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EXCHANGE RATE

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Currency unit	=	Tunisian Dinar (D)
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US\$1	=	D 0.92

ABBREVIATIONS

km	=	kilometer
km ²	=	square kilometer
m	=	meter
cm ³	=	cubic centimeter
mtd	=	millions of Tunisian dinars
mt	=	millions of metric tons
v/d	=	vehicles per day
pvu	=	private vehicle unit

GLOSSARY OF ACRONYMS

BOT	Build-Operate-Transfer
CTN	<i>Compagnie tunisienne de navigation</i>
CMR	<i>Conseil ministériel restreint</i>
DGPC	<i>Direction générale des ports et chaussées</i>
DGPE	<i>Direction générale de la planification et des études</i>
DGTT	<i>Direction générale des transports terrestres</i>
DMM	<i>Direction de la marine marchande</i>
EPIC	<i>Etablissement public à caractère industriel</i>
EU	European Union
FTA	Free Trade Agreement
MEH	<i>Ministère de l'équipement et de l'habitat</i>
MT	<i>Ministère du transport</i>
OPAT	<i>Office des ports aériens de Tunisie</i>
OPNT	<i>Office des ports nationaux tunisiens</i>
PDRT	<i>Plan directeur régional de transport de Tunis</i>
PTC	<i>Poids total en charge (Total laden weight)</i>
SMLT	<i>Société du métro léger de Tunis</i>
SNCFT	<i>Société nationale des chemins de fer tunisiens</i>
SNTRI	<i>Société nationale des transports intergouvernementaux</i>
SRTM	<i>Société régionale de transport de marchandises</i>
SRTV	<i>Société régionale de transport de voyageurs</i>
STAM	<i>Société tunisienne d'acconage et de manutention</i>
STM	<i>Société de transport de marchandises</i>
TIR	<i>Transport international par route</i>
TSTC	Tunisian Sea Transport Company

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**REPUBLIC OF TUNISIA
TRANSPORT STRATEGY STUDY**

TABLE OF CONTENTS

EXECUTIVE SUMMARY

CHAPTER 1. TRANSPORT IN TUNISIA TO DAY: PURSUING TOO MANY GOALS	1
A. Country background	1
B. Main features of transport infrastructure: a fairly well developed system	2
C. Dramatic increases in traffic and major public sector involvement in service delivery	3
D. Past investment policy: a need to focus more on economic priorities	3
E. Current service delivery: still room for improvement	6
CHAPTER 2. BETTER TRANSPORT FACILITIES: THE KEY TO INTERNATIONAL COMPETITIVENESS	10
A. The macroeconomic outlook: laying the conditions for sustainable growth	10
B. Seven basic principles for the Ninth Transportation Plan	11
CHAPTER 3. THE NINTH TRANSPORT PLAN: STRATEGIC DIRECTIONS	26
A. Maritime transport: growth through privatization	26
B. Commercial ports: promoting productivity and facilitating trade	28
C. Railways: transforming SNCFT into a commercial enterprise	30
D. Intercity transportation: better and safer roads	31
E. Integrating public transit into urban planning	35
F. Air transport: promoting international competitiveness	36
G. Intermodal transport: promoting Tunisian companies	40

TABLES AND ANNEXES

Table 1.1	Railway operating efficiency in Tunisia: international comparison	7
Table 1.2	Productivity per hour of ship berth	8
ANNEX 1:	Table A1.1: Public investment in the transportation sector	42
ANNEX 2:	Table A2.1: Structure and growth of air transport in Tunisia	43
	Table A2.2: Tunisian port traffic statistics, 1986-1994	44
	Table A2.3: Railway statistics, 1980-1994	45
	Table A2.4: Bus transport companies and their activities, 1994	46

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REPUBLIC OF TUNISIA

TRANSPORT STRATEGY STUDY

Executive Summary; Key Conclusions and Recommendations

Foreword

1. *The Government has identified needs for strategic studies in preparation for the Ninth Plan (1997-2001). This report, based on the findings of a major mission to Tunisia in May 1995, is a response to the Government's request for support, through the Bank's economic and sector work program, with formulation of a transport strategy that will give Tunisia a head start in the 21st century economic race. The Summary Report describes the strengths and weaknesses of the transport sector in 1995, and sets out the guiding principles underlying the strategic choices recommended in the area of transport policy and investment. The Detailed Report provides detailed analytical data by subsector, discusses available options, and explains the rationale behind the proposed strategy.*

Transport and economic development in Tunisia to date

2. *Tunisia is a country of contrasts covering a territory of close to 164,000 km², with a population approaching nine million. Its GNP per capita, US\$1,800 in 1994, puts it in the front rank of the Bank's Maghreb member countries. Development is concentrated in its northern and east-central regions, which while together representing only 16% of its entire territory account for approximately two-thirds of national employment. Tunisia switched in 1986 to market-based and outward-oriented economic policies. Its structural adjustment reforms have met with success: whereas growth in GDP averaged no more than 3.2% annually from 1981 to 1986, it then surged to an annual average of 4.8% between 1987 and 1994.*

3. *The transport system is comparatively well developed. An embryonic freeway network and some 6,000 km of national roads link the key economic centers and carry the bulk of road traffic. A rail network approximately 2,000 km in length comprises a main line along the Tunis-Gabès corridor, an international line connecting with the Algerian network, and lines in the south used for hauling phosphates. There are three ports in the Tunis area plus five others outside it, which meet present needs almost completely. Six airports cater to air traffic needs, with Tunis the largest and Monastir and Jerba the main gateways for tourism. Urban transport infrastructure has unfortunately not kept pace with the needs of the rapidly growing Tunis population. The government has been going ahead with gradual deregulation of the transport market since 1989; while full deregulation has been achieved in the road freight subsector, which is also being privatized, progress has been more limited in other subsectors.*

4. *The role of government capital spending in transport sector investment has been decisive, as may be seen from the fact that the public sector still accounted for the great majority until recently. Investment policy has been judicious for the most part, despite some mistakes in assessing the demonstration effects of infrastructure facilities. Ports and airports have been built too far in advance of real needs, and unwarranted priority has long been given to the rail system. On the other hand, expansion of the road network has not kept up with traffic growth, and road maintenance leaves much to be desired. The maritime sector has been slow to adopt new technologies. Urban traffic congestion is reaching serious levels in Tunis. Examination of the three last development plans reveals important*

priority shifts to allow better coverage of real economic needs. The share of road investments has increased from 37.5% of the Sixth Plan to 53% of the Ninth, unlike that of railway investments, which has fallen from 35.8% to about 11%.

5. While transport services at present are relatively good, there is room for improvement. In the case of road freight haulage, the comparatively high proportion (75%) of traffic handled by small trucking firms and individual owner-operators reveals a major productivity gap. Tunisian firms play virtually no part in the international road transport scene. In passenger transport, the poor financial state of the public enterprises concerned goes hand in hand with an increase in rental services, whose economic effectiveness is open to question and which exacerbate the road safety problem. The dwindling reliance on rail passenger services attests to their sub-standard quality. The productivity of Tunisia's railways is low. The same is true of its ports, where cargo-handling is slow and costly, and imported goods can be held up for as long as 30 days. The national shipping fleet is obsolete. Urban transport supply is short of demand by at least 20%. Finally, the state of the country's roads leaves much to be desired. Only about 50% of paved roads are in good repair, as against 85% or higher in the industrial countries. Road users could probably save the equivalent of the road investment budget were the proportion of traffic using bad roads to be reduced by just 10%.

Better transport facilities: the means to international competitiveness

6. Tunisia has to face new challenges. It must, for instance: create more jobs in order to ensure employment for the rapidly growing urban work force; offset the tendency toward lower returns on capital, especially as the capital base is now broadening; revitalize those engines of growth, the leading export industries, which need to be "brought up to speed"; and protect the environment. Recent Bank economic work on Tunisia envisages two scenarios, both assuming continuation of reforms to bring about a return to macroeconomic stability and eliminate distortions. The high-growth scenario, which assumes sustainable growth of about 6% a year, requires reduction of the public deficit and revitalization of the domestic economy through heightened competition. In this regard, the Free Trade Agreement (FTA) with the European Union will create opportunities, which will increase the faster the implementation process goes. Additional gains can be expected from the trade liberalization provided for under the Uruguay Round agreements. But there are risks as well, since domestic products will be more vulnerable to foreign competition. Because transport is an intermediary good with a pervasive influence on productivity, raising its level of effectiveness will contribute greatly to the achievement of the country's growth objectives.

