Transport

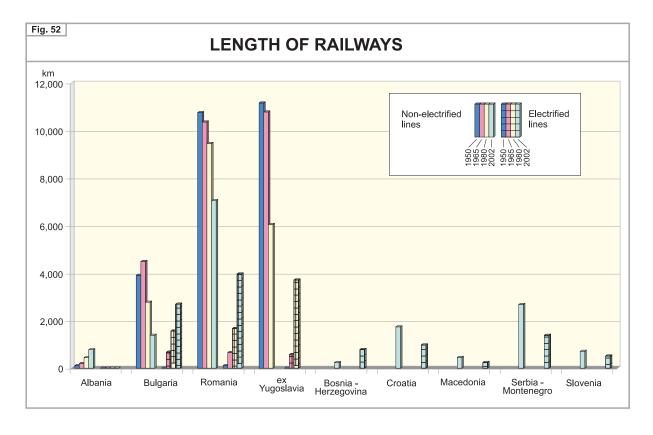
Railway Transport

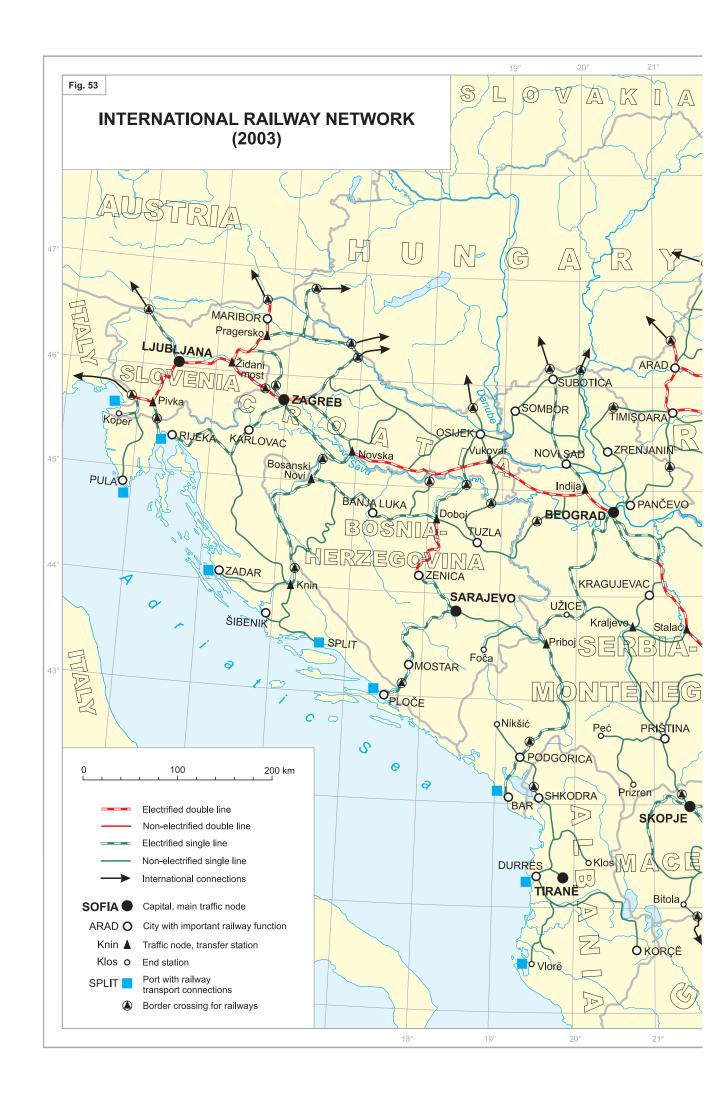
Transport plays an important part in the trade relations between countries of the region. As far as the external and internal transport connections of the Balkans are concerned, the international and domestic railway networks of each country are still significant, although in all countries of the region, road transport is gaining ground in goods and passenger transport at the expense of the railways.

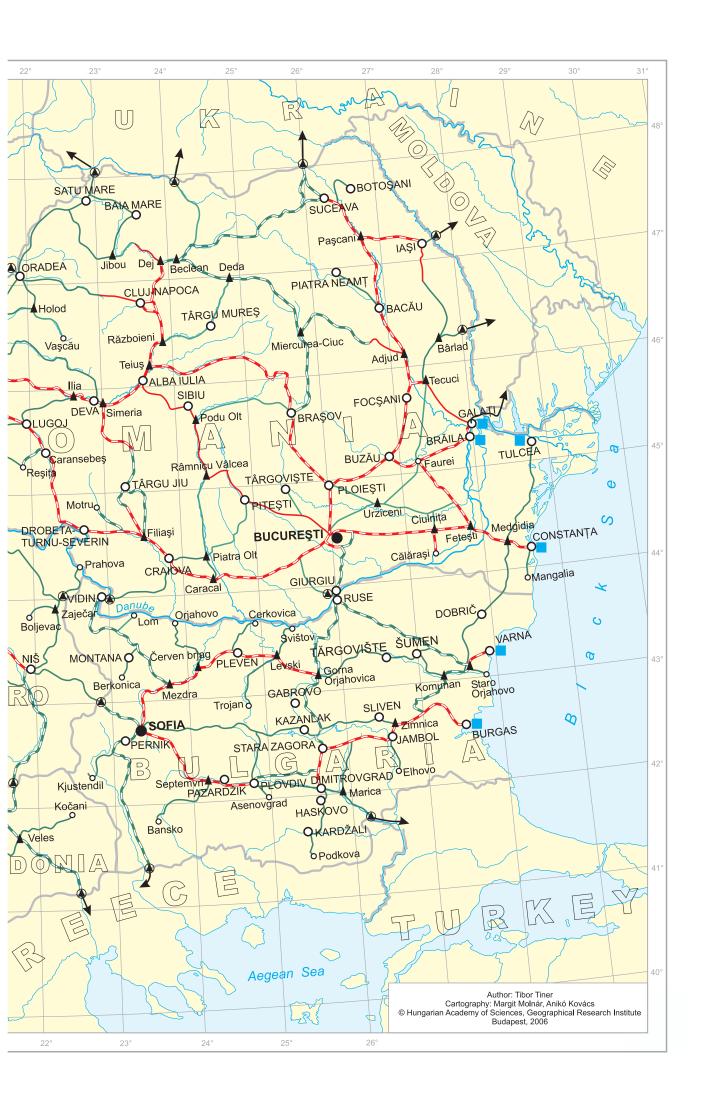
In the countries of South Eastern Europe, a region which lags behind the rest of Europe, the railway network has a weaker penetration – and therefore far lower density figures – than in Central European countries (*Figure 52*). This is why railways were under construction in the region even in the 1970s (for example, the Belgrade–Bar railway line was completed in 1976) and the network is still being expanded in Albania. Nonetheless, Balkan countries do

