – Novi Sad – Subotica) and Croatia (Belgrade – Obrenovac – Sremska Mitrovica), in the total length of about 500 km. Service Division of Telekom Srbija, in charge of national fixed telephone services, is organized in four regional units (North, Belgrade, Centre and South), Sremska oblast belonging to the unit North. The level of digitalization within the unit North is 90.9%. In 2005, the total number of ordinary telephone subscribers in Sremska oblast was 97,785 and of mobile ones 76,048. In 2008, there was one cable provider in the region.

Water Protection and Management

In Sremska oblast, 92.7% of dwellings are connected to a public drinking water network and 87.1% to a public sewage network. In Serbia and its Danube area, there are no long distance or regional drinking water and sewage systems. Drinking water system of Sremska Mitrovica is considered to have regional character but it is not completed. Once established, Sremski regional water supply system will provide water for all municipalities in Sremska oblast. The capacity of underground water sources is Sremska oblast 796 l/s.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,034	0,034	0,034	0,034
Density of Railways - length of total railway network per km square	0,052	0,052	0,052	0,052
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	1562,32	403,5	4680,81	4680,81
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)				
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)		98,97		
Natural gas (Share of dwellings connected)(%)				
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)		85,5		92,7
Wastewater treatment (Share of dwellings connected)(%)		19,7		87,1
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Zapadnoba ka oblast

General information

In Zapadnoba ka oblast, there are no motorways but there exist three 1st class roads as well as one railroad of international importance (E 85). In respect to waterborne transport, there are two inland waterways and three ports. Danube corridor is the sole multimodal corridor in the region, multimodal infrastructure not being developed. Electric network is well developed. A distribution gas pipeline coming from Novi Sad and going to Sombor and Apatin provides gas to customers. The share of flood risk areas in the total surface of Zapadnoba ki County is 40.07%. Whereas the access to public drinking water network is high, access to sewage network remains very low.

Road Network

There are no motorways that pass through Zapadnoba ka oblast. First class roads passing through this region are:

- M3: border crossing point Bogojevo – Odžaci – Kula – (Vrbas – Srbobran – Be e j – Novi Be e j – Kikinda - Nakovo / Romanian border),
- M17.1: border crossing point Batina – Bezdan – Sombor - Svetozar Mileti - (Bajmok - Subotica - Kelebija / Hungarian border)
- M18, border crossing point Ba ki Breg – Bezdan – Sombor – Odžaci – Srpski Mileti - (Ba – border crossing point Ba ka Palanka / Croatian border).

The total length of 1st class roads is 154 km (100% asphalted), their density being 0.064 km/km². The highest density can be found in the Municipality of Odžaci (0.114 km/km²) and the lowest in the Municipality of Kula (0.037 km/km²). First class roads do not pass through the Municipality of Apatin. The total length of 2nd class roads is 167 km, 98.80% being covered by modern carriage. Density of this network at the level NUTS 4 varies from 0.051 km/km² (Municipality of Odžaci) to 0.098 km/km² (Municipality of Kula), the average being 0.069 km/km². According to the new Spatial Plan of the Republic of Serbia 2010-2020, strategic priorities and projects (until 2014) include:

- Rehabilitation and construction of 1st class road Sombor (links with Hungary and Croatia) - Subotica (connection with Hungary);
- Activities on other 1st class roads: M18 Sombor - Ba ka Palanka together with link (M-18.1) to Šid and links (M-17.1) with Hungary and Croatia;

In the period after 2014, planning solutions in the field of road transport include activities on roads and road infrastructure of regional and multiregional importance, such as rehabilitation and reconstruction works on this network (raising quality of roads and road services, extension of the existing or construction of new sections, etc). Roads concerned in Zapadnoba ka oblast are:

- 2nd class road (R-101) Sombor (links with Hungary and Croatia) - Vrbas (connection with the corridor Xb),
- Construction of bypass Odžaci,
- Completion of bypass Sombor.

Railway Network

The sole railroad of international importance passing through Zapadnoba ka oblast is E 771: (Subotica) - Bogojevo - (Erdut - Vinkovci - Striživojna Vrhpolje - Slavonski Šamac - Bosanski Šamac - Sarajevo - apljina - Metkovi - Plo e). Its total length is 46 km, the density being below the average for the nine Serbian Danube regions (0.02 km/km² against 0.03 km/km²). The railroad of regional importance (Novi Sad) – Odžaci - Bogojevo pass in the total length of 27 km. Railroads of local importance pass in the total length of 143 km. They are:

- (Vrbas) – Sombor,
- Apatin Fabrika – Stirli – Sombor,
- (Ba) – Karavukovo,
- Bogojevo – Dunavska obala,
- Sombor – Rasputnica Stirli – Ba ki Breg and
- Sombor – Ri ica.

According to the Spatial Plan of the Republic of Serbia 2010-2020, rehabilitation and modernization is planned on the existing single-track railroad (Novi Sad) – Bogojevo.

Waterways and Ports

Waterway network of Zapadnoba ka oblast consists of the International waterway E 80 - the Danube, passing in the total length of 72 km, and the Danube-Tisa-Danube Canal (DTD) - a multipurpose hydro-engineering system (flood control, irrigation, navigation, tourism, etc), passing in total length of 183 km. There are three ports in this region, all with direct connection to railroad and road network. They are:

- Port "Sombor" (Danube-Tisa-Danube Canal left bank, 29 km) with area of 30,000 m²;
- Port "Apatin" (Danube left bank, 1,401 km) with area of 1,100,000 m²;
- Port "Bogojevo" (Danube left bank, 1,366 km) with area of 150,000 m².

Air Transport

Sombor military Airport is situated in the municipality of Sombor, 7 km from the town of Sombor and 9 km from the town of Apatin, between villages Kupusina and Prigrevica. There is an interest shown by foreign investors to use this airport also for civil purposes, namely for tourism.

Multimodal Transport System and Terminals

The only multimodal corridor in the County is the Pan-European Corridor VII - the Danube. Multimodal terminal infrastructure is not developed.

Electric Energy Networks and Installations

The total length of transmission lines in Zapadnoba ka oblast is 170 km. There are two substations of 400 kV and 9 substations of 110 kV. The length of 110 kV network is 148 km, the length of 400 kV network being 22 km.

Gas and Oil Supply and Distribution

There is one gas pipeline passing through the County: $\varnothing 12 \frac{3}{4}$ " pipeline Apatin – Sombor - Novi Sad.

Telecommunication Network

Fibre optic cables pass through Zapadnoba ka oblast in the total length of 62 km.

In respect to fixed telephone services, Zapadnoba ka oblast belongs to the regional unit North of the Public Company Telekom Srbija. In the Serbian part of the Danube area, there exists one telecommunication node in each NUTS 3 region. In 2005, the total number of ordinary telephone subscribers in Zapadnoba ka oblast was 71,946 and of mobile subscribers 49,107. In 2008, there was one cable provider in this region.

Water Protection and Management

Competences for water management are entrusted to the Ministry of agriculture, forestry and water management (Republic Office for Waters), Public Water Management Company Vojvodinavode and local self-governments (municipalities and cities). However, other Ministries are also responsible for certain aspects of water resources management such as Ministry of Environmental Protection, Ministry of Health, Ministry of Public Administration and Local Self Government and Ministry of Infrastructure). On the territory of the Autonomous Province of Vojvodina the competence is entrusted to the Public Water Management Company "Vojvodinavode". The share of flood risk area in the total surface of Zapadnoba ka oblast is 40.07%. The Danube-Tisa-Danube system of canals was constructed for the purpose of both flood prevention and irrigation. However, the efficiency of existing structures needs to be improved. There exist one water barrage in Zapadnoba ka oblast, at Ruski Krstur (on the DTD canal). A water dam is proposed to be built at Staniši. In 2008, 96.1% of dwellings had access to a public drinking water and 89.8% to a public sewage network. The capacity of underground water sources is 627 l/s. Future Ba ka regional water supply system will provide water supply for the municipalities of Zapadnoba ki County Zapadnoba ka oblast.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,086	0,086	0,086	0,089
Water Transport - freight transfered through ports in the region per 1 000 inhabitants			1277,2	2420,3
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)				
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)				
Electric energy supply (Share of dwellings connected)(%)		99,13		
Natural gas (Share of dwellings connected)(%)		0		
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)				
Drinking water supply (Share of dwellings connected)(%)		93,06		96,14
Wastewater treatment (Share of dwellings connected)(%)		21,83		89,76
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)				

Judetul Braila

General information

Braila county is crossed by Pan European Transport Corridor no.VII (the Danube, with Sulina branch and the Danube – Black Sea channel).

Road Network

Road network comprises 6 lay-outs of national roads out of which 2 are European roads (E87 and E584), 21 lay-outs of county roads and 45 of communal roads. From the frontier with R.Moldova are coming E584 and E87 in a common route until Braila city. From here, E584 is crossing the county from North to South and E87 is following the boundary with Tulcea county.

At the end of 2007, Braila county had 1187 km of public roads. 22.2% (264 km) are first class roads (national roads), out of which 88.6% are modernized. Only 5.1% from county and communal roads are modernized. The density of public roads per 100 km² of territory (24.9) was less than the national value (33.9).

Railway Network

Faurei town is an important railway junction, ensuring the transit towards Bucharest, Moldova and Dobrogea. Braila county is crossed by 2 main railways: Bucharest-Galati (TEN F network) and Faurei-Iasi (at the border with Galati county) and one railway track Buzau – Fetesti (also TEN F network). At the end of 2007, Braila county had 158 km of railways, out of which 78.5% were electrified. The density of railways per 1000 km² of territory was 36.2, less than the national average (45.2).

Waterways and Ports

The Danube is crossing the county from South to North, having a fluvial sailing line until Braila city and a maritime-fluvial sailing line of 170 km between Braila-Galati-Tulcea.

Braila fluvial-maritime port has technical characteristics that allow the access of maritime ships. It is intend to build a bridge over the Danube belonging to the future Braila-Galati agglomeration area.

Braila Port is a fluvial-maritime port situated on the left side of the Danube, at km 170, occupying a total area of 398630.13 sq.m. It has 1 port basin, 25 berths and 3 zones:

1. The old part of Braila port (169331 sq.m),
2. The Docks Basin
3. Braila Free zone

It is connected to the national road and railway network.

At Braila is a ferry boat crossing point to Smardan (Tulcea county).

Air Transport

In Braila county is functioning the lanca grasshopper airport, at N-W of lanca town, but it can not be used for local and regional needs. It is intend to build an international airport situated in the metropolitan area Braila-Galati.

Multimodal Transport System and Terminals

To create a multimodal system it is necessary to create and extend the aerial and port infrastructure.

Electric Energy Networks and Installations

In Braila county, the electric energy was produced in 2009 by SC CET SA Braila and SC Termoelectrica SA Bucuresti, Electrocentrale Braila Branch.

Electricity network has 1699 km, but for a total coverage of the county are necessary another 139 km. In some localities of the county are necessary works of optimization, modernization and extension of electricity network and installations.

In Braila county, in the vicinity of Însuratei town, it is intended to be located a wind park with 93 wind engines. Also the Agency for Environment Protection - APM Braila has approved 3 placements of solar installations for the preparation of domestic hot water.

Gas and Oil Supply and Distribution

Braila county has gas natural resources in oil fields situated in the Western part of the county, at Jugureanu. Natural gas supply is mainly ensured by 3 routes of high pressure transport pipelines. At the end of 2007, 10 localities were provided with natural gas, out of which 3 urban localities, in which the simple length of natural gas distribution pipes was of 345 km.

Telecommunication Network

ROMTELECOM S.A. covers with digital network all localities. Also are present here all mobile telephone operators (Vodafone, Orange, Cosmote, Zapp, DigiMobil). There are 6 routes of optic fibers covering the county. In 2009 there were 10215 more subscriptions than 2005 at the fixed telephony network - ROMTELECOM (with 16.4% more).

Water Protection and Management

Population connected to drinking water supply system represents 91.7% from the total population of the county. The real consuming of drinking water is of 139.85 l/person and day. Economic and social developments from recent years affected the development of water supply infrastructure, as well as the dynamic of household and industrial consumption. When were established the real, non-subsidized cost and selling water prices, together with the registration of water consume, was observed a consumption reduction of approx. 50% compared with the years 1980.

The rural area is supplied with water from surface sources (water supply sources, underground sources being Br ila and Ianca – Gropeni), and also from independent underground sources, having different financial sources (HG 577/1997, HG 687/1997 and OG 7/2006). All 4 urban localities and also 36 communes have centralized water distribution networks. The main surface water source is the Danube. There are sewerage systems in all urban localities of the county (Br ila, Furei, Ianca, Însur ei) and in 3 communes (Cire u, Gropeni, Movila Miresii). The treatment of collected waste water exists in only 4 localities: Furei, Ianca and Însur ei towns and Movila Miresii commune. Beginning with 2011, Braila municipality has finally a water treatment station, until now the wastewater being disposed directly into the Danube.

Human settlements and social-economical objectives are protected against floods by:

Dams:

- On the Danube river: sectors Br ila, Noianu-Chi cani, V rs tura having a total length of 6.8 km;
- On Siret river: sectors Latinu – V deni, N moloasa – M xineni, Corbu Vechi with a total length of 59.8 km ;
- On Buz u river: sectors Latinu – De ira i, M xineni – Racovi a, M r loiu – Gr di tea – Sute ti, Gr di tea de Jos – Crestata, Nisipuri – Dedule ti, Nisipuri – Moeseti, Nisipuri – Cotu Ciorii, Nisipuri – Vi ani, with a total length of 90.6 km;
- On C lm ui river: sectors C lm ui, Berte tii de Jos with a total length of 103.6 km.

Water course regulations:

- On C lm ui river - length 59.5 km;
- On Buz u river at Sute ti - length 0.38 km.

Embankments:

- On Buz u river, at Gr di tea and Pitula i, having a total length of 0.252 km;
- On Siret river, at N moloasa and M xineni, with a total length of 0.535 km.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,0352	0,0352	0,0365	0,0331
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	0	0	2379,9	7175,3
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	93,57	93,57	93,57	93,57
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	9,83	9,88	10,26	10,34
Electric energy supply (Share of dwellings connected)(%)	96,716	97,9	99,4	99,7
Natural gas (Share of dwellings connected)(%)	39,62	46,11	55,78	56,07
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,7	16,4	29,5
Drinking water supply (Share of dwellings connected)(%)	70	73,33	80	88
Wastewater treatment (Share of dwellings connected)(%)	5,9	7,2	7,2	7,3
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Judetul Constanta

General information

Constanta county is crossed by Pan European Transport Corridors no.IV (Multimodal) and no.VII - the Danube.

Road Network

Through Constanta county are passing European roads or national roads that are continuing important European roads: E60 linking Bucharest to Constanta city (where is ending), E87 coming from Galati-Braila-Tulcea, is crossing Constanta county is continuing to South towards Vama Veche and than to Bulgaria and E675 from Constanta city to Negru Voda and then to Bulgaria.

Constanta county has 1 km belonging to the highway A2 Bucharest-Constanta.

At the end of 2007, Constanta county had 2325 km of public roads. 20.8% (483 km) are first class roads (national roads), out of which 94.8% are modernized. Only 3.6% from county and communal roads are modernized. The density of public roads per 100 km² of territory (32.9) was close to the national value (33.9).

Railway Network

Constanta county is crossed by the main railway no.800 Bucharest-Mangalia, continuing afterwards with international lines. Also there are railways Medgidia-Tulcea, Medgidia-Negru Voda towards Bulgaria. A railway line is crossing the bridge over the Danube Fetesti (Ialomita county) – Cernavoda (Constanta county). At the end of 2007, Constanta county has 776 km of railroad, out of which only about 11% were electrified. The density of railways per 1000 km² of territory was 109.7, more than the national average (45.2).

Waterways and Ports

The Danube is water resource and feed source for fish fauna. Meantime, due to its exceptional natural characteristics – the water volume – is influencing the other natural elements, as well as the navigation. Most of the exports and imports of the central-European countries, without sea access, use nowadays the Danube waterway towards the Black Sea. Fluvial navigation is occurs mostly on the Danube.

The main ports are:

At the Black Sea:

- Constanta: the biggest Romanian port and the biggest Black Sea port, the 4th maritime harbor in Europe, with traffic of more than 80 millions tones/year.
- Mangalia (ex Callatis ancient Greek settlement, from the VIth century b.Chr.)
- Midia-Navodari

At the Danube:

- Cernavoda (from here it starts towards East the Danube-Black Sea channel on 64.2 km distance)
- Harsova

On the Danube-Black Sea channel:

- Cernavoda
- Medgidia
- Basarabi
- Agigea-Constanta Sud.

Constanta, Mangalia and Midia maritime ports allow the access of maritime ships.

Constanta Port has a total area of 3926 ha (out of which 2084 ha on land), 282 berths and a capacity of 255 mill. tones/year. It comprises 3 maritime ports – Constanta Port, Midia Port and Mangalia Port - as satellite ports and 1 touristic port – Tomis Marina.

Midia port is located on the Black sea coastline, at approx. 13.5 km North of Constanta. It was designed and built to serve the adjacent industrial and petrochemical facilities.

Port of Mangalia is located on the Black Sea, close to the Southern border with Bulgaria. It has an area of 142.19 ha, out of which 27.47 ha is land.

Tomis Marina is harmoniously integrated into the architectural design of Constanta City. Due to its favourable location and present infrastructure, it has a high potential for nautical tourism, sport activities and entertainment.

Constanta port is a multifunctional port and one of the main distribution centers which serve Central and Eastern Europe, offering many advantages. The port has direct access to the counties of Central and Eastern Europe

through the Pan-European Corridor no.VII – the Danube and connections with Pan-European Corridors IV (is the starting and terminus point) and IX.

The Port of Constanta is connected by the national pipeline network with all Romanian refineries. Is also an important transport node of TRACECA corridor, providing the connection between Europe, Caucasus and Central Asia.

Constanta Port is located nearby “M.Kogalniceanu airport” at 20 km distance.

National Company Administration of Maritime Ports Constanta is the port authority for Constanta, Mangalia, Midia and Tomis ports.

Cernavoda Port is located at km 297.4 – 299.8 on the right side of the Danube, downstream the entrance into the Danube-Black Sea channel. It is owned by the Romanian state and leasehold by CN APDF Giurgiu on 126.322 sq.m.

It is developed both on the Danube’s bank and in a portuary basin.

It was built between 1887 and 1905.

The port has:

- A fluvial area, along the Danube, downstream the basin
- A commercial area (the waterside basin)
- The area from the left side of the Danube-Black Sea Channel.

At km 60+500 on the Danube-Black Sea channel was built a combined bridge (road and railroad), crossing the Cernavoda Watergate.

At km 300 there is the bridge over the Danube (King Charles I) built by the engineer Anghel Saligny between 1887 and 1905. The bridge is signalized for navigation.

The access is ensured by road and railroad.

Harsova Port is a fluvial interior port having an area of 14401 sq.m. It has 500 m of quays, a terminal for passengers, facilities for goods disposal, a shipyard.

The Danube is crossed by ferry boat at Ostrov (Calarasi).

2 Danube bridges are situated in Constanta county:

- Giurgeni (Ialomita county) – Vadu Oii (Constanta county), and
- Fetesti (Ialomita county) – Cernavoda (Constanta county).

The Danube – Black Sea Channel, from Cernavoda to Agigea belongs to the European Fluvial corridor Rhin-Main-Danube, ensuring the connection between the ports Rotterdam and Constanta.

The construction of the Danube – Black Sea channel between 1975 and 1984 links the Danube (at the South of Cernavoda city) with the Black Sea (at Agigea, at South from Constanta) and shortens the way towards Constanta with almost 400 km.

Air Transport

At 24 km of Constanta is M.Kogalniceanu international airport, the main airport of Dobrogea region and the only airport of the South-East Region. According to Eurocontrol data, in 2009 were registered 92983 passengers, with 16% more than in 2008.

In Tuzla commune (20 km from Constanta) is situated the second airport of the county, a small one, used for air events and for small dimensions airplanes.

Multimodal Transport System and Terminals

Constanta county is situated on the multimodal pan-European transport corridor no.IV.

According to European Commission for Europe, the Annex 1 of the “European Agreement on Important International Combined Transport lines and related installations (AGTC)” (Geneva, February 1991), stipulates that the railwaylines of importance for the international combined transport crossing Constanta county is C-E 562 Bucuresti-Constanta.

The Annex II of the same document stipulates that in Constanta are installations important for international combined transport in the Danube area.

Regarding the ferry links/ports forming part of the international combined transport network, it is to be mentioned here the link Samsun-Constanta (Turkey-Romania).

According to the National Spatial Plan – Section I – Transport network, the existent combined transport terminal (Constanta Marfuri Terminal) is going to be modernized.

Constanta port ensures all types of transport: road, railroad, maritime, air, by oil pipelines, being endowed with deposits and terminals for all types of goods. A terminal of intermodal transport is situated in Constanța port and is operated by CFR Marfa, the main rail freight company in Romania. In the continuation of the port, southwards, the free zone Constanța was planned. This zone extends over an area of 144.5 hectares and is connected to all domestic and international transport ways: by land, by sea, by river and by air.

Regarding the promotion of intermodal transport, projects to facilitate the creation of logistic centers for the following intermodal connections will be implemented: railway/road, railway/naval, railway/maritime, railway/air, road/naval, road/maritime and road/air. The initiatives will have in view new multimodal platforms for the promotion of Constanța port in order to become an important transport junction that will efficiently link TEN-T-7 and TEN-T22 with the Black Sea branch of the South-East Europe maritime route TEN-T-21. The emphasis will be on intermodal projects that will improve the accessibility towards tourism areas and resorts or to the areas with tourism potential.

Electric Energy Networks and Installations

Electric and thermal energy is ensured by Electric Centrals from Constanța, Ovidiu and Navodari, and also by Cernavoda Nuclear Power Plant.

In 2009 the electric energy was produced by CNE Cernavoda and CET Palas – Constanța.

In Constanța county is producing electric energy from renewable sources, having an important energetic potential and offering unlimited availabilities on local level.

There are 46 wind parks with 771 wind engines, one location with 5000 solar panels installed, and 2 locations where geo-thermal energy is produced.

In 2009, another 25 projects for the settlement of other wind parks were in course, 9 Local Councils accessing funds for the replacing of electric energy with unconventional energy.

It is estimated that the share of electric energy produced from renewable sources in total gross energy consume will represent 35% in 2015 and 38% in 2020.

Constanța county is the only county in Romania where is producing nuclear energy. It is estimated that the units no.3 and 4 from Cernavoda Nuclear Electric Power Plant will be finalized and will produce for the electric consume 5 400 000 MWh in 2015 and 10 800 000 MWh in 2016 and 2017.

Gas and Oil Supply and Distribution

Natural gas is distributed in 6 localities (out of which 4 are municipalities and towns), gas distribution pipelines measuring 531 km (at the end of 2007).

Thus, at the beginning of 2009, in Constanța county existed the following systems of natural gas distribution: in Constanța (inclusive in Mamaia and Palazu Mare localities) and Medgidia municipalities – gas distribution network of low and medium pressure, in Ovidiu and Navodari towns, in Mihail Kogalniceanu and Cogealac communes - gas distribution network of low pressure.

Telecommunication Network

In 2009 were 67160 more subscriptions than 2005 at the fix telephony network - ROMTELECOM (with 46% more).

Water Protection and Management

The localities are supplied with water from underground sources, excepting localities Navodari (30% from underground), Lumina (50% from underground), Corbu (70% from underground) and Constanța (78% from underground).

In 2008, 69 localities have drinking water supply installations the volume of supplied drinking water was of 50975 thousand m³. Out of these, 32095 thousand m³ are used for household usage.

All urban localities are supplied with drinking water, the distributed volume being of 39466 thousand m³, out of which for household activities 23361 thousand m³.

Sewerage installations exist in all urban localities and in 20 communes .

Wastewater treatment stations have only 7 urban localities and 4 communes. The total discharge of the stations is 262.182 m³/day (in 2004).

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,00018	0,00018	0,00018	0,00018
Density of Railways - length of total railway network per km square	0,0567	0,0567	0,1039	0,1097
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	78138,7	45253,2	84613,5	86194,3
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	100	100	100	100
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	99,29	99,28	99,22	99,24
Electric energy supply (Share of dwellings connected)(%)	97,2	97,6	97,8	100
Natural gas (Share of dwellings connected)(%)	0,59	1,77	4,91	9,91
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	1,1	29,1	52,4
Drinking water supply (Share of dwellings connected)(%)	63,6	73,33	82	88
Wastewater treatment (Share of dwellings connected)(%)	67,1	64	69	68,4
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0,025

Judetul Galati

General information

Galati county is crossed by Pan European Transport Corridor no.VII (the Danube, with Sulina branch and the Danube – Black Sea channel), the main fluvial artery of the EU. Meantime is close to the IXth Paneuropean Transport Corridor, passing at 115 km from Galati municipality, in Vrancea county.

Galati is occupying a geo-strategic position in Romania. At East, on 120 km has border with Republic of Moldova. The access to the terrestrial space towards Republic of Moldova is by 2 border crossing-points:

- From Oancea locality it is possible to arrive at Cahul, by road, in 5 km
- From Galati municipality it is possible to arrive at Giurgiulesti, the only fluvial port of the Republic of Moldova, by road and by railroad, in 14 km. Giurgiulesti is situated at 2 km from Reni locality, in Ukraine, the Eastern extreme of the future Reni-Odesa highway.

By road there are 290 km between Galati municipality and Odessa port.

From Galati to Braila are 31 km, to Tulcea are 104 km (towards the Danube Delta, ferry crossing point in I.C.Bratianu locality), to Constanta 190 km.

Road Network

From the frontier with Moldavian Republic, E584 and E87 have a common route getting through Galati city and going to Braila city. At the end of 2008, Galati county had 1695 km of public roads. 27.35% (463 km) are first class roads (national roads), out of which 98.3% are modernized. The density of public roads per 100 km² of territory was of 38, higher than the national value (33.9).

Railway Network

It belongs to the TEN-F railway network in Romania by main railway no.700 Bucharest-Galati. Galati city is an important railway junction (Barbosi), ensuring the transit towards Bucharest, Moldova and Dobrogea. At the end of 2008, Galati county had 304 km railways, out of which 18.4% were electrified. The density of railways per 1000 km² of territory was 68.1, higher than the national average (45.2).

Waterways and Ports

Maritime and fluvial traffic is passing by the port existing in Galati municipality, offering opportunities for the development of the economy of the whole area. Galati fluvial-maritime port has technical characteristics that allow the access of maritime ships. As structure, the share of maritime traffic is higher than the fluvial one but only as number of ships, but according to the tonnage of transported goods, is lower.

Galati Port (864131 sqm) is comprised of:

Docks Port is situated on the left side of the Danube at km 80. It was built between 1886 and 1896. It was privatized in 1997 by METALTRADE group. It is the second port as size and importance on the maritime Danube.

It is specialized on the traffic of grain and general goods. The total area of the port is 169 331 sqm.

The access towards the port is by road, railroad and water.

New Basin Galati Port is situated on the left side of the Danube at km 79, nearby the state crossborder with Republic of Moldova and Ukraine and also in the close vicinity of Galati Free Zone. It was built between 1909 and 1923, being the second Romanian port as size, but the first as importance on the Danube River. It was also privatized by METALTRADE group in 1999. The total area is of 334 464.47 sqm, out of which 73967.00 are situated in Galati Free Zone.

The access is ensured by road, railroad and water.

Ore Terminal has storage areas, port platforms, port equipments. It has a landing length of 2000 m.

There is a ferry boat crossing from Galati to I.C.Bratianu, in Tulcea county.

It is intend to build a bridge over the Danube belonging to the future Braila-Galati agglomeration area. The new bridge will additionally valorize the Tulcea and Constanta counties from touristic and economic point of views (Constanta port). The bridge will also fluidize the traffic over the Vadu Oii bridge (Harsova town).

Air Transport

Nowadays there is no airport in Galati county, but in future is intend to build an international airport situated in the metropolitan area Braila-Galati. The new airport, for passengers and cargo, will serve the whole South-East region, including the Southern part of Republic of Moldova and Odessa region. Its construction will increase the attraction of new investors.

Multimodal Transport System and Terminals

A terminal of intermodal transport is situated in Galati (Galati Marfuri/freight) and is operated by CFR Marfa, the main rail freight company in Romania.

According to European Commission for Europe, the Annex 1 of the "European Agreement on Important International Combined Transport lines and related installations (AGTC)" (Geneva, February 1991), stipulates that the railwaylines of importance for the international combined transport crossing Galati county is C-E 560 Buzau-Galati (-Giurgiulesti).