7. The transport strategy to be continued under the Ninth Plan is based on seven principles. (a) Investment in quality and with a focus on economic returns. The primary concerns here are to update capacity and to increase capital effectiveness through rigorous selection of projects which are clearly warranted in economic terms. (b) Substitution of private for public capital so as to reduce pressure on the budget, a principle that is to be applied particularly in the case of ports and highways. (c) Sharper targeting of urban transport subsidies. The United Kingdom case is studied to demonstrate that subsidization needs are reduced and more efficiently covered when there is competition for them and clear particulars are made available regarding their extent and what is expected of beneficiaries. (d) Promotion of competition and adaptation of government regulations to allow transport operators greater freedom to seek the best combination of business factors. (e) Lifting of import restrictions and reduction of customs tariff in the interests of modernization of the transportation fleet; measures designed to protect the nascent automobile industry should not operate to the detriment of transport and haulage operators. (f) Transfer of commercial services to the private sector, a move now accepted worldwide as an effective means of lowering their cost to consumers and circumventing the rigidities

that characterize public enterprises. (g) Promotion of multimodal transport and strengthening of logistical services, as important steps toward international competitiveness for Tunisia. of Tunisia.

Key concerns of the Ninth Transport Plan

8. In maritime transport, the future of Tunisia's shipping industry should be dictated only by its capacity to make itself competitive. Protecting the community of some 2,000 workers employed in the local shipping subsector does not warrant the cost it imposes on the country's trade and domestic production, where employment issues are on a very much larger scale. The applicable regulations should be amended to give shippers greater freedom in choosing their operating methods and fields of activity. This is especially relevant to crew size and nationality, vessel operating schedules, and financing arrangements. The system of 48-hour advance notification for charter contracts should be abolished. A specific investment code is needed which incorporates incentives that will put Tunisians on an equal footing with their foreign competitors. The attempt should be made to develop a second, private organization to operate alongside CTN, the latter to be fully privatized once its role has been redefined. It would be advisable to seek a foreign strategic investor, with a view to better integration of the enterprise into the world trade network. The option of conversion into a ship operating company owned by a foreign holding company is worthwhile studying

9. Ample port infrastructure reserve capacity exists already, so the Ninth Plan should not include major expansion schemes other than construction of a container terminal, preferably in Bizerte, and some supplementary investment in specialized wharf facilities. It is recommended that the country's port system be better integrated by improving road and rail connections. The role of OPNT should be refocused on two main functions: (I) its regulatory function should extend to sound management of government-owned port facilities, to definition and supervision of service operation contracts with the private sector, and to protection of the environment; and (ii) its facilitation function should extend to modernization of port interface arrangements, rationalization of transit procedures, and promotion of the development of a real community of port interests. Private sector participation in port construction and operation could take two forms: that of the BOT (build-operate-transfer) system in the case of the new container terminal, and that of the management services contract in the case of operation of existing facilities. As far as cargo-handling is concerned, elimination of the STAM monopoly and privatization of the agency (after a study of possible options for this step) should go hand in hand with establishment of a second, private organization that will create the opportunity for at least a minimum of competition without loss of the benefit of economies of scale. Concessions of these services would be granted to a winning bidder identified through a public competitive procurement process. The legislation of 1949 governing use of port manpower should be repealed.

10. As far as the railway sector is concerned, the strategy is to convert SNCFT into a fully commercially oriented limited liability corporation expected to compete actively with other transport modes and enterprises and to keep itself in a sound financial position. At the close of the Ninth Plan, government financial transfers to the rail sector will be strictly limited to remuneration in respect of (a) public service obligations imposed on it by government under specific agreements and (b) construction of new infrastructure. During the course of the Plan, however, one-time financial assistance will have to be made available for sector restructuring and infrastructure rehabilitation. SNCFT management autonomy will be reinforced as a result of its conversion into a corporation, which will be reorganized internally into three operating divisions responsible respectively for phosphate traffic, freight traffic, and passenger traffic. The closing down of non-viable services will have the particular effect of concentrating intercity passenger services along the Tunis/Sousse/Sfax/Gabès corridor and the line between Tunis and the Algerian border. Downsizing of the railway sector will be accompanied by a

program to reduce its total personnel corps to approximately 5,900 individuals. More active private sector participation will be encouraged, especially in the areas of maintenance and support activities.

11. In the case of intercity transport, highway development is a prime candidate for concessions of the BOT type. Privatization of road maintenance and corresponding cutbacks in force-account maintenance will contribute to more efficient use of budget resources, which ought to at least double relative to current amounts. The investment priority is modernization of strategic roads and others to be selected on the basis of studies; as a matter of principle, flood control measures will be included, while all stretches of road requiring work will receive standard treatment (reinforcement, pavement upgrading, stabilization of shoulders). Consideration could be given to establishment of a road fund. Special emphasis is to be given to development of urban/intercity interface facilities. By-pass roads are planned for Jendouba, Kairouan, Gabès, and Zaghouan. Regional authorities are to be more involved in the management of secondary and rural roads. The current disturbing deterioration in road safety calls for rapid action to devise appropriate responses than can be implemented during the Ninth Plan.

12. In the case of intercity transport, the highest priority is to liberalize motor vehicle imports, reorganize road-user taxation, monitor the state of repair of vehicles more closely, and put Tunisian TIR operators on an equal footing with their foreign competitors. The next highest is to privatize SNTRI and carry the sale of public freight haulage enterprises through to completion. Road transport regulations need to be relaxed where they affect aspects of production not bearing on road safety. In connection with freight operations, the informal transport market needs to be studied so the authorities may be properly informed regarding possibilities of eliminating the authorizations system by the year 2000. Provision is made for a transition period to allow intercity public transport service concessions to be put up for competitive bidding; at the end of this period, this market--except for "social" or "political" lines--could be liberalized.

13. Performance contracts under which urban bus services are provided need to be clearer on the subject of the objectives in view. Responsibility for their administration should be decentralized at least down to governorate level, while a technical unit should be set up in Tunis to coordinate the various modes. Improving traffic management in Tunis is expected to generate substantial benefits when the many current weaknesses are taken into account. Studies should be commissioned so that traffic planning can be reexamined. Certain sections of beltways need to be widened, while intersection design should be improved to give increased capacity at minimum cost. Efficient transfer points must be developed to ensure better articulation between modes of transport and increase public transport capacity. Private sector participation should be encouraged both through the gradual development of quality seat-only bus services and subcontracting or concession of basic services. Gradual opening up of this market to competition, as well as privatization of public bus companies, is also recommended.

14. Where airports are concerned, the Ninth Plan will need to provide for a new extension phase in the case of Tunis. Studies for a master plan and also for possible relocation of the Tunis airport are important for formulation of a long-term strategy. The institutional development proposed calls for privatization of auxiliary services, particularly ground services, on the basis of concession arrangements. In broader terms, plans could also be made for the concession of commercial spaces, possibly in conjunction with a BOT contract for the construction of new facilities. Rate schedules should reflect actual costs, and limits need to be set on the inter-airport compensation system. As regards domestic air transport services, the action plan proposed calls for completion of the privatization of Tuninter, further efforts to cut its costs, and expansion of its international operations in association with another airline. As regards Tunis Air, the recent public offering of 20% of its

shares should simply be a first step toward full privatization. The strategy proposed involves active steps to reduce operating costs and a search for strategic investors who would take up shares in Tunis Air and strengthen its international commercial network. Finally, more extensive cooperation among the Maghreb airlines would enhance the competitiveness of Tunisian carriers and so should be pursued, even if present circumstances make any spectacular developments unlikely. In the case of domestic air service routes of uncertain profitability, the government should identify those it wishes to be kept open for political or social reasons, and be prepared to subsidize any operating deficits. These routes would be allocated after calls for tenders from the two Tunisian carriers, the anticipated results being at least a minimum of competition and creation of incentives to lower costs and subsidies.