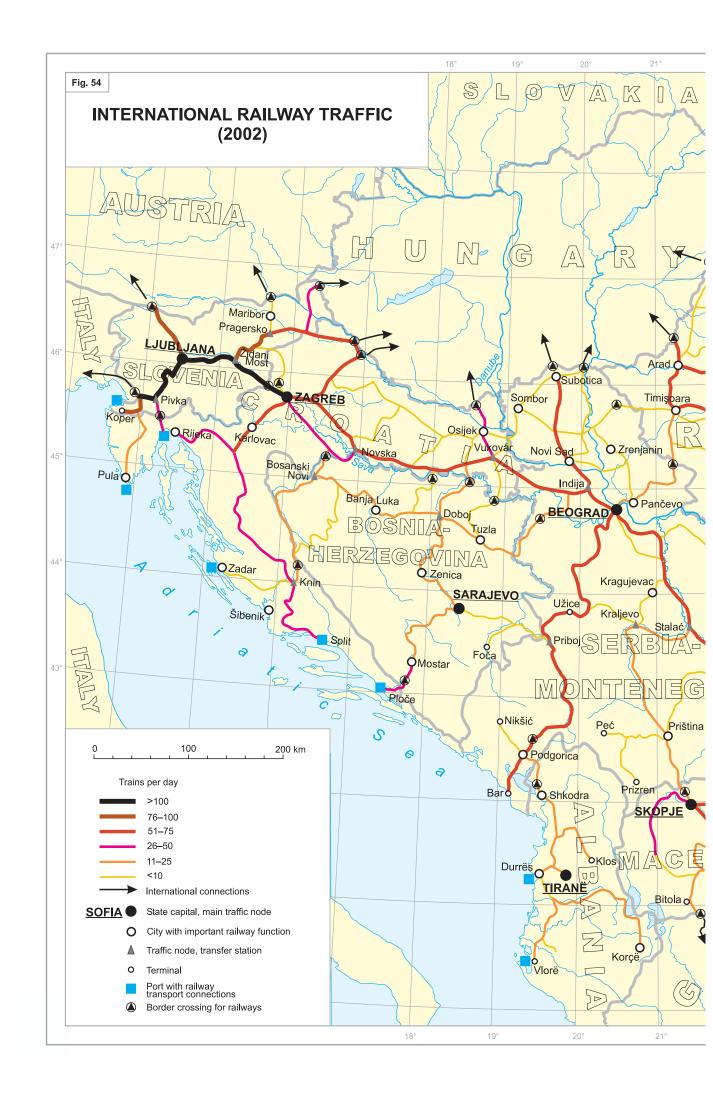
not plan to further expand their rail networks. Instead of constructing new low-capacity feeder lines, they are directing goods and passenger traffic to the roads.

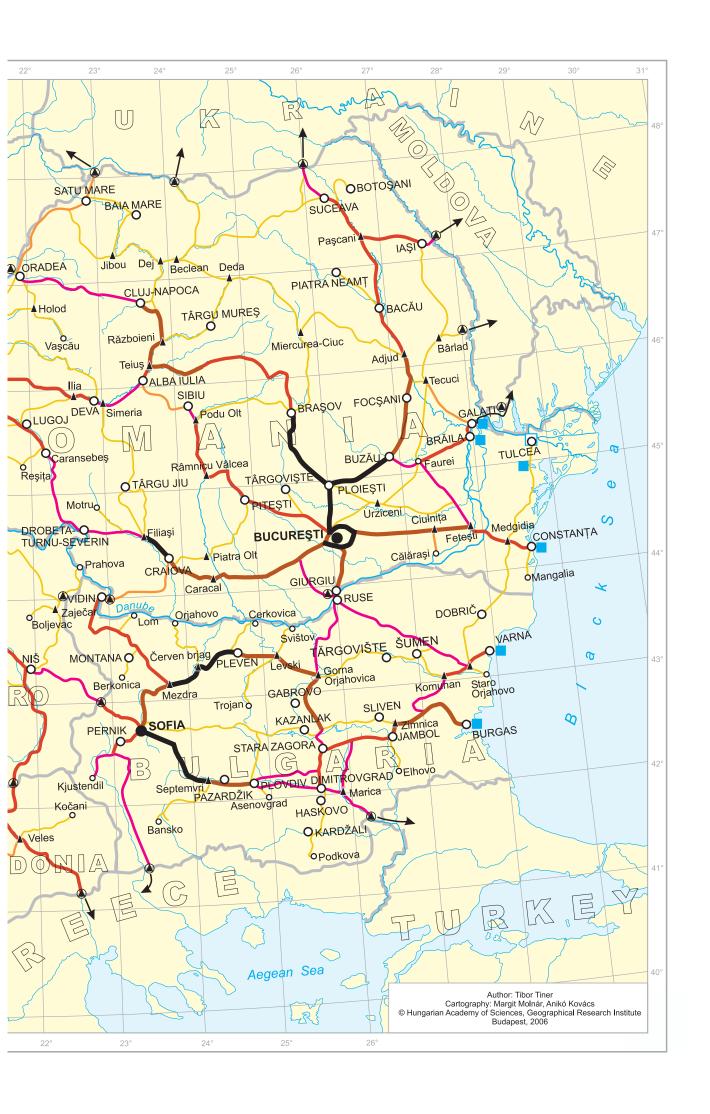
Construction of the railway network in South Eastern Europe began when the same process had already been completed in Central Europe, with the exception of Slovenian territories which belonged to Austria and where the railway line connecting Ljubljana with Vienna was already opened to the public as early as 1849. In 1920, when the Yugoslavian state was born, it hardly had any railways, except in the northern territories that had previously belonged to Austria–Hungary. The first railway line in Bulgaria was built by an English company in 1866, during the period of Turkish rule, and connected Varna with Ruse. The major motivation for railway construction in Bulgaria in











