

Chapter 5 Transportation Network Related to Constantza

5.1.1 General

The transport network in Romania consists of six modes; sea, inland waterway, road, railway air and pipeline. According to Romanian Statistical Yearbook 1999, the transported volumes by modes in 1998 were 20.4 billion tons-km (32.7%) by sea, 4.2 billion tons-km (6.7%) by inland waterway, 15.7 billion tons-km (25.2%) by road, 19.7 billion tons-km (31.6%) by railway, 22 million tons-km by air, and 2.3 billion tons-km (3.7%) by petroleum pipeline.

5.1.2 Maritime Port, River-sea Port, and River Port

There are three Administrations established to provide proper port operation for port users; National Company Maritime ports Administration Constantza SA (CPA) National Company Administration of River Sea Ports on the Danube (APDM) in Galati and National Company Administration of the River Ports on the Danube (APDF) in Giurgiu.

CPA is responsible for Constantza, Midia and Mangaria port, while APDM is responsible for Danube River Sea Port situated between 11.5 mile – 164km and 176km – 292km. Galati, Tulcea Braila and Sulina port are under the control of APDM, while Sulina port is the city port. APDF is responsible for Danube River Port situated between 300km and 1075km. The location of the major river ports are shown in Fig. 5.1.1.

5.1.3 Inland Waterway

The Danube River and the Danube-Black Sea Canal are the most important inland waterway in Romania. The River Administration of Low Danube is responsible for the former, and Administration of Navigable Canals is for the later.

The length of navigable Danube River is 2,414.72 km from Sulina to Kelheim, where connects to Main-Danube Canal, and the length related to Romania is 1,075km from Sulina (0km) to the boarder of Yugoslavia (1,075km), of which certain part is under responsibility of Bulgaria Government. Based on the data for the Danube navigation conditions submitted by member Countries, the Danube Commission publishes the data on the nautical conditions of the main channel of Danube and detailed information on each navigable sector, numbers of hazardous sections during the low water level period, average width of navigation canal, the surface water velocity Minimal depths according to the ENR (proper maintaining regulation), and so on.

The Danube-Black Sea Canal is 64.4km long connecting Constantza port and the Danube River, and a couple of twin locks located both end of the Canal, namely Carnaboda Hydrotehnic Site and Agigea Hydrotehnic Site. The size of all chambers of locks are 310m long, 25m wide and 7.5m deep. The bridge clearance of the Canal is 17.0m.

5.1.4 Railway

The Romanian Railways was economically divided into three basic activities; infrastructure, freight transport and passenger transport. The restructuring the Romanian railway was finalized in 1998, and five commercial companies were established through this process.

CFR Marfa is performing the public railway freight transport, including ferryboat service with Conatantza Terminal and combined transport with 32 inland freight terminals. The major railway network and inland freight terminals are shown Fig. 5.1.2.

5.1.5 Road

The total length of public road is 73,260m in the end of 1998 of which modernized part is about 24.6%(18,031km). Only two toll roads crossing Danube River are in operation in Romania.

The most important lines are a part of corridor no. IV and No.IX of Transport European Network. Corridor No. IV connects Budapest, Arad, Sibiu, Bucharest and Constantza. Corridor No. IX connects Alexandroupolis (Greece), Giurgiu, Bucharest, Albitza and Kiev (Ukraine).The major road network is shown Fig. 5.1.3.

5.1.6 Pipeline

Crude oil pipeline and natural gas pipeline are in operation in Romania. Crude oil pipeline is connecting domestic oil fields such as Pitesti, Ploesti and Onesti, and Constantza port. The other pipeline connects Constantza port and Petromidia Oil Complex. International natural gas pipeline connects to Russian gas fields and further extends to Bulgaria, Greece and Turkey. Domestic pipeline will be connected to Trans-European Energy Networks through Hungary.

5.1.7 Land Transport Connection around Constantza

(1) Road

The EU road no.87 runs along Black Sea shore side between Tulcea and Mangalia through Constantza City area. The EU Road no.60 starts at the middle of the Constantza City and connects to Bucharest. Corridor no.IV is now developing, and then the highway will connect Constantza and Bucharest in foreseeable future. The first phase of the highway between Bucharest and Cernavoda started in 2001 and will open by the year of 2003.