The Gauge interchange stations of importance for international combined transport are in the Romanian Danube area at Galati-Giurgiulesti, between Romania and R.of Moldova, existing here both change of wagon axles/bogies and transshipment of loading units by crane/other handling equioment.

According to the National Spatial Plan – Section I – Transport network, in Galati county exist a combined transport terminal following to be modernized: Galati Marfuri Terminal.

Electric Energy Networks and Installations

In Galati county the electric energy was produced in 2009 by SC Electrocentrale SA Galati.

There are 18 projects for wind parks in different stages of authorization.

Gas and Oil Supply and Distribution

At the end of 2008, 10 localities were provided with natural gas, out of which 2 urban localities, the simple length of natural gas distribution pipes being of 491.4 km.

Telecommunication Network

It is observed the decreasing of telephone subscriptions at the fix network. In 2009 were 11216 more subscriptions than 2005 at the fix telephony network - ROMTELECOM (with 9.5% more).

The main indicators regarding the informational society in Galati county have an ascendant trend between 2003 and 2008. Following the total liberalization of the electronic communications market from 2002, the number of the active electronic communication networks and services suppliers significantly increased. Nowadays there are practical alternative to the fix telephony services which had the monopoly once.

The Internet access is affected to the lack of basic communications infrastructure, especially in rural areas. Another reason for the low penetration of the Internet is that, even in the case of the connection to the network in rural areas, the costs are much higher than in urban areas.

The major share in the Internet services supply and access is represented by metallic bunched cables (dial-up services for households and for small enterprises), while the access by TV cable networks is becoming more and more popular as solution of broadband Internet.

Water Protection and Management

Centralized water supply is ensured in 4 towns and 38 communes. In 2008, water distribution was of 23310 m³/day, out of which 18315 m³/day for domestic needs. The quality of drinking water is good according to present legislation.

In 2008 in Galati county the share of connection to the sewerage system was of approx.49%, and the rate of connection at a wastewater treatment installation was of 0,2%. Waste water sewerage systems existed in 19 localities, out of which 4 towns.

In Galati municipality are almost 100 industrial relevant companies that are evicting in the sewerage network. There are almost 74 pre-treatment stations, but most of them are not functioning.

Generally speaking, the sewerage network from Galati county (of approximative 550 km) is very degraded and in bad state. Excepting Galati municipality (with 95% connectivity rate) the connection rates are very low, between 0% and 48%.

According to statistics, the total volume of waste water was in 2008 of 137.8 million m³, out of which only 102.2 million m³ (74.1%) were sufficient treated. 0.361 million m³ of water (0.26%) and 35.2 million m³ of water (25.64%) are insufficient or not treated at all.

Nowadays in Galati county are only 3 wastewater treatment stations and all are in bad shape or are not functioning.

In Tecuci town almost 43% from the inhabitants were connected to the sewerage system which had 33 km but which was not functioning.

In Targu Bujor town almost 50% from households were connected to the sewerage network, which had 13.5 km, also in a bad state. The wastewater treatment station was not functional.

In Beresti town were only 1.5 km of sewerage network and only 10% from the inhabitants were connected to it, the water being evicted without being treated.

In rural areas the connection rate at sewerage system is less than 10%.

Gala i municipality has no wastewater treatment station, the water being evacuated directly into the Danube. Existent data show that waste water overflows the values of legal indicators.

The fact that Galati county doesn't have a wastewater treatment station is critical. Additionally, the industrial pollution of surface water is critical in some areas of the county (Galati port and the shipyard, industrial area of Tecuci town). Only ARCELORMITTAL GALATI SA enterprise is attended to the requirements regarding the effluents. The risk of underground water pollution is significantly. It is suppose that the effects of contamination degraded 80% from Galati underground water. The underground resources from the Prut and Danube hydrographic basins are exposed to a high pollution risk. The mud resulted from the wastewater treatment stations from Tecuci and Targu Bujor and from the treatment factory belonging to Mittal Steel is evicted in local terrains to be deposited.

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,0638	0,0644	0,0709	0,068
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	15000	10695,6	17062,1	14504,8
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	61	61	61	61
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	0	0	0	0
Electric energy supply (Share of dwellings connected)(%)	96	96,9	98,3	100
Natural gas (Share of dwellings connected)(%)	34,2	44,14	65,16	69,8
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	1	27,3	49,1
Drinking water supply (Share of dwellings connected)(%)	48,3	59,3	59,4	68,8
Wastewater treatment (Share of dwellings connected)(%)	7,9	8,5	9,1	8,9
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Judetul Tulcea

General information

The transport activity is playing an essential role in the economic and social development of the county. The transport systems are for goods and passengers, within the road, railroad, naval (on interior ways – on the Danube River) and air networks.

The road transport is more used than the railroad one.

There are more passengers transported by train than by airplane.

Tulcea county is crossed by Pan European Transport Corridor no.VII (the Danube, with Sulina branch and the Danube – Black Sea channel).

Road Network

It is crossed by E87 European road coming from Galati-Braila to Tulcea city and continuing to South towards Constanta city, Vama Veche and to Bulgaria. At the end of 2007, Tulcea county had 1335 km of public roads. 24.5% (327 km) are first class roads (national roads), 100% modernized. Only 1.6% from county and communal roads were modernized. The density of public roads per 100 km² of territory (15.7) makes Tulcea county the less dense county in the whole country regarding this indicator.

Railway Network

At the end of 2007, Tulcea county had 103 km of non-electrified railways (the only county in the Danube area in this situation). The density of railways per 1000 km² of territory was 12.1, the lowest at national level.

Waterways and Ports

Tulcea, Isaccea and Sulina are ports to Danube or both to Danube and Black Sea. Tulcea and Sulina fluvial-maritime ports have technical characteristics that allow the access of maritime ships. Danube ferry crossing points are at I.C.Bratianu and Smardan.

2 ports are situated on the territory of the Danube Delta Biosphere Reserve: Tulcea and Mahmudia. Both ports are for passengers and goods.

Tulcea Port has 82.762 sq.m. It has 41 berths , a passenger terminal, port facilities and equipments, facilities for passengers transport in the Danube Delta, connections with the national road and railroad system.

Turcoaia Port is an inland port. It has 2 berths and 240 m quay length. It is connected to the national railroad system, facilities for goods storage and a belt carrier.

Macin Port is an inland port. It has 500 m quay length. It has a passenger terminal and facilities for storage of goods.

The Port of Gura Arman administered by the Port Administration on the Maritime Danube (APDM Galati) - Tulcea branch. Is located at km 34 of the Macin branch + 200 of the Danube - Right bank. Passenger terminal: length of quay - 210 m. Storage facilities: Covered storage: 1 104 m², Special storage: agricultural products.

Harsova Port has an area of 14101 sq.m. It is connected to the road system, has a passengers terminal, port facilities and a shipyard.

Isaccea Port has 325 m length of berths; it has a terminal for passengers, other terminals and port facilities. It is connected to the national system.

Mahmudia Port and Chilia Veche Port have terminals for passengers and other port facilities.

Air Transport

The International airport “Danube Delta” is situated at 15 km to Tulcea municipality and has an important general and private aviation role, being today in a stage of extension and modernization. The number of passengers increased in 2009 compared with 2008.

Multimodal Transport System and Terminals

According to the National Spatial Plan – Section I – Transport network, in Tulcea county the existent combined transport terminal is going to be modernized: Tulcea Marfuri Terminal.

Electric Energy Networks and Installations

In Tulcea county was not produced electric energy until 2006.

In 2009 the only source of electric energy production was represented by 10 wind engines situated on the administrative territory of Macin town (1), and of the following communes: Baia (2), Valea Nucarilor (6), Topolog (1).

The annual electric energy production from these wind centrals was increasing from 573 MWh in 2006 to 11506 MWh in 2009, a reduced quantity of electric energy compared with the potential of the area. It is envisaged an increasing of energy production since in 2009 were proposed new projects for new wind turbines to produce electric energy on the territories of another 21 localities: Tulcea, M cin, Valea Nucarilor, Topolog, Mahmudia, Murighiol, Baia, Casimcea, Nalbant, Babadag, Beidaud, Sarichioi, Be tepe, Stejaru, Mircea Vod , Cerna, Nuf ru, Mihai Bravu, Peceneaga, Greci, Frec ei.

In 2009 in Tulcea County the only type of fuel consumed was natural gas.

Gas and Oil Supply and Distribution

At the end of 2007, only 3 localities were provided with natural gas, out of which 2 urban localities, the simple length of natural gas distribution pipes being of 94 km.

Telecommunication Network

In 2009 were 930 more subscriptions than 2005 at the fix telephony network - ROMTELECOM (with 3.1% more).

Water Protection and Management

The drinking water consume increased in the last years from 57.5 cube meters / inhabitant in 2004 to 81.5 cube meters / inhabitant in 2009. Also the number of inhabitants supplied with drinking water from central network increased yearly, from 61.8% in 2005 to 82% in 2009.

In 2008, 47 localities had centralized water supply, out of which 5 cities. 51.2% of the county population was connected to drinking water distribution pipelines (89.5% from urban and 13.4% from rural population). In the same year, total amount of distributed water was of 12532 thousand m³, out of which for domestic usage were distributed 9831 thousand m³. Total length of the distribution network is 1377 km, from which 355 km are in urban localities.

Main problems of the water supply system are:

- Inappropriate technical state of the surface water treatment stations;
- Lack of water treatment stations in localities from Danube Delta (currently they are consuming water directly from the Danube);

- Inappropriate technical state of water distribution network in the cities Tulcea, M cin, Babadag and Isaccea;

- A very poor centralized drinking water supply in rural localities.

37.7% from population has sewerage installations (58.9% in urban and 16.5% in rural).

13 localities have sewerage installations, out of which 5 are cities. Length of sewerage pipes is 173.5 km, from which 136.8 km in urban localities.

In Tulcea municipality the sewerage network has 96.3 km and ensures the sewerage service for 80% from the county area, 70% from population in Tulcea municipality having sewerage installations.

The collected household wastewater is pumped by 5 pumping stations, discharged in 2 collectors and from here are evicted into the Danube, downstream the Tulcea building area. There is no wastewater treatment station in Tulcea municipality, the household wastewater being evicted uncleaned directly into the Daube.

In 2004 only 6 localities have wastewater treatment (3 towns and 3 communes), total treated flow being of 1303 m³/day.

In 2009, the only municipal wastewater treatment stations were in localities Babadag, Isaccea, Jurilovca and Baia, but the municipal wastewater treatment station from Isaccea didn't function. A major problem is represented by the lack of treatment stations in Tulcea and M cin cities. The treatment station from Babadag city couldn't ensure an efficient wastewater treatment; together with the wastewater treatment station belonging to the animal husbandry Complex PIGCOM is polluting the lake Babadag, one of the main sweet water resources of the county.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,008	0,0084	0,0127	0,0125
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	7000	11857	17355,9	5011,6
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	100	100	100	100
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	77,55	77,68	78,73	78,72
Electric energy supply (Share of dwellings connected)(%)	95	96,9	98,3	99,2
Natural gas (Share of dwellings connected)(%)	0	1,39	2,37	4,91
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,5	22,2	39,9
Drinking water supply (Share of dwellings connected)(%)	54,8	62,7	63	70
Wastewater treatment (Share of dwellings connected)(%)	5,5	10,4	10,2	10,3
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0,054

Judetul Calarasi

General information

Calarasi county is crossed by Pan European Transport Corridors no.IV (multimodal) and VII (the Danube). County and communal roads have an unsatisfactory technical condition. Technical infrastructure is poor in urban area and insufficient in rural area.

Road Network

At the end of 2008, Calarasi county had 1317 km of national, county and communal roads, out of which 40% were modernized. According to the Romanian National Statistical Office, 104km are part of the second Romanian highway (A2) Bucharest – Constan a. The county is not crossed by any European road.

It has 497 km of national roads.

From the 820 km of secondary roads (county and communal) only 4.4% were modernized in 2008.

The density of public roads per 100 km² of territory (25.9) was inferior to the national value (33.9).

The link with the main maritime port of the country - Constan a and the access over the Danube river towards Constanta is ensured by the railroad and road bridge Fetesti-Cernavoda and the road bridge Giurgeni-Vadu Oii.

Railway Network

It belongs to the TEN-F railway network in Romania by main railway no.800 (Bucuresti-Ciulnita-Fetesti-Medgidia-Constanta-Mangalia) and its secondary lines.

At the end of 2008, the railway network had 188 km, out of which 147 electrified (78.2%). The density of railways per 1000 km² of territory is 36.9, less than the national average (45.2).

Waterways and Ports

The water transport is ensured by the Danube that facilitates commercial exchange with other Danube European countries by the fluvial ports Oltenita and Calarasi.

The unsatisfactory infrastructure of the ports and their poor activities are diminishing the use of their existent potential.

Calarasi municipality has the port on the Borcea branch, for passengers and goods. Calarasi port has a ferry-boat used for Danube crossing, between Calarasi and Silistra (Bulgaria).

Calarasi Port is located at km 370 on the left side of the Danube, in the city of Calarasi. It is owned by the Romanian state and leasehold by CN APDF Giurgiu on 149.096,42 sq.m: Calarasi comercial 81.505 mp, Calarasi industrial 62.500 mp, Calarasi Chiciu 5091.42 mp.

It has 3 distinct ports:

1. Industrial port, specialized on metallurgic products
2. Commercial port nearby the Calarasi city, at km 94 from Borcea Branch
3. Calarasi port – Modelu (Chiciu), situated at km 90+500 from the left arm of borcea branch.

The access is made from road (access to the Calarasi city road network and to national roads) and railway (industrial port Statia CFR Calarasi Sud - Ciulnita).

Oltenita Port is located at km 430 on the left side of the Danube, in the city of Oltenita. It is owned by the Romanian state and leasehold by CN APDF Giurgiu on 88.7 hectares, out of which 9600 sq.m represents built area.

It is a fluvial port allowing the landing of barges having maximum 2000 tones. Its traffic capacity is of 525 th.tones/year.

The construction of the port began at the end of XIXth century. Its modernization began after 1900, with the construction of the lop-sided embankment, the storage port platform, depots and administrative head offices. Later was built the railway, the bin and the cranes were installed.

The port has a quay of 750 m length, with berths for passengers (250 m length) and commercial berths.

It has road and railway links.

The link with Constanta port and towards Constanta county over the Danube river is ensured by the road and railroad bridge Fetesti-Cernavoda and by the road bridge Giurgeni-Vadu Oii. At Ostrov is a ferry boat crossing.

Air Transport

In the county there is no civil airport, but the biggest Romanian International Airport "Henri Coanda" (ex Otopeni) is situated at about 60-120 km from the cities of the county.

Multimodal Transport System and Terminals

Calarasi county is situated on the multimodal pan-European transport corridor no.IV. According to European Commission for Europe, the Annex 1 of the "European Agreement on Important International Combined Transport lines and related installations (AGTC)" (Geneva, February 1991), stipulates that the railway line of importance for the international combined transport crossing Calarasi county is:

- C-E 562 Bucuresti-Constanta

Strategic development plan of Calarasi county is envisaging the creation of a transport multimodal network.

Electric Energy Networks and Installations

It is necessary to make investments in the electric distribution network, in electricity equipments and for using alternative energy sources.

Gas and Oil Supply and Distribution

Calarasi county is traversed by 4 main gas lines. 7 localities are supplied with gas from the national gas network out of which 3 are urban localities. The simple length of the gas pipelines was 143.5 km at the end of 2008, with 55.6 km more than in 2005.

The 4 main gas pipelines offer the opportunity for the development of the area.

By the extension of the National System of Natural Gas Transport in this area the economic activities will be re-launched.

Telecommunication Network

The telecommunication system is characterized by a positive evolution in last years, ensuring a rapid and better access of the inhabitants to national and international telecommunication network. An ample investments program endowed the telephone centrals with modern and performing equipments, modernizing the information transport infrastructure, increasing the number of beneficiaries and the volume of information.

In 2008 were with 5000 subscriptions less at the fix telephony network (ROMTELECOM network) compared with 2005, due to the increasing use of the mobile telephony. In 2009 the number of subscriptions at fix telephony increased again, being with 6338 more than in 2008 (with 17.7%).

Water Protection and Management

Calarasi and Oltenita municipalities are supplied with water from the Danube. The rest of urban and rural areas are supplied from underground sources.

At the end of 2008, the number of localities having drinking water distribution network was of 40 (33 in 2004), including all 6 urban localities. 6 localities had public sewerage pipelines: 5 cities and Manastirea commune had waste water installations.

The simple length of drinking water distribution network was 1006 km in 2008, with 255 km more than in 2004.

Total volume of distributed drinking water was of 8337 thousand m³, out of which approx. 6.403 thousand m³ for households needs.

The total simple length of the public sewerage network was of 151 km, constantly since 2004.

Between 2003 and 2004, waste water treatment was achieved in 4 cities: Cl r a i, Olteni a, Fundulea and Lehliu Gar

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0,015	0,02
Density of Railways - length of total railway network per km square	0,0478	0,0478	0,0369	0,0369
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	80	70	141,3	5492,2
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	59	59	59	59
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	67,78	67,86	67,87	67,94
Electric energy supply (Share of dwellings connected)(%)	95,5	96,2	98,7	99,8
Natural gas (Share of dwellings connected)(%)	0,15	5,96	15,67	17,5
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,3	22,6	40,6
Drinking water supply (Share of dwellings connected)(%)	38,7	43,2	48,7	61,7
Wastewater treatment (Share of dwellings connected)(%)	32,8	32,6	34,6	34,7
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Judetul Giurgiu

General information

Giurgiu county is crossed by Pan European Transport Corridors no. IX (intermodal) and VII (the Danube). Giurgiu county is crossed by 2 European roads: E70 (from Giurgiu county going to West to Drobeta Tr.Severin Serbia etc. and then going to Bucharest, from which is crossing again Giurgiu county going to Bulgaria) and E70/85 coming from Urziceni-Bucharest than having the same route as E70 until Giurgiu, then towards Bulgaria. Giurgiu has an important European main road that is crossing the Danube on Friendship Bridge.

Road Network

Road network had 1139 km at the end of 2008, out of which 52.9% were modernized.

Giurgiu county is crossed by 28 km of the highway A1 Bucharesti-Pitesti.

It had 307 km of national roads. The density of public roads per 100 km² of territory (32.3) was inferior to the national value (33.9).

The road transport, the main linkage with Bucharest Municipality and with the rest of the country have an express way and national roads most of them acceptable. 63% of the county roads (that represent 54% from total public roads) need rehabilitation. Giurgiu county need investments in this aspect.

Being situated in a cross-border area, Giurgiu municipality is linked by Ruse city by the Friendship Bridge, being Danube port but also exposed to road and naval traffic.

Railway Network

It belongs to the TEN-F railway network in Romania by main railway no.900 Bucharest-Craiova-Caransebes in its Northern part and by its secondary lines. At the end of 2008, Giurgiu county had only 47 km of railroad, out of which 51.1% are electrified. The density of railways per 1000 km² of territory was 13.3, the lowest in the region. The first Romanian railroad was Giurgiu-Bucharest, nowadays linking Romania to Bulgaria by the Danube Friendship Bridge.

Waterways and Ports

Giurgiu county has an important Danube port, transporting both persons and goods: Giurgiu Port Complex. It is one of the largest Romanian ports, located at km 493 on the Danube, in the city of Giurgiu. It is owned by the Romanian state and leasehold by CN APDF Giurgiu. It is a fluvial port allowing the landing of barges having maximum 2000 tones.

The port has a container terminal with an annual traffic capacity of 30,000 TEUs.

Giurgiu port is developed in 3 locations:

- Ramadan sector, having Danube landing functions on 750 m.
- Plantelor basin, with landing facilities on 740 m
- Veriga basin, having an important shipyard. It is part of the Giurgiu Free Zone. Here is conserved the Giurgiu-Russe ferry-boat built between 1940 and 1941.

The Friendship bridge across the Danube is linking Romania to Bulgaria. It is the longest Danube bridge in Romania, having 2 levels: road and railway, having also a pedestrian sidewalk. It is a mobile bridge and was built in 1954, having 2.8 km length.

Naval transport is on the Danube, which is running on 7 km on the administrative territory of Giurgiu municipality. As Danube port, Giurgiu town has fluvial links with all riparian Danube countries and also with the Black Sea. In relation to the national fluvial traffic of goods, Giurgiu is occupying the third place following Galati and Tulcea. The main naval transporter in Giurgiu is S.C.Giurgiu Nav, having 14 ships (of passengers, trackers, pushers).

Air Transport

Giurgiu county is situated at 75 km from Bucharest International Airport Henri Coanda from DN5 Bucharest – Giurgiu.

Multimodal Transport System and Terminals

Giurgiu county is situated on the intermodal pan-European transport corridor no.IV.

According to European Commission for Europe, the Annex 1 of the “European Agreement on Important International Combined Transport lines and related installations (AGTC)” (Geneva, February 1991), stipulates that the railwaylines of importance for the international combined transport in Giurgiu county are:

- C-E 56 (Lökösháya)-Curtici-Rada-Timisoara-Craiova-Bucuresti
- C-E 95 (Ungheni)-Iasi-Pascani-Buzau-Ploiesti-Bucuresti-Videle-Giurgiu (-Ruse)

According to the National Spatial Plan – Section I – Transport network, a new terminal of combined transport will be in Giurgiu Port.

Electric Energy Networks and Installations

In 2009, the only electric heating station from Giurgiu (SC Uzina Termoelectric Giurgiu S.A.) used the following quantities of fuel, in order to produce electric and thermal energy: 34814 tones of coal, 6185 tones of black oil and 7 028 873 cube meters of natural gas.

Energy distribution. In 2008 were distributed 7010.041 thousand cube meters of natural gas to industrial consumers and 204.981 thousand cube meters to domestic consumers.

Industry is still the main consumer of electric energy (60% from total consume).

Electric energy production. The electric energy in Giurgiu county is produced by S.C. Hidroelectrica S.A. – C.H.E. Mihileti and S.C. Uzina Termoelectric

There are 2 projects of wind centrals in Giurgiu county, with 1, respectively 10 turbine engines with 600 MW, respectively 25 MW installed power.

There are 2 projects for the conversion of solar radiation into electric energy. These investments are going to be achieved in Singureni and Stanesti localities, and will have a total installed power of 1 MW, respectively 6.3 MW.

There are 4 projects for the using of biogas in the production of thermal and electric energy. The installations will be placed nearby future birds and pigs farms.

In Mihalesti is a hydroelectric power plant that produced in 2009 22748 MWh.

Gas and Oil Supply and Distribution

At the end of 2008, 4 localities were provided with natural gas, out of which 3 urban localities, the simple length of natural gas distribution pipes being of 112 km.

Telecommunication Network

The county has access to communication network in all its localities.

In 2009 were 611 less subscriptions than 2005 at the fix telephony network - ROMTELECOM (less with 1.9%) due to the increasing use of the mobile telephony.

Water Protection and Management

In Giurgiu county the necessary drinking water is ensured by underground sources. 16 localities have centralized system of water supply, out of which 3 are urban localities. In 2008, the total amount of distributed water was of 4669 thousand m³, out of which for household activities 3367 thousand m³. Total length of distribution network is 371 km, out of which in urban area 180.5 km.

Giurgiu municipality, Bolintin Vale and Mihileti towns don't have the necessary quantity and quality of drinking water. It is not ensured a continuous drinking water supply due to major failures in water supplying system, with obsolete installations. Centralized water supply doesn't ensure the needs of total population, some areas didn't have water supply. Exploiting costs are high, having as result a high price for the delivered water, due to major water loss in the system.

In rural area the necessary water is supplied by private wells, dig at different depths.

Wastewater systems exist in 4 localities, out of which 3 are urban. Total length of sewerage network is of 178.4 km.

Wastewater treatment is achieved in only 3 towns, wastewater treatment stations having a total capacity of 41-920 m³/day. Wastewater treatment stations have only mechanical treatment, are under-dimensioned or are obsolete from technical point of view. In rural area there are no wastewater treatment stations, the household wastewater being ejected into absorbing wells (un-concreted septic tanks).

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,008	0,008	0,008	0,008
Density of Railways - length of total railway network per km square	0,032	0,032	0,0133	0,0133
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	70	60	120	2004,6
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	83,8	83,8	83,8	83,8
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	96,06	96,08	99,08	99,08
Electric energy supply (Share of dwellings connected)(%)	97	97,6	99,7	100
Natural gas (Share of dwellings connected)(%)	0,1	0,67	2,71	4,48
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,4	12,8	22,9
Drinking water supply (Share of dwellings connected)(%)	20,5	20,6	40,7	50
Wastewater treatment (Share of dwellings connected)(%)	25,3	26	28,7	28,8
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,033	0,034	0,035	0,035

Judetul Ialomița

General information

Ialomița county is crossed by Pan European Transport Corridors no.IV (multimodal), IX (intermodal) and VII (the Danube).

Road Network

At the end of 2007, Ialomița county had 1138 km of national, county and communal roads, out of which 57.5% are modernized.

352 km are national roads and 26 km are part of the second Romanian highway (A2) Bucharest – Constanța. European roads E60 (linking Bucharest to Constanța), E584 (linking Slobozia to Braila-Galati) and E85 (linking Urziceni with Northern part of the country) are crossing Ialomița county.

The density of public roads per 100 km² of territory (25.9) was inferior to the national value (33.9) at the end of 2007.

The road transport is an important air pollution source, Ialomița county being crossed by the European road E60 on 160 km.

Railway Network

It is crossed by the main railway network no.700 (Bucuresti-Urziceni-Faurei-Braila-Galati). At the end of 2007, Ialomița county had 293 km of railways, out of which only 28.3% were electrified. The density of railways per 1000 km² of territory was 65.8, more than the national value (45.2).

Waterways and Ports

The main waterway is the Danube, with Ialomița pond, the Danube's Borcea branch (Bratul Borcea) and Giurgeni area.

Air Transport

Multimodal Transport System and Terminals

Ialomița county is situated on the multimodal pan-European transport corridor no.IV.

According to European Commission for Europe, the Annex 1 of the "European Agreement on Important International Combined Transport lines and related installations (AGTC)" (Geneva, February 1991), stipulates that the railwaylines of importance for the international combined transport crossing Ialomița county is C-E 562 Bucuresti-Constanța.

Electric Energy Networks and Installations

The electric energy network (including the distribution one) is represented by the hydroelectric power plant situated on Ialomița river, in Dridu commune and also by the electric power station belonging to S.C. AMONIL S.A. Slobozia. The high, medium and low voltage network of electric energy transport and distribution has a total length of more than 6700 km. There are also electric points and stations that supply the distribution network.

According to the situation delivered by ENEL Distribution Dobrogea – Territorial Unit Slobozia Network, the consumption of electric energy was in 2009 of 542405 Mwh.

Un-conventional energy:

In 2009, S.C. URBAN SA Slobozia produced and consumed at the municipal wastewater treatment station a quantity of 556.5 tones of bio-gas, the production of energy being of 1086 Gj.

S.C. ULTEX SA andrei and S.C. EXPUR SA – Slobozia location also used biomass for thermal heating and in flow sheet.

Gas and Oil Supply and Distribution

The gas distribution network supplies localities Slobozia, Urziceni, Gîrbovi and Grindu. By implementing PHARE 2000 Program for regional development and social cohesion – infrastructure will be also achieved gas supply for andrei, Amara, Slobozia Nou, Gheorghe Lazăr, Bucu, Scânteia, Valea Ciorii, Sveni, Mihail Kogălniceanu and Giurgeni localities.

At the end of 2008, 8 localities were provided with natural gas, out of which 5 urban localities, the simple length of natural gas distribution pipes being of 266.8 km.

In 2009 9 localities were supplied with natural gas distribution, being distributed 48291 thousand cube meters, out of which 48.1% for domestic use.

In Slobozia, Fete ti and Urziceni municipalities and in nd rei town the inhabitants are connected at zonal, local or private centrals.

Telecommunication Network

Telecommunication network has almost 52000 lines in fixed telephony centrals, out of which 38.708 are digital lines.

In 2009 were 1199 less subscriptions than 2005 at the fix telephony network - ROMTELECOM (less with 2.8%) due to the increasing use of the mobile telephony.

Water Protection and Management

42 localities have drinking water centralized systems, out of which 7 are cities. In 2008, total amount of distributed drinking water was 9860 thousand m³. For domestic activities were used 7457 thousand m³.

Total length of water network is 1109 km, from which in urban area 428 km.

5 cities have public sewerage installations. Total length of sewerage pipes is 161.3km. Urban localities Slobozia and Urziceni have wastewater treatment stations. Their discharge is of 13323 million m³, from which 1916 thousand m³ are treated according to existing in force directions, 11364 thousand m³ are insufficient treated and 0.043 million m³ are not treated.

The share of dwellings connected at wastewater treatment installations decreased from 37.3% in 1996 to 22.6% in 2008.