the 1860s and 1870s was of a political nature. European powers invested in the construction of the lines in order to create railway connections with Istanbul as soon as possible. The culmination of this effort, the famous Orient Express which commenced operation in 1883 on the Paris–Strasbourg–Munich–Vienna–Budapest–Belgrade–Sofia–Istanbul line, was spectacular.

The first railway line on the territory of present-day Romania was opened in 1856, between Oravita and Bazias in the Banat area, while in the 19th century territory of the country, still under Turkish rule, the first line started operation in 1860, between Cernavodă and Constanța. The railway line connecting Bucharest with the Danubian port of Giurgiu began operating in 1869. The first railway line of European standard gauge in Albania, between Tirana and Durres, was only opened in 1947. In these countries, the terrain also impeded railway construction. In Yugoslavia it was the Dinaric Alps that prevented the region around the Adriatic coast from joining the railway network in the northern parts of the country. The Balkans and the Rhodope Mountains in Bulgaria, the Carpathians in Romania and the Albanian Alps constituted a similar obstacle. However, the expansion of the railway network could hardly have been justified, on the basis of the slow economic development of these countries between the two world wars. Overall, the density of railway networks of South Eastern European countries is far below that of other railways in Europe, but the underdeveloped economies of these nations could not exploit even this amount of capacity. For this reason, the volume of transport carried on these lines has always been logging behind the European average.

After World War II, communist regimes came to power in each country of the region. Extensive industrial development, based on the communist model, brought a sharp increase in railway transport and a need to develop the rail network had arisen, in terms of both quality and extension. With the implementation of this policy, the railway network was expanded in all the Balkan countries in the 1950s. In Romania, only minor feeder lines were constructed, while in Bulgaria several new lines emerged that linked the mining regions with other parts of the country.

As a result of railway construction carried out in the 1950s and 1960s, Bosnia and Herzegovina joined the Yugoslavian network. The railway construction in Southern Serbia

highly contributed to the industrialisation of Macedonia. Fleets of engines and freight wagons also grew spectacularly in each member republic. However, in spite of the efforts to expand them, the railway networks of Slovenia, Croatia and Voivodina remain far better connected to their northern neighbours, Austria and Hungary, than to the southern, mountain areas. In the 1960s, electrification of the main lines began in all the countries except for Albania (Figure 53). There was a modest groth in the length of double track lines, whilst the capacities of maritime ports, and the number of lines connecting industrial regions with large volumes of freight turnover increased. However, these developments essentially contributed to the barter trade with the Soviet Union and other communist countries. Besides the continuous growth in rail freight traffic, commuting became widespread in the regions around capital cities and big industrial cities, which gave a boost to railway passenger transport.

The exhaustion of reserves required for extensive economic growth, the need for costeffective and energy-efficient intensive development, the expansion of trade relations with Northern and Western Europe and the slow but steady improvements in living standards led to a fall in the demand for rail transport, and to a shift in its focus. The reductions in transportation capacity prompted the Balkan countries to undertake haulage to higher quality standards and with greater efficiency. To this end, transport of the bulk of international and domestic goods was gradually shifted to high-capacity, electrified main lines in the 1980s (Figure 54), while an increasing number of lines with low traffic had been closed down. This trend has intensified in all the countries of the region, except for Albania.

The political and economic takeover of the 1990s led to fundamental changes in the rail transport of Balkan countries. The switch to a market economy sparked off serious economic crises in Bulgaria and Romania, which obstructed the development of railways and led to a serious drop in the transport performance of vehicles (*Table 22*). The civil war that followed the disintegration of communist Yugoslavia had a disastrous effect on the rail network in the core area of the Balkan region. In Bosnia and Herzegovina nearly 80% of the rail network was destroyed, but a great number of railways

Table 22. Development of Rail and Sea Transport in Romania (1998–2003)

Indicator	1998	1999	2000	2001	2002	2003	2003/1998
Waggons, 1000	137.0	130.6	107.7	93.2	88.7	69.4	0.51
Freight ships, nr	231.0	203.0	192.0	163.0	157.0	140.0	0.61
Capacity, 1000 dwt	3,925.0	2,973.0	1,809.0	1,445.0	1,416.0	1,310.0	0.33
– general cargo carriers, 1000 dwt	1,232.0	1,153.0	1,091.0	896.0	872.0	804.0	0.65
– ore carriers, 1000 dwt	1,631.0	845.0	283.0	283.0	277.0	252.0	0.15
– oil tankers, 1000 dwt	1,045.0	959.0	426.0	257.0	257.0	244.0	0.23

Source: Anuarul Statistic al României, 2005. București.

were damaged in Croatia and Serbia as well. The situation was the most favourable in Slovenia which, as early as the 1990s, already had quite busy railway transit traffic with neighbouring EU countries.

As the political scene slowly returned to normal and the economy was put on a path of recovery, a new phase of development began in the Balkan states; after the turn of the millennium, the issue of developing railway networks came to the fore once again. However, the fact that the economic advancement of these countries is centred around capital cities is clearly reflected in the development of traffic: while railway goods transport is losing ground in all the Balkan countries, those sections of the main railway lines that are close to capital cities, for example around Bucharest, Sofia or Zagreb, remain busy, which causes considerable delays in

passenger and goods transport around certain railway junctions, for example on the ring railway around Bucharest.