15. *Multimodal transport is a key to cost-efficient transport. Tunisian carriers are not yet able to compete with the large multimodal companies that have developed in Europe. Quota restrictions under bilateral agreements intended to make room for Tunisian shippers in the international transport picture would in fact be detrimental to their real interests. Instead, an institutional framework conducive to the development of multimodal transport would be of more benefit to Tunisian companies. If such a framework were set up, one could consider making financial incentives available for the development of TIR operations, to eliminate restrictions on vehicle imports, to conduct studies on ways to facilitate the search for foreign partners by Tunisian firms, to adhere as closely as possible to accepted international trade practices in contracts and standardized documents, and to promote better industrial logistics. Finally, particular emphasis should be placed on signing special agreements covering transport with the European Union countries, with the aim of promoting not only closer cooperation but also competition on equal terms between Tunisian and European transporters.*

REPUBLIC OF TUNISIA

CHAPTER 1. TRANSPORT IN TUNISIA TODAY : PURSUING TOO MANY GOALS

A. COUNTRY BACKGROUND

1.01 Independent since 1956, Tunisia, a country of geographical contrasts and, by Maghreb standards, of only modest size, covers a territory of approximately 164,000 km². In 1994, it had a population of roughly 8.8 million inhabitants, one third of them concentrated in the northeast region, which although it constitutes only a fraction of the national territory (about 7%) has an economy that accounts for approximately 40% of total employment. In the same year, there was a census of close to two million in the Greater Tunis area, where rapid urban growth (3.6% over the period 1984-1994, compared to a national population growth rate of 2.3%) had spilled over into the surrounding rural areas. Given its relatively good precipitation rate and adequate stock of infrastructure, the northeast sustains a dynamic agriculture sector as well as a concentration of industrial activities and services. The east-central region, with Sousse and Sfax as its main towns, ranks second in economic importance, with about 20 percent of the population occupying less than 9 percent of the national territory; agriculture and export industries are its main sources of production. Mountain ranges form a barrier that accounts for the economic isolation of the northwest region, where a scattered population lives primarily on agriculture. The arid climate prevailing in most other parts of the country has produced extensive deserts. The south, however, is rich in such mineral resources as phosphates and hydrocarbons, which account for the existence of a number of industrial centers. Gabès, a town of over 120,000 inhabitants, is the most important in this region. Mass tourism thrives around the Gulf of Hammamet and on the Island of Jerba, with the sunny climate, good beaches, and first-class archeological sites attracting about 4 million tourists annually.

1.02 Tunisia switched in 1986 to more market-based and outward-oriented economic policies. Its structural adjustment reforms have led to impressive results. Whereas GDP growth averaged no more than 3.8% annually from 1980 to 1986, it accelerated to reach an annual 4.8% between 1987 and 1994. The initial push forward came from tourism and from exports led by a rapidly expanding textile industry which now accounts for close to half of total export revenue. Agro-industry is another significant contributor to foreign exchange earnings, with a 10-15% share, whereas traditional export sectors (energy, phosphate, and chemicals) have lost ground. The replacement of government capital spending by private investment since 1989 has played an important part in the country's economic revival. The challenges ahead stem from increased exposure to foreign competition following the Uruguay Round, ratified in January 1995, and the Free Trade Agreement with the European Union, signed in April 1995, which is to be implemented over a 12-year transition period. Much higher foreign direct investment than has occurred to date is essential to faster growth, for which better infrastructure is also needed. Tunisia has been affected by the chronic drought conditions of recent years, which slowed GDP growth in 1994 down to 3.4%. Agricultural development and reduction of the food deficit are at the core of government economic policy. About 40% of the population still live in rural areas, where improvements in standards of living depend on achievement of a more balanced urban/rural development pattern. Steps to improve rural roads, which provide the essential link between farms and markets, will also be important.

1.03 Government administration in Tunisia is being decentralized. The country is subdivided into 23 "governorates". Each governor represents the central government and oversees the local branches of central ministries. There are several administrative echelons between governorate and municipalities

("imadas" in rural areas), which are the basic units. Governor-chaired regional councils play a key role in the planning and execution of regional programs, doing so with support from consultative assemblies known as rural councils. Although legislation passed in 1989 defined the powers and responsibilities of governors in the decentralized system, the implementation process is hampered by the lack of technical expertise and local financial resources. At present, the role of the decentralized administration remains limited and there are frequent overlaps of responsibilities which are not conducive to development of the most appropriate strategies. The authorities are fully aware of this problem, but it will take somewhat longer and a number of additional studies before workable solutions can be identified, especially with regard to redistribution of responsibilities between the local and central levels of government. Management of the road network, one area where decentralization could lead to better roads at lower cost¹, is currently being reviewed by an interministerial committee, with assistance from a group of specialists. A plan of action is expected to be ready by early 1996 and implemented over a five-year period.

B. MAIN FEATURES OF TRANSPORT INFRASTRUCTURE: A FAIRLY WELL DEVELOPED SYSTEM

1.04 In 1984, the classified road network consisted of some 17,000 km of roads, of which 8,875 km were paved. By 1994, it had grown by a mere 900 km overall, but paved roads then accounted for 11,700 km or two-thirds of the total. With 1.4 km of paved roads per 1,000 inhabitants, Tunisia lags far behind the industrial countries (6-10 km per 1,000 inhabitants) but ranks average among middle-income countries. The national core network consists of the 6,000 km of key roads linking the country's main economic centers. There is a relatively high proportion of "national roads" (23%)² but road distribution across the nation is uneven. Paved road density varies from 10m/km² in the provinces of Kebili and Tataouine to about 1 km/km² around Tunis, within a national average of 70m/km². A quality deficit exists because of the irregular nature of maintenance, in rural areas especially, and capacity constraints (three-fourths of classified roads are less than 6.5m wide for daily traffic often above 7,000 vehicles). The expressway network is currently limited to 140 km between Tunis and M'saken, near Sousse. The rail network, some 2,000 km long, consists of a main line from Tunis to Gabès and an inter-connecting line from Tunis to Ghardimaou at the Algerian border, in addition to the lines in the south over which phosphates are hauled. There is more than a sufficient number of ports--three in Tunis and its environs and five along the coast from Bizerte to Gabès. However, vessels drawing more than 11 m cannot enter any of these ports, which also afford only limited landside access. Six airports cater to air traffic needs; the Tunis facility is the largest, while Monastir and Jerba are the main gateways for tourism. Urban transport infrastructure has not kept pace with population growth, especially in Tunis, where traffic conditions are deteriorating; the points at which the two beltways intersect with main radial roads connecting to the city center are congested at peak hours, especially the Bab Saâdoun intersection.

¹ See World Development Report 1994, p.75. A study of 42 developing countries showed that where road maintenance was decentralized backlogs were shorter and roads were in a better state of repair.

² See C.Kessides, "Institutional Options for Provision of Infrastructure," in World Bank Discussion Paper no. 212 -IIA, page 22. "National roads" typically account for 2-10% of the total network in most industrialized countries. Of course, the higher proportion shown for Tunisia is partly attributable to the much less developed state of its network.

C. DRAMATIC INCREASES IN TRAFFIC AND MAJOR PUBLIC SECTOR INVOLVEMENT IN SERVICE DELIVERY

1.05 Road traffic increased at an annual rate of 11%--much faster than GDP-- between 1977 and 1982, slowed to about 4% annually over the next five years, only to shoot up in recent years as a result of structural reforms. The deregulation of road freight transport in 1989 led to a major increase of 14% annually in heavy vehicle traffic between 1990 and 1994, compared to about 7% for passenger traffic. Private haulage operators already control two-thirds of the for-hire market and can be expected to control it fully once the privatization of government-owned trucking companies has been completed. Intercity passenger transport comprises bus services provided by public enterprises (SNTRI, *Société nationale des transports intergouvernorats*, which operates nationwide, plus 12 regional companies mostly operating within the boundaries of their particular governorates) and by privately-owned collective taxis licensed to operate on fixed itineraries. In rural areas, mixed transport of passengers and goods authorized at governorate level is the general rule. Urban transport services are provided by 12 regional companies plus taxis. The Greater Tunis area is an exception in tandem with a publicly owned bus company; small-scale private bus operators have been allowed in since 1990 but their share of the market is still negligible.

1.06 Port traffic increased at an average annual rate of 3% to about 18 million tons by 1994, although it has been quasi stagnant since 1989. Port administration is the responsibility of OPNT (*Office des ports nationaux tunisiens*), a public agency, whose mandate also extends to towage and pilotage, as well as to custody and storage of cargo in regional ports. In the Tunis port system, cargo handling is the monopoly of a STAM (*Société tunisienne d'acconage et de manutention*), a public enterprise, which in other ports has to compete with small private firms. Maritime transport is provided chiefly by CTN (*Compagnie tunisienne de navigation*), another public enterprise. A few private shipowners have been allowed into the tramping business since 1982 and into the liner trade since 1995. General air traffic grew rapidly between 1986 and 1994, but charter traffic much faster (at an annual 12%, approximately) than regular traffic (5% annually). Government-owned *Tunis Air* is the national flag carrier for regular international transport. The local private sector is active on both the charter and domestic markets. SNCFT (*Société nationale des chemins de fer tunisiens*) is the public enterprise responsible for the country's rail system. Traffic development over the period 1980-1994 was weak, with number of passengers in the range 25-30 million and freight volume in the range 8-12 million metric tons. SNCFT commands only a 5% share of passenger traffic and about 28% of freight traffic, which consists mainly of haulage of phosphates and their derivatives.