In 2009, 63371 inhabitants had dwellings connected to municipal wastewater treatment stations (58.3% from urban population), with 854 persons more than in 2006.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,004	0,004	0,004	0,006
Density of Railways - length of total railway network per km square	0,062	0,062	0,0662	0,0658
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	0	0	0	0
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	73	73	73	73
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	67,64	67,77	66,82	66,7
Electric energy supply (Share of dwellings connected)(%)	96	96,9	97,9	99,1
Natural gas (Share of dwellings connected)(%)	11,43	17,9	35,28	52,7
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,2	18,9	34
Drinking water supply (Share of dwellings connected)(%)	38,3	48,2	57,9	67,8
Wastewater treatment (Share of dwellings connected)(%)	37,3	22,7	22,6	22,6
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Judetul Teleorman

General information

Teleorman county is crossed by Pan European Transport Corridors no. IX (intermodal) and VII (the Danube).

Road Network

At the end of 2008, Teleorman county had 1525 km of national, county and communal roads, out of which 56.3% were modernized. It has 390 km of national roads. The density of public roads per 100 km² of territory (26.3) was inferior to the national value (33.9).

It is crossed by European road E 70 (from Olt county traversing Teleorman county to Rosiori de Vede and Alexandria municipalities and going to Giurgiu county). Poor state of county and communal roads determined local public authorities to be involved in roads modernization, rehabilitation and extension programs.

Railway Network

It belongs to the TEN-F railway network in Romania by main railway no.900 Bucharest-Craiova-Caransebes and by its secondary lines. At the end of 2008, Teleorman county had 231 km of railway, out of which 29.4% electrified. The density of railways per 1000 km² of territory was 39.9, less than the national average (45.2).

Waterways and Ports

Danube fluvial ports are Turnu Magurele and Zimnicea.

Turnu Magurele Port is located at 5 km from Turnu Magurele municipality. It is managed by the Local Council of Turnu Magurele.

Turnu Magurele is a border crossing point between Romania and Bulgaria, functioning since April 2010. The crossing towards Nicopole is ensured by a ferry.

Air Transport

Multimodal Transport System and Terminals

Teleorman county is situated on the intermodal pan-European transport corridor no.IX.

According to European Commission for Europe, the Annex 1 of the "European Agreement on Important International Combined Transport lines and related installations (AGTC)" (Geneva, February 1991), stipulates that the railwaylines of importance for the international combined transport in Teleorman county are:

- C-E 56 (Lökösháya)-Curtici-Rada-Timisoara-Craiova-Bucuresti
- C-E 95 (Ungheni)-Iasi-Pascani-Buzau-Ploiesti-Bucuresti-Videle-Giurgiu (-Ruse)

Electric Energy Networks and Installations

According to data provided by Electrica – SC CEZ Distribution SA Craiova, in 2009 the economic agents had the highest share in total electric energy distribution: 64.5%. The electric energy consumption decreased yearly between 1996 and 2009, especially due to a lower consume of the economic agents.

In Teleorman county is not producing electric energy.

Regarding the unconventional energy, due to its geographical location Teleorman county is one of the counties having a very high potential of solar energy.

Gas and Oil Supply and Distribution

Since 2001 until end of 2008, all its 5 urban settlements were provided with natural gas, the simple length of natural gas distribution pipes being of 168 km.

Telecommunication Network

In 2009 were 11253 more subscriptions than 2005 at the fix telephony network - ROMTELECOM (with 25.6% more).

Water Protection and Management

29 localities have centralized water supply, out of which 5 are cities. In 2008, the total amount of distributed water was of 9825 thousand m³, from which for household usage were distributed 5804 thousand m³. Total length of distribution network is 802 km, from which 286.5 km in urban localities.

The main drinking water resource in Teleorman county is the underground water, excepting Turnu M gurele municipality, where drinking water is ensured by the Danube.

The population with no centralized drinking water distribution is supplied from public and household wells.

Waste water installations

11 localities have waste water installations, out of which 5 are cities. The length of sewerage network is of 215 km, from which 193.2 km in urban localities.

Only 7 localities have wastewater treatment: 5 cities and 2 communes. In 2004, the total treated discharge was 72142 m³/day. Analyzes of wastewater discharged into emissaries showed some overflows of legal concentrations at most sources. For urban wastewater treatment was registered overflows of limit values especially for nitrates and launders values.

The reasons that led to overflows of limit values admitted for waters discharge into surface watercourses are:

Non-functioning at the entire capacity and at projected parameters of the wastewater treatment stations from Ro iorii de Vede town;

Inadequate capacities of wastewater treatment installations in Alexandria and Zimnicea towns, and in the Hospital from Ro iorii de Vede;

Inadequate wastewater treatment and discharging solutions, initially adopted, in no accordance with actual legislation (agriculture utilization of treated wastewaters resulted from husbandry);

Lack of treatment stations at SC Donau Chem SRL Turnu M gurele for wastewaters with high load of ammonium ions;

Inadequate administration and exploitation of wastewater installations.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,0508	0,0556	0,0399	0,0399
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	55	45	80	140
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	79,6	79,6	79,6	79,6
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	46,98	46,96	46,41	46,57
Electric energy supply (Share of dwellings connected)(%)	96	97	99,3	99,9
Natural gas (Share of dwellings connected)(%)	0	0	2,27	8,1
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,3	18,2	32,7
Drinking water supply (Share of dwellings connected)(%)	25,1	26,1	33,3	47
Wastewater treatment (Share of dwellings connected)(%)	30,6	30,6	32,9	32,9
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0,029

Municipiul Bucuresti

General information

Bucharest is crossed by 2 Pan-European corridors: corridors IV (multimodal) and IX (intermodal).

Road Network

Bucharest is the most important road, railway and air national and international transport junction of the country. At the end of 2007, Bucharest municipality had 80 km of national, modernized roads (from 69 km in 1995), the density of public roads per 100 km² of territory being 33.6, close to the national value (33.9). It has road access (20 km) to both highways A1 (Bucharest-Pitesti) and A2 (Bucharest-Cernavoda), to European roads E70, E85 and E60.

Railway Network

By its main railways it belongs to the TEN-F railway network in Romania. It is the starting point of the 8 main railroads that are going to other regions of the country. Length of railway lines decreased from 140 km in 1990 to 99 km at the end of 2007, out of which 79.8% electrified. The density of railways per 1000 km² of territory is 416, almost 10 times higher than the national value (45.2).

Bucharest municipality is an important European railway junction. The links with other areas are achieved mainly by the Bucharest North Railway Station, but also by other smaller railway stations in the periphery of Bucharest. Bucharest North Railway Station is the biggest railway station in Romania.

Waterways and Ports

Air Transport

Air accessibility is ensured by international airport "Aurel Vlaicu" (Baneasa), situated in the Northern part of the city and by the International Airport "Henri Coanda" (Otopeni) that, although is situated in Ilfov county, is considered to belong to Bucharest-Ilfov metropolitan area. Henri Coanda Airport has 70% from total air transport in Romania.

Multimodal Transport System and Terminals

Multimodal accessibility is ensured by international airports "Henri Coanda" (Otopeni) and "Aurel Vlaicu" (Baneasa). A terminal of intermodal transport is situated in Bucurestii Noi Titan (Bucuresti Sud), being operated by CFR Marfa, the main rail freight company in Romania.

According to European Commission for Europe, the Annex 1 of the "European Agreement on Important International Combined Transport lines and related installations (AGTC)" (Geneva, February 1991), stipulates that the railwaylines of importance for the international combined transport crossing Bucharest are:

- C-E 54 Arad-Deva-Teius-Vanatori-Brasov-Bucuresti
- C-E 56 (Lökösháya)-Curtici-Rada-Timisoara-Craiova-Bucuresti
- C-E 95 (Ungheni)-Iasi-Pascani-Buzau-Ploiesti-Bucuresti-Videle-Giurgiu (-Ruse)
- C-E 562 Bucuresti-Constanta

The Annex II of the same document stipulates that Bucharest has installations important for international combined transport in the Danube area.

According to the National Spatial Plan – Section I – Transport network, the existent combined transport terminals in Bucharest, following to be modernized are:

- Bucurestii Noi Terminal
- Titan Terminal (Bucuresti Sud)

Electric Energy Networks and Installations

The electric energy is supplied in Bucharest by S.C. Electrocentrale Bucuresti S.A. The installed power at the beginning of 2009 represented 20% from the production capacities in thermo-electric centrals at national level, becoming thus the first electric and thermal energy producer in the thermal generation system. In 2008, the society produced 5.818 billion kWh electric energy (approx. 12% from the national production), a sufficient quantity for the consumption of 60% from Romania's population.

Gas and Oil Supply and Distribution

In the last years the volume of natural gas distributed in Bucharest increased yearly from 1414 million cube meters in 2000 to 3236 million cube meters in 2008. From these, the consumption for domestic use diminished yearly, from 432 million cube meters in 2000 to 380 million cube meters in 2008.

At the end of 2007 the simple length of natural gas distribution pipelines in Bucharest municipality was of 1926 km.

Telecommunication Network

Water Protection and Management

In Bucharest, from a total population of 1932155 inhabitants, 86.0% are connected to the public water supply system, either by direct connection to the water network, or by a drinking fountain in the house courtyard. Total length of the distribution network is of 2204 km.

In 2008, total amount of distributed drinking water was 236808 thousand m³, from which 120772 thousand m³ are distributed for household activities.

Water supply from the distribution network is continuous, some 3-4 hours of discontinuities being determined by network interventions following accidents or rehabilitation works. They have impact upon limited city areas, 24 hours stops happening only during water pipes purification or decontamination, situations in which population was previous notified.

The total length of collected wastewater network is of 1884 km, sewerage network covering 85% from the drinking water distribution network. The wastewater is directly evacuated into the watercourses or lakes next to the Capital (ex. Dâmbovi a River, Dâmbovi a Channel, Colentina River and the lakes from Colentina River).

The quality of Bucharest surface water is affected by wastewater evacuations from the Capital and upstream the Capital.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0,088	0,088
Density of Railways - length of total railway network per km square	0,6136	0,723	0,5044	0,416
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	0	0	0	0
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	52,1	52,1	52,1	52,1
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	100	100	100	100
Electric energy supply (Share of dwellings connected)(%)	99,6	99,7	100	100
Natural gas (Share of dwellings connected)(%)	91,34	92,86	93,94	94,7
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0,1	2,3	32,8	58
Drinking water supply (Share of dwellings connected)(%)	94,3	96,5	98,1	98,3
Wastewater treatment (Share of dwellings connected)(%)	0	0	0	0
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Judetul Ilfov

General information

Ilfov county is traversed by 2 Pan-European corridors: corridors IV (multimodal) and IX (intermodal).

Road Network

At the end of 2007, Ilfov county had 810 km of national, county and communal roads, out of which 59.5% were modernized – the highest value in the Danube region, following Bucharest.

The density of public roads per 100 km² of territory (51.2) was higher than the national value (33.9) and than the density in Bucharest municipality.

It has road access (31 km in 2008) to both highways A1 (Bucharest-Pitesti) and A2 (Bucharest-Cernavoda), to European roads E70, E85 and E60 and to 6 national roads (it has 229 km of national roads).

The road network is radial, starting from Bucharest and covering the Ilfov County's territory.

National road DN 5 is linking the Bucharest to Giurgiu, important fluvial and road gate.

National road DN 1 is linking the Bucharest with the North-Western area, respectively with the center of the country and the Western Europe.

National road DN 2 is linking Bucharest with the Eastern part of the country, respectively with the North-Eastern and East of Europe

National road DN 3 is linking Bucharest with the sea-gate of the country - Constan a and the Danube – Black Sea Channel.

Bucharest-Pitesti highway is linking Bucharest to the South-Western part of the country and of Europe.

This radial network is intersected by the Capital's Ring Highway, administrated by Ilfov County Council.

In future, 3 new highways will start from Ilfov county, linking the capital to the Western part of the country and of Europe (Brasov-Oradea), to the East of Europe (Ploiesti-Albita) and to the South-East (Constanta sea port).

Railway Network

It belongs to the TEN-F railway network in Romania by main railway no.900 Bucharest-Craiova-Caransebes and by its secondary lines and no.700 Bucharest-Galati.

At the end of 2007, the electrified railway network had 180 km. The density of railways per 1000 km² of territory was 113.7, much more than national average (45.2).

Waterways and Ports

Air Transport

Air accessibility is ensured by the main International Airport "Henri Coanda", situated in Otopeni town. Although is situated in Ilfov county, is considered as belonging to Bucharest-Ilfov metropolitan area.

Multimodal Transport System and Terminals

Multimodal accessibility is ensured by the main international airport "Henri Coanda".

According to European Commission for Europe, the Annex 1 of the "European Agreement on Important International Combined Transport lines and related installations (AGTC)" (Geneva, February 1991), stipulates that the railwaylines of importance for the international combined transport crossing Bucharest are:

- C-E 54 Arad-Deva-Teius-Vanatori-Brasov-Bucuresti
- C-E 56 (Lökösháya)-Curtici-Rada-Timisoara-Craiova-Bucuresti
- C-E 95 (Ungheni)-Iasi-Pascani-Buzau-Ploiesti-Bucuresti-Videle-Giurgiu (-Ruse)
- C-E 562 Bucuresti-Constanta

Electric Energy Networks and Installations

Gas and Oil Supply and Distribution

At the end of 2007, 31 localities were provided with natural gas, out of which 9 urban localities, the simple length of natural gas distribution pipes being of 1186 km.

Telecommunication Network

Water Protection and Management

Only a part of the localities from Ilfov county have public sewage systems, in present having in view the extension of the sewage network in all localities of the county, with European funds, between 2012 and 2016.

Some of the localities situated in the neighborhood of Bucharest (Pantelimon, Voluntari, Dobroe ti, Chiajna, Chitila, Pope ti-Leordeni, Buftea, Mogo oaia) discharge their waste water into the sewerage system of Bucharest, achieved in unitary system, ensuring the collection and eviction of household, technological and pluvial waste water into the drainage situated under the Danube river bed.

The sewerage system of Bucharest Municipality is managed by S.C. APA NOVA BUCURE TI SA, and the drainage by A.N. „APELE ROMÂNE”. In this drainage are evicted 12 main sewers and 11 secondary sewers collecting waste water and pluvial water from all over the city and partially from Ilfov county.

Nowadays the Bucharest waste water is evicted in Dambovita river without being treated, downstream the capital, close to Glina commune.

In Ilfov county there are some localities with partial sewerage networks: Buftea, Chitila, Mogo oaia, Otopeni, Voluntari, Afuma i, Pantelimon, Pope ti-Leordeni, Bragadiru, Br ne ti, M gurele, Jilava, Cornetu, 1 Decembrie, Chiajna in Arges hydrographic system. In Ialomita hydrographic system the localities with sewerage networks are Balote ti, Snagov and with partially sewerage networks are Moara Vl siei, Corbeanca, Peri and Ciolpani

According to statistics, 22 localities have centralized water supply, out of which 8 are towns. In 2008, total amount of distribute water was 7184 thousand m³, from which for household use were distributed 6085 thousand m³. Total length of distribution water is of 429.5 km, out of which 176.8 km are in urban localities. The quality of services towards the consumers is unsatisfactory.

Statistically, 21 localities have public sewerage installations, out of which 8 are cities. Length of sewerage pipes is 396.7 km, from which 290 km are in urban localities.

7 localities have wastewater treatment, from which 2 are towns (Buftea and M gurele). Wastewater treatment station of Buftea town is obsolete (from its capacity and technology points of view). Wastewater treatment station of Otopeni town is 80% ready, nowadays the works being stopped.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,007	0,007	0,019	0,019
Density of Railways - length of total railway network per km square	0,115	0,115	0,1143	0,1137
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	0	0	0	0
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	48	48	48	48
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	100	100	100	100
Electric energy supply (Share of dwellings connected)(%)	95,5	96,5	97,5	100
Natural gas (Share of dwellings connected)(%)	1,9	7,06	20,01	34,5
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	1,5	31,7	56,2
Drinking water supply (Share of dwellings connected)(%)	12	18,7	34,2	59
Wastewater treatment (Share of dwellings connected)(%)	6,3	21,3	19,8	18,6
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Judetul Dolj

General information

The county is traversed by 2 pan-European corridors: Multimodal corridor no. IV (Berlin-Nürnberg-Praga-Budapest-Bucuresti-Constanta-Salonic-Istanbul) and Corridor VII (the Danube).

Road Network

At the end of 2008, Dolj county had 2242 km of national, county and communal roads, out of which 26.8% were modernized. It has 470 km of national roads. The density of public roads per 100 km² of territory (33.1) was close to the national value (33.9).

It is traversed by 3 important European roads having together 191 km: E 70 (from Olt county traversing Dolj county by Craiova municipality and Filiasi town and going to Mehedinti county), E574 coming from Bacau and stopping in Craiova municipality, and finally E79, that is coming from Hungary, crossing Romania and goes through Craiova in the Southern part of the county to Calafat going to Bulgaria.

The construction of Calafat-Vidin bridge will facilitate the road-rail link to Romania with Bulgaria, Greece, Turkey, Near and Middle East.

Railway Network

It belongs to the TEN-F railway network in Romania by main railway no.900 Bucharest-Craiova-Caransebes and by its secondary lines. At the end of 2008, the railway network had 225 km, out of which only 84 km are electrified (37.3%). The density of railways per 1000 km² of territory is 30.3, less than the national average (45.2). Craiova is the main junction in Oltenia region. A major disadvantage is lack of a railway crossborder point at Calafat towards Bulgaria, having a bad influence upon the traffic of passengers and goods to neighbouring country.

Waterways and Ports

Dolj county has 2 Danube ports: Calafat and Bechet, being crossborder points to Bulgaria. Calafat and Bechet ports have a weak endowment, expensive shifting and are insufficiently managed.

CALAFAT Port is located at km 795 on the left side of the Danube. It is owned by the Romanian state and leasehold by CN APDF Giurgiu on an area of 50.968 sq.m. The port has berths for ships landing (100 m length), passengers, and goods.

It has a traffic capacity of 270 th. Tones / year.

In the area of the RO-RO platform is set up a Frontier Crossing Point endowed with all facilities. Downstream the port is set up a platform for landing and auto charge-discharge on the ferry that crosses making the linkage with Vidin port.

It has road and railroad access to the transport network.

BECHET Port is located at km 679 on the left side of the Danube. It is owned by the Romanian state and leasehold by CN APDF Giurgiu on an area of 76 287 sqm.

It has 600 m of berths (for cereals, general goods and an oil terminal), one storage platform, and one oil terminal. It has road access.

The maximum capacity of the ships is of 2000 tones. The traffic of goods is of 50000 tones/year.

CETATE Port is located at km 811 on the left side of the Danube. It is owned by the Romanian state and leasehold by CN APDF Giurgiu on an area of 95 589 sqm.

It is the Cultural Center created by the "Mircea Dinescu" Foundation for Poetry organized on the bank of the Danube nearby Cetate locality.

The port has berths on 1000 m length and is available to all economic agents for tourism and economic activities. It has road access to national roads.

Air Transport

International Craiova airport could represent a real impulse for the economic development is used only sporadically.

Multimodal Transport System and Terminals

The county is traversed by Multimodal corridor multimodal IV (Berlin-Nürnberg-Praga-Budapesta-Bucuresti-Constanta-Salonic-Istanbul). A terminal of intermodal transport is situated in Craiova city, being operated by CFR Marfa, the main rail freight company in Romania.

According to European Commission for Europe, the Annex 1 of the “European Agreement on Important International Combined Transport lines and related installations (AGTC)” (Geneva, February 1991), stipulates that the railwaylines of importance for the international combined transport crossing Dolj county are:

- C-E 56 (Lökösháya)-Curtici-Rada-Timisoara-Craiova-Bucuresti
- C 95 Craiova-Calafat (-Vidin) DJ

The Annex II of the same document stipulates that Craiova has installations important for international combined transport.

Regarding the ferry links/ports forming part of the international combined transport network, it is to be mentioned here the link Calafat-Vidin (Romania-Bulgaria).

According to the National Spatial Plan – Section I – Transport network, the existent combined transport terminals following to be modernized in Dolj county is Craiova Terminal.

Electric Energy Networks and Installations

In Dolj county the electric energy is coming from steam power plants, producing thermo-energy (5292285 MWh in 2009). Among the electric energy producers belonging to CEZ Distribution, Craiova Energetic Complex is producing more than 90% from the electric energy by coal combustion, for the rest being used the natural gas.

Gas and Oil Supply and Distribution

At the end of 2008, 9 localities were provided with natural gas, out of which 2 urban localities, the simple length of natural gas distribution pipes being of 597.6 km.

In 2009, the total length of the gas distribution network was of 1190.082 km. SC Distrigaz Sud Retele SRL distributed a volume of 96532000 cube meters, out of which 51.4% for domestic use.

Telecommunication Network

In 2009 were 61911 more subscriptions than 2005 at the fix telephony network - ROMTELECOM (with 57.3% more).

Water Protection and Management

There are 26 localities with centralized drinking water systems, out of which 7 are urban localities. The amount of water distributed to consumers is of approx. 44685 thousand m³, out of which 32997 thousand m³ for household activities. Total length of distribution network is of 1036 km, out of which 785 km in urban localities.

6 cities and 2 communes have sewerage systems. Total length of sewerage network is of 550.4 km. Wastewater treatment is achieved in only 4 wastewater treatment stations in the cities Calafat, Berechet, Filia i and Segarcea, with a total flow of 5899 m³/day.

Wastewater treatment stations are very used, with insufficient treatment capacity for wastewater flows. Because of the lacking of wastewater treatment stations, a major problem is represented by the direct discharge of untreated waste water.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,0298	0,0298	0,0305	0,0303
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	33	28	40	60,3
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	83,5	83,5	83,5	83,5
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	98,01	97,99	97,78	97,83
Electric energy supply (Share of dwellings connected)(%)	97	98	99,8	100
Natural gas (Share of dwellings connected)(%)	24,11	34,93	41,44	49,13
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,8	25,5	45,8
Drinking water supply (Share of dwellings connected)(%)	43	41,6	48,1	59,9
Wastewater treatment (Share of dwellings connected)(%)	3,1	6,3	6,2	6,2
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Judetul Mehedinți

General information

Mehedinți county is situated on important road, railroad and naval arteries, at the intersection of the most important commercial ways towards Central and South-East Europe, towards Orient. By its crossborder location, riparian to Danube river, by its 2 crossing border points at Gura Vii and Ostrovu Mare, Mehedinți county is crossed by road and naval ways by major ways. The paneuropean road E70, the Bucharest-Timișoara railroad and the fluvial traffic by the Danube Iron Gates determine intense intern transport and tourism flows throughout the county and the Drobeta Turnu Severin municipality.

Mehedinți county is crossed by Pan European Transport Corridors no. IV (multimodal) and VII (the Danube).

Road Network

At the end of 2008, Mehedinți county had 1857 km of national, county and communal roads, out of which 23.4% were modernized. It had 434 km of national roads. The density of public roads per 100 km² of territory (39.6) was more than the national value (33.9).

It is traversed from West to East by European road E 70 (from Caras Severin county traversing Mehedinți county by Orsova and Drobeta Turnu Severin to Dolj county) and E771 (Drobeta Turnu-Severin – Iron Gates – Serbia).

DN6 (E70) is the main road artery of the county. DN67 links the Drobeta Turnu Severin municipality to the Northern part of the county and with Gorj county. DN56A and DN56B are crossing the county on the North-South direction towards Calafat (Dolj county), linking Drobeta Turnu Severin municipality with localities from the Southern part of the county, respectively with the Danube bank towards the Iron Gates II hydropower plant. A part of this road up to the power plant is not classified as national road. DN57 links Orsova municipality to localities from the Western part of the county and to the Danube bank towards Moravita. DN57A links DN6 and DN67, being an overland route of the Drobeta Turnu Severin municipality. Finally, DN67D covers the Northern part of the county, linking Baia de Aram and Bile Herculane from Cara Severin county.

Secondary roads network (county and communal roads) is well developed, but has an unbalanced distribution in the county. In the Southern part of the county the road network is well developed, but in the Northern part, there are some disfunctions of the road network: un-modernized roads, without continuity, isolated localities, impracticable roads.

Railway Network

It belongs to the TEN-F railway network in Romania by main railway no.900 Bucharest-Craiova-Caransebes and by its secondary lines. At the end of 2008, the railway network had 124 km, out of which 123 km are electrified (99.2%). The density of railways per 1000 km² of territory is 25.1, less than the national average (45.2). A major disadvantage is the lack of a railway crossborder point at Drobeta Tr.Severin towards Serbia, with a negative impact upon the traffic of passengers and goods to neighbouring country.

There is an uneven distribution of the railway network at county level, in Northern and Southern parts of the county lacking railroads. The technical state of the railroad doesn't allow high speeds, especially on the 900 railway line (Bucharest-Craiova-Drobeta Turnu Severin-Caransebe -Timișoara). In some points close to Danube banks the railroad is operated with difficulty, being inappropriate for tourism function.

Waterways and Ports

The Danube flows on 193 km of the territory of the county (18% from its total Romanian length). But due to the poor endowment of the ports, the fluvial traffic is beyond the possibilities of this transport way. The 2 main ports (goods and persons) Drobeta Turnu Severin and Orsova do not correspond to the actual requirements. In the same situation are the local ports Viniștea, Dubova, Ighiaș, Crivina, Gruia, Gârla Mare. It is necessary the construction of a terminal of containers at Drobeta Turnu Severin, to take over the freight on the Danube until their destination.

ORSOVA Port is located at km 955 on the Danube, is a cargo port having a total capacity of 1200000 tones/year. The port has 5 railroad berths with a total quay length of 500 m.

DROBETA TURNU SEVERIN Port is one of the largest Romanian ports, located at km 931-933 on the Danube, on the left side of the Danube, within the Iron Gates II dam, in the city of Drobeta Turnu Severin. It is owned by the

Romanian state and leasehold by CN APDF Giurgiu on an area of 137592.11 sqm, out of which for passengers 44084.55 sqm.

The maxim capacity of the ships is of 3000 tone and has an yearly traffic of goods of 600000 tones.

The port has berths for passengers (530 m length), containers terminal (200 m length), landing pontoons, and dockyard. It has road and railroad access.

Air Transport

There is no airport in Mehedinti county, the closest one (115 km) being in Craiova (Dolj county). The lack of an airport in the county leads to the county isolation from aerial point of view (difficult interventions in case of disasters in inaccessible areas) and has negative impact upon its commercial relations.

Multimodal Transport System and Terminals

Mehedinti county is situated on the multimodal pan-European transport corridor no.IV.

Electric Energy Networks and Installations

It is one of the first county regarding the energy production, especially the “clean” energy, by the 2 hydro-electric systems Iron Gates I and II.

In Mehedinti county the electric energy is coming from hydro-electric power plants, producing hydro-energy (6722596 MWh in 2009) and from steam power plants, producing both thermo-energy (1911372 MWh in 2009) and electric energy (1252963 MWh in 2009).

The hydroelectric energy is produced by HIDROELECTRICA S.A. The hydro-energetic and navigation systems Iron Gates I and II are totalizing an installed power of 2532 MW. Their energy production represents approx.10% from the actual internal energy consumes, Mehedinti county consuming approx. 0.6% from this production.

In 2009, the consumption of electric energy was of 135132488 kWh at economic agents and of 134902774 kWh at domestic consumers.

On the Romania-Serbia sector the Danube has an important hydro-energetic potential, the highest from Europe (from 8050 kW/km up to 82000 kW/km). Due to this high potential, the 2 hydroelectric power plants (Iron Gates I and II) were built here.

In Mehedinti county is a factory, unique in Europe, for the production of heavy water: RAAN – Suc.ROMAG PROD, the moderator from Cernavoda nuclear-electric reactor.

Gas and Oil Supply and Distribution

Mehedinti is the only county in Romania with no locality connected to natural gas network.

Telecommunication Network

In 2009 were 16464 more subscriptions than 2005 at the fix telephony network - ROMTELECOM (with 33.5% more).

Water Protection and Management

The most important water works are represented by the Iron Gates I and II hydropower system, achieved together with Serbia.

33 localities have drinking water supply, from which 5 are urban localities. In 2008, total amount of consuming distributed water was of 11392 thousand m³, from which for household was distributed approx. 7760 thousand m³. Total length of distribution network was of 682 km, from which 287 km in urban localities.

The quality of drinking water is monitored in a surface intake and it belongs to A2 class, with overflows at suspensions indicator.

Nowadays, around 70% from rural localities have projects for drinking water supply by PHARE Program. In Drobeta Turnu Severin municipality is achieving the drinking water supply rehabilitation, within ISPA Program.