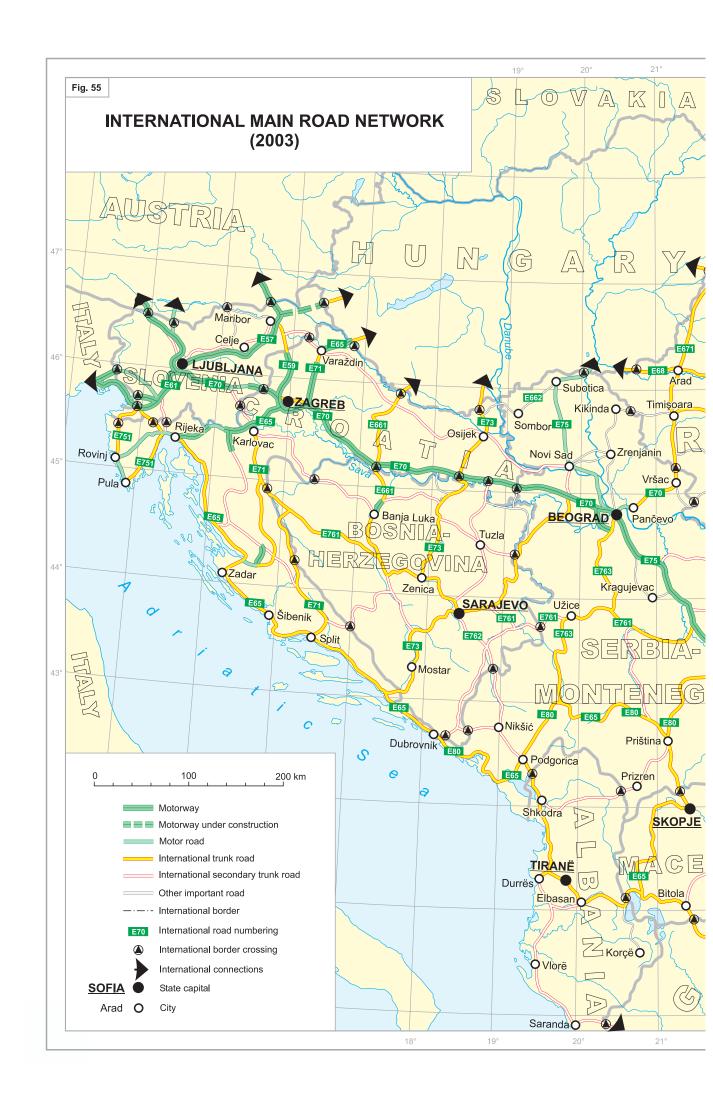
In their long-term transport development projects, as a matter of priority all countries are planning the modernisation of vehicles and railway lines making up the South Eastern European corridors of the Pan-European Transport Network (Helsinki corridors VIII, IX and X) and increasing the capacity of such lines, with considerable financial support from the EU. The implementation of railway development plans would greatly promote the advancement of transport links between the Balkan countries, and could help them acquire a key position in the high-level management of international railway transit traffic between Western Europe or Central Europe and Turkey or the Middle East.

Road Transport

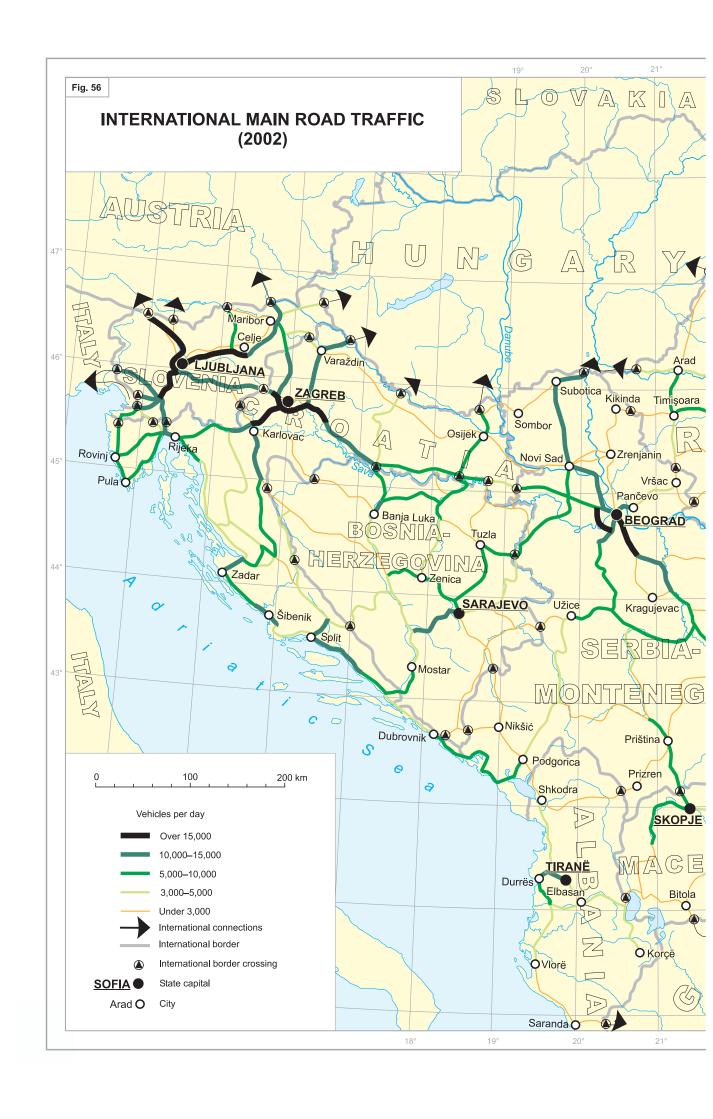
The bulk of road transport in South Eastern Europe is carried out along the trunk road networks of the individual countries. Compared with railway transport, road transport only played a minor role in long-distance passenger and goods transport in the first half of the 20th century. Before 1945, only the major highways were suitable for cars. However, their technical parameters and the state of their surface made them inappropriate for large-scale vehicle transport. The Balkan countries joined international road transport very late, in the second half of the century, because they lacked properly paved main roads of adequate extension, a sizeable road