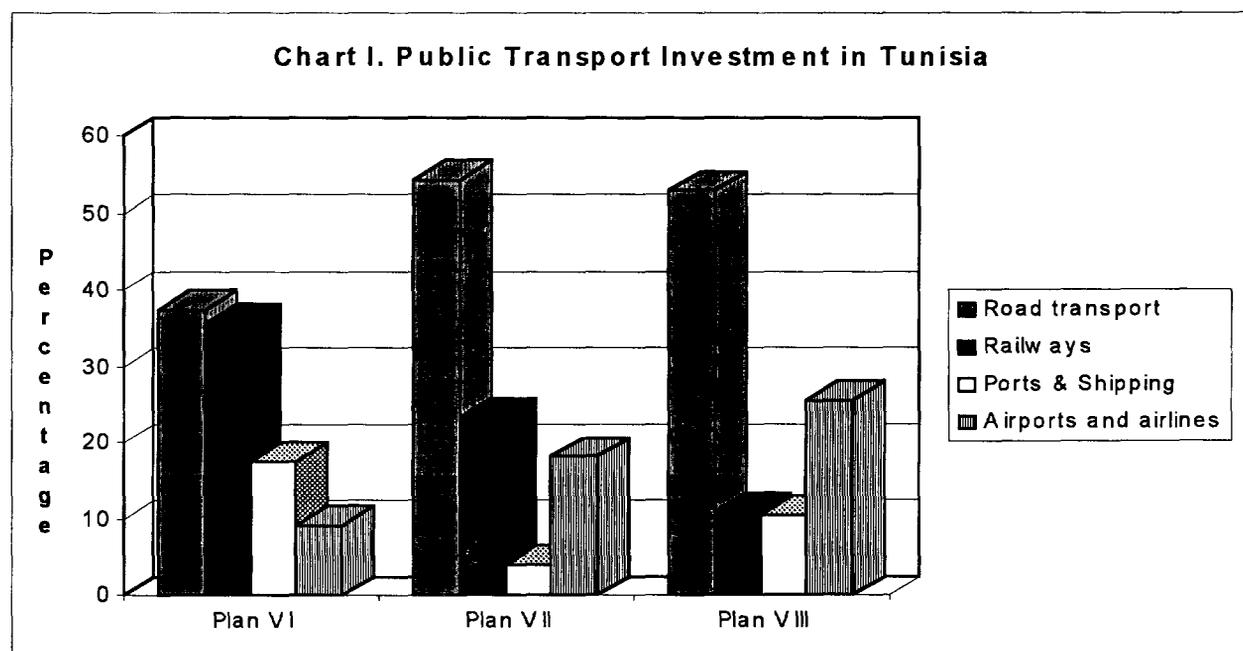
D. PAST INVESTMENT POLICY: A NEED TO FOCUS MORE ON ECONOMIC PRIORITIES³

1.07 Government influence on transport has been all the more decisive because the sector was long in the hands of a vast public sector which as late as 1993 still accounted for nearly 70% of national output⁴. The government budget has thus been the primary source of transport investment funding. Although maintaining a judicious balance between short-term growth and long-term development objectives is one of the major difficulties of strategic planning, Tunisia's past transport investment policies appear generally to have struck such a balance, even if they may sometimes have given too

³ Data related to the Plan VIII investments are provisional estimates.

⁴ Lakhoua, F., *Rôle et poids de secteur publique en Tunisie*, 1995.

much weight to the equable distribution of development throughout the national territory and overestimated the structuring effects and external economies stemming from infrastructure investments. Where transport is concerned, Tunisia's natural priorities can be deduced from three sets of factors: the paramount importance of roads for domestic transport, the paramount importance of shipping for foreign trade (only 5% of import and export operations take place over land or air routes), and the difficult of managing the traffic congestion risks that accompany fast urban growth. While it is therefore obvious that emphasis should be given to road, port, maritime, and urban transport infrastructure investments, it has to be recognized that these priorities have not always been soundly implemented: too much has been made in the past of creating rail facilities, the "*métro du Sahel*" epitomizing the kind of investment that has given disappointing results; the construction of new roll on-roll off berths in Sousse and Zarzis was premature, and the new airport capacity in Tabarka and Tozeur is also well ahead of demand; rural roads have often been paved for the wrong⁵ reasons; expansion of the road network has not kept pace with traffic development, and road maintenance is well short of needs; main ports have been slow to adjust to new technologies, and by and large the merchant fleet is obsolete; urban traffic congestion in Tunis is becoming more and more serious.



1.08 During the 1980s, transport and communications investments represented between 1% and 4% of GDP in most developing countries. In Tunisia, the proportion for transport alone was around near 3%, suggesting that, if anything, problems are less a matter of inadequate budget allocations than of the way resources are distributed among modes of transport. In comparative terms, the transport sector absorbed 10% of total investment funds under the Sixth Plan, 12.4% under the Seventh, and a probable 13% under the Eighth. Details of the structure of transport sector investment are given in the annex to this report⁶. It is clear, as may be seen from Chart 1, that there have been significant priority changes from one Plan to another.

⁵ Paving roads was the easy way around the lack of funding for maintenance of unpaved rural roads, which therefore deteriorated rapidly, prompting protests from the population. The right solution would have been to provide local authorities with adequate decentralized funding and technical support.

⁶ The annex details investment activity by sector.

1.09 Under the Sixth Plan, land transport investments represented 73% of the total and were split evenly between roads and railways, a surprising fact given the low level of rail traffic at the time, the early 1980s (13% of freight traffic, excluding haulage of phosphates, and 6% of passenger traffic). The ambitious railway expansion project led to costly investments which have failed to achieve their objectives. Infrastructure investment figures were as follows: D 170 million spent on intercity roads (about a third of it on maintenance and rehabilitation, and close to 30% on construction of rural roads by the central authorities); and D 15 million on urban road systems. Local governments invested close to D 60 million on rural and urban roads. Very little investment was made in shipping, each of the government-owned shipping lines purchasing one bulk-carrier. In the case of ports, the main investments were made as part of the Third Ports Project, an operation which had Bank financing, and which included dredging and construction of 350m of quays at Radès, plus construction of about 500m of general cargo and roll-on/roll-off berths at Sfax. In retrospect, the Sixth Plan was not sufficiently focused on the country's real economic priorities.

1.10 Some adjustment came with the Seventh Plan, which allocated more resources to roads (54%). The share of intercity roads rose to two-thirds of road infrastructure investments, with the Tunis-Hammamet freeway as the main item (D 50 million). The sum allocated for rural road construction by the Ministry of Infrastructure was 50% lower in real terms than under the Sixth Plan⁷, a reduction offset however by the surge in other, special rural road programs under the sponsorship of the Ministry of Planning and other ministries (PDRI, PRD). Overall, rural roads absorbed about as much funding as intercity roads, raising two issues: one of balance between road traffic needs and rural needs, and the other of consistency in rural roads development policy. Resources allocated to urban networks roughly doubled in real terms, but that was still too little. Railway investments, although appreciably reduced, still accounted for an inordinate proportion of the total (about 23%). The maritime sector was largely neglected: fishing ports, together with construction activities at Zarzis, mainly an oil port, absorbed most of the funding allocated to this sector; there was very little modernization or procurement of port equipment, partly because of the severe financial constraints under which the government-owned cargo-handling company was then operating. The air transport sector nearly doubled its share of investment funds to some 18% of the total: a third of all investment in airport facilities went to construction of the Tabarka airport, while other funds were allocated for extensions at Tunis, Monastir, and Jerba airports; replacement of the *Tunis Air* fleet and development of *Tuninter* boosted investments in airlines from the Sixth Plan figure of D 70 million to D 166 million.