(2) Railway

National Railway is connecting Bucharest and Constantza and this line is a part of Corridor no. IV. The line is under rehabilitation (between Bucharest and Constantza City Station). The railway from Constantza port connects this Corridor line near Conatantza City Station. From North port, three dual lines are connected; Between Gate no.6 and no.7, near Gate no.9 and near Gate no.10. From South port, only one single line is connected. There is no plan for rehabilitating these lines.

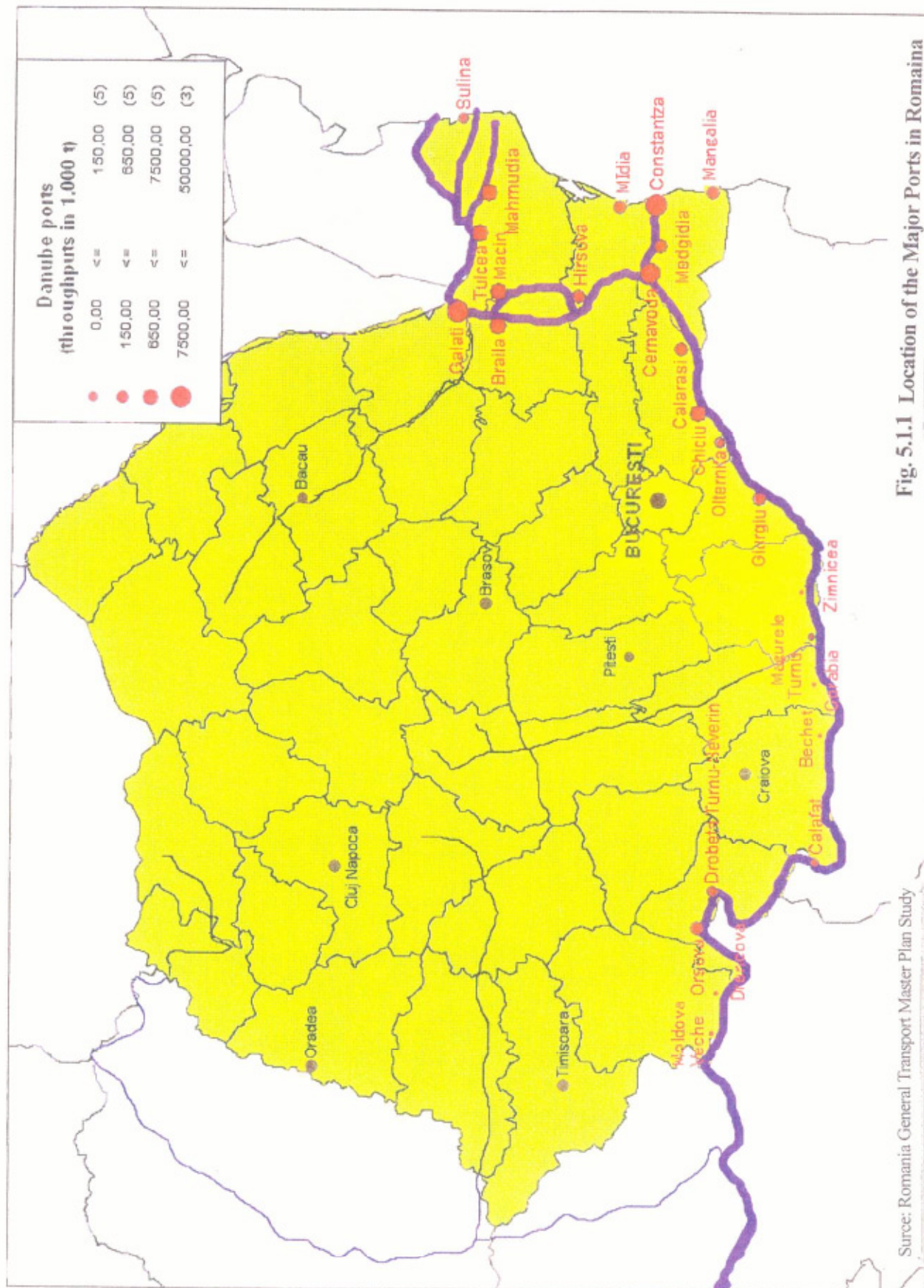
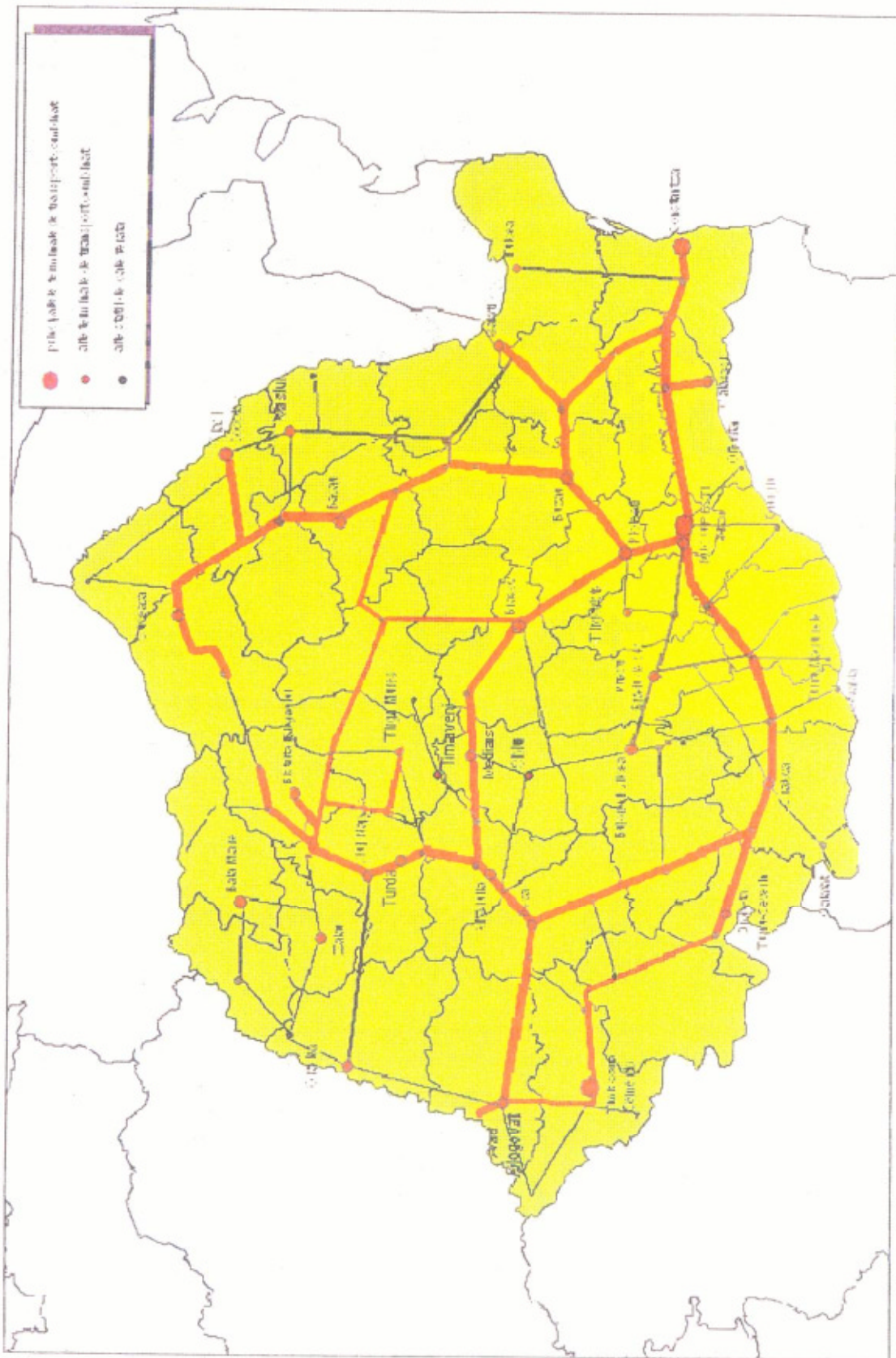