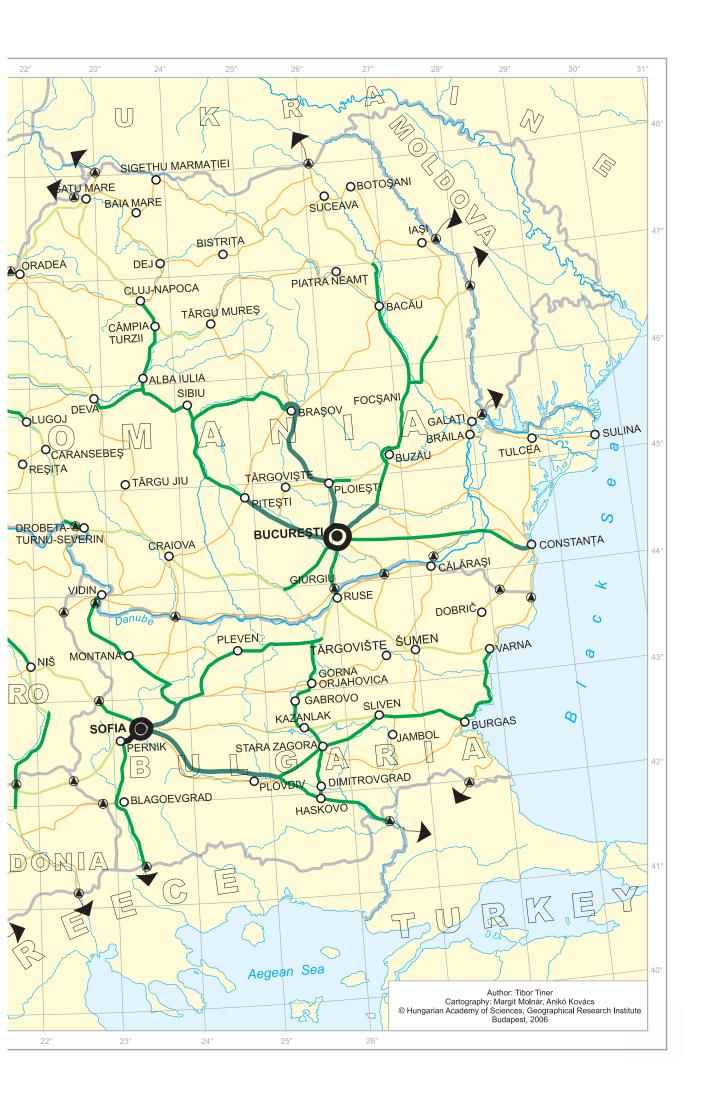
vehicle fleet and a continuous fuel supply – in other words, a certain level of motorisation.

In the 1960s, the conditions for funding the development of main roads were highly unfavourable in South East European states, which lacked a distinct policy to support such development. In development plans priority was given to accessing internal economic areas, and therefore road development programmes focused on constructing minor roads and approach roads suitable for motor vehicle traffic, thus consolidating the role of road traffic as a tributary to railway traffic in goods and passenger transport. As a consequence, international and domestic









trunk roads in the Balkan states were far below par even in the 1970s. Although several countries had European standard, high-capacity roads (for example, the Ljubljana–Zagreb–Belgrade–Skopje route was opened to traffic as early as the 1960s), even at the beginning of the 1980s there were only 9 motorways (or more precisely, sections of motorway) in South Eastern Europe, with a combined length of less than 590 km. From this aspect, the Balkan states – except for Slovenia, Croatia and the northern part of Serbia – were even less developed than Central Europe.

The motorway sections constructed until 1985 all radiated from capital cities (Ljubljana, Zagreb, Belgrade, Bucharest, Sofia), except in Macedonia. Bosnia and Herzegovina and Albania were left out of this process completely, and no motorways have been constructed in either of these countries to this day. The motorways in Yugoslavia served to link the capitals of the member republics (Belgrade–Zagreb motorway), create high quality connections between the capitals and the Adriatic coast (Zagreb–Rijeka, Ljubljana–Koper motorways), and improving the conditions of northwest–southeast transit traffic (the Belgrade–Niš and Kumanovo–Veles motorway sections).

In Slovenia, the key objective was to connect the capital city with the Italian and Austrian motorway network, towards Trieste and Klagenfurt respectively.

In Romania and Bulgaria the main purpose of the first motorway sections was to improve the connection between the capital cities and major industrial centres (Bucharest–Piteşti, Sofia–Plovdiv). The Sofia–Plovdiv section also brought some improvement in the flow of the

traffic along the South Eastern European transit corridor towards Istanbul and the Middle East. In Romania and Bulgaria the construction of further motorway sections and highways connecting major maritime ports like Constanţa, Varna and Burgas with the capital cities and major international transit roads was only given priority in the 1980s.

Of the further main international roads (E-roads) of the region, the Croatian highways leading to the holiday resorts of the Adriatic coast and road E65 between Rijeka and Budva along the Adriatic coast started to play an important role in transit traffic and tourism from the 1980s. The main highways of Romania and Bulgaria are of radial configuration, centred on the capital cities (*Figure 55*).

The main international roads of Albania join the core road network of the region via Montenegro and Macedonia. The number of private cars in the Balkan countries grew rapidly from the 1970s onwards (except for Albania), while international road traffic also increased, causing considerable growth in goods transport traffic on motorways and highways as well as on numerous E-roads.