1.11 The ongoing Eighth Plan (1992-1996) provides close to D 2.9 billion for transport investments. The proportion of funds earmarked for roads is practically unchanged at 53%, construction of the new stretch of freeway (Hammamet-M'Saken) being the largest project. The pace of rural road building has slackened off, although it will still absorb some D 200 million under various budgets, or nearly as much as the total allocation to urban road networks. The Greater Tunis area has absorbed most of the resources earmarked for urban infrastructure; despite this increased funding, however, the program is unlikely to meet the needs of the city population, mainly because its implementation rate during the first three years of the Eighth Plan period was among the lowest. The intercity road heavy maintenance program accounted for only a fifth of the Ministry of Infrastructure investment budget. One positive change was the much higher priority given to shipping investments, but procurement delays have slowed down implementation. Port investments, on a smaller though

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The Ministry of Infrastructure and Housing (MEH) built 400 km of roads under the Seventh Plan.

adequate scale, are being channeled into construction of new roll-on/roll-off terminals, procurement of tugboats, equipping of the container terminal at Radès, and extension of the oil facilities at Bizerte. In the case of the rail sector, investments covered by the performance contract between SNCFT and the authorities come to a total of D 188 million, with 36% allocated for rolling stock. While provision is included for laying double track on a portion of the Borj Cedria-Kalaa Kebira line, there is nevertheless a net priority shift in favor of maintenance (which now accounts for about 55% of planned infrastructure investments). Investment in air transport increased fourfold to D 700 million, indicating a reordering of priorities in favor of modernization with a view to expansion of market shares. For airlines, most investments were made by *Tunis Air* for renewal and expansion of its fleet.

E. CURRENT SERVICE DELIVERY : STILL ROOM FOR IMPROVEMENT

1.12 *Road transport:* The data base on the condition of the road network is old and provides little information on current state of repair. According to the most up-to-date indicators, 55% of paved roads were in good repair in 1988⁸, as against 85% or more in the industrial countries. Further deterioration is likely to have occurred between 1988 and 1995, as 50% more maintenance would have been normal had budget constraints not been so severe. The authorities tend to concentrate resources on primary roads and neglect the rest, especially rural roads. Most road shoulders are left to deteriorate (a process all the faster as roads are narrow), with the consequent adverse effects on road conservation and road safety. Surface dressing is used extensively as a substitute for the heavier maintenance main roads require when traffic growth is rapid. There is considerable pavement deterioration, while the fact that not all stretches of road are treated in the same fashion can interfere with traffic flow and at times create unsafe conditions. Insufficient attention is paid to bridge construction and rehabilitation, with the result that part of the network is flood-prone, which leads to road closings and additional deterioration in winter. In short, road policy still shows weaknesses that are economically costly. It is generally accepted that vehicle operating costs increase by 70% when road conditions are bad. With a daily traffic volume of 27 million vehicle-km nationwide⁹ and average vehicle operating costs of D 0.4 per km, Tunisia would save roughly D 160 million a year--i.e. the equivalent of the road investment budget--if 10% of traffic were switched from bad to good roads¹⁰. In the freight trucking subsector alone, privatization has led to a strong supply response which has increased productivity and brought tariffs back to their mid-1980s level. However, the Ministry of Transport has estimated tractor-trailer operating costs at the equivalent of US\$1.7/km¹¹, or at least 50% above costs in France. The fact that Tunisian truckers are virtually absent from the international road transport scene points to both productivity and quality shortcomings on their part, the impact of which affects domestic firms that have no alternative to hiring local carriers. The obsolescence of the road vehicle fleet is a widespread problem with adverse effects on both the economic and the ecological plane.

1.13 *Rail transport:* Between 1980 and 1994, despite massive government financial support, strategic studies, and implementation of action plans, the competitiveness of Tunisia's rail system continued to deteriorate in all its markets, with the exception of ore transport, where it has a

⁸ World Development Report 1994, *Infrastructure for Development*, Table 32.

⁹ Findings from the 1992 traffic survey showed a total of 22.7 million vehicle-km. (See DGPC, *General Traffic Census, 1992*.)

¹⁰ The HDM III model shows that the average operating cost of a vehicle increases by close to 40% on a change from smooth roads (2,000 IRI) to moderately rough roads (6,000 IRI).

¹¹ DGPE data of June 20, 1995, for a Scania tractor-trailer. The Tunisian currency equivalent was D 1,523.

monopoly. In overall terms, the share of the general transport market held by the rail system has fallen off by half since the 1970s. This loss of competitiveness, which remained largely hidden until just a few years ago as a result of the *de facto* protection afforded the system by a regulatory framework hardly conducive to competition, has clearly accelerated since 1992, following development of the expressway network and the steps taken to deregulate freight transport and privatize the road transport subsector. The explanation for this loss is to be found primarily in Tunisia's economic geography, since it is a small country whose economic activity is heavily concentrated around Tunis and along the Tunis/Sousse/Sfax corridor. In both the passenger and freight subsectors, distances are short, and in the case of freight there is the additional problem that unit quantities are often low—two factors that inevitably undermine the economic competitiveness of rail compared to road. The shortcomings affecting SNCFT's commercial policy until just recently and its often mediocre service quality level (failure to keep to freight dispatch timetables, passenger train delays and lack of comfort) have contributed to the stagnation of rail traffic despite a rapidly expanding general transport market. System technical productivity is poor, so that production costs are high in relative terms. System traffic density is low.¹² Although the equipment in use is of good technical quality in general, there are some serious shortcomings where traction stock is concerned and in infrastructure maintenance. The locomotive fleet is mixed, and availability rates, frankly bad for many years (less than 60% between 1988 and 1992), are an indication of the mediocre level of maintenance services, even though they improved to some extent in 1994 (65%)¹³; in any case, they will be seriously handicapped over the next few years by the poor quality of the two series introduced just recently. In the area of infrastructure maintenance, the slow pace of replacement operations and the lack of maintenance expertise have contributed, especially along the main Tunis/Sousse/Sfax corridor, to a significant drop in passenger-train commercial speeds (Tunis/Sfax running times: 3 hours 25 minutes in 1980 compared to 4 hours 15 minutes currently). On the other hand, manpower productivity has improved slowly but steadily since 1980¹⁴. Further improvements are possible, however, and in fact will be needed to bring the manpower costs/traffic receipts ratio to a level consistent with sustainable SNCFT financial equilibrium. The system's overall productivity level is weak, as the comparators listed in the accompanying table, No. 1.1, indicate.

Table 1.1 Railway operating efficiency: international comparison

	Tunisia	Morocco	France	US (Pass.)	US (Freight)
Kms of line/10,000km ²	118	41	593	195	195
'000 traffic units/km of line	1.35	3.40	3.43	0.24	8.64
Traffic units/employee	336	448	566	409	7983
'000 passenger/km/car	3180	3210	5609	4937	---
Locomotive availability	58%	82%	93%	83%	90%
Average trip length (km):					
-passenger	37	190	76	461	--
-freight	189	167	365	--	859

Data shown are for 1992, except in the case of Morocco, where they are for 1994

¹² Rail traffic density (in millions of traffic units per km of line): Tunisia, 1.67; Morocco, 3.73; France, 3.43; US, 8.76.

¹³ Locomotive availability: Morocco, 81%; France, 93%; US, 90%.

¹⁴ Manpower productivity (in thousands of traffic units per employee per annum): Tunisia (1994), 405; Morocco, 505; France, 566; US, 648.

1.14 *Maritime transport:* The Tunisian flag's small share of the maritime transport sector (about 20%) actually conceals a larger share in liner trade, essential in the export of manufactured goods and agricultural products. Liner trade, now being liberalized, was for a long time organized on the cartel system, to the detriment of shippers. The national shipping line, CTN, operates a fleet of 10 freighters with an average age of 18 years. Its modernization plans are slow to materialize, owing to procurement delays. A small company, it suffers the effects of diseconomies of scale by comparison with its foreign competitors. Its vessels are of less than optimum size given traffic and roundtrip voyage times. Crews are too large and lengthy port calls in Tunisia include extensive idle time. Although any attempt to measure the differences between shipping lines connected with Tunisia and those plying Atlantic or Far East routes runs into intricate comparability issues, there is definite evidence of incremental costs¹⁵. It is known, for instance, that non-conference rates applied by outsiders are generally 25% lower than conference rates, or that it costs US\$530 to ship a container from Tunis to Rotterdam, more or less what it costs to ship it from Tunis to Casablanca which is much closer. Very telling was the significant difference between c.o.b. and f.o.b. costs during the period 1988-1991 (close to 7%) compared to a world average of 3.2% and a European Union average of 1.5%¹⁶. Even if such data can hardly be used as a basis for conclusions regarding the extent of differences, they point unequivocally to the existence of price and quality differentials. In 1992, the Tunisian private sector entered the maritime transport market, where, though limited to tramp initially, it has been operating regular line services since 1995. So far, this presence has been no more than modest, first because the resources to cover the cost of competitive vessels are not available, and second because intervention by the authorities through their tender specifications and by the remaining members of maritime cartels continue to limit private sector operators' opportunities to gain access to a broader market.