Only 12 localities have public sewerage installations, from which 8 are cities. Total length of sewerage pipes is of 200.4 km, from which in urban localities 185 km.

In 2004, wastewater treatment was accomplished in 3 urban localities. The municipality Drobeta Turnu Severin has no wastewater treatment station. Total discharge of these stations was of 2979 m³/day.

Qualitatively, evacuated waste water is not according to laws in force.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,0261	0,0261	0,0259	0,0251
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	60	45	83,1	2770,2
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	99,8	99,8	99,8	99,8
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	43,05	43,06	43,36	43,25
Electric energy supply (Share of dwellings connected)(%)	95	96	98,8	99,7
Natural gas (Share of dwellings connected)(%)	0	0	0	0,1
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,15	13,1	23,6
Drinking water supply (Share of dwellings connected)(%)	35,8	40	56	57,5
Wastewater treatment (Share of dwellings connected)(%)	8,7	10,4	12,7	12,8
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	4,06	4,15	4,38	4,5

Judetul Olt

General information

Olt county is crossed by Pan European Transport Corridor no.VII (the Danube). It is situated on the first place in Romania regarding the number and share of county and communal modernised roads (873 km, 88% from total modernized public county roads).

Road Network

At the end of 2008, Olt county had 2176 km of national, county and communal roads, out of which 55.2% were modernized, being one of the most modernized counties in the Danube region, together with Bucharest and Ilfov county. It had 301 km of national roads. The density of public roads per 100 km² of territory (39.6) was comparable to the national value (33.9).

It is traversed by 2 important European roads: E 70 (from Dolj county traversing Olt county by Draganesti-Olt town and Caracal municipality to Teleorman county) and E574, by its Northern part, coming from Bacau to Slatina municipality and Bals towns and stopping in Doj county in Craiova municipality.

Railway Network

It belongs to the TEN-F railway network in Romania by main railway no.900 Bucharest-Craiova-Caransebes and by its secondary lines. At the end of 2008, the railway network had 237 km, out of which only 61 km are electrified (25.7%). The density of railways per 1000 km² of territory is 43.1, close to the national average (45.2). A major disadvantage is lack of a railway crossborder point at Corabia towards Bulgaria, having a bad influence upon the traffic of passengers and goods to neighbouring country.

Waterways and Ports

Corabia Port has a weak endowment, expensive shifting and is insufficiently managed. It is located at km 629 on the Danube. It is owned by the Romanian state and leasehold by CN APDF Giurgiu on an area of 226 315.36 sqm. It has berths on 1400 m serving grain storages. It has road access to Corabia town and a railroad connection.

Air Transport

Multimodal Transport System and Terminals

According to European Commission for Europe, the Annex 1 of the "European Agreement on Important International Combined Transport lines and related installations (AGTC)" (Geneva, February 1991), stipulates that the railwaylines of importance for the international combined transport crossing Olt county are:

- C-E 56 (Lökösháya)-Curtici-Rada-Timisoara-Craiova-Bucuresti

Electric Energy Networks and Installations

In Olt county the electric energy is coming from hydroelectric power plants, producing hydro-energy (1653126 MWh in 2009). There is a series of 8 hydro-electric power plants on Olt river, at Strejesti, Arcesti, Slatina, Ipotesti, Draganesti-Olt, Frunzaru, Rusanesti and Izbiceni, belonging to S.C.Hidroelectrica S.A. Sucursala Hidrocentrale Slatina, totalizing an installed power of 379 MW. The length of the arranged sector is of 116.7 km, the total water volume from the 8 storage lakes being of 692.6 million cube meters, covering 10236 hectares.

The biggest accumulation lake of the series is Strejesti lake. The first 3 hydro centrals are situated on the middle course of Olt river, the following 5 being situated on the Inferior Olt.

In 2009 was produced in these centrals a quantity of 1653126 MWh of electric energy, the quantity of electric energy distributed in the county being of 963657785 kWh, out of which 9.2% in rural area.

Gas and Oil Supply and Distribution

At the end of 2008, 10 localities were provided with natural gas, out of which 6 urban localities, the simple length of natural gas distribution pipes being of 295.6 km.

PETROM S.A., belonging to OMV Group, is exploiting a big number of drills extracting crude oil and natural gas. Thus, Mamu-Otesti Zacaminte Group had in 2008 a number of 439 wells for production and Vilcele-Slatioarele Zacaminte Group had in 2009 a number of 159 wells for production.

Telecommunication Network

In 2009 were 20292 more subscriptions than 2005 at the fix telephony network - ROMTELECOM (with 41.2% more).

Water Protection and Management

53 localities have centralized water supply, out of which 8 are urban. In 2008, total amount of distributed water was 13953 thousand m³, from which 11672 thousand m³ for household necessities. Total length of distribution network is of 990 km, from which 414.2 km in urban localities.

11 localities have public sewage installations, from which 8 are urban localities. Total length of sewerage pipes is of 273 km, from which 263 km in urban localities.

In 2004, 8 localities have wastewater treatment stations, from which 7 were in urban localities, the total discharge of the functioning wastewater treatment stations being of 76472m³/day.

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,0423	0,0423	0,0431	0,0431
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	40	25	35	86,5
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	46,2	46,2	46,2	46,2
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	96,43	99,42	99,46	99,45
Electric energy supply (Share of dwellings connected)(%)	96	97,1	99,4	100
Natural gas (Share of dwellings connected)(%)	9,71	19,04	23,25	29,95
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,2	14,6	26,2
Drinking water supply (Share of dwellings connected)(%)	25,5	28,4	37,6	43,7
Wastewater treatment (Share of dwellings connected)(%)	34,2	37,1	37,1	37,1
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,73	0,75	0,78	0,81

Judetul Caras-Severin

General information

Due to its favorable geographic position, the county had the advantage of the Roman civilization: the roads development. The ancient Roman road starting from Orsova along the Timis-Cerna Valley became today the national road linking the county to the Western and Southern parts of the country. All its roads functioned in the Middle Ages as important commercial ways, having sometimes a strategic character.

Caras Severin county is traversed by 2 main Pan-European corridors: multimodal corridor IV Berlin / Nurnberg – Praga – Budapesta, on the route Nadlac-Arad-Calafat-Vidin and corridor VII – the Danube river.

Road Network

At the end of 2008, Caras Severin county had 1944 km of national, county and communal roads, out of which 44.2% were modernized. It has 560 km of national roads. The density of public roads per 100 km² of territory (22.8) was less than the national value (33.9). Road infrastructure from the cross-border points is partially modernised, needing major investments.

It is traversed from North-West to South-East by European road E70.

Territorial repartition of industrial centers, the geographical grouping of natural resources, as well as the mountain relief and hydrology influenced the direction of the road arteries. Generally, the roads are following the main water courses, the share of hill and mountain roads being of 71.5%.

From 560 km of national roads, 108 km are European roads. 62% from county roads and only 31.7% from communal roads are modernized.

The public road network has a generally good state due to major investments between 2004 and 2008.

* E70 enters into the county from Serbia, linking the Northern part of the country to Bucharest. This road is a big traffic artery for cars and tourists transiting the county towards the Capital or the Black Sea coast. There are 2 cross-border points to Serbia: at Naidas and Moldova Noua (on DN75 Oravita-Moldova Noua).

* The second important transport corridor is DN58B, DN58 and DN68 on the direction Timisoara – Berzovia – Bocsa – Resita – Caransebes – Otelu Rosu – hateg – Hudeoara towards the center of the country. Because they have only one way, traversing many urban and rural localities, their technical state and geometry don't allow an intense traffic.

Railway Network

The railway network belongs to the TEN-F railway network in Romania by main railway no.900 Bucharest-Craiova-Caransebes and by its secondary lines. At the end of 2008, the railway network had 341 km, out of which 150 km are electrified (44%). The density of railways per 1000 km² of territory is 40, less than the national average (45.2). Territorial repartition of industrial centers influenced the direction of railroads, being final points or parts from major railway networks, linking the county with its Northern and Southern and central localities, ensuring the industrial centers with raw materials (especially Resita municipality).

Between Toplet and Constantin Daicoviciu, along the Timis-Cerna couloir, the county is crossed by a part of the main railroad Buharest-Orsova-Timisoara-Jimbolia, forming in Caransebes municipality together with the railway Subcetate-Resita an active railroad junction especially for transport of goods. Railway sectors Oravita-Berzovia and Resita-Berzovia link the central and western parts of the county with Timisoara municipality.

The border crossing point with Serbia is at Naidas, situated in the Western Plain. It is crossed by the DN 57 Oravita – Moldova Noua road.

Waterways and Ports

The Danube fluvial corridor has a big importance, ensuring the transport of goods towards Central Europe and Black Sea.

Although the Danube is the Southern limit of the county on 65 km, a single port (Moldova Veche, in Moldova Noua town) ensures the passengers and goods transport. Caras Severin county doesn't have a well developed naval transport because of its inappropriate road and railroad links to Moldova Noua port.

MOLDOVA VECHE Port is located on the left side of the Danube, at km 1048, upstream the actual Iron Gates dam, in the town of Moldova Noua. It is owned by the Romanian state and leasehold by CN APDF Giurgiu on an area of 31240.09 sqm. The port has 6 berths with a total quay length of 550 m (out of which 100 m length for passengers)

and 2 terminals, one for cargo and one terminal for passengers. It is mainly used for handling wood products, sand and gravel, bricks and fertilizers. The access to the port is only by road.

Air Transport

It has a private airport at Caransebes. The airport from Caransebes is not used nowadays.

Multimodal Transport System and Terminals

Caras-Severin county is situated on the multimodal pan-European transport corridor no.IV.

Electric Energy Networks and Installations

Most quantity of electric energy is received by Cara Severin county from sources situated outside its territory. There are still other important sources belonging to its territory.

Important sources are the hydro-electric power plants:

- Hydro-electric power plant from Turnu Ruieni (CHE-Turnu Ruieni)
- Hydro-electric power plant from Poiana M rului (CHE-P.M rului)
- Hydro-electric power plant from Fene (CHE-Râul Alb)
- Hydro-electric power plant from B ile Herculane (CHE-B.Herculane)

There are also another 8 hydro-electric power plants of small power.

The main distributor of electric energy is ENEL Distribuție Banat.

In 2006, the transport of electric energy to consumers was ensured by a network consisting of:

- transport arteries at 400 kV (40 km length)
- transport arteries at 220 kV (163 km)
- distribution lines at 110 kV (617 km)
- electric lines of 20 kV (1901 km)
- electric lines of 6 kV (317 km)
- electric lines of 0.4 kV (2832 km)

Total length of the electricity distribution network was of 5668 km in 2006.

In 2008 a number of 4 projects for the construction of wind energy centrals were waiting to be approved. They have together 64.5 MW total installed power.

Gas and Oil Supply and Distribution

At the end of 2007, 9 localities were provided with natural gas, out of which 4 urban localities, the simple length of natural gas distribution pipes being of 515 km.

EON GAS Distribution West Region is in charge with gas transport and distribution.

The number of localities with gas distribution increased in 2008 (8 localities, out of which 4 are in rural area) compared with 1995 (5 localities). The volume of distributed gas decreased with 70%.

Telecommunication Network

In 2009 were 26901 more subscriptions than 2005 at the fix telephony network - ROMTELECOM (with 57.1% more).

Water Protection and Management

Centralized water supply is ensured in 33 localities, out of which 8 are urban. Total distributed water for consume is 12779 thousand m³, from which for domestic needs 8126 thousand m³. In 2008 the total length of water supply network was of 822.3 km, from which 463 km in urban area.

All urban localities have state water supply systems. There are still problems regarding the storage, treatment and distribution capacities as well as the sources assurance with sanitary protection.

18.8% from the villages have state water supply systems, most communes having projects for water supply.

Most localities take water to be transformed into drinking water from surface sources (71%). In urban areas are used treatment stations with rapid filters and with chlorine disinfection (Resita, Caransebes, Oravita, Anina, Baile Herculane, Otelu Rosu). Moldova Noua and Bocsa are using underground water sources, ensuring only their disinfection with chlorine.

Between 1995 and 2008 the volume of drinking water consumption decreased with 60% (domestic water with 57% and industrial water with 65.8%), due to water metering installations and to the restriction of industrial consuming.

Sewerage systems

In 2008, 21 localities have waste water installations (totalizing 342.7 km), out of which 7 are urban. Total length of sewerage system is of 343 km, out of which 273.4 km in urban localities.

The sewage systems don't cover all localities. From 21 existent sewage networks, 8 are situated in urban localities. Reported to total length of water distribution network, the length of sewage network covered only 41.7% in 2008. Thus, domestic water is very often discharged into rivers or on the soil, polluting them.

Wastewater treatment

In 2006, in Caras Severin county were 9 wastewater treatment stations, out of which 5 in urban area. In rural are only 2 from 4 wastewater treatment stations were functioning (at Armenis and at Domasnea).

In 2009 wastewater treatment is achieved in only 4 towns. The flow of wastewater treatment stations was 46843 m³/day. From the total amount of treated wastewater, only 37.7% is treated according to actual national legislation. The insufficient treated or not treated water originate from mining industry, town management, iron and steel industry and machine building industry.

Until 2010 all town stations should be endowed with tertiary treatment levels, excepting Baile Herculane town that should finalize its secondary treatment level in 2013. Also until 2012 is necessary to increase their capacities.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,0469	0,0469	0,0404	0,04
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	0,2	0,1	0,1	0,4
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	59	59	59	59
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	59,91	60,41	60,54	60,51
Electric energy supply (Share of dwellings connected)(%)	96,5	97,5	98,5	99,1
Natural gas (Share of dwellings connected)(%)	23,67	37,17	37,93	40,16
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,4	20	36
Drinking water supply (Share of dwellings connected)(%)	52,6	55,6	63,3	78,2
Wastewater treatment (Share of dwellings connected)(%)	43,5	44,5	40	40
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,55	0,57	0,6	0,61

Vidin

General information

Vidin District has a well developed transport infrastructure- rail, road and water connections, representing the main European corridors, ferry, cross-border road and railway transitions, the presence of free zone and others. Through Vidin District pass two pan-European transport corridors (PETC):

- PETC 4 /Craiova (Romania)- Vidin-Sofia - Kulata / and
- PETC 7/ Danube River/.

Road Network

Through the District passes highway -1 / Vidin –Montana- Vratza-Botevgrad- Sofia/, which is a part of the international road E-79. Keep it in good condition is important because this road is an important component of PETC 4 and connects the Danube region with Greece through Kulata, carrying out major traffic flows through the district.

Within the district the regional flows are served by roads of regional significance - the second and third class. Secondary road -11 / Vidin- Dimovo- Lom / services the territory of the Danube site zone, and roads -12 and -14 connect Vidin with border checkpoint in Bregovo / Yugoslavia border and Cross border Checkpoint Vrashka chuka/ Yugoslavia border. The rest roads are third-class roads.

The total length of national roads in the territory of Vidin District is 610.9 km. of which:

- st class - 73,5 km.
- nd class - 91,0 km.
- rd class - 442,9 km.

Road connections - 3,5 km.

The density of the road network by categories is:

Total- 202,2 km. on 1000 sq.km.

- st class - 24,3 km. on 1000 sq.km.
- nd class - 30,1 km. on 1000 sq.km.
- rd class - 146,6 km. on 1000 sq.km.

Road connections - 1,2 km. on 1000 sq.km.

A major problem for road infrastructure is the non built infrastructure. There is a need for improvement, reconstruction and repair. For most of them have developed projects in work or in the conceptual stage, but so far none have been realized due to lack of financial resources.

Under construction is the Second Danube Bridge over the Danube, which will provide road and railway link with Romania. Its construction will have a significant impact on transport infrastructure in the district and will contribute significantly to the economic development. Road is envisaged to be 4 band with a dividing strip to accommodate traffic to and from the bridge.

Cross Border Checkpoints

On the territory of Vidin District the following Cross border checkpoint are situated:

- Vrashka chuka,
- Bregov ,
- Vidin- River Station and
- Vidin - Ferry.

Cross border checkpoint Vrashka chukka has transport link with main road E- 79. The main passenger flow through it is from Bulgarian and foreign citizens traveling to and from Serbia and Montenegro and the countries of Western Europe, for sale purposes, import cars, domestic appliances, tourism, etc., as a border point is the EU external border.

Bregovo checkpoint was built near the town Bregovo. The main flow through the checkpoint is related to the practice of commercial activities by nationals of Bulgaria and Serbia and Montenegro. It has the significance of border crossing between the two countries and the shortest route for the Bulgarian citizens to the countries of Western Europe. With its location it is an external border also.

Cross border checkpoint Vidin is a Ferry connection.

Cross border checkpoint Vidin – River Station handles tourism and passenger ships coming in Danube.

The construction of the Cross border checkpoint “Kadan Boaza” located between village of Salash, Belogradchik municipality and the village of Novo korito Knjazevac municipality will be implemented.

In the construction of Danube Bridge will be opened new border crossing, which will serve passengers and vehicles crossing the bridge.

Railway Network

Vidin District is served by major rail VII line / Mezdra- Brusartsi - Vidin /, which includes the main railway line serving the Danube site zonea / Sofia- Mezdra – Gorna Oriahovitsa- Varna/. The line is single track, electrified and is the second component of PETC 4.

On the territory of Vidin District the railway line length is 87 km, serving less than half of the municipalities in the district. Servicing is done by 11 railway stations and 5 stations.

The Railway traffic in the district has a maximum speed of 70 km / h. The reason for this are the big curves and slopes that do not allow more high speed. Therefore, explore is the possibility of design and construction of speed railway line to ensure the modernization of railway infrastructure and reduce the journey time from Vidin to Sofia and back.

Danube bridge line II will be single track for a speed 160 km / h.

Designed is a new border station for freight trains near the goods station, the border station will be with 5 tracks.

Freight activity in recent years almost gone, as the output of small enterprises operating is transported by road.

The Passenger flow is also greatly diminished. The main cause of the reduced passenger traffic is the increased bus services across the country that are considered more convenient for travelers as compared to rail transport. Another reason is the low payment capacity of travelers who have reduced their travel to a minimum.

Waterways and Ports

On the territory of Vidin District, the length of the Danube as waterway is 82.86 km.

In the town of Vidin on the right bank of the Danube in the section from km. 785,000 to km. 795,000 is located "Port – Vidin". The port operates four port terminals:

- Port Terminal North

The Port is situated in the northern industrial zone from km 793,500 to km 793,700 on the Danube. The port is connected to the national road and rail infrastructure. It has road connection- deviation from the international road E79, just before the entrance of the auto ferry terminal and railway track- deviation from the track for the ferry station, just before her entrance.

On an area of 10,000 square meters, open storage area is up and warehouse is running under the customs warehousing procedure.

- Ferry Terminal

It is also situated into the north industrial area from km. 792,800 to km. 793,000 of the river. It serves connection Vidin ferry- Calafat by road and rail link. It has a slot for a ferry mooring platforms with a width of 30 to 50 meters depending on the river flow. Facilities are standard for this kind of terminals are eligible for convenience and ensure fast and safe transition for vehicles and passengers in both directions. The complex occupies 2920 m2, working non stop and handle ro-ro cargo.

- Port Terminal Center

It is situated in the central part of km. 789,900 to km. 791,300 on a plot size of 17 acres. Along the quay wall with its 1440 m length are situated four pontoon facilities for ships to carry out the entrance, output controls for disembarkation and embarkation of passengers.

The existing building of the river station is situated with good functionality in communication links between the three passenger transportation facility in the city, namely: railway station, auto station and river station, creating shorter routes for arriving and departing passengers without the need for additional transport.

- Port Terminal South

It is situated in the southern industrial zone from km. 785,000 to km. 785,200 and occupies an area of 48,000 square meters Designed for reception and storage of bulk and general cargoes that do not require special conditions. Basic cargo is coal. To implement the main activities in Port Vidin- accepting and processing vessels, warehousing, storage and subsequent shipment of processed goods, the port is equipped with the appropriate machinery.

To function optimally the port terminals should be provided with storage tanks with appropriate storage conditions according the specific requirements of different types of cargoes / now the port terminals are without a closed stores.

The activity of Port - Vidin is characterized by:

- Direct loading / unloading activity-essential loads to be handled at the port are coal, gypsum and paper fiber-board and metals and others. The main loading/unloading activity takes place In Port South - 80% of processed goods.

Despite the volume of cargo, the available machinery in the port is not loaded 100%. Opportunities for the processing of bulk general cargo on the two port terminals are about 460 thousand tonnes. The reasons not to use the full capacity of the port are economically- closure of many businesses in the region remote from the capital and others.

- Existence of Ferry Terminal

Through it freight across the Danube is carried.

- Mooring of passenger ships

The decline in passengers passing is due to the collapse of the economic restrictions that were imposed on Yugoslavia.

On the territory of Vidin District also operate ports, which are managed by private companies:

- Ro- Ro terminal covering relation Vidin- Passau, Germany / located in North Industrial Zone /
- Petroleum Terminal / located in South Industrial Zone / and
- Port of Danube dredging navy.

Air Transport

6 km. far from Vidin is civil airport - Airport Vidin, which can accept aircraft payload to 50 tonnes. Vidin Airport was built in 1973 with the intended flight of civil aircraft. In the present state of facilities, buildings and runway system is bad. By Order RD 14- 32/01.11.1999 of the Ministry of Transport it was closed and provided for management by the regional governor of Vidin District, with the possible provision of a concession.

Multimodal Transport System and Terminals

Bulgaria is a party to the Europe Agreement on the most important lines of international combined transport and related objects (AGTC), as on the territory of Vidin District is is Vidin railway line Vidin- Mezdra / Sofia.

In addition to these railways, the Europe Agreement contains the terminals of the Republic of Bulgaria, having great importance for international combined transport, on the territory of Vidin District - railway-ferry stations / ports within the network for international combined transport- Vidin railway station and ferry.

Through the port of Vidin ro-ro river shipments to Passau, Germany are carried out.

The main logistical base for the implementation of national and international container shipping was built in 70 and 80 years and as overall, the condition and infrastructure of Bulgarian railway network does not meet modern requirements for combined transport. There is missing a good relationship between the railway transport and shipping.

Based on international arrangements and studies (AGTC, TER, TINA, trans-European transport corridors) and marketing analysis, priority areas of infrastructure on the Bulgarian territory for development of combined transport within the territory of the District are:

- Vidin-Sofia-Kulata/Plovdiv - Svilengrad (PETC 4) and
- Port Vidin.

Electric Energy Networks and Installations

Vidin District is supplied by electrical power from the National electricity grid of the country through 7 transformer substations 110/20 kV, built on its territory. The total installed capacity of these stations is 395 kVA. The supply of the electrical power network of Vidin District depends entirely on the electrical power system (EPS) of the Republic of Bulgaria. The Electrical supply of Vidin District is well developed, as systems for electrical power supply and distribution are sufficient, in good condition and in view of their current coverage area is no serious problems with electricity supply.

Independent sources of electricity are:

- cascade “Gorni Lom “ consisting of: WPP “– Kitka”, WPP “ Gorni Lom“, WPP “Midzhur” and WPP ”Falkovets“.
- Cascade works on 20 kV, with total installed capacity of hydro power plants is 9.265 mVA and
- Thermal Power Station Vidin, with installed capacity of 75 mVA.

The energy sector in Vidin District is characterized by a large proportion of energy derived from fossil fuels. Under development is the use of local renewable energy sources - solar, hydro, geothermal energy and that which is derived from plant and animal biomass.

In Vidin District exist suitable conditions for the exploitation of solar energy by using photovoltaic and solar thermal systems throughout the territories of all municipalities in the District.

Gas and Oil Supply and Distribution

The territory of Vidin District lacking such networks. Envisaged is the implementation of feasibility studies for the gasification and heating of the District.

Telecommunication Network

Covered by telephone lines are all settlements in the District, as all have automatic incoming and outgoing intercity dealing. Covered by telephone lines population in the District is now 94.4 %, ie from the total number of settlements covered by telephone are 134 settlements, non covered are 8. The number of telephones per 100 inhabitants is 31.0 pc., which is scarce.

Length of optic cable- 91 km.

In the process of implementing is a modern digital switching and transmission communication infrastructure and replacement of the existing analog. Performed is the full automation of long distance and intercities traffic and it's digitization. All settlements in the District have automatic incoming and outgoing intercity dealing. Digitization has reached 80 % of the subscribed posts in the larger settlements in the District.

The territory of Vidin District has full coverage of the 3 mobile operator- Mobiltel, Globul and Vivatel.

Internet access exists at the majority of the territories in the District, but the smaller settlements are not covered.

Water Protection and Management

Vidin District is relatively satisfied with drinking water, but water supply system is highly energy intensive.

Water supply in the District is in parameters of the following indicators:

- Quantity submitted waters- 8,375,071 m³/year;
- Built volume of the reservoirs- 21 027 m³;
- Loss of drinking water- 47%;
- Total water consumption- 91 l / inh. / per day;
- Number of settlements without water supply throughout the year / in water supply regime/ - 6;
- Number of settlements without water supply -13;
- Number of treatment plants- 0;

Overall, Vidin District has a 99 % population water served, but there are municipalities where the population served is about 50 % or 75 %, as for the District settlements without water supply are 13.

Water supply in the District is characterized by the following indicators:

Indicator	year 2006	2007	2008
1 Submitted water (thousand m3)	9 774	8 975	8 905
2 Losses (%)	59,5	54,7	55,1
3 Total submitted water (thousand m3)	3 962	4 066	4 000
incl: for households (thousand m3)	3 288	3 389	3 282
4 Submitted water per person (l/inhabitant/daily)	93,4	98	98
incl: for households (l/inhabitant/daily)	78,6	83	81
5 Share of water supplied population (%)	98,5	98,9	99,4

With sewer network are supplied mostly the large settlements, as in the remaining waste water is discharged into septic tanks. There is no waste water treatment plant - WWTP.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,033	0,033	0,033	0,033
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	1585	1574	3399	4373
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	98,96	98,96	98,96	98,96
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	0	0	0	0
Electric energy supply (Share of dwellings connected)(%)	82	95,48	95,5	96
Natural gas (Share of dwellings connected)(%)	0	0	0	0
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	1,8	5,4	36
Drinking water supply (Share of dwellings connected)(%)	70,05	70,17	70,26	70,32
Wastewater treatment (Share of dwellings connected)(%)	64	64	64	64,85
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,059	0,067	0,073	0,078

Montana

General information

Montana District also is served by two pan-European transport corridors - PETC 4 / Craiova (Romania) - Vidin-Sofia –Kulata / and PETC 7 / Danube River /, and here is the second largest, after Ruse / port complex on the Danube - Lom.

Road Network

The District of Montana has a relatively well developed road network. Its density is 0.292 km / sq km, at an average for the country of 0.336 km / sq. No motorways were constructed on the territory of the district. The Republican roads network is with a total length of 598 km, of which I class roads are 51.9 kilometers, II class roads are 161.6 km, and III class - 384, 5 km.

With great importance for the economic development of the District is the international road E-79, forming the direction of PETC 4 - the route of the Republican road network I -1 / Vidin -Montana –Vratza- Sofia/, which crosses the district and connects Western and Central Europe with Greece.

With no less importance is the second-class road II-81 / Lom- Montana- Berkovitsa-Sofia/ in Petrohan Pass, which connects the port of Lom with the international road E-79. In a more distant perspective, it is appropriate the building of a tunnel under the pass “Petrohan” with a length of about 9 km, which will provide the shortest link Danube-Aegean Sea. The road II -11 / Vidin- Dimovo- Simeonovo-Botevo- Archar- Lom- Kozloduy-Oryahovo / serves the coastal territory of the district and linking it with neighboring districts of Vidin and Vratza. Another important district road is the II -13 /Montana- Vratza -Krapchene-Krivodol-Borovan/, which connects Montana district with the neighboring Vratza district.

Railway Network

Montana District has very good railway links with the capital Sofia, Black Sea port of Varna and in all directions from the national railway network.

The economic axis of the district is a major railway VII Vidin-Vratza-Mezdra/Sofia line, which is a part of the national railway system. As part of the promising PETC 4, however, it provides ample opportunities for the field of service development.

Internal regional links are carried out by railway branches as directions from the main railway strands, they gether and serve local traffic, mostly with local or regional significance:

- Railway branch Boychinovtsi - Montana – Berkovitsa, provides rail- transport to the district center of Montana and tourist center Berkovitsa as its length is 36 km. and
- Railway branch Brusartsi - Lom is essential for the access to the Danube and the service port of Lom. The length of the second branch railway is 22 km.

Railway lines in the district are with a normal track and are electrified. Their condition is relatively good, in a bad state is only the Montana- Berkovitsa direction, where the speed limit is imposed on the movement.

For the passengers service there operate 10 stations and 9 stops.

Waterways and Ports

On the territory of Montana District, the length of the Danube as waterway is 54.7 km.