Fig. 5.1.1 Location of the Major Ports in Romania

Source: Romania General Transport Master Plan Study



Source: Romania General Transport Master Plan Study

Fig. 5.1.2 Main Railway Network and Inland Freight Terminals in Romania

**ROMANIA
National Administration
of Roads**



Legend

	European Roads
	Main National Roads
	Secondary National Roads
	Existing Motorways

Source: Romania General Transport Master Plan Study

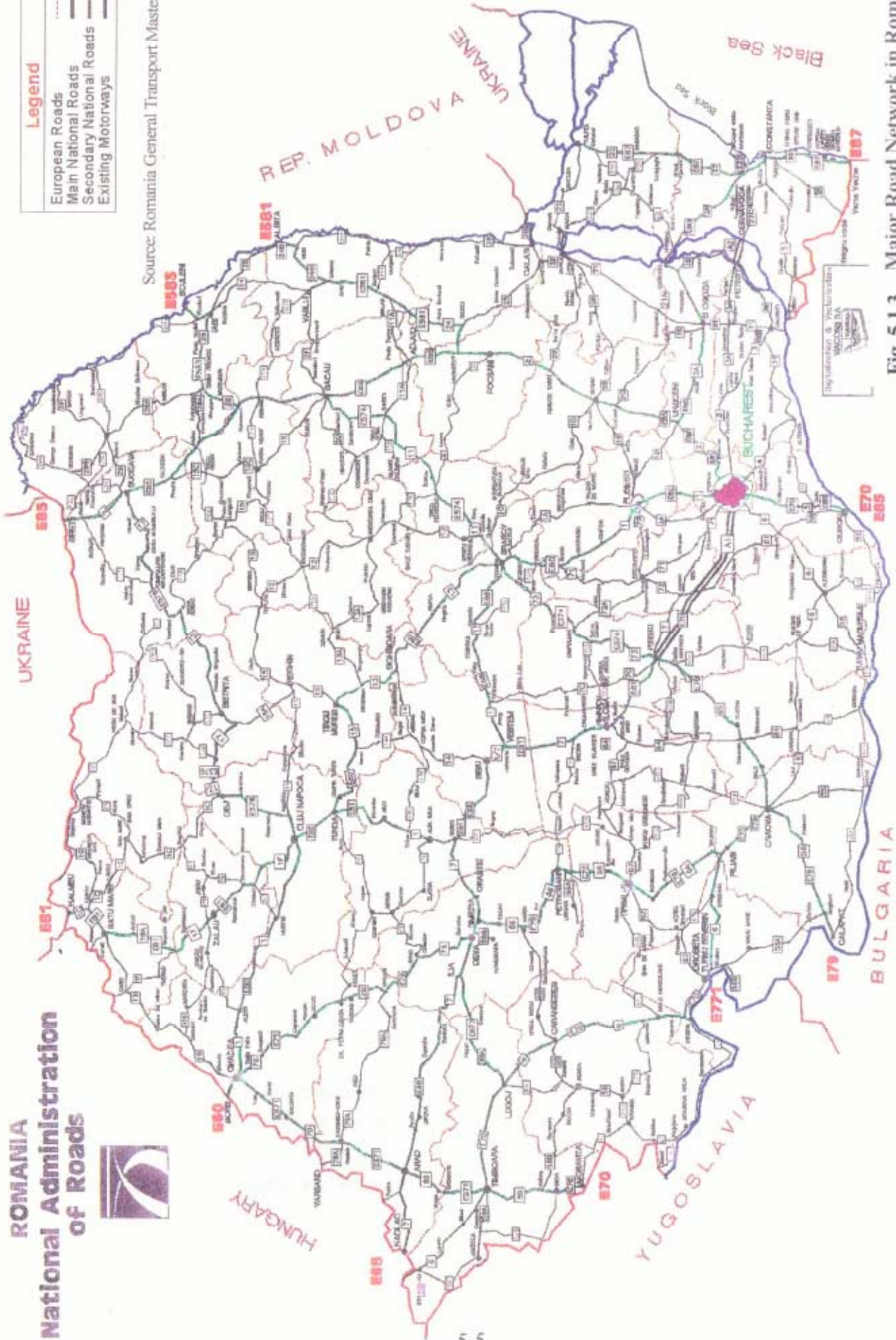


Fig. 5.1.3 Major Road Network in Romania

5.2 Trans European Network and Infrastructure Development Projects related to the Port

Development of transport infrastructure in the hinterland of the Port of Constantza has a strong impact on its activities. In this section, technical and financial programs assisting candidate countries to develop their transportation infrastructure toward EU accession and Romania's transport infrastructure development projects incorporated with are overviewed.