1.15 *Ports:* This is a sector of primary importance to the Tunisian economy. However, wide enough use is not made of the most effective kinds of technology. For instance, the containerization rate was only 21% in 1994. As for port infrastructure, the combination of under-utilized berths (the current average throughput figure of 555 metric tons per meter in Tunisia must be compared to averages of 800-1,000 t and 5,000-10,000 t for general cargo and container berths respectively in efficient world ports) with waiting times (port statistics for 1994 show that an average of 36% of ships spend time waiting prior to berthing) is enough indication of low productivity. When at berth, ships are generally the focus of operations no more than 12 hours per day. Specialized container handling equipment has been brought into operation only recently. Inefficient procedures, remittance of documentation by traditional methods, systematic customs inspection, and exploitative commercialization within port precincts all play their part in lengthening transit merchandise turnaround times (as much as 30 days in the case of imports). Port manpower supply exceeds actual demand. Port services are costly and of low quality. The accompanying table, No. 1.2, compares Tunisian and international productivity figures.

¹⁵ See *Maghreb Transport and Trade Facilitation Study*, World Bank, 1995.

¹⁶ See *Maghreb Transport and Trade Facilitation Study*, op. cit., Table 2.1.

**Table 1.2: Productivity per hour of ship berth
(in metric tons)**

	Conventional cargo ships	Ro-Ro vessels	Container ships	Tankers	Bulk carriers (solids/liquids)
Tunisian ports	28	38	42	312	69
Efficient world ports	60-80	80-100	150-200 (200-300)*	500-1000	300-600

* with gantry-cranes and specialized transfer equipment

1.16 *Air Transport:* Tunisian carriers provide services that conform fully with the industry standards observed worldwide, and their safety record is good. The national airline, *Tunis Air*, has shown a degree of commercial dynamism that has enabled it to adapt to a changed and more competitive market and to play an active part in transporting tourists. However, it is handicapped not only by its size and procedural constraints stemming from its public enterprise status, but also by a series of incremental costs (ascribable in part to overstaffing) that result in direct flight costs about 20-30% higher than the US industry average. *Tunis Air* is in a buoyant financial situation, but is committed to a fleet replacement program at a time when competitive pressures are intensifying in the wake of European Union deregulation and the "open skies" policy advocated by the US. Since 1992, domestic air services have been provided by a private company, *Tuninter*, which has succeeded in increasing its traffic volume by 50% in two years but whose future may be undermined by a chronic deficit. As for the country's airports, they have generally kept pace with traffic growth and provide user services of good quality. The only reservations that might be expressed are that full advantage is not taken of existing commercial potential because airport administration is a public sector monopoly, and that investment funds are diverted into the creation of capacity levels not warranted by current demand, as has occurred in the case of Tabarka airport.

1.17 *Urban transport:* Bus services in Tunis are overcrowded at peak hours. SNT reports nine passengers per m² when six is the acceptable standard. About half of all trips are made on foot. The conservative estimate is that it would take at least a 20% increase in bus services to cover unmet demand. In terms of operations productivity, the public enterprises appear to be reasonably efficient. Fleet (SNT, STS, SORETRAS) availability rates are in the 75-90% range, which is on the low side for SNT and STS. Number of employees per bus ranges from 4.5 to 6.3; while this is within normal limits (3-8), there is room for improvement, especially in maintenance operations, where greater reliance on contracting out is to be recommended. SNT and STS average distance per day figures, at 240 and 311 km respectively, are good. On the other hand, the SORETRAS figure of 158 km looks mediocre, since it is as low as in Paris, where traffic congestion is much heavier than in Sfax. Bus company finances, however, present a serious problem. The authorities are not paying enough compensation to offset the constraints that come with providing a public service, particularly the transport of school children. As a result, the companies are hard put to expand their fleets and ensure a reasonable level of user satisfaction. The declining quality of urban public transport services threatens to shrink their market share and exacerbate urban congestion.

CHAPTER 11. BETTER TRANSPORT FACILITIES : THE KEY TO INTERNATIONAL COMPETITIVENESS

A. THE MACROECONOMIC OUTLOOK: LAYING THE CONDITIONS FOR SUSTAINABLE GROWTH

2.01 *Restoring macroeconomic balance and promoting the private sector.* Despite several years of sound economic performance, Tunisia is now facing a new set of challenges. It must create enough jobs to bring down unemployment among a working-age urban population that is growing rapidly. It must deal with the incipient tendency to diminishing returns as the economy develops and becomes more capital-intensive. It must revitalize those engines of growth, such as the textiles industry, that are in urgent need of upgrading in their management methods and techniques¹⁷. And it must address the physical degradation of its coastline and farmlands, and its rapidly depleting groundwater reserves. If Tunisia is to develop rapidly, the public sector will have to free up resources that can be put to better use by the private sector. In the early 1990s, the public sector's share of GDP and gross investment was still 70 per cent. A recent Bank study of the Tunisian economy¹⁸ sets out two scenarios, both of them based on the assumption that reforms will be undertaken to redress the macroeconomic balance and eliminate distortions. The high-growth scenario (which projects sustainable annual growth at 6 per cent) implies reducing the budgetary deficit, which in turn means streamlining Government expenditures, restructuring and privatizing public enterprises, and revitalizing the domestic economy by promoting a greater degree of competition. Enhancing Tunisia's international competitiveness will require a number of improvements, including better infrastructure, a market-determined exchange rate, and a more flexible structure of wages and domestic prices. A major factor in achieving this high-growth scenario will be the transport sector, which as a supplier of a key intermediate good can have a far-reaching impact on productivity.

2.02 *Trade liberalization:* The progress of regional integration within the European Union (EU) and the reduction of world trade barriers in the wake of the Uruguay Round imply that Tunisia needs to adopt an export-oriented policy for its continuing growth and industrialization. Yet while such a policy will open up new opportunities for the country, it also brings a degree of risk. The Free Trade Agreement with the EU will remove the restrictive trade agreements that formerly protected producers within the Union, and will allow Tunisia to promote exports in sectors where it has comparative advantages over other competitors, including its physical proximity to Europe. On the other hand, Tunisian firms will now see their domestic market flung open to new competition from European producers. The Uruguay Round will also have the effect of reducing protection for goods traded under most-favored-nation rules: since EU members can now look beyond Tunisia for imports that were previously covered by preferential agreements, Tunisia may have to seek new markets abroad for such products. Likewise, the lifting of restrictions under the Multifibre Arrangement (MFA) will make the European market more competitive, but the producing countries that benefited most under the MFA will inevitably lose ground to other exporters under the new, more liberal regime. In a more open trading world, Tunisia will have to develop new lines of product specialization. Full convertibility of

¹⁷ The textile industry will have to modernize if it is to keep up with international standards. The investment needed to meet foreign competition is estimated at 700 million Tunisian dollars, including 200 million for management upgrading.

¹⁸ See Economic Memorandum 1995, "Towards the 21st Century".

the Dinar will help promote industrial and commercial efficiency, but it will leave little room for lax macroeconomic policy, and is likely to require much stricter financial discipline. The stakes are high - swift implementation of the free-trade agreement is expected to raise Tunisia's annual GDP growth rate by 3 to 5 per cent, while progress with Uruguay Round trade liberalization measures should add another 0.2 to 0.3 per cent.