Water transport in the district is represented by Lom port and local marinas. “Port Complex Lom” Ltd includes ports of Lom and Oryahovo (Vratza District) and realizes about 40% of Bulgarian cargo along the Danube. Port of Lom is an element of European transport corridor PETC 7- Danube River and is the second largest Danube port in Bulgaria. Cargo from the port reach in the west to Regensburg and Duizburg / Germany and in the east to the Black Sea and Mediterranean basins.

The Port has 13 berths for loading and unloading of a passenger with a total quay length of 1,300 m. It is designed for handling general and bulk cargo. There are well established road and rail approaches also cross border checkpoint. Open storage area is 60.2 acres and the closed is 9.5 ha. The developed infrastructure provides a direct land connection Lom- Thessaloniki. There is a project for rehabilitation, reconstruction and modernization of the port of Lom, which is included in the National transport program.

Air Transport

The district has no civil airport. The nearest civil airport is in Sofia.

In the village Gabrovnitsa, Montana Municipality is former military airport (air base for fighter aircraft, designed in 1950), which is closed and not functioning from 2001. In 1986 was carried out major renovation and extension of the runway, allowing serving all types of transport aircraft aviation. The airport has a system for search and rescue aircraft in critical disaster, also the ability to charge aircraft with fuel and compressed gases.

In village Erden also Montana municipality in 2006, airport is open for training pilots and motor gliders, parachutists and paragliders. The airport was built by the Montana company "AVA Flying Centre", which produces parachutes and paragliders. Airport has an area of 270 acres in the field between Montana and Boychinovtsi. On the 40 acres are hangars and a restaurant, the construction of bungalows, offices and computer room for air traffic control will be carried out.

Multimodal Transport System and Terminals

Bulgaria is a party to the European Agreement on the most important lines for international combined transport and related objects (AGTC), as on the territory of Montana District this is Vidin-Vratza-Mezdra/Sofia railway line.

In addition to these railways, the Europe Agreement contains the terminals of the Republic of Bulgaria, having great importance for international combined transport, as the territory of Montana District this is Port of Lom.

The main logistical base for the implementation of domestic and international container shipping was built in the 70's and 80's and as overall the condition and infrastructure of the Bulgarian railway network does not meet modern requirements for combined transport. There is missing a good connection between the railways and shipping.

Based on international arrangements and studies (AGTC, TER, TINA, trans-European transport corridors) and marketing analysis, priority areas of infrastructure on the Bulgarian territory for development of combined transport within the territory of the District are:

- Vidin-Sofia-Kulata/Plovdiv - Svilengrad (PETC 4) and
- Port Lom.

Electric Energy Networks and Installations

The District is supplied by electrical power from the National electricity grid of the country through 7 transformer substations 110/20 kV, built on its territory. The District has a well developed network of 110 kV transmission lines connecting substations with each other and with those of neighboring Districts.

In the District operate water hydro power plants WPP "Barzia", WPP "Klisura" and WPP "Petrohan" included in the 110 kV network. Other small hydropower plants operate at 20 kV.

Gas and Oil Supply and Distribution

In Montana District supplied with gas is only the district center. The trend is for network expansion and increase of the subscribers. In the future, should be extended gas supply network to reach more locations in the District

Telecommunication Network

The territory of Montana District has a well developed telecommunications infrastructure covering each settlement automatic telephone network. Perform is a full automation of long distance and intercities traffic and digitizing. Digitization has reached 78 % of local posts in the larger settlements in the District.

The territory of Montana District has full coverage of the 3 mobile operator- Mobiltel, Globul and Vivatel.

Municipalities Berkovitsa, Valchedram, Lom, Medkovets and Montana, where lives 77.26 % of the population of the District have Internet access.

Water Protection and Management

Settlements in Montana District are supplied with drinking water from 224 water sources number, divided into 22 groups of water supply through three types of networks- gravity, pump and mixed.

Water sources are uneven, which necessitated the construction of large water supply groups, to satisfy a greater number of settlements with drinking water and the transfer of water masses to 50 km. The constructed 22 number of water supply groups supplied 83 % of settlements. Operational flow of the water sources ranged from predominantly 0,5 l / sec to 15 l / sec.

Important water management facility in Montana District is the dam “Srechenska bara”. Below the dam is built pumping station for the submission of raw water from the dam to the treatment plant. Overall performance of DWTP reaches 1780 l / sec.

The District lags significantly in degree of construction of sewage network in settlements and wastewater treatment plants. Sewage system was built in only three settlements- in Montana, Lom and Varshets. Some larger settlements in the District are also covered by sewage systems built on the local basis, but their networks do not meet the technical requirements and standards.

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,031	0,031	0,031	0,031
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	4949	4829	9509	12740
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	78,33	78,33	78,33	78,33
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	20,22	20,26	20,29	20,32
Electric energy supply (Share of dwellings connected)(%)	87,55	95,19	95,2	95,22
Natural gas (Share of dwellings connected)(%)	0	0	0,97	2,37
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	1,2	5,2	24,24
Drinking water supply (Share of dwellings connected)(%)	73,7	73,82	73,92	73,94
Wastewater treatment (Share of dwellings connected)(%)	69,46	69,55	69,69	69,74
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,095	0,107	0,115	0,121

Vratsa

General information

Vratsa District has a well developed transport infrastructure- railway, road and water connections, representing the main European corridors and ferry /Oryahovo/ Beckett.

The area is served by two pan-European transport corridor- PETC 4/ Craiova (Romania), Vidin-Sofia -Kulata /and PETC 7/ Danube River.

Road Network

Primary road network is represented by road I -1 / Vidin -Montana -Vratsa-Botevgrad- Sofia/, which is part of the international road E- 79 and forms the direction of PETC 4. The condition of this road is good, except the need to rehabilitate the bridge of the Iskar River in the town of Mezdra.

On secondary roads within the District Vratsa, with priority significance is the road II-15 / Vratsa -Borovan-Misia-Oryahovo/, which connects the district center- Vratsa with Oryahovo and located there “Ferry Complex-Oryahovo”. The road was fully renovated and in good condition, but heavy freight traffic requires constant maintenance.

Two more second-class roads pass in the territory of Vratsa district, which have an important strategic function. The first of these - II-13 / Montana / Vratsa -Krivodol-Biala Slatina-Pleven / provides a link of Vratsa District with the neighboring districts of Pleven and Montana, linking the two international roads E-79 and E-83 / Sofia/ Botevgrad-Jablanica- Lukovit- Pleven-Biala-Ruse /, serving respectively the western and central part of the Danube site zone.

Another secondary road - II-11 / Vidin- Dimovo-Lom-Kozlodui- Oryahovo-Gulyantsi-Nikopol / is situated along the Danube, and services the Danube site territory of Vratsa District and provides its connection with adjacent districts of Montana and Pleven.

Railway Network

Vratsa District is well served by railway transport, as through it pass the two main railways:

- II main railway line - / Mezdra-Sofia-Gorna Oryahovitsa -Kaspichan-Varna / double tracked, electrified, and
- VII main railway line / Mezdra-Brusartsi-Vidin/, single tracked, electrified.

Both lines are of international significance included in the Europe Agreements AGC and AGTC, conducted by both international flows and intra-country, providing access to the district and other regions of the country.

On the territory of Vratsa District was built one of the few narrow-gauge railways in the country-Vratsa-Oryahovo, 104 kilometers in length. This line is the connection of the district Vratsa with the coastal town of Oryahovo, but for economic reasons for several years it was closed to traffic.

The leading railway junction, which has national significance, is Mezdra station. It provides a link to the western part of the Danube area to the capital of Sofia and the country. Other larger railway stations are municipla centers- Vratsa, Krivodol and Roman. The district is served by a total number of 19 stations and 22 stops.

Waterways and Ports

On the territory of Vratsa District, the length of the Danube as waterway is 60.25 km.

Within the district are located three ports:

- Port Oryahovo

Port of Oryahovo is suitable for loading and unloading of goods and materials, but in recent years have seen a decay of its functions in respect of goods transported through it.

- Port “NPP Kozlodui” Ltd

The port is suitable for loading and unloading of goods and raw materials, port complex is used only for own needs of NPP “Kozlodui”.

- Ferry Terminal- “Ferry Complex – Oryahovo” – town of Oryahovo.

Leading role in the passage of people and goods across the Danube to neighboring Romania has Ferry complex-Oryahovo. The company is private and is making significant efforts to attract passengers and quality service to passing vehicles. Potential, which has both the border crossing checkpoint Oryahovo and the two ferries-Romanian and Bulgarian, allows for 24 hours to process 200 incoming and 200 outgoing heavy trucks. The average annual quantities of heavy goods vehicles served vary around 400 trucks a week in the outgoing direction and 700 trucks a week to input.

Air Transport

In Vratsa District no air transport facilities exist.

Multimodal Transport System and Terminals

Bulgaria is a party to the European Agreement on the most important lines for international combined transport and related objects (AGTC), as on the territory of Vratsa District this are railway lines.

- Sofia-Mezdra- Gorna Oryahovitsa- Kaspichan- Varna and
- Vidin- Sofia.

In addition to these railways, the Europe Agreement contains the terminals of the Republic of Bulgaria, having great importance for international combined transport, as the territory of Vratsa District this is missing.

The main logistical base for the implementation of domestic and international container shipping was built in the 70's and 80's and as overall the condition and infrastructure of the Bulgarian railway network does not meet modern requirements for combined transport. There is missing a good connection between the railways and shipping.

Electric Energy Networks and Installations

On the territory of Vratsa District is situated NPP "Kozloduy" - the only nuclear plant in Bulgaria and the largest producer of electricity in the country. The annual share in the national electricity power production in recent years is over 40 %. This determines the great importance of the particular entity as a factor for economic stability in the regional and national aspect. NPP "Kozloduy" produces the cheapest energy in the country, thus providing maintenance of affordable price of the electricity to end-users in Bulgaria.

Electricity power supply in the District is done mainly through the national electricity system through 7 110/20 kV transformer substations. The District has a well developed network of 110 kV electricity lines / 9 / , which connect substations with one another and with those of the neighboring Districts.

Gas and Oil Supply and Distribution

On the territory of Vratsa District is situated the only underground repository in the country. It was formed on the basis of the same name depleted gas field condensers and aims to cover seasonal inequalities in consumption and ensure security of supply. Gas storage is connected through a diversion to the North Branch of the gas transmission ring the country, passing near the District.

Telecommunication Network

The total number of postal telegraph and telephone stations on the territory of Vratsa District is 113. The capacity of local telephone exchanges is 103,499 numbers, from which used telephone posts are 81 540. This is an average of 38 telephones per 100 inhabitants.

All cities are already served by digital exchanges.

Higher is the degree of coverage in the District of the mobile network operators Mtel, Globul and Vivatel.

Larger municipalities from the District- Vratsa, Kozloduy, Mizia and Oryahovo, where lived about 60 % of the population have Internet access.

Future development of the communication system is connected with the intentions of the owners of the networks.

Water Protection and Management

Water supply in Vratsa District is carried by gravity and pump networks, the population served in Vratsa District is 99,8 %, served by sewage systems is 55 %. Water supply to settlements is regular without regime.

Water supply in the District is characterized by the following indicators:

Sewage network of Vratsa District covers the towns Vratsa, Mezdra, Roman, Byala Slatina, Oryahovo and Kozloduy. It was built a treatment plant for wastewaters – WWPT "Vratsa". Necessary is also the construction of WWTP in the towns of Mezdra, Byala Slatina, Kozloduy and Oryahovo.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,047	0,047	0,047	0,047
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	135	63	124	168
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	72,41	72,41	72,41	72,41
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	56,55	56,43	56,71	56,92
Electric energy supply (Share of dwellings connected)(%)	90,55	95,08	95,11	95,13
Natural gas (Share of dwellings connected)(%)	0	0	1,2	1,82
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,14	4,8	34,33
Drinking water supply (Share of dwellings connected)(%)	75,11	76,33	76,41	76,47
Wastewater treatment (Share of dwellings connected)(%)	70,02	72,32	72,43	72,51
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,015	0,017	0,019	0,019

Pleven

General information

Through the territory of Pleven District do not pass Pan-European transport corridors /PETC/, but the district is served by water and air transport and road and railway infrastructure of the highest class.

Road Network

The total length of national roads in the Pleven District is 487.2 km, of which the first class roads -95.8 km, second class -205.7 km and third class -19,418 km.

In the territory of Pleven District passes the international road E 83. It is not built the stretch of highway "Hemus" Sofia-Varna. The lack of high-class motorways roads is an obstacle to the development of intra regional connections.

The spatial distribution of high class road network is critical to the mobility of population and accessibility to transport services of high quality, health, educational and cultural. Rate of 90 min access is covered by 80% of Pleven District as a result of the favorable situation of the district center, coinciding with the geometric one.

The district road network has no direct connection with the transport networks of neighboring countries - Romania. This will be overcome with the completion of commissioning of the ferry complex "Nikopol -Turnu Magurele". That will instruct the roads in the north-south direction and will update the project to build a tunnel Trojan - Christo Danovo.

Railway Network

The density of railway network in Pleven district is one with the highest indicators for the country. High is the share of double tracked and electrified lines. Accessibility of railway transport is determined by the stations and stops serving the area. Pleven district is again with excellent performance with accessibility around 20%.

Along with the territorial development of railway network, important for the transport accessibility is the number of train stations and stops serving the areas. Peripheral to railway infrastructure are villages from the northwestern municipalities, especially after the closure of the railway line Cherven briag- Oryahovo.

Through Pleven district pass the following rail lines:

- Sofia-Pleven-Gorna Oriahovitsa-Varna / II major railway line/ also the railway branches
- Cherven briag- Zlatna Panega;
- Yasen-Cherkovitsa;
- Troyan-Levski-Svishtov;

The district is served by 18 railway stations and 14 stops.

Waterways and Ports

On the territory of Pleven district, the length of the Danube as waterway is 88.85 km.

There operate the following ports:

- Somovit port - of national importance - for handling general and bulk cargo
- Port "Petrol – Somovit" is port for public transport with regional importance for the processing of petroleum products and bunkering vessels with petrochemicals.
- Port "Belene" is the port for public transport with regional importance, for handling general cargo, bulk cargo and mail.
- Port "Nikopol" is a port for public transport with regional importance for passenger services.
- Ferry "Nikopol - Turnu Magurele"

The site of the new ferry link Nikopol - Turnu Magurele is located in the western part of the town of Nikopol from km 597.900 to km 597.550 of the mouth of the Danube. The Ro-Ro ramp has a total length of 114 m, filled with two major longitudinal slopes, as the bottom is 90 meters in length and slope 1:10, and higher placed section has a length of 24 m and slope 1:12. The width of the ramp is 30 meters, covered with reinforced mounting plates.

Air Transport

On the territory of Pleven District is military airport in Dolna Mitropolia.

Multimodal Transport System and Terminals

Bulgaria is a party to the European Agreement on the most important lines for international combined transport and related objects (AGTC), as on the territory of District this is the railway line.

- Sofia-Mezdra- Cherven briag- Pleven- Gorna Oryahovitsa- Kaspichan- Varna

In addition to these railways, the Europe Agreement contains the terminals of the Republic of Bulgaria, having great importance for international combined transport, as the territory of Pleven District this is missing.

The main logistical base for the implementation of domestic and international container shipping was built in the 70's and 80's and as overall the condition and infrastructure of the Bulgarian railway network does not meet modern requirements for combined transport. There is missing a good connection between the railways and shipping.

Electric Energy Networks and Installations

Electricity power supply of Pleven District is implemented by the national electricity system, as electricity substation "Pleven" is with the voltage transformation of 220/110/20 kV, which allows greater security and quality of power supply. On the territory of the District is located also the system electricity power substation "Mizya" 400/220/110kV, part of the country transmission system, that receives energy from NPP "Kozloduy". The District has a well developed network of 110 kV transmission electricity lines connecting substations with each other and with those of the neighboring Districts.

On the territory of the District operates Thermal Power Station "Pleven", which powered factories.

Gas and Oil Supply and Distribution

In the territory of Pleven District passes highway gas pipelines, which led to the gasification of large industrial gas consumers, including Thermal Power Station "Pleven". Pleven is in the top five on the share of the heated housings, which contributes to the improvement of the ecological environment, air quality and increase of the comfort of life. Launched household gasification is at a variable degrees of realization of the different cities in the District. The construction of a new gas distribution network on the territory of "Mizia" region is expected, which covers the territory of Pleven District.

Currently, municipalities with domestic gasification are 3, as the share of gas supplied households is 4.26 % (more than twice compared to the national average).

Telecommunication Network

The telecommunication system in the territory of Pleven District is well developed. All settlements are covered by the fixed telephone network of BTC. Existing telephone posts within the District exceeds 100,000 subscribers, 34 % of the capacity is digital, but for Pleven city the degree of digitalization reached 90 %. The goal is in the next 3-4 years to reach 100 % digitalization and to provide subscribers with advanced services related to the ability of digital telephony and digital transmission.

Actively is developed the transmission grid and switching nodes based on NGN technology, which will allow high-speed Internet and Video Services to every home. Residents of Pleven already benefit from the services of broadband connections, built on the ADSL subscriber access.

Internet access is available in the municipalities of Levski and Pleven where lives 54.70 % of the population

Water Protection and Management

Drinking water supplied to the settlements in the District of Pleven is with quality, which meets the regulatory requirements. Problem is the uneven distribution of water resources. For the overall problems solving with the water supply of the settlements in the municipality of Nikopol it is elaborated a working design for water supply from well "Raney", covering a population of 10,000 inhabitants.

The construction of dam "Cherni Osam", reflected in the program of the "Basin Directorate" Pleven, will solve the water supply problems of Pleven and Lovech for a considerable period of time.

Sewage network is built only in five settlements- cities are: Pleven, Levski, Cherven Briag, Belene, Knezha and Koynare. Under construction are separate sewerage sectors in the other municipal centers.

Treatment of wastewater from the town of Pleven and some associated companies is carried out by Treatment plant for wastewaters WWTP with design capacity 1230 l/sek.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,024	0,024	0,024	0,024
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	38	39	60	69
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	99,99	99,99	99,99	99,99
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	0,58	0,52	0,52	0,51
Electric energy supply (Share of dwellings connected)(%)	94,49	97,68	97,7	97,72
Natural gas (Share of dwellings connected)(%)	0	0,23	2,1	4,26
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,98	5,1	33,4
Drinking water supply (Share of dwellings connected)(%)	88,54	89,19	89,26	89,33
Wastewater treatment (Share of dwellings connected)(%)	87,1	87,48	87,57	87,66
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,022	0,023	0,041	0,042

Veliko Tarnovo

General information

The central location of Veliko Tarnovo District in the northern part of Bulgaria makes it a crossroad of transport routes of the highest class, conducting national and international traffic, as through the district passes one of the ten European transport corridors - PETC 9 / Helsinki-Moscow-Bucureshti- Alexandroupolis / on the direction of the first class road I-5, Ruse -Biala -Veliko Turnovo-Stara Zagora- Kardzhali- Makaza crossborder checkpoint. Transport infrastructure in the district provides services to all types of transport- road, rail, air and water, with an option to change one mode to another.

The presence of international airport is a great advantage for the district, which gives exceptional opportunities. Road network is of high class is well developed and provides links in the national plan, incl. international and railway transport, providing international and regional links, covers almost all municipalities in the district. Port of Svishtov provides access of the district to the Danube and all the advantages of the inland water transport - the cheapest and environmentally friendly to transport mass goods over long distances.

Road Network

In the east-west direction, the district is served by two major roads in Northern Bulgaria- first class road I-4 Sofia-Yablanitsa –Sevlievo- Veliko Tarnovo-Targovishte-Shumen-Varna and the -3 Soffirst class road I-3 Sofia- Pleven-Biala- Ruse, passing through the northern part of the district. The route of the motorway ” Hemus” passes through the district of Veliko Tarnovo, still is not built.

The Intra-regional connections are provided by second-class road II-52 Ruse-Novgrad-Vardim-Svishtov- Nikopol and II-54 / Ruse-V.Tarnovo/-Gara Biala-Vardim, serving mainly the northern part of the district and roads II-53- Polikraishte –Gorna Oryahovitsa-Lyaskovets-Elena pass- “Vratnik”- Sliven and road II-55 Debelets- Kilifarevo-Pass of the Republic-Gurkovo- Nova Zagora-Svilengrad, linking the district with southern Bulgaria, as the route of II -55 is one of the possible directions for the tunnel breakthrough in the Balkan Mountains.

Characteristic for the district is the good road construction of roads of high class - no highways exist, but the proportion of first class roads (16.3 percent) is higher than the national average (15.4%). Much higher is the proportion of third class roads (68.6%) compared to that of the country (62.1 percent), while second-class roadnetwork is less developed, as its relative share is significantly lower than average of the country.

Underdevelopment of the second-class road network limiting the access to the district center. Although the density of national roads is higher than the national average, only 60% of the population has access to the district center within one hour due to the prevailing service with third-class road network. About 14 percent of the population takes more than two hours to reach the district center, living mainly in mountainous parts of the district.

Railway Network

Veliko Turnovo District has the advantage to be served by two intersecting main railway lines: Sofia- Gorna Oryahovitsa-Varna (through the municipalities: Veliko Tarnovo, Gorna Oryahovitsa, Lyaskovets, Strazhitsa and serves them through nine railway stations and 5 stops) and Ruse- Gorna Oryahovitsa- Podkova (through the municipalities: Veliko Tarnovo, Gorna Oryahovitsa, Poliski Trambesh and serve them through seven stations and 5 stops). The Two railway lines serve not only national but also international flows. Secondary railway line Levski-Svishtov is of regional significance serving Svishtov Municipality through 2 railway stations and 2 stops and the economically unprofitable railway lines Gorna Oryahovitsa- Elena and Oresht- Belene are closed and now are operated as sidings for freight movement.

The density of the constructed railway network in the district is 50% higher than the national average, which is understandable in view of the importance of Gorna Oryahovitsa, the biggest railway junction in Northern Bulgaria. With its service functions, it is of national importance and an administrative service center for the northern range of railway lines.

Waterways and Ports

The Port of Svishtov is situated on the 554 km from the mouth of the Danube and on the 1825 th km from the port and Regensburg and is the most southern point of the Bulgarian section of Danube, from here is the shortest route from the Danube to mountain passes, and from there to Turkey, Greece and the Middle East.

The port has 8 berths equipped with 12 gantry cranes. There are treated the river and river-sea vessels, there can be processed simultaneously seven vessels. The port is equipped with necessary logistics and portal technology, built is playground with electronic railway scales of measurement for bulk wagons. Convenient road links to the town of Svishtov with the cities of Ruse, Pleven, Veliko Turnovo determine the dispatch and receipt of a significant proportion of freight to be carried out with automobiles. The port has its own ship for maneuvers of boats pushed from berth to berth and vice versa.

Unfortunately, like other Danube ports, port Svishtov is not seal its capacity. The loss of traditional trading partners and attempts to drill new markets lead to a significant drop in cargo, but in recent years have seen an upward trend in cargo.

Air Transport

Created in 1925 the Airport Gorna Oryahovitsa, from 1995 is the fifth international airport in the country, equipped with new modern technics. The Center for Management of air flights direct aircraft movements over the whole of Northern Bulgaria.

The airport has a leading role in the development of the district socially and economically and is the main point for the export of rapidly spoiled agricultural products, live animals and chilled meat from Northern Bulgaria to the European Union, Russia and the Middle and Far East. The airport is specialized for cargo flights and has potential to increase its business volume by attracting and providing import and export of raw materials and finished goods from the newly created firms in the region

Located near tourist attractions- Veliko Tarnovo and Arbanassi with its attractiveness and historic value, are of foreign tourists interes tvisiting Bulgaria. Businessmen, tour operators and carriers are interested in opportunities to operate the airport.

The region has active agricultural aviation, technical equipment and aircraft which are able to meet the needs of agriculture across North Bulgaria.

Multimodal Transport System and Terminals

Bulgaria is a party to the European Agreement on the most important lines for international combined transport and related objects (AGTC), as on the territory of District this is the railway line.

- Sofia-Mezdra- Cherven briag- Pleven- Gorna Oryahovitsa- Kaspichan- Varna

In addition to these railways, the Europe Agreement contains the terminals of the Republic of Bulgaria, having great importance for international combined transport, as on the territory of Veliko Tarnovo is Gorna Oryahovitsa. The main logistical base for the implementation of domestic and international container shipping was built in the 70's and 80's and as overall the condition and infrastructure of the Bulgarian railway network does not meet modern requirements for combined transport. There is missing a good connection between the railways and shipping.

Electric Energy Networks and Installations

Stable supply of electricity to the District is ensured by the presence of Gorna Oryahovitsa substation as an item of national transmission system 220 KV. Each municipality receives power supply of 110 KV which is a prerequisite for security in electricity supply and availability of capacity for future development. High-voltage electricity grid is designed for loads greater in excess of the current and, with rare exceptions, it has possibility to take additional load, but the HV network in some parts is physically and morally depreciated.

In the District operate two Thermal Power Station – TPP “Svilozha” and TPP” Zaharni zavodi” which are possessed by factories and are designed to power the industrial enterprises.

The existing hydropower plants are one of the few hydro WPP in North Central Bulgaria, working on 20 KV and meeting the local needs.

All settlements in the District are electrified. Overall, the electricity distribution network is reconstructed and maintained at a good condition.

Gas and Oil Supply and Distribution

The northern branch of the national pipeline system in Bulgaria passes through the territory of Veliko Turnovo District, but until recently the District did not receive natural gas supply, even for industrial use.

In the District of Veliko Tarnovo are gasified 4 municipalities - Veliko Tarnovo, Gorna Oryahovitsa and Lyaskovets, the relative share of gas supplied households is 1.86 %:

Telecommunication Network

Settlements are covered by local networks with Automatic Telephone Stations/ ATS/, with a relatively good degree of completion. Total operating in the District are 126 ATS, as 32 of them are in Municipality of Veliko Tarnovo, 22 - Municipality of Pavlikeni 17 - Municipality of Svishtov, 15 municipal and Gorna Oryahovitsa and Strazhitsa, 9 - in Municipality of Elena, and in one in Lyaskovets, Zlatitsa and Suhindol. The total telephone density is 33.0 tel.p. / 100 inhabitants, lower than the national average (36 tel.p./100 inhabitants), but in view of domestic Posts density is higher than the national average.

The process of modernization of the communication infrastructure associated with its digitization is progressing gradually. In the period 2002-2006 put into operation was the optical regional highway Lyaskovets-Dzhulyunitsa-Strazhitsa and digital ATS in many cities.

In Veliko Tarnovo Municipality degree of digitization (33.5%) is close to the average for the country, Strazhitsa municipality (33.2 %) - also. Lyaskovets Municipality has 100 % digitalization of local telephone communications, very high is the percentage for the Municipality of Zlataritsa - 64.2. In the other municipalities the process is progressing slowly, as in the municipalities of Elena, Suhindol and Polski Trambesh it is not started yet.

Installed digital capacity in the digital stations allows digitalization of numbers for business and population combined with expansion in the range of services- digital leased lines, ISDN and broadband subscriber access.

The majority of the District is covered by the networks of mobile operators, with the exception of some areas of the mountainous part of the District- mainly the municipalities of Zlataritsa and Elena. With the completion of the optical routes, coverage will be stabilized.

Veliko Tarnovo District is one of the areas where Internet access is mass available. Seven out of 10 municipalities in the district have Internet access, as there lives more than 90 % of residents of the District. However, access for households is below 30%, but 100% of it is broadband:

Water Protection and Management

The District is rich in water resources and the majority of settlements have a central water supply, as the main source is a dam "Iovkovtzi"(municipalities of Veliko Tarnovo, Gorna Oryahovitsa, Lyaskovets, Polski Trambesh, Strazhitsa, Zlataritsa and Elena), and the water supply system "Rosica" (municipalities Pavlikeni and Suhindol) and local sources also. Dam "Iovkovtzi " is with volume of 92 mln.kub.m, and the treatment plant for drinking water DWTP"Yovkovtzi" with design capacity of 2500 l / sec. DWTP is put into operation in 1980, as it was built only the first stage with 50 % from the power designed.

The completion of water conduction system is good, except for some parts on the territories of the municipalities of Elena and Zlataritsa, where there are nowater supply settlements.

Settlements without central water supply are 138 with 1147 residents, representing less than 0.5% of the total population of the District. There are no villages with perennial water supply scheme, also nowater supply settlements.

Sewage network have all cities in the District and village of Voneshta voda- a total of 11 settlements. Some villages have partial sewage, discharged directly into rivers and gullies.

Treatment plant for wastewaters WWTP "Veliko Turnovo" is working on a temporary technology scheme for biological treatment. A commissioning of new technological scheme, which will allow mechanical and biological treatment of all received water quantity of 365 l / sec is envisaged.