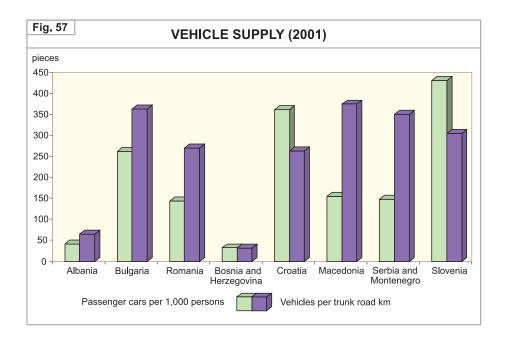
This process led to traffic congestion around the capital cities, which later became permanent, and even the construction of ringroads (round Bucharest and Sofia) has not improved the situation palpably. Another problem is that the share of unpaved roads within the road network is relatively high, especially in Romania (*Table 23*).

The dramatic political and economic changes at the beginning of the 1990s also had a highly negative impact on road transport. The

Table 23. Condition of Public Roads by Regions in Romania, 2003

Region	Total langth of	Of which						
	Total length of public roads, km	Modernised, %	Paved with light asphalt, %	Unpaved, %				
Northeast	13,398	23.3	19.2	57.5				
Southeast	10,626	19.1	36.6	44.3				
South	11,889	28.1	27.7	44.2				
Southwest	10,251	33.5	22.1	44.4				
West	10,282	25.7	21.7	52.6				
Northwest	11,475	27.6	22.9	49.5				
Centre	10,168	22.8	29.1	48.1				
Bucharest	912	51.1	26.6	22.3				
Total	79,001	25.9	25.5	48.6				

Source: see Table 22



economic crisis following the change of regime led to a decline in transport of goods by road (Figure 56), as a consequence of the shift from rail travel to the car in passenger transport (for example, in Bulgaria). This process was hindered by the policy of using state funds to maintain the operation of a number of large industrial facilities, whose high transport demands ensured contracts for the state-owned transport companies. At the outbreak of the civil war in the former Yugoslavia, the international transit routes of the core area of the region had to be diverted towards Romania and Bulgaria. Motor vehicle traffic ceased on the motorway between Zagreb and Belgrade; domestic and foreign carbased tourism likewise stopped.

The military actions of the Krayina Serbs, for example the demolition of the Maslenica bridge, cut off the land transport connection between Dalmatia and the northwestern part of Croatia for years. Slovenia was only involved in the fighting for some days, and thanks to this its road transport system was not seriously damaged (unlike that of Croatia, Serbia, Bosnia and Herzegovina).

The 2004 round of EU expansion, and the prospect of further eastward enlargement has increased the importance of the Balkan states in the road network. Among the successor states of the former Yugoslavia, it is Slovenia and Croatia that consider the completion of their motorways to be a priority following their political and economic consolidation. Romania

and Bulgaria have also formulated long-term motorway development plans. In Albania, the volume of motor vehicle traffic does not promise the implementation of large-scale road construction projects.

Serbia's long-term political and economic isolation, along with serious economic issues have slowed down the development of its road network. Bosnia and Herzegovina is struggling with similar problems, its economy being paralysed by the prolonged political tension, which adversely effects traffic performance, modernisation plans and growth in the motor vehicle fleet (*Figure 57*).

In the long run, however, as in the case of the railways, it is of fundamental interest to the Balkan states to develop a road network that will make up the pan-European corridors running through the region (starting with corridors X and IV), to create a road network of motorways, eventually of uniform quality. In the long term this could result in a network of motorways linking the eight capital cities of the region, creating linkage between the trunk road system of the Balkan states with that of the neighbouring countries located to the north and the west, and granting access to the less developed areas within South Eastern Europe, thus ending their economic isolation. For the implementation of international programmes aimed at such road development, South Eastern European countries can rely on support from adequate EU funds.

Waterway Transport

The importance of river and maritime navigation varies from country to country in South Eastern Europe. However, the significance of this branch as a rule is far below railway and road transport in terms of both passenger and goods turnover. Only four countries in the region, namely, Slovenia, Croatia, Romania and Bulgaria have sizeable maritime navigation, with sea ports on the Adriatic and Black Sea. The maritime transport performance of Albania, having only a modest port capacity and merchant fleet, as well as that of Serbia and Montenegro, which only have a few cargo and passenger ships, are insignificant compared to those of the above countries. Bosnia and Herzegovina, whose coastline is only a few kilometres long, has no significant ports, and Macedonia is completely landlocked.

It is unfavourable for the maritime navigation of the region that their ports are located along the coastlines of marginal seas, on the periphery of the European maritime navigation area and, except for Croatia, their coastlines are relatively short. A further negative factor is that the coastal areas of South Eastern Europe are by no means countries with advanced maritime navigation, and sea ports have a hinterland of economically backward rural and farming regions.

In the first half of the 20th century, sea navigation was barely developed in the countries of South Eastern Europe. Its progress only started in the 1960s, with regard to the physical planning of coastlines, modernisation of ports and the seagoing fleets of the individual countries, especially that of Bulgaria.

Most of the ports on the Adriatic Sea have a long history and tradition. Rijeka, the most prominent until the end of the 1980s, was the largest port of Yugoslavia with an annual volume of 7–8 million tons of cargo shipment, including the maritime import and export trade of the landlocked Central European countries, such as Czechoslovakia, Austria and Hungary. The volume of cargo at other Croatian ports along the Adriatic, e.g. Zadar, Split and Dubrovnik, remained fairly low, although the volume of tourism-related passenger transport in the summer between these ports and the holiday resorts of

the Dalmatian islands increased gradually from the 1970s. Low-capacity Albanian ports have been instrumental in establishing relations of this country with the world economy.

The major ports of the Black Sea, e.g. Constanţa, Varna and Burgas, also look back on long shipping traditions. However, their traffic was scant before 1945. Development programmes commenced in the 1960s resulted in the spectacular growth of the volume of cargo traffic, nearly reaching 8–9 million tons per year by the 1980s. Varna and Burgas were significant in import trade; during the communist era they were the main arrival ports for raw material shipments from the Soviet Union. In the 1960s, a fuel wharf was built in Burgas, while Varna had a shipyard that manufactured vessels for the Eastern bloc.