B. SEVEN BASIC PRINCIPLES FOR THE NINTH TRANSPORTATION PLAN

Seeking quality and economic returns through investment

2.03 If Tunisia's products are to become more competitive, and its economic development more balanced, substantial improvements will be required in its transportation infrastructure and services. In the case of infrastructure, which is generally in the hands of the Government, a selective approach is needed, one that avoids investing too many resources in ventures where returns are questionable. Pouring public funds into such ventures will tend to crowd out private investors from financial markets, and will impose growth-retarding fiscal burdens on producers and consumers alike. The public investment program must therefore aim for quality, and should try to enlist participation by private capital. East Asian countries, which saw remarkable growth between 1960 and 1990¹⁹, owe their success in part, no doubt, to increased overall investment, which rose from 20 per cent to 35 per cent of GDP between 1965 and 1990, but also to the fact that the share of private capital in that investment was twice as high as the norm in middle-income countries. It has been observed that Tunisia's investment rates during the period 1980-1986 were just as high (with gross investment running at about 30 per cent of GDP), but it did not reap results commensurate with those in East Asia - GDP per capita rose only slightly more than one per cent per year, or one-fifth as quickly. At the risk of pressing the analogy too far, the fact that the rate of investment declined to about 24 per cent of GDP over the period 1987-1994, while the growth of income per capita doubled, suggests that it was the rationalization of investment since 1987, rather than its absolute amount, that has been the driving force behind the remarkable improvement in Tunisia's economic performance. It is still true, nonetheless, that the country's growth has been much less dynamic than that in East Asia. The rebound in the investment rate to about 28 per cent of GDP since 1992, under the impulse of the private sector, augurs well for accelerating growth, but there are clearly some tough economic choices to be made.

2.04 With respect to transportation, the accelerating share of public investment that has been devoted to this sector over the past fifteen years has been a positive factor in making up for the rather weak showing of private sector investment in equipment. In fact, the public sector still accounted for almost 70 per cent of the industry's output in 1993, and it can be assumed that this pattern prevails as well in the overall investment picture. Yet while the level of transportation investment appears on average to be higher (see para. 1.07 above), it is not clear that this has translated into a comparable contribution by the sector to GDP. The overall share of the transportation and telecommunications industries in GDP has been rising steadily over the last fifteen years, from about 5 per cent in 1981-1986 to 7 per cent for the past eight years²⁰. Taken by itself, however, transportation has contributed barely 5 per cent to GDP, a rather poor performance for a country at Tunisia's stage of development²¹.

¹⁹ Per capita growth in income was 5.5% between 1960 and 1990, a performance unmatched anywhere in the world (see IBRD, "The East Asian Miracle: Economic Growth and Public Policy" (1993).

²⁰ Source: Ministry of Economic Development (cited in the 1995 Economic memorandum, Table 4.2).

²¹ During the 1980s, transportation services accounted for 5 to 10% of value added in most developing countries.

All of this suggests the need to pursue the rationalization of transportation investment, if the economic growth rate is to rise to the targeted 6 percent level during the period of the Ninth Plan. As long as infrastructure investments in general, and those in transportation in particular, have unit elasticity with respect to GDP, then the volume of investment will have to be 50 per cent higher at constant prices if constraints on growth are to be overcome. Rationalizing investments would allow this volume to be reduced.

2.05 Greater priority should be accorded to highways than they received under the Eighth Plan. Growth in the currently low level of automobile ownership per capita (about one-tenth the European average) and increasing automobile travel, both of which are a result of faster economic growth, can be expected to raise highway traffic volumes by 6 to 7 per cent a year under the high-growth scenario, which would represent a doubling in twelve years. More money should thus be devoted to the road-widening program to help ward off traffic congestion. Efforts are needed, as well, to fill in the many gaps in the still largely unpaved roads network (see para. 1.04²²), and to bring existing highways up to standard in terms of safety, signals and road-sign deployment. Rural road construction programs seem to be well conceived; their share in total transportation investment should be maintained, since they are among the most effective tools for reducing economic disparities within the country. A major adjustment is needed in order to free up more funds for roadway maintenance. The maintenance budget, including routine and need-occasioned work, represented about 32 per cent of the total national highways allocation under the Sixth Plan, but this proportion fell to less than 30 per cent under the Eighth Plan, and rebounded to 35 per cent for the period 1992-1994. The current budget for road reinforcement and resurfacing should be increased by at least 50 per cent. Urban roadway systems demand more attention, especially in Tunis, where the expansion of transportation infrastructure and services is essential to maintain balance as the city develops. As with the highways, steps will have to be taken to avoid the kind of congestion that can be anticipated from the projected 5 to 7 per cent annual increase in transportation demand. In the country's ports, the most pressing need is for investment to allow access for modern transport vessels, especially the container and "RO-RO" types, while continuing to accommodate existing activities. As to the railways, investment should be channeled into the most actively used lines, with the stress on track renovation, improved telecommunications systems and signaling, before launching into the more costly undertaking of doubling existing tracks. Finally, it is perhaps in the area of ground transportation that there is greatest scope for quality improvement. Investments in a modern vehicle fleet, in highway safety and in anti-pollution measures are all important areas for attention.

Reducing the fiscal burden through greater private investment

2.06 The need to modernize the transportation systems creates major financial demands that the Government is in no position to cover on its own. Its contribution to financing of the economy (current expenditures plus investment) has already dropped sharply, to 30 per cent of GDP (1994). Reductions in capital contributions (grants and temporary assistance) have been particularly steep, from 5.9 per cent in 1986 to barely 1.8 per cent in 1994. Under the policy of budgetary restraint, the forecast deficit for 1996 is only 2 per cent, and this should fall to no more than one per cent by 2003, to be consistent with the high-growth scenario. According to the Bank's projections, Government capital outlays will decline proportionately from almost 7 per cent of GDP in 1994, to about 5.5 per cent in 2003. Since transportation investments will have to stay at least level with GDP growth, it is clear that businesses are going to have to assume a larger share of financing infrastructure expenses that have been covered

²² In Europe, the density of paved roads exceeds 10,000 km per million inhabitants, or ten times the density in Tunisia.

until now by government. Increased reliance will have to be placed on private initiative and participation, to ensure the best economic return on funds invested. The financial risk that the private investor must assume is the best guarantee that investment projects will be selected judiciously. Moreover, such projects will be free of the procedural constraints that weigh upon public expenditure, ranging from the uncertainties inherent in parliamentary budget debates to the plethora of controls on commitments and disbursements.

2.07 Tunisia's macroeconomic framework is favorable to the development of private investment, yet there is room for a greater private role in transportation infrastructure, where the public sector is still dominant. The system of granting concessions is an excellent way of attracting private capital into sectors of activity where the Government wishes to preserve a degree of economic control and proprietorship. It remains to be seen whether the existing institutional framework in Tunisia can offer investors the kinds of guarantee they have the right to expect, without actually removing all commercial risk for them, or giving them monopoly rents. Further study is needed to develop transportation concession contracts, selection procedures, and regulatory and arbitration mechanisms that are sufficiently compatible with international practice so that foreign investors will be willing to venture into Tunisia with their capital and expertise. The concession system is well suited to toll roads and expressways, ports, airports, urban and inter-city public transit, and in general any business where services can be rendered, and hence charged for, on an individual basis. Specific applications of this principle are forecast during the Ninth Plan.

2.08 In Tunisia, the highways network has absorbed the bulk of public funding, and it is here therefore that there is the greatest potential for alleviating the budgetary burden on the Government by enlisting contributions from private capital. Tunisia has already started down this path. The Tunisie-Autoroute corporation (T-A) was created in 1992. Some 80 per cent of its capital is held by public and para-statal enterprises and public development banks, while the remaining 20 per cent is distributed among private banks and public-works contractors. T-A has been granted a 30-year concession for the 140-km Tunis-M'Saken freeway, financed by the Government. Under its concession contract, T-A must invest 25 million Dinars in setting up tollbooths and in operational and safety equipment, or only 10 per cent of the amount invested in the road by the Government. The freeway development program will require heavy funding, and most of it will have to come from private sources. An increased private sector share in T-A and a generally more innovative approach can thus be expected. There are many examples around the world of the use of "BOT" (Build-Operate-Transfer) formulas in freeway projects, and the market is growing for specialized companies to manage them. International experts should be sought to help in developing a regulatory and contractual framework that will inspire confidence among foreign investors. Particular care needs to be paid to assessing the economic and financial aspects of concession projects, to avoid the kind of problems that beset the Mexican freeway program. The Dulles Greenway project in the United States (see Box 1) shows how far private financing can go, but it also demonstrates both the necessity and the difficulty of lining up long-term financing to match the economic life of the investment. It illustrates as well the risk - unfortunately very real in this case - that estimates of future traffic volumes may be exaggerated. The Tunisian government will have to be careful to promote projects with a real potential return, since private capital can be permanently frightened off by failures.