In April 1997, the European Commission proposed a structure for European transport networks serving the entire continent to the Third Pan-European Transport Conference at Helsinki, in which the Trans-European Transport Network of the European Union, and its extension to the future new Members in Central Europe plays a prominent role. This structure was eventually included in the declaration of the Helsinki Conference.

In its Agenda 2000, the Commission identified the importance of transport for the Union's Pre-Accession Strategy. It therefore proposed substantial funds to be allocated for transport infrastructure investments in the candidate countries in Central Europe.

Central Europe constitutes both new components of the enlarged Union, and also the main connection between Western Europe and the New Independent States in Eastern Europe as well as the littoral countries of the Mediterranean. The elements of the European Transport Infrastructure Networks in this region are vital to competitiveness, economic growth and employment throughout Europe, and in the European Union in particular.

The reinforcement of relations between all European countries generates continuous growth in traffic between the countries and regions of Europe and the Mediterranean basin, and in particular in Central and Eastern Europe. It will be important that this development is consistent with the principle of sustainable mobility, bringing together the economic and social goals of efficiency, safety and minimizing environmental damage. This will require the development of a multi-modal network for the whole of Europe, adapted to present and future traffic needs, which allows each mode to be used according to its comparative advantage. In this respect, the extension of the Trans-European Transport Network as a result of the enlargement of the European Union has a particularly important role.

The backbone transport network of the fifteen Member States of the European Union and the ten Central and Eastern European countries defined at the Pan-European Transport Conference in Helsinki in 1997 consists of ten major transport corridors. They comprise road, rail and inland water transport (IWT) across the EU and Central and Eastern Europe.

The following three corridors passing through Romania are particularly important to activities of the Port of Constantza.

	Mode and Direction	Passing Cities and Ports
Corridor IV	Road and Rail corridor Oriented East-West	Constantza – Bucharest – Budapest – Brastilava – Prague – Berlin
Corridor VII	Inland Waterway Transport Corridor Oriented East-West	Constantza – Danube – Rhine Main/Danube Canal – Rhine - Rotterdam
Corridor IX	Road and Rail corridor Oriented North-South	Alexandropolis – Bucharest – Chisinau – Kiev – Moscow – St. Petersburg

5.2.1 EU Instruments to support Pre-accession Countries

There are three different Instruments provided by the EU to enhance pre-accession

(1) Phare

Phare program is the main financial instrument of the reinforced pre-accession strategy. The overall objective of Phare is to help the candidate countries to prepare for accession by focusing the assistance it provides on the priorities identified for institution building, developing community programs, regional and social development and industrial restructuring etc. Phare allocation for the period 1995 – 1999 totaled EUR 649 Million. During the period 2000-2006, Phare support, which will allocate of EUR 1560 million per year, will focus on two main areas, institution building and investment for strengthening the regulatory infrastructure.

(2) ISPA

ISPA is new pre-accession instrument for supporting infrastructure projects in the field of transport and the environment based on the ISPA Regulation (EC Council Regulation, June 1999). ISPA will provide assistance during the period 2000 – 2006 (7 years) with allocation of EUR 1040 million per year. Particularly, ISPA program gives priority to transportation infrastructure measures that enhances inter-connection and interoperability of national networks as well as with the Trans European Transport Network together with access to such networks. The total cost of each measure shall in principle be not less than EUR 5 million.