The military actions of the 1990s caused a serious decrease in the volume of traffic passing through Yugoslavian ports. The successor states have made considerable efforts through national development programmes to develop their ports in order to attract traffic. This was extremely successful in Slovenia, where the volume of goods transport in Koper almost reached the record amount of 9 million tons in 2002. Due to the re-emergence of tourism along the Adriatic coast in Croatia, a slow increase has started in the volume of passenger transport, too. The economic crisis following the change of regime had led to a dramatic shrinkage of cargo shipments in the sea ports of Romania and Bulgaria. The volume of goods in Burgas, which has become the most important port in Bulgaria, fell by 25% between 1990 and 2000. In Constanța this value had shrunk by 80%, which led to a decrease in the number of maritime cargo ships. Bulgaria has been increasing efforts to boost tourism along its seashore, which may contribute to the growth in the volume of its maritime passenger transport.

The main line of river navigation in four of the eight countries of South Eastern Europe is the Danube, and the inland waterway transport of Bosnia is directed to the Danube via the river Sava. The Danube is an important international waterway, flowing across Central and Eastern Europe and connects the North Sea and

the Black Sea through the Rhine-Main-Danube Canal, along with being Helsinki Corridor VII within the pan-European transport network of the region. In the first half of the 20th century the transport carrying capacity of the Danube was utilised much more than in the decades after 1945. This was partly due to relatively low tariffs on rail transport in the Communist countries. Bulk shipment of goods was diverted from water to rail, and river navigation was only involved in the raw material supply of heavy industrial plants with a suitable Danube port, and in the transportation of building materials and solid energy sources like coal and coke. Another circumstance that unfavourably affected the river transport of goods was that a great number of the industrial plants built in the 1950s and the 1960s were located around cities that were far from rivers, and their raw material supply was reliant on transport by rail and road rather than by inland waterways. A further problem is that the Danube flows across only a few economically important areas in South Eastern Europe. The majority of the areas along the banks of the river - except for Belgrade and its surroundings - are still backward farming areas. Consequently, no investment has been made in these areas during recent decades that could have justified the development of Danube ports.

The bulk of river navigation within the region is carried out by Romania, with an annual volume of goods transport of 4–5 million tons along the Romanian section of the Danube.

The ports of Belgrade, Pančevo and Novi Sad in the Serbian section of the Danube, and the Bulgarian ports of Ruse, Lom and Vidin along the Lower Danube, a section shared by Bulgaria and Romania, are also connected to this traffic. The largest Romanian ports along the Lower Danube are Giurgiu, Brăila and Galați (the latter with the country's largest shipyard). The conditions for navigation were considerably improved by the hydroelectric dam at the Iron Gate gorge, completed in 1972, which elevated the water level along a section of the river hitherto having been hard to navigate. The 64 kilometrelong Danube-Black Sea Canal was opened to navigation in 1984, ten years behind schedule. This canal shortened the transport route by 300 km, and made Constanța accessible by river. However, it was unable to achieve its main purpose, namely to divert the bulk of river navigation to the Danube section in the southwestern part of the country. Zagreb on the Sava is the main river port of Croatia. Its annual volume of transport is below 200,000 tons, similar in figure to the Bosnian ports on the Sava.

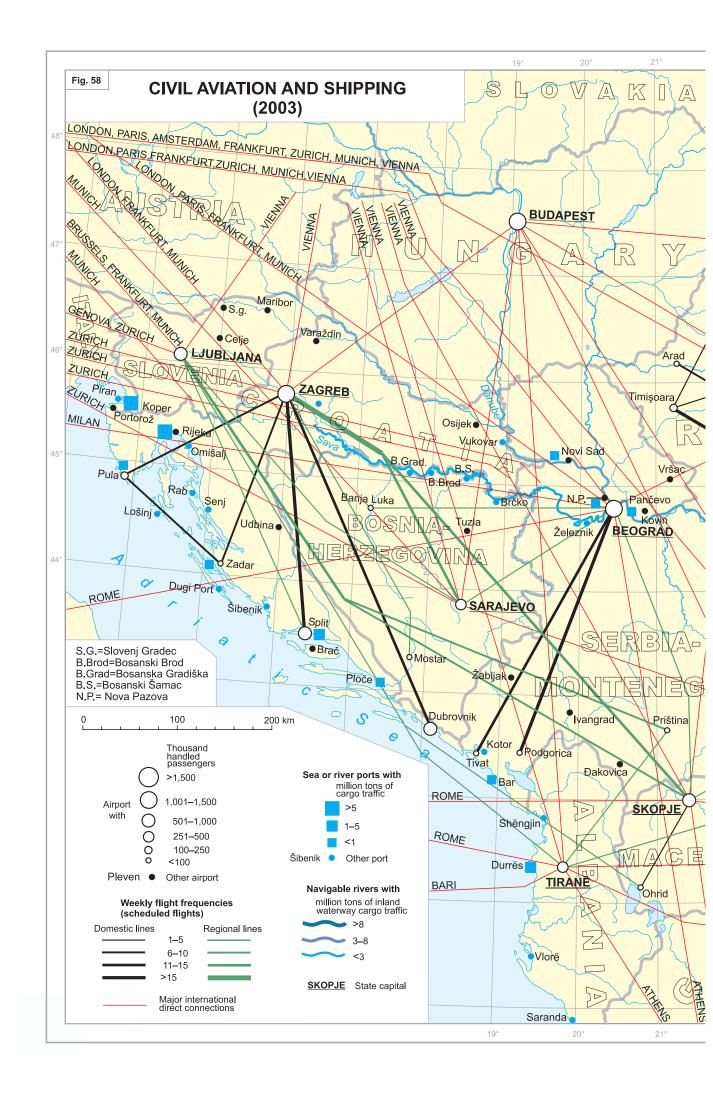
As a result of the civil war that broke out at the beginning of the 1990s, and NATO's air raids against Serbia in 1999, the bridges over the Danube (e.g. at Novi Sad) were destroyed, paralysing navigation on the river for years. Overall, the conditions for river navigation are still unstable in the Balkan countries and the share of this sub-sector within the goods transport of the region remains very low.