In the District there is another treatment plant for wastewaters WWTP " Strazhitsa", which is currently working with "mechanical " step; envisaged is the putting into operation of the "organic " step.

Started is the construction of the Regional Treatment Plant for waste waters for cities Gorna Oryahovitsa, Dolna Oryahovitsa and Lyaskovets. Some large enterprises have local treatment facilities, others have departmental channels, directly discharged into the Yantra River. It is envisaged their inclusion in the waste water collector to RWWTP.

The construction of WWTP "Svishtov" is included in the National Programme for Environmental Protection for a period of performance in 2010

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,035	0,035	0,035	0,035
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	211	173	330	435
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	55,7	55,7	55,7	55,7
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	0	0	0	0
Electric energy supply (Share of dwellings connected)(%)	94,01	96,84	96,87	96,94
Natural gas (Share of dwellings connected)(%)	0	0	0,34	1,86
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	1,23	7,1	27,67
Drinking water supply (Share of dwellings connected)(%)	87,96	88,05	88,13	88,34
Wastewater treatment (Share of dwellings connected)(%)	82,99	83,19	83,3	83,61
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0,012	0,013	0,013	0,014

Ruse

General information

Ruse District is one of the best serviced with transport infrastructure- rail, road and water connections, representing the main European corridors, ferry, railway and auto cross-border passes, the presence of a free zone, here operates the only bridge over the Danube and the largest river port complex "Ruse"

Through the district pass two European transport corridor- PETC 9 / Bucharest- Giurgiu- Ruse-Stara Zagora- Kardjali-Greece border/ and PETC 7 / Danube River / supplemented by TRACECA corridor: Europe- Caucasus - Asia.

Road Network

The district is served by international roads: E 70, E 83 and E 85.

The highest level of transport services in the district are carried out at on the first class roads:

- I-3 Ruse-Biala- Pleven-Sofia (-83);
- I-5 Ruse-Biala-Veliko Tarnovo (-85);
- I-2 Ruse-Razgrad-Varna (-70).

The second class roads serving the district are:

- I -21 Ruse-Tutrakan-Silistra
- -23 Ruse-Kubrat- Isperih- Dulovo/ Silistra and
- -51 Biala- Popovo-Loznitsa/ Razgrad

The road network is well developed and evenly distributed throughout the district.

Density was near 0.370 km per square km and is significantly higher than the national average (0.333 km / sq km).

The main cargo, serviced by road freight transport are directed to:

- Ukraine, Russia, Belarus and Moldova;
- Poland, Hungary and Slovakia;
- Greece, Macedonia, Albania and Serbia;
- Turkey, Iran and Armenia.

The total length of national road network for Ruse District is 496.6 km, of which 109.5 km road from the first class, second class- 140.1 km and 247.0 km third class.

Railway Network

On the territory of Ruse district exists well developed railway infrastructure. The current track has a length of 146.100 km- 2.25% of the total length of railway network in the country.

The area is served by 13 stations and 8 stops.

Railway station "Ruse" has great strategic importance for the implementation of combined transport in transport corridors PETC 7 and PETC 9.

The most important for the district connections with the hinterland and cross-border relations with Romania are:

- Ruse main line IV-Stara Zagora -Podkova passing through the central part of the Danube site zone. This is the only destination with access to land in Romania under the bridge over the river at the city of Ruse.
- IX main railway line- Ruse -Kaspichan is the backbone of the land strand Ruse-Varna, which connects Danube / PETC 7 / and Black Sea / PETC 8 / through the Bulgarian territory in the zone.

The average speed of trains on railway sections from IV-th train line between stations was 65 km / h and by rail portions of the IX-th train line is 70 km / h. Railway section from the Station of Borovo to Station Biala, part of PETC 9 has a small curve radii of 280 m to 350 m, which is a prerequisite for the deterioration of its technical and operational situation and the low speed of trains- 55 km / h. The parameters of railway lines do not meet the requirements for components of PETC.

Waterways and Ports

The city of Ruse is situated on the 489 km of the Danube and is an important multi-modal node located at PETC 7 and PETC 9. It is the biggest Bulgarian river port and an important trade and industrial and transportation center. Port Ruse include Port of Ruse-East, Center-Ruse, Ruse-West, Svishtov, Somovit, Tutrakan and Silistra.

- Port of Ruse East is located in an area of 803 acres. Quay walls are with a total length of 1618 meters, and have 14 berths. The depth to the berths is from 2.4 to 2.6 m. The port is intended for processing of general, bulk

cargoes and containers. It has indoor and outdoor storage areas- respectively 15.8 acres and 148.2 acres. In Port of Ruse East is built ferry complex, with 32.3 acres of parking.

- Port of Ruse West is located in an area of 118.4 acres and has 11 berths. The total length of quay line is 1310 m. It is designed for the processing of general and bulk cargo. It has indoor and outdoor storage area- respectively 27.6 and 9 acres. The depth to the berths is 3 meters in elevation zero.
- Passenger port of Ruse-Center has 10 pontoons, with a total length of 1860 m and depth to the berths- 2.6 m

In Ruse district operate several ports of regional significance:

- Port “Ruse - bunkering terminal “Arbis” is a port for public transport with regional importance for the processing of petroleum products and bunkering ships.
- Port “Port Bulmarket – Ruse” is a port for public transport with regional importance for handling general cargo, bulk cargo and petroleum products.
- Port “Danube dredging navy” is a port for public transport with regional importance for handling general and bulk cargo and supply ships with water, telephone and electricity.
- Port “Ruse - free trade zone” is a port for public transport with regional importance for the processing of petroleum products.
- Port “Double Ve Co “ Ruse is a port for public transport with regional importance for handling general cargo and bulk cargo and supply ships with water, telephone and electricity.

Moreover, here also operate two ports for special purposes:

- Port “PPRD”- used to based in ship repair and to provide navigation - road conditions and maintenance of the shipping route along the Danube.
- Port “Ruse Shipyard” - used for construction and repair of ships and vessels.

Air Transport

“Ruse Airport” Ltd. is redundant, no Certificate of service date, with 100 percent state ownership as the principal is the Minister of Transport.

In late 2006, the Government added Ruse airport in the list of civilian airports for public use in Bulgaria, serving international traffic.

In the National Strategy for Integrated Development of Infrastructure of the Republic of Bulgaria for the period 2006 – 2015, Ruse airport is among the priority projects in the sector “;Transport”; and is in the program for construction of infrastructure through concession.

The Airport has the potential to operate international charter flights (passenger and cargo), flight of general aviation and low cost airlines, because it is located along the road and intersection of Pan-European transport corridors PETC 7 and PETC 9.

Multimodal Transport System and Terminals

Bulgaria is a party to the Europe Agreement on the most important lines of international combined transport and related objects (AGTC), as on the territory of the District that are the railway lines:

- Ruse- Gorna Oryahovitsa- Dabovo- Dimitrovgrad
- Ruse-Razgrad-Kaspichan-Varna

In addition to these railways, the Europe Agreement contains the terminals of the Republic of Bulgaria, having great importance for international combined transport, on the territory of Ruse District - railway-ferry stations / ports within the network for international combined transport- Ruse railway station and ferry.

Intermodal shipments in transit through Bulgaria are realized exclusively by the railway transport through border railway stations in directions:

- (Romania)- Ruse- Svilengrad - (Turkey);
- (Romania)- Ruse- Sofia- Kulata - (Greece)

The main logistical base for the implementation of national and international container shipping was built in 70 and 80 years and as overall, the condition and infrastructure of Bulgarian railway network does not meet modern requirements for combined transport. There is missing a good relationship between the railway transport and shipping.

Based on international arrangements and studies (AGTC, TER, TINA, trans-European transport corridors) and marketing analysis, priority areas of infrastructure on the Bulgarian territory for development of combined transport within the territory of the District are:

- Ruse-Dimitrovgrad/Sofia/Varna (corridor 7 and 9);

- Port Ruse

Electric Energy Networks and Installations

Electrical energy infrastructure in Ruse is well developed and has capacities to absorb large loads, which would stimulate future capacity for economic development and cross-border cooperation.

On the territory of Ruse District operating TPP "Rousse -East", paying the electricity produced in the general electricity network of the country. TPP "Rousse- East" is designed for cogeneration of electricity and heat. TPP "Rousse West" also has possibilities for cogeneration of electricity and heat.

Electrical distribution and heat transmission networks had to be completed and reconstructed.

Gas and Oil Supply and Distribution

Gas supply system has major facilities that are not loaded because of the backwardness of the domestic gas supply and low consumption of natural gas.

Gas Distribution network is underdeveloped and had to be completed.

Natural gas is consumed in Ruse, Byala and Senovo. Gas Pipeline for high pressure is built (5,5 MPa) F 530, with a length of 70 km, which supplied Ruse with natural gas through two automated gas distribution stations (AGDS). In the region " Danube" for the distribution of natural gas are included municipalities Borovo, Byala, Vetovo, Dve Mogili, Ivanovo and Ruse from the District of Ruse. Included will be also the municipalities of Cenovo and Slivo pole.

Currently, for the District of Ruse is issued only one license for distribution of natural gas-for the territory of Ruse Municipality.

Gasification of the municipalities Borovo, Byala, Vetovo, Dve Mogili and Ivanovo is envisaged.

Telecommunication Network

Telecommunications infrastructure in the District is well developed. The quality of the links are at a relatively good level. Telephone density for the District is 38 telephones per 100 inhabitants (average for the country- 30.3 TP/100 inhabitants).

Assembled 66 ATS with a total capacity of 110,300 posts in the District gradually are replaced by digital. Continued is the construction of the digital capacity first in the cities, then- in villages. Almost all settlements in the District are connected to the national system of automatic telephone dialing.

Optic cable highway is constructed with a total highway length 12.5 km, which forms the optical ring in the city of Ruse. Placed in operation are and fiber highways Ruse- Silistra-Dobrich and Ruse- residential district Sredna Kula, which providing an opportunity for the digitalization of telecommunication services and delivery of fast Internet in small settlements and municipalities.

On the agenda is the design and construction of optical transmission systems that will serve and cross-border traffic.

Security of the District with services connected with the modern information technologies (Internet), can generally be described as good. Access to the Internet now has three of the eight municipalities of the District where live 78 % of the population:

The District is covered by three mobile phone operators: Mobiltel ,Globul and Vivatel.

Water Protection and Management

Ruse District has a good quantitative and qualitative water sources. In the District all 83 settlements are supplied with water, as the length of the water supply network is 3178 km and it covers over than 98 % of the street network.

Sewage network is built only in cities Byala (40%) and Ruse (80%). Partially constructed is the sewage network in the municipal centers - town of Borovo and town of Dve Mogili.

There are no treatment facilities of wastewaters.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,058	0,058	0,058	0,058
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	6803	6027	11631	15561
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	100	100	100	100
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	0	0	0	0
Electric energy supply (Share of dwellings connected)(%)	97,67	98,18	98,2	98,22
Natural gas (Share of dwellings connected)(%)	0	0,67	1,5	1,86
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	3,4	8,3	26,62
Drinking water supply (Share of dwellings connected)(%)	92,13	92,2	92,92	93,04
Wastewater treatment (Share of dwellings connected)(%)	90,16	91,72	91,88	92,03
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0,009	0,015

Razgrad

General information

Through Razgrad District do not pass Pan-European transport corridors / PETC / but the district is served by outstanding transport axis Ruse- Razgrad- Varna, which is an alternative link between the segment and PETC 7 - / Danube River/ and PETC 8 / Barry-Tirana-Skopje-Sofia-Burgas-Varna/. This transport axis is formed by first class road with an European categorization and main railway line.

Road Network

Razgrad District has the advantage to be served by a first class road I -2 Ruse-Razgrad-Shumen / European categorization E-70 /, one of the components of the transport corridor Ruse-Varna.

The majority of the road is in good condition so that access to the regional centers of Varna and especially Ruse is not a problem. More difficult is the access to the capital not only because of backlog in the construction of the Motorway “Hemus”, but also because of the poor condition of secondary class roads, warrant to the major sections to Sofia.

The Secondary class road II-49 Targovishte- Razgrad -Kubrat-Tutrakan is relatively in the best condition of the regional road network in the district and still about 60% of its length is in poor condition.

The whole road II-51 Dralfa-Chudomir-Loznitsa, re-allocating the traffic to the first class roads in the area is in poor condition, 90 percent of the third class road serving the northern part of the area II- 23 Kubrat-Ruse-Isperih - Dulovo, is also in poor condition.

Characteristic for the district is the low rate of construction of the roads of High class:

- No motorways were constructed, the proportion of first class roads (11.2%) is much lower than that for the country (15.6 percent). Lower is the relative share of third class roads (56.5%) compared to that of the country (62.8 percent), serving intraregional links. Although the secondary class roads represent about one third of the total road network in the district, which is much more than their relative share in the country, 77% of them are in poor condition, which severely hampers the transport available to centers offering services of high class and interfaces with neighboring districts.

Accessibility inside the district to the district center determines the opportunities for development of the area as a whole. For 47 percent of the population that accessibility is possible within 30 minutes and this is one of the lowest indicators. 90 minutes of access is possible for about 80 percent of the population of the district.

Railway Network

Razgrad District is served by the main railway line Ruse-Varna (length 55.4 km), the second component of the transport corridor Ruse-Varna. Railway line is electrified, but it is not doubled tracked and served through three railway stations (Prostorno, Razgrad and Yasenovets) and one stop. Section from railway station Samuil to Silistra serves the town of Silistra and Isperih and Samuil municipalities, so that five of the seven municipalities of the area have service by rail. The total length of railway lines is 85 km, which serve the district through six stations and 10 stops.

For one day –night trough Razgrad district pass two pairs of fast trains Ruse-Varna, a pair of fast-train Silistra - Sofia via Kaspichan and fourteen passenger trains through sections Kaspichan –Ruse and Samuil- Silistra, which is estimated to be more than enough for now.

Waterways and Ports

Razgrad district is not served by water transport.

Proximity to the port of Ruse is possible to be used by improving the parameters of the transport elements, components of the regional transport corridor Ruse-Varna, “approaching” the port to Razgrad district and absorption of the capacity of water transport for the district.

Air Transport

On the territory of Razgrad District the air transport is not developed.

Multimodal Transport System and Terminals

Bulgaria is a party to the European Agreement on the most important lines for international combined transport and related objects (AGTC), as on the territory of District this is the railway line.

- Ruse-Razgrad- Kaspichan-Varna

In addition to these railways, the Europe Agreement contains the terminals of the Republic of Bulgaria, having great importance for international combined transport, as on the territory of Razgrad district there are missing.

The main logistical base for the implementation of domestic and international container shipping was built in the 70's and 80's and as overall the condition and infrastructure of the Bulgarian railway network does not meet modern requirements for combined transport. There is missing a good connection between the railways and shipping.

Electric Energy Networks and Installations

Electricity Power supply in the District is carried out by the national electricity system, by 6 110/20 KV transformer substations located in the municipalities of Razgrad (4), Kubrat (1) and Isperih (1), where are focused the main loads for the District. There are 233 km high voltage transmission lines (110 KV) substations connected to each other and to the system ensuring reserve and possibilities of switching in emergencies.

Future developments in the District will require expansion of the system and 110 KV (building substations 110/20 KV "Loznitsa" and "Samuil" and nodal station "Tsar Kaloyan"), associated with normalization of the supply of electricity consumers and increase security of supply settlements.

Opportunity is looking for alternative heat sources, including renewable energy sources, energy efficiency projects in District and municipal programs are focused on the application of technologies using biomass and solar energy in industry, agriculture, households and social sphere.

In the District are not yet built facilities using RES.

Gas and Oil Supply and Distribution

In the Municipality of Razgrad are gasified the fundamental enterprises located in industrial zones. The established distribution network is 45.7 km in length, as there are gasified 400 domestic consumers, 60 public buildings and 4 industrial companies.

In the municipality Isperih was built 15.3 km gas distribution network. Gasified are 53 domestic consumers and 19 companies and institutions.

In the municipality Kubrat gasification of municipal buildings in the municipal center is envisaged, domestic gasification is started.

Telecommunication Network

Telecommunications network in Razgrad District serves settlements through built local telephone network of a conventional type and 66 automatic telephone stations. Telephone density is 23.4 tel.p./100 people lower than the national average (37).

In the city of Razgrad is put into operation an automatic long distance digital telephone station (DALDTS), in which the degree of digitalization of long distance connections in the municipality is 100%.

The installed digital capacity in Razgrad municipality has doubled, and the degree of digitalization of local telephone communications was approximately 15%. In the town of Kubrat is installed digital ATS, but here the process of digitalization has reached only 7.9%, close to the average for the district (8.6%). The majority of the population is served only by the traditional voice telephony, characteristic for the old analog stations, that have low technological level.

Internet access is available in three of the seven municipalities in the District where live 62 % of the population of the District.

Water Protection and Management

Water supply in Razgrad District is performed by water system "Danube " and many water sources owned by municipalities with varying degrees of water supply. The share of population water served in the District is already 100 %, as the consumed drinking water is 71 l / person / day. On the territory of the District is not build wastewater treatment plant for drinking water / DWTP.

Highest percentage loss in distribution network with major amounts of water from water supply system “Danube” and the nature of local water sources predetermine one of the highest water prices in the country for the District.

On the territory of Razgrad District sewage networks are built only in the city of Razgrad (length 65 km) and in the town of Loznitsa (length 2 km). There are individual areas of liaison, which are not connected to the network, the share of population served by sewage systems is 40.7 %.

In the city of Razgrad operates treatment plant for wastewaters / WWTP /, with a capacity of 500 l / sec., as the proportion of the population covered in the Municipality is 65% and treatment plant WWTP in the town of Loznica has a capacity of 20 l / sec. and covers 17% of the population of the municipality.

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,018	0,018	0,018	0,018
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	0	0	0	0
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	84,36	84,36	84,36	84,36
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	0	0	0	0
Electric energy supply (Share of dwellings connected)(%)	93,67	95,24	95,35	95,88
Natural gas (Share of dwellings connected)(%)	0	0,27	1,3	2,85
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0	3,6	21,05
Drinking water supply (Share of dwellings connected)(%)	83,92	84,05	84,15	84,24
Wastewater treatment (Share of dwellings connected)(%)	77,69	82,03	81,92	82,05
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Silistra

General information

Silistra District is served only by a common European transport corridors PETC 7 / Danube River /, but through the district passes a national corridor of international significance in the direction border Romania / Silistra-Shumen-Yambol-border Republic of Turkey.

Road Network

The main road serving the area is first class road I -7 in the direction border Romania- Silistra- Dulovo- Shumen-Yambol-Elhovo-Turkey border, that already after the opening the checkpoint Lesovo- Hamzabeyli formed an international corridor, parallel to the common European transport corridors PETC 9 /Ruse- Kardzhali/, pursuing the transit flows between Turkey and Romania and CIS countries. Other direct links to the national road network are carried out by secondary class roads II -21 Ruse-Tutrakan - Silistra and II -71 Silistra-Dobrich, which re-allocate the traffic into regional plan.

Peripheral position of the district and the regional center on the national territory, partly determines a lag in the development of roads - density lower than the national average, a small proportion of high class roads.

In the district no motorways are built, the length of the only first class road is only 11.4 percent of the total, so it relies mainly on second class road network, whose share reached nearly one third of the total road network and is higher than in country.

This feature of the structure of the road network in the district and the deterioration of most of it, cause difficulties for public access to the regional center of Varna. Less than 20 percent of the population has access within 90 minutes, and 30% required more than two hours. Within the district, access to district center is also one of the most impaired, with only 63 percent of the population has access to Silistra within 60 minutes, and 10% of the population takes more than two hours, which is understandable, to the peripheral location of Silistra.

Railway Network

Service by rail is carried by railway Samuil- Silistra (section from IX major line Ruse-Varna), with a length of 70 km. Serviced settlements located near the railway line are 10, with ten trains per day. For Cargo is open only railway station Silistra. Passenger-loading flow and cargo flow are variables with insufficient utilization of the railway infrastructure.

Waterways and Ports

The length of the Danube as a waterway in Silistra district is 77,64 km.

Ports Silistra and Tutrakan provide links to land transport infrastructure in the district by the Danube river (Pan-European transport corridor 7), with all the opportunities that integrate land and water transport provides.

- Silistra is a port for public transport of national importance for passenger service and ship bunkering. It is equipped with the necessary specialized equipment and transport equipment for servicing ships and wagons with the bulk, palletized and container goods. It is only in the Bulgarian stretch of the Danube, which is able to process bunk river, sea and river-sea vessels with capacity up to 5000 tons. It maintains through all of the year regular line Silistra – Reni-Izmail- Silistra.

- Port “Tutrakan” is port for public transport of national importance for handling general and bulk cargo and passenger service.

- Ferry Terminal Silistra is territorial sized area of the port for public transport of national importance Ruse.

In Silistra district operate several ports of regional significance:

- Port “Silistra - Polaris 8” is used for handling general and bulk cargo.

- Port “Silistra – Lesil” is port for public transport with regional importance for handling general and bulk cargo.

- Port “East Point”- Silistra is a port for public transport with regional importance for passenger service, mail handling, supply ships with water, fuel, electricity and communications.

Air Transport

Airport Silistra is from the group of small airports in Bulgaria. It is able to operate passenger and cargo aircraft from small and mid-range flights and agricultural aviation. Ownership of the airport is a state. By order RD 08.1181/6.12.1999 of the Minister of Transport, Silistra Airport was closed. Possible recovery of the airport by provision is intended for use in accordance with the Law on Concessions.

Multimodal Transport System and Terminals

Since Silistra District is served by railway branch / section from the main railway line / in the district is not developed multi-modal transport.

Electric Energy Networks and Installations

The District receives electricity power from the national electricity system through the established on its territory five 110/20 kV transformer substations

The main energy source for households is electricity. Liquid and solid fuels for household, industry, agriculture and transport are provided by three major and several smaller suppliers and distributors. Settlements are not centrally heated and they rely on local plants for liquid fuels and heating with wood, coal and briquettes. Industry satisfy technology needs for steam with temporary, local plants, mostly operated on oil.

Gas and Oil Supply and Distribution

On the territory of Silistra District does not pass the national gas pipeline system. Nearest connection points are GDS Dobrich / Dobrich District/ GDS Isparih and GDS Kubrat / Razgrad District/, which aggravates the economic justification for building a gas supply network for the households in the District.

Construction of a pipeline from Dobrich to Silistra will allow the industry in the city to replace fuel basis of solid and liquid fuel on to gas.

In the long term it is relied on domestic gasification of the town of Silistra, village Kalipetrovo and village Aydemir.

Telecommunication Network

Telecommunications network covers all settlements from the District and serves them with more than 50 ATS and more than 40,000 telephone posts. Network is underdeveloped, with an average telephone density for the District of 31.2 telephone posts /100 inhabitants, which is lower than the national average (37.2 telephone posts /100 inhabitants). Better developed is the network in the municipalities of Silistra (36 telephone posts /100 inhabitants) and Alfatar (31.4 telephone posts /100 inhabitants), and the greatest gap is for municipalities of Kaynardzha and Dulovo where telephone density is 20 telephone posts / 100 inhabitants.

In the district center it has been already put into operation a combined digital telephone station- Silistra and to all final ATS is provided digital telephone transmission, by which the degree of digitalization of long distance connections reached 100 %, but their subscribers can enjoy high quality dial-up Internet access. Last year is expanded rapidly digitization of local communications in the town of Silistra, in Tutrakan also put into operation is ATS, but within the district the modernization process of the network is progressing slowly.

Internet access is available in three of the seven municipalities of the District where lives about 78% of the population:

Water Protection and Management

Silistra is one of the Districts with the worst water problems in the country.

Water supply network is with a length of 1814 km, of which 1053 km internal water line and external water line 761 km (94.5% of the pipes are asbestos-cement). Due to the depreciation of the water supply facilities, water losses are almost 60%. The proportion of the population served is 100% and no regime of water use exists. Water sources are underground and deeper, which makes high energy consumption and high cost of water services

The length of sewage system in the District is 74 km, built mainly of concrete pipes in the towns of Silistra and Tutrakan, as the proportion of the population covered is 75% and 54%.

Under construction are an urban treatment plant for wastewaters / UWWTP / town of Dulovo - only mechanical step and WWTP in Sitovo municipality.

It is necessary to be completed, modernized and reconstructed the sewage network and to be constructed the wastewater treatment plants (WWTP).

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0	0	0	0
Density of Railways - length of total railway network per km square	0,025	0,025	0,025	0,025
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	314	318	659	908
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	100	100	100	100
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	4,45	4,16	4,27	4,34
Electric energy supply (Share of dwellings connected)(%)	93,04	97,47	97,48	97,49
Natural gas (Share of dwellings connected)(%)	0	0	0	0
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	0,12	4,1	21,82
Drinking water supply (Share of dwellings connected)(%)	87,56	87,8	87,84	87,85
Wastewater treatment (Share of dwellings connected)(%)	81,05	83,81	83,9	83,94
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Izmai kyi rayon

General information

Road Network

Izmail district is important for a formation of the International Transport Corridors System (ITC). Specifically, Izmail district directly adjoins the VII “Cretan” transport corridor (Danube River). Across this district passes the Black Sea Economic Cooperation transport corridor (BSEC) (Ankara – Yerevan – Tbilisi (Baku) – Rostov-on-Don – Donetsk – Odessa (Chisinau) – Bucharest (Tirana) – Dimitrovgrad (Athens) – Istanbul) with the Ukrainian leg of the route being: Reni – Izmail – Odessa – Nikolaev – Kherson – Melitopol – Berdyansk – Mariupol – Novoazovsk. This region interfaces with the “former IX “Cretan” transport corridor: (Khelsinki – St. Petersburg – Minsk (Moscow) – Kiev – Odessa – (Lyubashevka – Platonovo – Chisinau) – Dimitrovgrad) as well as the Eurasian corridor (Odessa – Tbilisi (Yerevan) – Baku – Ashgabat).

The international roads indicated in the UNECE AGR documents (E-roads) include a 65 km long section of the E-87 motorway Reni – Izmail.

Izmail district has a relatively well developed network of roads which connect it with the other district centres of Odessa region and the settlements of the district. However, the level and condition of these roads should be considered unsatisfactory. Practically, all roads of this region require reconstruction and repairs of various complexity. The problem involves substandard road carpet, potholes and settling due to flooding, temperature gradients, snow and ice impacts and low temperatures during winter seasons.

The main proposal concerning the development of the motorway and road network in Izmail district is to reconstruct the motorway Izmail-Kiliya-Vilkovo. Important role, as well, is attached to construction of the Odessa-Reni motorway.

Railway Network

Odessa – Izmail railroad is of the national importance. Along this railroad cargoes are carried to Izmail Port and further on by the VII Transport Danube corridor to the Danubian countries, the Mediterranean and the Near East. However, this railroad has no independent international importance.

Railway connection from Odessa to Izmail was inaugurated on May 16, 1946. The railroad is 287 km long. This road of a lateral type was constructed as a temporary one for the defence purposes but it was not reconstructed later.

The existing railroad crossing Izmail district is a one-track type and is not electrified. The railroad length is 56 km. The district has three rail terminals: Izmail Terminal (with a separate track leading to Izmail Port), Tashbunar Terminal and Kotlabukh Terminal. Izmail Terminal is an international export cargo terminal. Izmail Terminal is a part of Odessa Railroad. In 2002 the cargo and wagon turnover amounted to 4.8 m tons. In 2001 the Passenger Terminal building was reconstructed to provide daily services to 700 passengers. Regular passenger trains run from the Terminal by the route Izmail-Odessa-Izmail. Within the framework of transport infrastructure development it is quite pressing to construct Reni – Izmail railroad which can be considered as a stage of reconstruction and development of the transport system of Ukraine as regards the ITC.

Waterways and Ports

The southern border of Izmail district runs along the Danube River in its lower course, the Kiliya arm and, correspondingly, along the Danube waterway. The district adjoins the VII European Transport Corridor which accesses, formally, the Black Sea via the Romanian Sulina Channel. The river channel of Izmail section comprises about 70 km and the depths here reach 18 m. Drafts of the passing ships is limited, above all, by Sulina Channel parameters (to 7.4 m deep) and the navigable channel of the Bystroye arm (to 5 m deep). The river channel is referred to the VI class of navigable routes.

Izmail section of the Danube waterway has been included in the list of E-waterways – index E-80-09 – Kiliya arm (in accordance with the European Agreement on Main Inland Waterways of International Importance - UNECE AGN agreement). Izmail Port is situated on the 93rd km of the Danube and is included in the list of E-ports of the European Agreement on Main Inland Waterways of International Importance (P 80-09-01).