5.2.2 Transport Infrastructure Development Plan in Romania

Transport Infrastructure Development Projects in Romania as a hinterland of the Port of Constantza are represented in the “National ISPA Strategy; Transport Sector (May 2000, Ministry of Transport)”. The strategy as well as on going development project and future plan summarized are as follows;

(1) Road Infrastructure Development Project

Objectives of the road infrastructure development are to:

- stop the infrastructure degradation
- remove or prevent the apparition of bottlenecks
- increase the capacity on selected sections of the European Corridors IV and IX.

To meet these objectives, the main identified projects are:

- to continue the national roads rehabilitation programme, focusing on the core network and including, where necessary, increase of the roads traffic capacity. In this regard, the priorities are the Corridors IV (northern and southern branches) and IX, the other additional links (as defined at the Helsinki conference) and the European classified roads.
- progressive construction of the TINA network, with:
 - finalisation of the Bucharest - Pitesti motorway rehabilitation and upgrading works,
 - launching the upgrading of the Bucharest - Giurgiu national road to an expressway,
 - to continue the construction of the Bucharest - Constantza motorway,
 - launching the construction of motorway by-passes and motorway sections along Corridor IV, between Bucharest and Nadlac (Romanian / Hungarian border),
 - launching a bridge rehabilitation and construction programme,
 - launching the construction of new overpasses with the railways, instead of level crossings,,
- to continue the improvement works at border crossing points in order to increase the traffic fluidity.

(2) Rail Infrastructure Development Project

The objectives of the rail infrastructure development are to:

- stop the infrastructure degradation,
- upgrade the railway lines and services, mainly along Corridors IV and IX, especially with improvement / rehabilitation of the lines in order to achieve speeds of 160 km/h for passenger trains and 120 km/h for freight trains,
- reduce the environmental impact of railway operation.

To meet these objectives, the main identified projects are:

- rehabilitation of the railway sections Bucharest - Brasov and Bucharest - Constanta, on Corridor IV,
- replacement of the interlocking systems in the main railway stations,
- rehabilitation, doubling and electrification works (as needed) on the southern branch of Corridor IV between Arad and Calafat, with a view to improve the access to the future Calafat / Vidin bridge,

- rehabilitation, doubling and electrification works (as needed) on the section Bucharest - Giurgiu of the Corridor IX,
- rehabilitation of other selected railway sections along Corridors IV and IX,
- doubling and electrification works on the section Cluj - Episcopia Bihor,
- modernisation of the environmental protection facilities in selected rolling-stock cleaning workshops, locomotives deposits and railway stations,
- to continue the improvement works at border crossing points.

5.3 Major Competitive Ports

The ability of Constantza Port to effectively serve the neighbouring economies will largely be dependent on its competitive positioning with respect to other ports vying to capture a share of these countries' trade. The following ports can potentially be considered competitors to the Port of Constantza.

5.3.1 Black Sea Ports

Burgas and Varna (Bulgaria)

The Port of Burgas could potentially serve much of the same secondary hinterlands as the Port of Constantza. Based on the locational advantage, the port has ambitious plans to act as a hub for Black Sea trades. The port has a development plan of the oil harbour and the oil pipe line connecting to the Adriatic Sea. However, this is unlikely to become operational prior to 2005. Cargo volume of the port in 1998 reached 13 million tons. Major commodities are imported crude oil (6.78 million tons), imported coal (1.19 million tons), imported ferrous ore (1.73 million tons) and exported metal products (1.52 million tons) including steel products. These bulk cargoes account for 86% of the total cargo of the port. Role of the port is considered as an industrial port to serve Bulgarian Industry. Along this policy, bulk terminals are being constructed under a JBIC loan. Container throughput of the port amounted to 20,000 TEUs in 1998.

The Port of Varna was developed as a commercial port to serve the Black Sea and trades from the Central Asian Republics as well as an industrial port for domestic industry. The port has ambitious plans for a container terminal. But these facilities would require significant funds. The port has railway ferry terminals connecting to the Georgian and Ukrainian ports. The facility would give a significant advantage to the port when the railway transportation, friendly to the environment, network among European countries regains an important role in future. Cargo volume of the port in 1998 reached 5.6 million tons. Dry bulk cargoes such as imported coal for power plant account for 80% (4.5 million tons) of the total cargo of the port. General cargo (0.95 million tons) and liquid bulk cargoes. Container throughput of the port amounts 45,000 TEUs in 1998.