Civil Aviation

Aviation in the Balkans is centred around international and domestic passenger transport, while the volume of air freight is insignificant. Air transport companies were established in the Balkan countries as early as the 1920s. Aeroputnik in Yugoslavia, established in 1927, provided scheduled flights from Belgrade to Graz and Vienna via Zagreb, and to Thessaloniki via Skopje. By the 1930s, direct air links had already been established between Belgrade and a number of cities, including Sofia, Tirana, Istanbul, Budapest and Prague, and a few years later with Bucharest and Milan.

In Romania, French companies began to operate regular flights in 1926. By 1929, there were international flights between Bucharest and Istanbul, and domestic flights between Bucharest and Galaţi, Iaşi and Chişinău. The Italian company Societa Transadriatica started to run scheduled flights from 1923, from Venice via Trieste to Portorose, which was then part of Italy (today Portorož, Slovenia), the island of Lussin Piccolo in Dalmatia (Mali Lošinj, Croatia) and to Zara (Zadar, Croatia).

In Albania, the Italian company Adria Aero Lloyd operated scheduled flights on the





Brindisi–Valona (Vlorë)–Tirana route, and from Tirana to Scutari (Shkodra) and Korcia (Korçë). The First Bulgarian Aviation Company was closed down soon after its establishment in 1927. Subsequently, the international airport in Sofia was used by French, German and Polish flights.

Air transport networks of considerable size only came into existence in the countries of South Eastern Europe after World War II, through the establishment of national air companies such as TAROM, BALKAN, JAT and Albanian Airlines. In Bulgaria, international and domestic flights were operated until 1954 by TABSO, a Bulgarian–Soviet joint venture, predecessor of BALKAN Airlines. After 1945, the Italian company operating the airline withdrew from communist Albania, and air transport, now state-owned, was limited to providing international flights to Tirana.

In the 1960s and 1970s the international and domestic air traffic network of the Balkan states was expanded gradually. In Yugoslavia, the airports in Belgrade, Zagreb and Ljubljana saw the largest volumes of traffic. Scheduled flights were operated between them and the capitals of the other three member republics (Sarajevo, Skopje, Titograd). As tourism had been expanding, summer traffic at the airports along the Adriatic coast (Split, Dubrovnik, Pula and Zadar) increased year by year. In the 1960s a domestic airway network (encompassing twelve towns) was created in Bulgaria, which transported fresh fruits and vegetables as well as passengers. This network started to shrink gradually from the 1970s, owing to the improvement of road transport, and from the 1980s domestic flights only operated between Sofia and Varna; Sofia and Burgas.

Romania has had her own domestic air transport for decades, since the Carpathian mountain range bisecting the country constitutes a serious obstacle for land transport, making travelling between Transylvanian cities and Bucharest extremely long and tiring. In the 1960s direct flights connected eight cities, including Timişoara, Oradea, Satu Mare and Cluj, with Băneasa, Bucharest's domestic airport, and a further three cities were included by the 1980s.

The communist political system had influenced the orientation of air traffic in the Balkan states substantially. Accordingly, most of the international flights, operated by national and foreign airlines, primarily connected the

Balkan airports with Moscow, and secondly with the capitals of Central Eastern European countries (Budapest, Prague, East Berlin, Warsaw). Important destinations were the capitals and big cities of neighbouring countries (Kishinev, Kiev, Athens, Istanbul, Thessaloniki, Odessa) and remoter cities of Southern Europe and the Mediterranean (Rome, Algiers, Tunis, Cairo, Beirut, Damascus etc.). In the years of the political détente, air traffic was opened towards Western Europe, and direct flights were operated between the Balkan airports and Vienna, Zurich and Frankfurt, which were later followed by Munich, Paris, London and Amsterdam.

In the 1990s the air transport links of South Eastern European countries underwent profound transformation. Following the civil war in Yugoslavia, having paralysed air transport, some of the former links were reinstated, while others ceased to operate. In Croatia, the direct flights that already operated earlier between Zagreb and the Dalmatian towns (Split, Zadar, Dubrovnik) were restarted. However, direct flights between Belgrade and Zagreb were cancelled. To the capitals of the Yugoslavian successor states, Belgrade only has direct flights to Sarajevo, Skopje and Podgorica.

In Romania, the political takeover did not affect the majority of international air transport links, but the weekly number of scheduled flights to Western European cities grew, while the number of flights to Central and Eastern European cities decreased (Figure 58). At the same time, the long-lasting economic crises had reduced passenger flow. At the turn of the millennium, direct flights were launched between Bucharest and Chişinău, the capital of Moldova, and traffic on this route became very intense. The traditionally close air connections between Sofia and Kiev; Sofia and Moscow survived, but the number of passengers in Bulgaria as a whole dropped. Air transport relations developed between Albania and Italy: the number of flights from Tirana to Rome and Bari increased, while the number of passengers also grew between Tirana and Priština, capital of Albanian-populated Kosovo.

Within the region, the majority of capitals are directly connected to each other by air, while indirect connections also exist via Budapest, in the case of Zagreb for example. An exception to this is Belgrade, which maintains air connections with only the three neighbouring capitals mentioned above. This isolation of the Serbian

capital is the result of the UN sanctions.

Following the turn of the millennium, an increasing number of private airlines started to operate international and domestic flights, alongside the flag carrier airlines. That process led to a considerable increase in air passenger transport in the region (Figure 59) . These private airlines offer cheaper services than rival companies. Relatively small airports with paved runways, especially abundant in Bulgaria, contribute to this trend.