Izmail Sea Commercial Port is one of the most modern and highly-mechanized ports on the Danube. Due to its advantageous geographical position it is the country's gates to Europe which connect the Central and North

Europe countries with the countries of the Black Sea and the Mediterranean. Izmail Port water area includes the water area of Kiliya arm of the Danube from the 85th to the 94th kilometre, counting from the left bank towards the conventional line of the state border of Ukraine which passes in the river fairway. Izmail Port is a big transport node handling multimodal transport operations which involve sea, river, rail and road transport.

Izmail Sea Commercial Port is a state-owned enterprise. Nowadays it is developed as a multipurpose commercial port handling iron ore, coal, coke ferrous and non-ferrous metals, paper, pulp, fertilizers, timber and general cargo. The existing port capacity allows of annual handling to 8.5 m tons of cargo. Total area of the port reaches 107.5 ha and the 85th km area comprises another 15.2 ha. Izmail port has 24 berths of 2,618.6 m long total frontage. Open storage area is 201.1 thou sq.m. and the indoor stores comprise 19.7 thou sq.m. The berths of the port can accommodate and handle cargo ships having the draft to 7 m, length to 150 m, width to 30 m and the deadweight to 6,000 t.

In 2008 the turnover of Izmail Sea Commercial Port reached 6,880.8 thou tons.

Today the enterprise employs about 2.5 thou people.

It is planned to construct two berths in the Izmail port intended for handling ores, and a fertilizer terminal. Also there exists a highly debatable project: construction of the 2nd stage of the Ukrainian navigable channel “Danube – Black Sea” (via the Bystroye arm) which is to provide for navigable depths in the Kiliya arm channel to 7.2 m (including Izmail) up to Reni port.

Also, it is envisaged to construct a river marina and a yacht club in the near port zone Danube River zone of Izmail which can accommodate to 25 yachts and boats and be expanded in future.

Air Transport

Municipal enterprise “Izmail Airport” has been included in the list of airports claiming to perform international air flights.

The runway is 1,800 m long and 37.5 m wide. The total runway area comprises 72 thou sq.m. Concrete pavement of the runway can accommodate airplanes of 60-65 t takeoff weight. The existing airport area and the ground elevation profile make it possible to reconstruct the runway and make it up to 2,200 m long.

As a civil airport, Izmail Airport was commissioned in 1964. In the 70-ies – 80-ies of the last century the airport was actively involved in carrying air passengers across Ukraine.

Beginning from 1993 air transportation through Izmail Airport and other Ukrainian airports were, practically, suspended. In 1997 the airport got a provisional permit to perform international flights. While this permit was valid 76 international flights including, in particular, Izmail – Vienna – Izmail intended to serve the Danube cruise tourist airline “From the Alps to the Black Sea” (An-24). In 2002 international flights Izmail – Chorlu (Turkey) – Izmail were performed. Altogether 4.6 thou passengers were carried. In 2003 «Kiev Aircraft Repair Plant 410» (ARP-410 Airlines) company performed flights on the route Izmail – Kiev – Izmail. In 2005 the airline “Baltika” (Krivoy Rog) started regular flights “Izmail – Julyany”. During 2007 “Donbass-Aero” company performed flights to Turkish airport “Sabiha Gökçen” three times a week. In 2007 Izmail Airport made 4 flights a week to Turkey, and in 2008 – two weekly flights.

By the end of January 2008 the Odessa – Varna flight made a stop in Izmail.

While in 2001 the airport carried 4.6 thou passengers annually, in 2005 – 13.1 thou passengers, in 2007 11.9 thou passengers were carried.

In 2009 as a result of aggravation of financial difficulties Izmail Airport did not prolonged its license for air transportation. On November 2, 2010 Odessa Regional Council took a decision 1256-V to temporarily preserve the fixed assets of the Airport to 2014.

During the years preceding the airport preservation the enterprise faced a problem of the inability to accommodate contemporary heavy planes because it was required, first, to reconstruct the runway and install lighting systems. It is necessary to replace obsolete radio and navigation equipment, special transport vehicles and the safety control systems. Air safety service premises, radio bureau and air terminal also necessitate major repairs.

Multimodal Transport System and Terminals

Izmail district is important as a part of the International Transport Corridors System (ITC). Specifically, it directly adjoins the VII “Cretan” Transport Corridor (Danube River). Across this district passes the Black Sea Economic Cooperation transport corridor (BSEC) (Ankara – Yerevan – Tbilisi (Baku) – Rostov-on-Don – Donetsk – Odessa (Chi inau) – Bucharest (Tirana) – Dimitrovgrad (Athens) – Istanbul) with the Ukrainian leg of the route being: Reni – Izmail – Odessa – Nikolaev – Kherson – Melitopol – Berdyansk – Mariupol – Novoazovsk.

This region interfaces with the “former IX “Cretan” transport corridor: (Khelsinki – St. Petersburg – Minsk (Moscow) – Kiev – Odessa – (Lyubashevka – Platonovo – Chisinau) – Dimitrovgrad) as well as the Eurasian corridor (Odessa – Tbilisi (Yerevan) – Baku – Ashgabat).

Though from the formal viewpoint Izmail Port is not mentioned in the Multimodal Inland Waterways Transport Protocol to the European Agreement on Important International Combined Transport Lines and Related Installations, Izmail Port is potentially important for a performance of multimodal transportation on the Danube.

Further development of multimodal transportation in the region should be connected with a construction of the “Izmail – Tulcea” Ferry Complex.

Accomplishment of the “Izmail - Tulcea Ferry Transportation” project using RO-RO ships will ensure efficient carriage of transport vehicles and passengers, considerably shorten the existing transport routes between Balkan states and Ukraine. Cargo and passenger road transport will get an opportunity to reach Ukraine by the shortest way from Turkey, the Balkans, Bulgaria and Romania. In particular, due to redirection of a part of road transport to the 87th international motorway in Plovdiv (Bulgaria) section and further on to Constanta, Tulcea (Romania), Ismail and Odessa (Ukraine) the carriers will be able to cut short the route from Bucharest to the Ukrainian border by 600 km.

It can be expected that the flow of cargo and passengers from Russia and Middle Asia via Ukraine, Izmail – Tulcea Ferry Complex towards the Adriatic, the Balkan peninsula, the Near East countries and back. The project will result in an increase of the number of passengers and tourists between Ukraine and Romania to 100,000 persons per year. It is expected that the cargo flow will reach 7,500 transport vehicles (300,000 t). At that it is required to take into account that Izmail – Tulcea Ferry Service will become an interface of the 87th Trans-European Motorway which connects Izmir (Turkey) with Tulcea (Romania) (the distance between Tulcea and Izmail equals 18 km) and will be a logical extension of the transport corridor towards Izmail – Odessa – Rostov-on-Don (Russia) and further to the North Caucasus and Middle Asia. Besides, this project will bring new jobs and increase revenues to the town budget. The required investment of the Ukrainian party is EUR 3.0 m.

Electric Energy Networks and Installations

Izmail district does not have its own electrical power generation sources.

The district is powered by Izmail Electrical Networks Company. As of now it is electrically connected to Odessa Region Electric Power System via the electrical power transmission line located in Starokazachye village. In Izmail there is a 110 kV substation “Izmail-Etalon”.

Technical potential of solar radiation in Izmail district territory is about 1,250 – 1,350 kW/m². This value proves the solar energy to be the priority source of alternative energy suitable for generation of heat and electricity. It is possible to single out several sectors where solar power engineering can be applied: heat solar collectors, photoelectric energy converters (solar batteries) and passive heating (greenhouse heating principle).

The average wind speed in the Danube area of Ukraine varies from 4 to 5 m/s which can ensure minimum profitability of wind generating units installed.

Biomass is of maximum interest for Izmail district as it allows using products, wastes and remains of agricultural production (vegetation and animal waste) and reeds.

The district is quite promising for accomplishing geothermal energy recovery projects.

Currently renewable energy sources are used in the district locally in individual households and farms.

The State Program for Complex Development of the Ukrainian Section of the Danube Area provides for a construction of a 250 MW gas-vapour thermal power plant. A Closed Joint Stock Company “Izmail Gas-Vapour Electrical Power Plant” was established with a view of accomplishing this project.

Electrical power plant will consume gas supplied down the international main gas pipeline. Companies of Greece, Sweden and Russia are potential investors. However, the future electric power plant performance will depend on the price level of the gas obtained from the main gas pipeline coming from Russia to the countries of South and East Europe across the para-state of the Trans-Dniester Republic. This consideration limits a chance for attracting potential investors.

As early as in 2002 a construction site was allocated, gas distribution station was reconstructed with due account of new capacities to be connected, the chief designer was determined and the manufacturers of the required equipment selected.

Also, it is proposed to implement in the district an automated multi-tariff commercial record system of the electric power consumption which will make it possible to control industrial consumer loads and the actual on-line settlement of accounts for the electric power consumed.

Gas and Oil Supply and Distribution

In Izmail district both the network gas and liquefied gas are used. Besides Izmail, 7 other settlements have been provided with gas supply. In accordance with the “Program of Odessa Region Gasification for 2010-2035” it is planned to construct gas supply pipelines Kalanchak-Suvorovo-Kiliya. Altogether in the district it is envisaged to supply gas to 11,719 households which is to cost EUR 18.0 m.

Telecommunication Network

PJSC “Ukrtelekom” is the main operator of landline communications in Izmail district. The number of subscribers of the town network (Reni Town) in 2006 amounted to 25,732, and of the rural network – 5,704. In 2001 a new exchange was commissioned and 6 km of fibre optic cable was laid which improved communication quality and extended capacity of the local telephone exchange.

Mobile communication is the most accessible for people of the district. Among all mobile communication providers in the district it is expedient to single out “Intertekom” (CDMA standard), “Kievstar”, MTC and Life (GMS) which cover to 100% of the district area. Mobile operators provide Internet wide-band services. Nowadays, fibre-optic landline network is accessible in Izmail only.

Telecommunication development in the district necessitates further installation of fibre-optic cables and provision of wide-band Internet in rural areas.

Water Protection and Management

The main sources of surface water in Izmail district are fresh water resources of the Danube and ground waters. The average perennial runoff of the Danube River amounts to 200 km³ (or 6,400 m³/s), in a year of 75% probability it equals 173 km³ and in a year with 95% probability - 142 km³ per year.

In 2008 intake of water from natural water sources in Izmail district was 599.4 m³ (more than 400 m³ per capita), including 6.9 m³ taken from ground water sources. For household needs 5.3 m³ were used, and for the needs of industries - 18 m³. The district uses for irrigation purpose the water Taken from the Danube (6.5 m³ per year).

District settlements (except Izmail) get domestic water from artesian wells (63 wells) and pit wells. Three enterprises of the district discharge circulating waters into the Danube.

Water supply facilities of Izmail have a 13.5 thou m³ daily capacity. Water supply networks are 330.0 km long. Throughput capacity of sewage facilities equals 7.5 thou m³ per day. Waters are treated in the Izmail Pulp & Cardboard Works treatment facilities which have a 42 thou m³ daily capacity. The total length of sewage lines in Izmail comprises 67.9 km.

Apart of Izmail, in the district there are 8 pipelines and 3 self-dependent sewage networks. Water supply facilities are capable of handling 2.1 thou m³ per day and the total length of water supply pipelines reach 491 km, the daily throughput capacity of sewage treatment plants equals 0.2 thou m³ and the sewage network total length is 60.0 km. There is no centralized sewage system in Suvorovo urban-type settlement where local sewage arrangements are in place.

Prospective development of water supply system in Izmail district is linked with a reconstruction of the sewage systems and treatment facilities in Izmail and urban-type settlement Suvorovo.

The regional program of priority water supply to settlements provided for a construction of Suvorovo group water supply pipeline of 15.3 thou m³ daily capacity and more than 200 km long. If constructed it is able to provide water to 9 settlements of Izmail district.

Up to 10% of the district is potentially floodable. More than 250 ha of Izmail Town area is regular flooded. Negative effects of floods can be eliminated if a system of dams and protection facilities is restored as well as polders created within the floodplain of the Danube River.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,046	0,046	0,052	0,052
Density of Railways - length of total railway network per km square	0,045	0,045	0,045	0,045
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	113,1	112	199	215
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	100	100	100	100
Airports accessibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	100	100	100	100
Electric energy supply (Share of dwellings connected)(%)	100	100	100	100
Natural gas (Share of dwellings connected)(%)		77	77	77
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	1	9	14
Drinking water supply (Share of dwellings connected)(%)	77,5	77,4	77,4	77,5
Wastewater treatment (Share of dwellings connected)(%)	42,96	42,89	42,96	43
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Kilii kyi rayon

General information

Road Network

Kiliya district of Odessa region is important for a formation of the International Transport Corridors System (ITC). Specifically, it directly adjoins the VII “Cretan” transport corridor (Danube River) as well as the Black Sea Economic Cooperation transport corridor (BSEC) (Ankara – Yerevan – Tbilisi (Baku) – Rostov-on-Don – Donetsk – Odessa (Chisinau) – Bucharest (Tirana) – Dimitrovgrad (Athens) – Istanbul) with the Ukrainian leg of the route being: Reni – Izmail – Odessa – Nikolaev – Kherson – Melitopol – Berdyansk – Mariupol – Novoazovsk.

This region interfaces with the “former IX “Cretan” transport corridor: (Khelsinki – St. Petersburg – Minsk (Moscow) – Kiev – Odessa – (Lyubashevka – Platonovo – Chisinau) – Dimitrovgrad) as well as the Eurasian corridor (Odessa – Tbilisi (Yerevan) – Baku – Ashgabat).

The international roads indicated in the UNECE AGR documents (E-roads) include a 7.6 km long section of the E-87 motorway passing across Kiliya district.

Kiliya district has a relatively well developed network of roads which connect it with the other district centres of Odessa region and with other settlements. However, the level and condition of these roads should be considered unsatisfactory. Practically, all roads of this region require reconstruction and repairs of various complexity. The problem involves substandard road carpet, potholes and settling due to flooding, temperature gradients, snow and ice impacts and low temperatures during winter seasons. Major part of the roads has been designed for trucks with axle load not exceeding six tons while contemporary trailers and buses weigh from eight to ten tons. The roads unsuitable for contemporary transport vehicles lead to destruction of the road cover.

The total length of roads is 747.4 km, i.e. hard-surface roads – 505.5 km (65.6 %). The length of motorways comprises 14.3 km, 1st class roads – 90.5 km. The 2nd class roads comprise – 400.7 km, including 89.6 km of hard-surface roads.

Motorways density in the district is 0.01 km/km², that of the 1st class roads – 0.066 km/km² and that of the 2nd class – 0.29 km/km².

The main proposal concerning the development of the motorway and road network in Kiliya district is to reconstruct the motorway Izmail-Kiliya-Vilkovo. Important role, as well, is attached to construction of the Odessa-Reni motorway.

Railway Network

Railroad of the national importance Izmail – Odessa crosses the district territory. This road is 12 km long and is a one-track not electrified railroad. The only railway terminal in the district is Dzinilor station.

Within the framework of transport infrastructure development it is proposed to construct a new railroad branch from Dzinilor station to a prospective estuarine port in the Jebriyan Bay of the Black Sea or in Sasyk liman

Waterways and Ports

The southern border of Kiliya district runs along the Danube River in its lower course, the Kiliya arm and, correspondingly, along the Danube waterway. The district adjoins the VII European Transport Corridor which accesses, formally, the Black Sea via the Romanian Sulina Channel. The river channel of Kiliya section comprises about 50 km and the depths here reach 18 m. Drafts of the passing ships is limited, above all, by Sulina Channel parameters (to 7.4 m deep) and the navigable channel of the Bystroye arm (to 5 m deep). The river channel is referred to the VI class of navigable routes.

Kiliya section of the Danube waterway has been included in the list of E-waterways – index E-80-09 – Kiliya arm (in accordance with the European Agreement on Main Inland Waterways of International Importance - UNECE AGN agreement). Kiliya Port is situated on the 47th km of the Danube and is included in the list of E-ports of the European Agreement on Main Inland Waterways of International Importance (P 80-09-02). To the offshore of the Danube delta (0 km) the international port of Ust-Dunaisk (P 80-09-03) is located. Kiliya Port and a berth in Vilkovo town are administered from Ust-Dunaisk Port.

Ukrainian navigable channel Danube – Black Sea

The channel in the Prorva arm estuary was constructed in the USSR time in 1957 but it did not ensured sea shipping activity and it cannot be used for sea shipping – primarily river-sea type ships were able to pass it. The shipping fairway in the Prorva arm was able to accommodate relatively small sea ships coming in ballast only.

In 1994 the channel turned to be completely silted and the attempts undertaken in 1997-1998 to restore shipping in the Prorva channel were not crowned with success.

After the Prorva channel became silted, the ships having the draft below 3 m could pass via a technological channel which connects the Prorva arm and the water area of Ust-Dunaisk Port. The depths in the port water area were reduced from 14 m to 3.5 m. On the average, up to 1,000 ships were passing the connecting channel annually.

The basis for a creation of the new shipping channel Danube – Black Sea was made by the Resolution of the Cabinet of Ministers of Ukraine of March 20, 1998 “On approval of the program for creation and functioning of the national network of international transport corridors in Ukraine”. It was envisaged to set up a domestic shipping fairway within the frame of the VII International Transport Corridor Danube – Black Sea.

The decision to construct a deep-sea channel Danube – Black Sea in the Bystroye arm was taken on May 12, 2004. The works associated with the construction of the deep-sea shipping channel are performed by the State Company “Delta-Lotsman” and were started in 2004. The first stage of the deep-sea shipping channel “Danube – Black Sea” in the Bystroye arm was commissioned on August 26, 2004.

In 2008 the sea approach channel was commissioned as a completed hydrotechnical facility.

In November 2007 Ukraine adopted the Final resolution regarding accomplishment of the project “Creation of the State Shipping Channel Danube – Black Sea in the Ukrainian section of the delta. Complete development”. This decision was taken, however a number of procedures envisaged by Espoo Convention (Convention on environmental impact assessment in a transboundary context) were not fulfilled which turned to be the main reason for the parties to the Espoo Convention at their 4th session (19-21.05.2008, Bucharest) to adopt recommendations to limit the accomplishment of the 2nd stage (Resolution IV/2).

Ust-Dunaisk Port is located in the Jebriyan Bay directly at the entry to the Kiliya arm.

The port was constructed in the end of the 70-ies to serve the lighter transportation system (LASH). Ust-Dunaisk provided for accommodation, safe stay and handling of lighters and accumulation of lighters for further transportation by river and sea. However, the operation of the lighter transportation system was terminated.

Basically, the port handles transit cargo and connects the Danubian countries with the countries of the Black-and-Azov Sea basin, the Mediterranean, the Red Sea and the South-East Asia.

Ships are handled in the roads, The outer roads is 14 m deep and the inner roads is 11.5 m deep while the approach channel leading to the inner roads is 12 m deep. In the port there is a section to accommodate large-tonnage sea ships to 50,000 t freight-carrying capacity. Ust-Dunaisk is not connected with either rail or road network. The port has equipped indoor storage areas of 22.6 thou m² capacity and the open storage areas of 162.8 thou m².

The port can handle to 4 m tons of cargo annually. The port turnover was formed, mainly, (more than 2/3) by bulk and loose cargo: ore, ore concentrates and grain. Also, the port handles metals, equipment, raw textile, paper and pulp. Cargo is delivered by ships, non-self-propelled barges and lighters. The port includes the Kiliya port station. In Vilkoovo town there is a berth with the adjacent administrative office. Here river transport is handled only.

In 2008 the turnover of the Sea Commercial Port of Ust-Dunaisk comprised 226.3 thou tons.

Currently the Ust-Dunaisk Port administration is looking for investors who can invest funds in a construction of cargo handling terminals and dredging of the port water area.

As of now, two alternatives out of the other existing options are under review in connection with a construction of the Danube – Black Sea channel: Danube – Sasyk channel and Solomonov arm – Jebriyan Bay channel.

Air Transport

There are no civil aviation airports in the described region. Izmail airport located at a 30 km distance from Kiliya has been preserved.

Multimodal Transport System and Terminals

Kiliya section of the Danube adjoins the VII Danube Transport Corridor. Also, Kiliya district is crossed by the Black Sea Economic Cooperation transport corridor (BSEC) (Ankara – Yerevan – Tbilisi (Baku) – Rostov-on-Don – Donetsk – Odessa (Ci inau) – Bucharest (Tirana) – Dimitrovgrad (Athens) – Istanbul).

Within Kiliya district there are 3 border-crossing points of various status (2 international and 1 local border-crossing points).

Ust-Dunaisk Port is the main multimodal point in the district where the Black Sea shipping routes join the Danube waterway E 80-09. (In compliance with the Multimodal Inland Waterways Transport Protocol to the European

Agreement on Important International Combined Transport Lines and Related Installations, the Ukrainian section of the Danube waterway was given the index C-E 80-09. The transport corridor corresponds to the former 18th priority axis of the Trans-European Transport Network.

Port Station Kiliya has been indicated in the Multimodal Inland Waterways Transport Protocol to the European Agreement on Important International Combined Transport Lines and Related Installations under index C-P 80-09-02.

Further development of multimodal transportation in the district should be connected with a development of the road and rail transport, including laying of the European gauge rail track (1,435 mm) to the prospective estuarine Danube port in Kiliya district.

Electric Energy Networks and Installations

Kiliya district does not have its own electrical power generation sources.

The district is powered by Izmail Electrical Networks Company via the “Izmail – Kiliya” electric power transmission line.

Technical potential of solar radiation in Kiliya district territory is about 1,250 – 1,350 kW/m². This value proves the solar energy to be the priority source of alternative energy suitable for generation of heat and electricity.

The average wind speed in the Danube area of Ukraine varies from 4 to 5 m/s which can ensure minimum profitability of wind generating units installed.

Biomass is of maximum interest for Kiliya district as it allows of using products, wastes and remains of agricultural production (vegetation and animal waste) and reeds (Fig. 3) for producing biogas which daily potential can reach more than 40,000 m³.

Currently renewable energy sources are used in the district locally in individual households and farms.

Currently it is planned to construct a 50 MW electric power station with the use of Australian investments. It is required to allocate about 100 ha (the proposed site in Kiliya is the old airfield). Investors are planning to invest approximately USD 200 m in this project.

The other proposals in the district are linked with implementation of an automated multi-tariff commercial record system of the electric power consumption which will make it possible to control industrial consumer loads and the actual on-line settlement of accounts for the electric power consumed.

Gas and Oil Supply and Distribution

Currently there is no gas distribution network in Kiliya district. Consumers make use of the liquefied gas.

Development of the gas supply and distribution system in the district is linked with a construction of the mainline gas pipelines and a branch gas pipeline Kalanchak-Suvorovo-Kiliya. The gas pipeline Kalanchak-urban type settlement Suvorovo-Kiliya is intended to provide gas to consumers in Kiliya and Izmail districts of Odessa region (altogether about 20 settlements). Gas is supplied down a 5.5 MPa high-pressure gas line Shebelinka - Dnepropetrovsk – Krivuy Rog – Izmail. The total length of the gas pipeline is 49.8 km. Approximate construction cost amounts to about EUR 20 mln.

The district has potential natural gas deposits in the Black Sea shelf.

Telecommunication Network

PJSC “Ukrtelekom” is the main operator of landline communications in Kiliya district. The number of subscribers of the town network (Kiliya, Vilkoovo Towns) in 2006 amounted to 6,002, and of the rural network – 2,412.

In 2003 PJSC “Ukrtelekom” switched over the international and intercity communication channels of Kiliya Town to a new fibre-optic line “Dnestr-2”.

Mobile communication is the most accessible for people of the district. Among all mobile communication providers in the district it is expedient to single out “Intertekom” (CDMA standard), “Kievstar”, MTC and Life (GMS) which cover to 100% of the district area. Mobile operators provide Internet wide-band services.

Telecommunication development in the district necessitates further installation of fibre-optic cables and provision of wide-band Internet in rural areas.

Water Protection and Management

The main sources of surface water in Kiliya district are fresh water resources of the Danube and ground waters. The average perennial runoff of the Danube River amounts to 200 km³ (or 6,400 m³/s), in a year of 75% probability it equals 173 km³ and in a year with 95% probability - 142 km³ per year.

District settlements get domestic water from the Danube and from artesian wells (25 wells) and pit wells. Ground water is highly mineralized. Operation of the local water treatment facilities in villages Shevchenko, Leski, Novoselovka and Krasny Ovrag of Kiliya district was terminated because of their destruction and now technical water is supplied by the water supply pipelines.

There are 2 sewage systems in the district – in the towns of Kiliya and Vilkoovo, and water supply system exists in 6 settlements. Water supply facilities capacity reaches 12,000 m³ per day and the total length of water supply pipelines equals 280 km. Daily throughput capacity of sewage treatment facilities of Kiliya Town is 3.15 thou m³, that of Vilkoovo – 1.0 thou m³, and the total length of sewage pipelines equals 12.0 km.

For the needs of the district the annual water intake from natural sources amounts to 55 m m³ (1,000 m³ per capita) including for domestic purposes – 1.5 m m³, for industrial needs – 1.2 m m³, and for irrigation – 41.1 m m³ of water per year.

Prospective development of water supply system in Kiliya district is linked with a reconstruction of the sewage systems and treatment facilities in Kiliya, and Vilkoovo; construction of the 8 km long water supply pipeline from village Dmitrievka to village Ruchei (Kiliya district), construction of the water supply pipeline, water reservoirs and pumping stations from village Ruchei (Kiliya district) to Tatar-Bunar Town; end of construction of the Kiliya group water supply pipeline which is to provide potable water to 12 settlements of Kiliya district.

Up to 20% of the district territory is potentially floodable. To create conditions to keep in check accumulation of flood water it is required to restore the wetlands located in the areas of earlier embanked floodplain, arrange polders which flooding can be controlled, restore the potential of the Danube lakes/water reservoirs Katlabukh and Kitai in order to accumulate floodwater, and to increase the throughput capacity of the Danube arms.

Indicators of Transport and Technical Infrastructure

<i>Indicator</i>	<i>1996</i>	<i>2001</i>	<i>2005</i>	<i>2008</i>
Density of Highways - length of highways per km square	0,006	0,006	0,006	0,006
Density of Railways - length of total railway network per km square	0,008	0,008	0,008	0,008
Water Transport - freight transferred through ports in the region per 1 000 inhabitants	34	58	18	16
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	100	100	100	100
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	100	100	100	0
Electric energy supply (Share of dwellings connected)(%)	99,7	99,93	99,96	99,8
Natural gas (Share of dwellings connected)(%)	0	0	0	0
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	1,25	7	9
Drinking water supply (Share of dwellings connected)(%)	67,1	66,78	67,08	67,1
Wastewater treatment (Share of dwellings connected)(%)	23,89	22,53	23,89	24
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Renii kyi rayon

General information

The most important role in industry is played by the transport sector. Its main enterprise is the Reni port, located on the left bank of the Danube River. Today Reni sea port is a powerful transportation hub in Ukraine, which is closely working sea, river, rail and road transport.

Except the port, there are still a few local enterprises, they are: branch office of “Reni Rayavtodor”, BE “Odessa Oblavtodor”, OJSC “Motor Roads of Ukraine”, separated structural subdivision of the Odessa railway station in Reni and others.

Road Network

Due to its geographical position Reni district is considered important in the context of a formation of the International Transport Corridors System (ITC). In particular, the VII “Cretan” transport corridor (Danube River) crosses the district.

BSEC transport corridor (Ankara – Yerevan – Tbilisi (Baku) – Rostov-on-Don – Donetsk – Odessa (Chisinau) – Bucharest (Tirana) – Dimitrovgrad (Athens) – Istanbul) with the Ukrainian leg of the route being: Reni – Izmail – Odessa – Nikolaev – Kherson – Melitopol – Berdyansk – Mariupol – Novoazovsk passes through Reni district. This region interfaces with the “former IX “Cretan” transport corridor: (Khelsinki – St. Petersburg – Minsk (Moscow) – Kiev – Odessa – (Lyubashevka – Platonovo – Chisinau) – Dimitrovgrad) as well as the Eurasian corridor (Odessa – Tbilisi (Yerevan) – Baku – Ashgabat).

Unfortunately, the list of projects indicated in the Manual on the development of Trans-European transport network does not include the motorways of this region.

However, the international motorways mentioned in the UNECE AGR documents (E-roads) include a section of the E-87 Reni – Izmail motorway passing across Reni district.

Reni district has a relatively well developed network of roads which connect it with the other district centres of Odessa region, with other settlements of the district and the Republic of Moldova. However, the level and condition of these roads should be considered unsatisfactory. Practically, all roads of this region require reconstruction and repairs of various complexity. The total length of roads is 252.9 km, i.e. hard-surface roads – 176.8 km (69.7 %). The length of motorways comprises 52.4 km, 1st class roads – 37.5 km. The 2nd class roads comprise – 163 km, including 89.6 km of hard-surface roads.