Ilyichevsk and Odessa (Ukraine)

The Port of Ilyichevsk was founded in 1958 on the right bank of the Sukoy Liman Bay, 15 miles South from Odessa Port. The port started as a cargo handling area of Odessa Port, but now functions as a modern international commercial port and plays a role as one of the largest ports in the Black Sea. The port, as well as Odessa Port, has a vast, and populous, hinterland. Furthermore, the port's secondary hinterland could be considered to potentially extend all the way north up to Moscow. But this port could not be a competitive threat because the two ports' hinterlands are not deemed to be overlapping. The Port of Odessa is also not competitive to the Port of Constantza with regard to the hinterland. Cargo volume of the Port of Ilyichevsk in 1997 reached 9.15 million tons. That of the Port of Odessa is 6.38 million tons excluding exporting crude oil and oil products.

Novorossiysk (Russia)

The most significant facilities within the port are the crude oil handling facilities which have a capacity of 40 million tons. The facilities are located in the Shestharis area and will soon be connected to the CPC (Caspian Pipeline Consortium) pipeline.

Poti, Batumi and Supsa (Georgia)

The Ports of Poti and Batumi are not considered competitive to the Port of Constantza. However, they could be viewed as potential strategic partners with the rapid economic growth of the Central Asian countries. The Port of Supsa possesses an inherent competitive advantage over the Port of Constantza in terms of already being connected by a pipeline. Cargo volume of the Port of Poti in 1998 reached 2.49 million tons of which 77% is import. Container throughput of the port amounts to 49,000 TEUs. Cargo volume of the Port of Batumi in 1998 is 3.11 million tons of which 68%, or 2.12 million tons, is import cargo.

5.3.2 Northern Adriatic Ports

Venice and Trieste (Italy)

The Port of Venice boasts excellent hinterland connections, both roads as well as rail, and consequently a proportion of the cargoes handled by the port are transit cargoes for Central Europe. The Port of Trieste has 20 different terminals including a ferry/RO-RO terminal and the most modern container terminals and boasts excellent access to Central and Eastern Europe as well as southern parts of Germany. Additionally, the port is examining the possibility of creating a joint operating entity with the Port of Koper. In this context, the Port of Trieste is considered to pose a serious competitive threat to the Port of Constantza. Cargo volume of the Port of Trieste in 1999 reached 44.77 million tons. The biggest cargo in quantity is imported crude oil (33.00 million tons) which accounts for 74% of the total cargo. Imported coal (2.53 million tons, 5.65%) and containerised cargoes (2.00 million tons, 4.55%) follow. Container throughput of the port amounts to approximately 200,000 TEUs.

5.3.3 Competitive and Cost Considerations of Overland Transport

Routing selections ultimately depend upon a combination of components including varieties and levels of service (shipping and otherwise), time and especially total door-to-door costs. The figures depicted in bold type and shaded in the following table indicate the most advantageous transport cost by route and mode. Regarding rail and road transportation, routing via Trieste exhibits an advantage for all destinations except Prague. Considering the possibility that Danube River Transport will resume in the near future, routing via Constantza is much more advantageous for cargoes suitable for Inland Transport Mode compared with other competing ports.

Table 5.3.1 Transport Costs Between Ports and Central European Capitals

(Euro / Tonne, Year 2005)

Ports	Mode	Prague	Vienna	Bratislava	Budapest
Constantza	Road	40.73	29.55	28.68	24.44
	Rail	34.97	27.95	26.79	22.40
	IWT	---	25.17	24.26	20.96
Trieste	Road	23.44	13.89	14.76	19.00
	Rail	25.91	18.87	17.69	13.30
	IWT	---	---	---	---
Hamburg	Road	14.79	26.98	27.84	32.09
	Rail	14.24	15.38	22.46	26.85
	IWT	---	---	---	---
Rotterdam	Road	22.88	30.86	31.72	35.96
	Rail	22.64	28.64	38.58	34.19
	IWT	---	22.99	23.90	27.19

Source: Consultants' analysis