Motorways density in the district is 0.06 km/km², that of the 1st class roads – 0.04 km/km² and that of the 2nd class – 0.18 km/km².

The main proposal concerning the development of the motorway and road network in Reni district and the Danube region on the whole is to build Odessa – Reni motorway. The necessity of building the new Odessa – Reni motorway is defined in the State Program for the development of the general use motorways for 2007 – 2011 which was approved by Resolution of the Cabinet of Ministers of Ukraine of February 14, 2007, No.217.

The motorway will run in the Odessa region territory and coincide with the direction of the International transport corridor of the Black Sea Circular Road (BSEC corridor). The motorway length will be 261 km.

As of June 1, 2008 the actual road transport movement intensity in the existing road equals 5.2 – 13.5 thou motor vehicles per day. The design daily prospective intensity for 2028 will be 10.4 – 28.1 thou motor vehicles. The motorway is supposed to be constructed in accordance with the 1a category parameters, the minimum width of the earthwork being 28.5 m, the 4-laning being 3.75 m wide each. The basic parameters of the motorway will ensure the design driving speed of 120 km/hr. The motorway is planned to be constructed in stages with due account of financial possibilities of the concessioners as well as of the technical and operational condition of transport movement and the movement intensity on the route.

The construction project provides for an earthwork volume of 8.2 million m³, arrangement of the capital-type road carpet of 5,200,000 m² total area, construction of 23 new road interchanges in two levels when the motorway crosses other roads, 72 dead crossings with secondary roads and railroads and 7 bridge crossings across waterways which include the 5.6 km crossing across the Belgorod-Dniester liman. The approximate construction cost (2007 prices) amounts to UAH 12.9 billion, including the cost of the bridge crossing across the Belgorod-Dniester liman which equals UAH 4 billion. It is planned to finance the project by the funds of investors on a concession basis in compliance with the Law of Ukraine “On concessions for construction and operation of motorways” as well as out of credit funds.

Railway Network

The railroad Razdelnaya – Bendery (Moldova) – Reni – Giurgiulehti (Moldova) – Galati (Romania) is a section of the international motorway E-560. The railroad branch passing through Reni is of international importance and is connected with Road 700 leading to Bucharest and further on to Albania and Greece.

Though this railroad is not a priority as defined by the contemporary vision of the European Transport Network, the importance of the railroad direction remains rather high. So, the railroad is included in the BSEC international transport corridor.

The existing railroad in Reni district is a one-track and non-electrified.

The railroad Reni – Bendery – Razdelnaya - Odessa (401 km, 302 km running within Moldova) is a continuation of the railroad Bendery – Reni – Galati which was built by Russia in 1877 (300 km). The length of Reni – Razdelnaya section equals 330 km and it is responsible for the main bulk of cargo transported to Reni via Kuchurgany border crossing point. In doing so, the railroad actually crosses the Ukraine/Moldova border three times.

The district has two railway stations Frikatsei and Reni. Reni Terminal is an international cargo export station. In the USSR time it handled to 8-10 million tons of cargo. Nowadays it handles not more than 0.9 million tons of cargo annually.

In context of the transport infrastructure development is it topical to construct the railroad Reni – Izmail as one of the stages to reconstruct and develop the transport system of Ukraine as a part of the ITC. The new railroad branch will make it possible: to shorten the rail route Odessa – Reni to 341 km, avoid a necessity to cross the state border when carrying cargo to Reni Port and create prerequisites for developing the international transport route Galati – Reni – Odessa. The total construction cost of Izmail – Reni railroad branch is about EUR 300 m.

Provisionally, it is suggested to accept through tariffs to Reni Terminal and simplify the rail border crossing point at the Ukraine/Moldova border.

Waterways and Ports

The southern border of Reni district runs along the Danube River in its lower course, the Kiliya arm and, correspondingly, along the Danube waterway. The length of the international leg (VII European Transport Corridor) in the Ukrainian section is 133 km. The navigable channel of the Reni section comprises about 45 km. The depths here are up to 18 m. The draft of the passing ships is limited, above all, by the Sulina channel parameters (Romania, depth to 7.4 m) and the navigable channel in the Bystroye arm (Ukraine, to 5 m). The class of the navigable channel is the highest – VII.

The Reni section of the Danube waterway is included in the E-waterways list under index E-80 (in compliance with the European Agreement on Main Inland Waterways of International Importance - UNECE AGN agreement). At the 128th km of the Danube there is a port included in the E-list of the European Agreement on Main Inland Waterways of International Importance – the Port of Reni (P-80-63).

International sea Port of Reni is a big transport node on the Danube. The port is located in the navigable section of the Danube between the 66.7 and 69.3 miles at a distance of 63 miles from the estuary. The port area includes a part of the fenced bank stretch on the left bank of the Danube, from 123.6 km to 128.3 km.

Port of Reni is navigable all the year round, it communicates with the Black Sea via the State Shipping Channel “Danube – Black Sea” and via the Sulina Channel. Depths at berths reach 12 m and make it possible to handle all ships which draft allows of passing the approach channels.

Unique geographical position has determined the status of the Reni Port both as a sea port and a river port. In the USSR time Reni Port was a leader among other Danubian ports and handled to 15 m tons of cargo every year.

The design capacity of the port is 14.5 m tons. The port territory is 940,000 m². the frontage equals 3,927 m. Indoor storage area is 30,000 m² and the outdoor storage area is 195,000 m².

Reni Port has a well developed network of railroads.

The port consists of 3 cargo-handling areas, a ferry-boat complex and an oil terminal. The oil terminal tanks are able to keep 7,000 m³ of oil products.

Turnover of the Sea Commercial Port of Reni in 2008 equalled 3,448.4 thou tons.

Air Transport

There are no civil aviation airports in the described region. Izmail airport located at a 50 km distance from Reni has been preserved in 2009.

Multimodal Transport System and Terminals

The Reni section of the Danube River is referred to the VII Danube Transport Corridor. Also, the BSEC transport corridor (Ankara – Yerevan – Tbilisi (Baku) – Rostov-on-Don – Donetsk – Odessa (Chisinau) – Bucharest (Tirana) – Dimitrovgrad (Athens) – Istanbul).

Within Reni district there are 10 border-crossing points of various status (5 international, 2 inter-state, 2 – simplified and 1 local border-crossing point).

Port of Reni is the main multimodal node in the district where the Danube waterway

E-80, international motorway E-87 and railroad E-560 are joined together. In compliance with the Multimodal Inland Waterways Transport Protocol to the European Agreement on Important International Combined Transport Lines and Related Installations, the Ukrainian section of the Danube waterway was given the index C-E 80. The transport corridor corresponds to the former 18th priority axis of the Trans-European Transport Network.

Though formally Reni is not mentioned in the Multimodal Inland Waterways Transport Protocol to the European Agreement on Important International Combined Transport Lines and Related Installations, the port is important for multimodal transportation on the Danube. So, a ferry-boat terminal functions in the port.

Reni ferry-boat terminal handles ro-ro ships both in river and sea directions. The ro-ro berth is 126 m long with the depth at berth of 3.6 m. The cargo handling intensity reaches 72 motor vehicles per day.

There functions a regular ferry-boat line Reni (Ukraine) – Ruse (Bulgaris) which is the most advantageous route to deliver cargo and passengers by road to Bulgaria. The length of the Danube leg equals 368 km. The time required for the ferry to make a passage from Reni to Ruse is 36 hours, and from Ruse to Reni – 24 hours.

Further development of multimodal transportation in the district should be connected with a development of the road and rail transport, including laying of the European gauge rail track (1,435 mm) to the prospective estuarine Danube port in Kiliya district.

Construction of the ferry-boat terminal Orlovka – Isakcha is lobbied by the Romanian side. This project has been presented by a Romanian company “M. B. S. Invest”. It concluded an agreement with the Isakcha Town Council and obtained 14 ha of land to arrange the ferry-boat terminal on the Romanian side. There will be border guards and customs officers with their facilities, a motel and a shop. The throughput capacity of the ferry-boat terminal may reach 1 m tons. Altogether it is planned to invest EUR 15 m in this project.

Electric Energy Networks and Installations

Reni district does not have its own electrical power generation sources.

The district is powered by Izmail Electrical Networks Company.

In the district there is a section of the 750 kV superhigh electric power transmission line connecting the “South Ukrainian Nuclear Power Plant” (SUNPP) with Isakcha Town (Romania). This power transmission line was commissioned in 1986 but it was put out of operation in 1996. The power transmission line passes across the territory of Ukraine (284 km), Moldova (112 km, including across the Trans-Dniester Republic) and Romania (3 km). By now the considerable part of the power transmission line has been dismantled.

Technical potential of solar radiation in Reni district territory is about 1,250 – 1,350 kW/m². This value proves the solar energy to be the priority source of alternative energy suitable for generation of heat and electricity. It is possible to single out several fields where solar energy can be applied: heat solar collectors, photoelectric converters (solar batteries) and passive heating installations (greenhouse effect).

The average wind speed in the Danube area of Ukraine varies from 4 to 5 m/s which can ensure minimum profitability of wind generating units installed.

Biomass is of maximum interest for Reni district as it allows of using products, wastes and remains of agricultural production (vegetation and animal waste) and reeds

The district is promising for accomplishing geothermal projects.

Currently renewable energy sources are used in the district locally in individual households and farms.

The project to restore the 750 kV electric power transmission line connecting the “South Ukrainian Nuclear Power Plant” with Isakcha Town (Romania) has been proposed. It is planned to be accomplished in two stages: the 1st stage – to reconstruct the power transmission line section from Moldova regional power station to Isakcha, and the 2nd stage – to reconstruct the power transmission line section from SUNPP to Moldova regional power

station. The first stage was to be completed in 2.5 years. Besides, the project provided for a construction of “d.c. connectors” at the Ukrainian/Romanian border which could have allowed of exporting electric power in compliance with the standards and requirements of the Union for the Coordination of Transmission of Electricity (UCTE).

With a view of restoring the inter-state 750 kV electric power transmission line SUNPP – Isakcha (Romania) a consortium “Southern Energy Company” was established in 2007. The required capital investments to restore the SUNPP – Isakcha power transmission line and construct the connector elements amounted to EUR 300 m.

Besides restoring the SUNPP – Isakcha power transmission line, the development of the regional electric power industry is linked with a construction of the 330 kV “Novoodesskaya – Artsiz” power transmission line. This project is to connect the Greater Danube areas, including Reni district, with the Unified Energy System of Ukraine. The project was partially accomplished in 2008.

Also, in the district, it is proposed to implement an automated multi-tariff commercial record system of the electric power consumption which will make it possible to control industrial consumer loads and the actual on-line settlement of accounts for the electric power consumed.

Gas and Oil Supply and Distribution

Located in Reni district is the most important component of the Ukrainian Gas Transport System: gas-measuring compressor station “Orlovka” which makes a part of the international gas supply pipeline “Soyuz” (Russia (Orenburg) – the Balkans). The throughput capacity is up to 80 billion m³ annually.

In 2009 the district has been provided with gas to 100%. No important developments of the gas transport and gas distribution system in Reni district is planned in the nearest future.

Telecommunication Network

PJSC “Ukrtelekom” is the main operator of landline communications in Reni district. The number of subscribers of the town network (Reni Town) in 2006 amounted to 5,684, and of the rural network – 2,238.

In 2004 PJSC “Ukrtelekom” together with the firm “Soyuz-KT” switched over the international and intercity communication channels of Reni Town to a new fibre-optic line “Dnestr-2”. In 2007 a new digital automatic exchange for 300 numbers was commissioned in the district.

Mobile communication is the most accessible for people of the district. Among all mobile communication providers in the district it is expedient to single out “Intertekom” (CDMA standard), “Kievstar”, MTC and Life (GMS) which cover to 100% of the district area. Mobile operators provide Internet wide-band services. As of now, the fibre-optic landline network is accessible in Reni Town only.

Telecommunication development in the district necessitates further installation of fibre-optic cables and provision of wide-band Internet in rural areas.

Water Protection and Management

The main sources of surface water in Reni district are fresh-water resources of the Danube and the Danube lakes (Kagul, Yal pug and Kugurlui). The annual perennial runoff of the Danube is 200 km³ (or 6,400 m³/s), in a year of 75% probability it equals 173 km³ and in a year with 95% probability - 142 km³ per year.

In 2008 the water intake from natural water sources of Reni district amounted to 4.2 m m³ (on the average, 112 m³ per capita). For domestic purposes 0.8 m m³ was used, and for industrial purposes – 0.1 m m³. Water for irrigation is taken from local sources and the Danube River (0.5 m m³ p.a.). Four enterprises of the district discharge circulating waters in the Danube.

Reni district covers its municipal requirements at the expense of ground water sources. So, in 2007 2.1 m m³ of water was taken from ground sources, and in 2008 - 1.8 m m³. The daily capacity of water supply facilities of Reni comprises 2.6 thou m³. The length of water supply pipelines of the district equals 272.6 km. Water is supplied to 52.7% households of the district.

Rural settlements are provided with water from 93 artesian wells and a great number of shaft wells.

Centralized sewage system is available only in Reni Town and in Novoselskoye village. The total volume of sewage water in the district amounts to 2.8 m m³. Throughput capacity of the sewage treatment facilities is 2.4 thou m³ per day. The total length of sewage pipelines reaches 33.0 km. The sewage treatment facilities of Reni have a 2,000 m³ daily capacity and discharge to the filtration land plots.

Prospective development of water supply system in Reni district is linked with a reconstruction of the sewage systems and treatment facilities.

Up to 15% of the district territory is potentially floodable. Negative effects of floods can be eliminated if a system of dams and protection facilities is restored as well as polders created within the floodplain of the Danube River.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,056	0,056	0,06	0,06
Density of Railways - length of total railway network per km square	0,031	0,031	0,031	0,031
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	198	125	262	363
Accessibility of water ports (share of region area accessible from ports within radius of 60 km) (%)	100	100	100	100
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	100	100	100	0
Electric energy supply (Share of dwellings connected)(%)	100	100	100	100
Natural gas (Share of dwellings connected)(%)		44,44	88,89	88,89
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	1	10	14
Drinking water supply (Share of dwellings connected)(%)	52,7	52,5	52,6	52,7
Wastewater treatment (Share of dwellings connected)(%)	19,96	19,9	19,94	20
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

Moldavian Danube Area

General information

Transport infrastructure is a critical precondition for inclusive economic and human development. But roads are of particular importance for the economic and social development of Moldova. Being a geographically small and landlocked country, a decent network of national and local roads is the optimal solution for transporting both freight and passengers inside the country and for middle distance international transportation. Presently 95% of passengers and 30% of freight is transported by road. International roads are also vital for Moldova's integration into the regional economy. Transport network in NUTS₄ Cahul include the following types of contemporary transport - car, air and rail lines of communication with those. Cahul present a transmission such as:

- Giurgiulesti port
- Rail line Cahul - Giurgiulesti
- International airport Cahul
- National roadway Chisinau-Cahul-Giurgiulesti.

Turnover of goods in NUTS₄ Cahul performed by specialized transport companies and individuals trucks totaled 109600 tons-km (in 2007), being the 87,4% decrease compared to 2006. Volume of goods transported in this period increased by 2,7 times. Number of passengers transported by buses and minibuses, which carries out transportation of passengers on routes of general in 2007 was up by 2,5 times compared with 2006.

Through NUTS₄ Cantemir pass one European way across Moldovan region the Danube:

E577: Poltava-Kirovograd-Goianul Nou-Chisinau-vama Giurgiulesti-Galati-Slobodzia.

Road Network

Few European roads cross the Moldovan side of the Danube Region:

- 577 E: Poltava-Kirovograd- Goianul nou-Chisinau-vama Giurgiulesti-Galati-Slobozia.

- E 560 Buzau-Galati-Reni-Etulia-Giurgiulesti-Greceni-Bolgrad-Taraclia-Basarabeasca-Carabuteni-Cimislia-Bender.

The longest section of the E577 passes through NUTS₄ Gagauzia, then through NUTS₄ Cahul (almost 35 km less) while the smallest section pass through NUTS₄ Taraclia.

According to statistics provided by the Ministry of Transport Roads found that:

- the Danube to Moldova is not crossed by roads and Pan-European TEN-T roads, here are only European significance, except NUTS₄ Cantemir.

Of road infrastructure in this region are not Motorways and Expressways. Of all the highways here are built and operated roads of 1st class and 2nd class. Better road infrastructure is developed in NUTS₄ Cahul and Gagauzia. This can be explained as follows: (i) such area is larger than NUTS₄ Taraclia and NUTS₄ Cantemir (ii) the first two NUTS₄ are better developed economically and the number of economic enterprises is higher here.

Length of 1st class road is different in all NUTS₄. The network has the longest NUTS₄ Gagauzia, which is actually three times higher than in NUTS₄ Cantemir 2 times - than in NUTS₄ Taraclia. State roads such as different. Some sections of road were repaired NUTS₄ Gagauzia in recent years, some will be rebuilt later under the Strategy Action Plan.

2nd class road in NUTS₄ proportion is different than that which is 1st class roads. The network has the longest NUTS₄ Cahul, which is 2 times longer than NUTS₄ Cantemir. In second place is 104,1 km long NUTS₄ Gagauzia.

Road network density (1st Class Roads) is relatively uniform for all pre-Danubian area NUTS₄ of Moldova, instead 2nd Class Roads are different, with a higher share in Taraclia and Cantemir and a relatively small share in Cahul and UTAG.

1st class roads in this region are almost entirely asphalt only Cantemir about 14% are paved.

Railway Network

Railways are important for the Moldovan economy due to their central role in cargo transportation, particularly in long-distance international transport towards Russian and other eastern markets. Rail transport to Western countries is constrained by railway gauge incompatibility. The Soviet 1,520 mm standard is used in Moldova and its Eastern neighbours, whereas the European 1,435 mm standard is used in Romania, Moldova's neighbour to the West. In 2008, railway transportation accounted for 68% of the total transported cargo in Moldova. Long-distance cargo is in fact the main profit centre of the incumbent state-owned operator ("Caile Ferate ale Moldovei" – "Moldova Railways"), which also maintains some non-profitable operations like domestic passenger transportation and even some non-core assets (construction, electricity, telecommunications, health and other divisions). Presently about 80% of the Moldova Railways' income is derived from international cargo transport. In

a number of Moldova's local communities – such as Basarabasca, Ocnita - the economic well-being of the people depends significantly on railway traffic and associated services.

Cahul and Cantemir cities have rail link with the capital of Moldova - Chisinau in railway section Chisinau - Revaca-Cainari - Basarabasca - Cantemir - Cahul. Another important railway in the region is Chisinau - Basarabasca - Taraclia - Vulcanesti - Reni - Giurgiulesti - Galati that continues to Ukraine and Romania. Largest railway station is situated in Cahul. It has 35 electrical switches as well as electrical interlocking post.

All of proposed rail road to research pre-Danubian area of Moldova are only main road type tracks inside / national class. Longest network is located in NUTS₄ Gagauzia, NUTS₄ Cahul this network is short fifth, in NUTS₄ Cantemir - 3 times, but NUTS₄ Taraclia - 2,5 times.

In Moldova in general are not electrified railways. Non-electrified railway network in the Danube region consists of 258 km, the major share of NUTS₄ Gagauzia lies 108 km, the smallest segment - 30 km in NUTS₄ Taraclia. All present networks consist of Single track.

According to statistics supplied by the Ministry of Transportation can find the following:

- the Danube part to Moldova is not crossed by roads and railway Pan-European and TEN-T, in NUTS₄ Taraclia and Gagauzia present road of European importance.
- In NUTS₄ Gagauzia track length is 3 times higher than in NUTS₄ Taraclia.

Most major network density railway lines inside / national class has NUTS₄ Gagauzia - 0.06 km/km².

New section of Cahul – Giurgiulesti railway is already built and put into service.

Waterways and Ports

P 80-62 - Port Giurgiulesti (133 km) as a port complex on the Danube. However, Moldova by Giurgiulesti International Free Port has direct exit to the maritime sector of the Danube, which allows for future development of international shipping. The main shipping route in this region is the Prut River, which has international importance, is the 4 grade in the international system of road classification Ship. Inland waterway of the Republic of Moldova is possible to transport goods through the composite lining pusher craft and barges with cargo capacity up to 600 tonnes on the Prut River. River Prut be made transportation of goods from Moldova in Giurgiulesti construction materials, particularly sand, gravel or coal. In Moldova, the Danube region is currently a seaport: Giurgiulesti International Free Port - the maritime sector of the Danube, is adapted for transporting goods, and in 2009 - the summer and passengers are transported.

Moldova is a landlocked country and does not have direct access to the sea. However, it can use to a limited extent its internal waterways – the lower Prut and Dniester rivers and its narrow gateway to the Danube shore (800 m) - to receive small seagoing vessels. There is one maritime port and four river ports in Moldova (including three under the effective jurisdiction of the Transnistrian authorities. Moldova has two open drain inland waterways (rivers Dniester and Prut) are classified as routes of international importance, according to the "European Agreement on main domestic shipping routes of international importance" concluded at Geneva on January 19, 1996 (Resolution Moldovan Parliament No. 1431-1424. 12. Ratification 1997, Monitorul Oficial 5 / 17, 22. 01. 1998).

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South Region, the business development perspective Giurgiulesti International Free Port and economic investment from both domestic and foreign as the construction of piers for smaller vessels processing and spatial fairway Prut River, will increase the flow of goods transported.

Air Transport

Air transportation has become increasingly important over the past decade, with the number of transported passengers more than doubling between 1996 and 2008. Still, the capacity of air transportation in Moldova is underused, both for passengers and freight. While air transportation is currently not important for cargo transportation, the situation may change in the future if Moldova manages to make use of its central geographical position between East and West.

There are five airports in Moldova territorial located in Chisinau, Balti, Cahul, Tiraspol, Marculesti, the Chisinau International Airport is only used for regular flights made to / from Moldova and, respectively, constitute the country's air gateway.

Cahul airport has total area of 100,45 hectares. He has long runways 1700 feet is approved and opened for operation in daytime. Airport Cahul presents for district a strategic cross-border cooperation in the Euroregion

"Lower Danube". Further development of the Airport will be influenced by activity at the Terminal Giurgiulesti and international seaport Giurgiulesti.

A small airport with an area of 52.57 hectares is situated in NUTS₄ UTA Gagauzia. Currently not used. There is also an airport along the route Ciadâr Lunga – Bolgrad, 2 km away from Ciadâr-Lunga. The airport is located 179 meters above sea level. The equipment consists of three sport planes "Vilga", five planes type "Blanic L-13" and 23 parachutes.

Multimodal Transport System and Terminals

The only multimodal route in Moldova is 430 m section of the Danube - Pan-European Corridor VII passing near the town of Giurgiulesti. The port of Giurgiulesti is the only multimodal node in the country.

Electric Energy Networks and Installations

South Region, and throughout the country is 100% electrified.

Very High Voltage Transmission Lines - 400 kV exist only in NUTS₄ Taraclia and Gagauzia, their length not being significant. Information on High Voltage Transmission Lines - 220 kV are not yet obtained.

The longest network of Low Voltage Transmission Lines - 110 kV can be found in NUTS₄ Gagauzia whereas in NUTS₄ Taraclia the network is two times shorter. In NUTS₄ Cantemir, the network is only 10 km long while in NUTS₄ Cahul it is 25km.

Energy sector is highly dependent on external factors. It is one of the most vulnerable economic sectors of the country given Moldova's dependence on foreign electricity and gas.

Gas and Oil Supply and Distribution

In two out of four NUTS₄ units all settlements are connected to a gas network. NUTS₄ Taraclia and Gagauzia are connected 100% to gas supply system. The gas network is the shortest in NUTS₄ Cantemir (70 km), although this is the only NUTS₄ region with its own gas reserves (300 million m³ or 30%). In other NUTS₄, the gas is 100% imported from Russia.

High pressure gas pipelines are located in this region, the longest network is NUTS₄ Cahul – 200km. Giurgiulesti terminal of NUTS₄ Cahul has storage capacity of 63600 m³ of petroleum products. National oil is only 2% of total fuel used in pre-Danubian region.

High pressure gas pipelines pass through all NUTS₄ units, the network being the longest in NUTS₄ Gagauzia, followed by Cahul. The network is two times shorter in NUTS₄ Taraclia and only NUTS₄ 25 km long in Cantemir.

Transit pipeline pressure and very high international gas pipeline passing through part of the national territory in this region are located in NUTS₄ Gagauzia (20 km) and NUTS₄ Taraclia (15 km). High pressure gas pipelines are located in these regions; in NUTS₄ Taraclia 110 km, in NUTS₄ Gagauzia 220 km.

Oil refinery is located in town Comrat NUTS₄ Gagauzia, of capacity 50,000 tons / year. Comrat another warehouse capacity, NUTS₄ Gagauzia is much smaller and is 5000 m³. Giurgiulesti terminal in NUTS₄ Cahul has a storage capacity of 63,600 m³. National oil is only 2% of total fuel used in pre-Danubian region.

Telecommunication Network

Telecommunications means the pre-Danubian area of the Republic Moldova are fixed and mobile, radio and television. Fixed telephony services are offered by fixed telephony operator National Moldtelecom SA, which aims to provide customers with a basic range of services provided at a quality level. The Internet connection is made by the same company. Mobile is represented by three companies with mixed capital „Orange” SA, „Moldcell” SA and „Moldtelecom” SA - UNITE. According to the 2008 sociological survey, 19% of households have Internet access in the South Region. This is to say that Internet is not yet a common mean of communication. For example, the number of Internet subscriptions in NUTS₄ Gagauzia is less than 1% of the total number of fixed telephone subscriptions whereas in NUTS₄ Cahul it is 6.6%. In NUTS₄ Taraclia and Cantemir, number of Internet subscribers is much smaller. The number of telecommunication nodes pre-Danubian area is different in each NUTS₄. The largest number of nodes is located in NUTS₄ Cahul, 56 nodes, 2nd is the number of nodes NUTS₄ Cantemir (47 nodes). In NUTS₄ Taraclia this number is 24 nodes. In Gagauzia are located 28 nodes.

Water Protection and Management

Rapid development of agriculture and food industry in the 60s and 80s of the twentieth century, based on massive use of water resources, substantially increased crop productivity and agricultural land, industrial

production and overall product republic. At the same time, this condition and reduce quantitative and qualitative indicators of surface water and groundwater. The maximum volume of water collected during 2003-2008 recorded in Cahul (3,5 mln m3).

Groundwater is the main source of drinking water supply of population and agricultural and industrial enterprises of most administrative units. South Region, sector share exceeds 70% municipal and food businesses - 20%.

South Region, the community sector is over 60% of sewage discharged. Maximum volume attests to the Joint Undertaking in Gagauzia (637000 m3), Cahul (762000 m3). Position second is occupied by food companies, with 33% of which mention agricultural enterprises Taraclia and Cantemir, wine factories in Gagauzia and districts Taraclia and Cahul. Help service firms, on average, 5%.

South Region, total was discharged untreated, on average, 1 mln m3. In recent years there is a substantial reduction of these waters to food businesses. The maximum volume of untreated water is discharged from wineries in regions showing Taraclia, Cahul and Vulcanesti. Municipal sector accounting for 45%. The second position is for service companies, the share of which continue growing. These include sanatorium "Nenuphar White" in Cahul, with 130,000 m3 and district hospitals.

Partial Prut water pollution occurs as a result of the discharge water treatment plants to cities Leova, Cantemir and Cahul and non-water protection zones around villages.

Predominantly agricultural character of the republic gives a higher value of water resources undeniable.

Indicators of Transport and Technical Infrastructure

Indicator	1996	2001	2005	2008
Density of Highways - length of highways per km square	0,1	0,1	0,1	0,13
Density of Railways - length of total railway network per km square	0,03	0,03	0,03	0,05
Water Transport - freight transfered through ports in the region per 1 000 inhabitants	0	7,79	9,36	7,35
Accessibility of water ports (share of region area accesible from ports within radius of 60 km) (%)	0	0	25	25
Airports accesibility (share of inhabitants living in area which is located within 80 km radius around (TEN-T airport)) (%)	0	0	0	0
Electric energy supply (Share of dwellings connected)(%)	100	100	100	100
Natural gas (Share of dwellings connected)(%)	6,25	8,75	61,25	76,93
Broadband (internet connection, >256 kbit/s) (Share of dwellings connected)(%)	0	2,25	9	14,25
Drinking water supply (Share of dwellings connected)(%)		5,25	28,57	44,6
Wastewater treatment (Share of dwellings connected)(%)			22,57	35,05
Renewable energy sources (Capacity of regional renewable energy sources in MW per 1000 inhabitants)	0	0	0	0

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