Box 1: The New Frontier in Highway Privatization: the Dulles Greenway (USA)

The State of Virginia found itself unable to cope with its backlog of highway infrastructure needs on the basis of traditional public finance, and turned to private capital for a solution. The building of a 22 km freeway between Dulles International Airport and the town of Leesburg, in an effort to reduce congestion on the existing roads network, was an early example of this new policy, that also served to demonstrate the conditions for success in such ventures. This was in fact the first expressway in the United States to be totally funded by private sources. The project was conceived in 1986, by a group of private investors flush with success on the real estate market of the time. Two years later, the State Assembly passed a law approving the construction of private highways in Virginia. The arduous search for suitable financing ended when institutional investors (the giant Prudential and John Hancock Mutual Life insurance companies) expressed interest in the project. Long-term loans were used to finance 80% of the estimated cost of US\$ 325 million. The balance of funding was provided by commercial banks (about 15%) in the form of long-term credits, and through capital infusions by the partners. The freeway was opened for service in September, 1995, six months ahead of the original schedule, and only 10% over budget. The Greenway corporation today has three associates: a private investor; Autostrade International SpA, an Italian company specializing in freeway management; and the construction company that built the highway. Autostrade is responsible for operating the freeway.

Private funding extended to the purchase of rights-of-way for the highway: one-third (1/3) of the land needed was leased from the airport authority and the balance was purchased outright (1/3) or paid in kind by real estate holders in exchange for the building of access ramps to their properties (1/3). The Dulles Greenway freeway will revert to State ownership at the end of the 42.5 year operating concession. Tolls are subject to control by the State, which has placed an 18% ceiling on profits. One of the main arguments in favor of this program was that private sector construction of the freeway would be faster and cheaper, since the public works department itself was tied up in cumbersome regulations. Privatization extends even to road safety and security services, which have been sub-contracted to the Virginia State Police: the corporation pays the cost for a squad of exclusive patrol vehicles. Although the project was a success, there were a number of problems to overcome. The private promoters had to seek countless approvals and heed a range of regulatory restrictions. In one notable case, the investors had to pay compensation for the loss of wetlands under federal protection, and were required to replant the area and build a single-span bridge to avoid polluting the waterway. Consequently, lawyers' fees consumed considerable funds.

There are serious doubts today about the project's viability, because of severe shortcomings of a commercial nature. Traffic was projected at 34,000 vehicles per day, three times the actual traffic recorded during the first few months of operation. Toll booth receipts are far lower than what is needed to cover operating costs and debt amortization. The State has offered no guarantees, and the future of the project depends now on its ability to refinance its long-term debt. There are perhaps three provisional lessons to be drawn from the experience: (a) private financing for freeways is viable, but it must be done with long-term money at modest interest rates, preferably from institutional investors like insurance companies and pension funds. (b) Great care must be taken in preparing market studies. The Dulles Greenway project relied on studies conducted during a real estate boom, and these were never updated subsequently, even though promotional problems delayed project start-up by three years. (c) No user behavior studies were ever undertaken. Although it is on a par with the average in other countries, the toll rate, at US 13 cents [per mile?] is the highest in the United States. Many users actually reacted by boycotting the new road. Had surveys been conducted, they would no doubt have led to some greater graduation in the level of tolls. (d) It is hard to imagine that Tunisia can attract private foreign capital without offering a sovereign risk guarantee.

Subsidies: targeting and burden-sharing

2.09 Urban transit and the railways are subsidized by Government. Although users pay a higher portion of costs (two-thirds) through passenger fares than is the case in most countries²³, the subsidy still represents a heavy financial burden for the Tunisian government, which spends some 40 to 50 million Dinars per year on public transportation, divided equally between bus and rail services. Capital contributions in both areas represent a further significant subsidy. Does this state assistance achieve its hoped-for results? In the cities, transit subsidies go mainly to cover the shortfall for services to students and schoolchildren, who pay only 10 per cent of the normal fare. The system is controversial, since while it is supposed to cover the full difference between the student fare and the cost of service, in fact it falls far short. The gap between subsidies received and the costs of providing the service is growing, and bus companies are obliged to dip into their maintenance and renewal budgets, and to transfer part of the burden to other users through higher fares. At a price of 2 Dinars per zone, a weekly bus pass takes a significant bite out of the average citizen's disposable income, which was estimated at 20 Dinars in 1990. Here again, subsidies do not necessarily benefit those most in need. Some of those receiving financial assistance do not really need it, while many regular, low-income transit users, who may depend entirely on the service to get to work, find it difficult to pay the fare - without mentioning the inconvenience and the time lost because of the slow service. Another, undependable, form of subsidy is provided through tax concessions for certain types of vehicle, and preferential loans. One example is the leased-vehicle replacement program, which was launched in 1989, and which costs the government close to 6 million Dinars in foregone revenues. It is not surprising that growing doubts are being expressed about government aid for this kind of service.

2.10 If subsidies are to be limited, costs will first have to be brought into line. It needs to be understood that the granting of subsidies, where the amount is set by bureaucratic fiat, with no clearly defined purpose and no monitoring of end results, provides a poor incentive for the beneficiary company to make the effort of raising its productivity and bringing its costs under control - indeed, it can be virtually certain that the government will bail it out sooner or later, to avoid the political embarrassment of a breakdown in public transit. Subsidies, it may be said, are self-perpetuating. The United Kingdom, where subsidies rose 13-fold between 1972 and 1982, provides an example of this situation, and of some original approaches to remedying the problem, as well. In the London bus case, the strategy was to replace a monopoly by a multiple-choice service, by letting concessions to operate individual lines for a fixed period (generally for a maximum of five years). By introducing an element of competition for market share, while maintaining control over service standards, the government was able to cut back its subsidies and improve service coverage at the same time (see Box 2). This principle can be applied just as effectively with long-distance bus services, as has been proved in Chile, Sri Lanka, and again in the United Kingdom. In a country like Tunisia, it seems reasonable to continue subsidizing urban transit, not only on grounds of social equity, but also for the contribution such services can make to alleviating the diseconomies associated with rapid and congested urbanization. But government financial constraints make it advisable to look for ways to off-load part of this burden to other sources than general revenue. For example, the indirect beneficiaries of cheap transit - the owners of buildings and businesses in highly serviced areas, or even their employers - could quite fairly be taxed to help cover such subsidies.

²³ In France, it is the local taxpayers who cover the largest portion (75%) of public transit costs outside the major cities. This contribution is split evenly (37%) between local taxes and a "versement transport" (transit transfer). The Government provides only 2%, while the modest remainder is covered by transit fares.

Box 2. Promoting social goals through privatization: the London buses

Although the government's White Paper on bus services declared that the cost of subsidizing public transport had become "unacceptable", and called for their outright deregulation and privatization, the London bus system has instead gone through a gradual transformation, beginning with the 1984 Transport Act that created the LRT (London Regional Transport). LRT is a public agency mandated to plan and provide bus services, and to determine service standards and fares. London Buses Ltd. (LB), is a fully-owned subsidiary of LRT that initially ran services on the core network with 12 subsidiaries. The innovation involved setting up new routes (not all of which could be profitable), and inviting private companies to bid for them in competition with LB. By the late 1980s, some 30 per cent of bus services were operating under contracts, and half of these were run by private firms. The contracts were good for three years, and covered the gross cost of services quoted in the bid; revenues were turned over to LRT. (At the beginning, LRT had invited bidders to quote the subsidy they would need to operate the service, but this system was found to be administratively cumbersome, and required cross-route subsidies, and it was eventually discarded). London bus services were fully privatized by the end of 1994. Several lessons can be drawn from this 10-year experiment: a) bus service in terms of vehicles per kilometer increased by about 25%; b) operating costs per vehicle fell by close to 50%; c) the demand rose slightly (+5%) and the bus occupancy rates fell only marginally; d) there was an innovative surge of small buses (up to 35 riders); e) fears that privatization would lead to more pollution, traffic congestion and accidents proved unfounded; f) most importantly, more routes became profitable, and government was able to reduce its subsidies by 70%. Overall, financial assistance amounted to £165 million in 1993/94, including £106 million for "social" tariffs. These subsidies covered just under one-third of operating costs. By comparison, in the Paris regional transport system, rider fares covered only one-third of operating costs in 1992. In short, the privatization of bus services in London led to better and above all, cheaper transport.

Main source: K.M. Gwilliam, Pr. Transport Economist, World Bank: "Private Sector Participation in Urban Public Transport; an Assessment of Worldwide Experience" (1995).

2.11 Where subsidies are called for, it is best to channel them to clearly-defined beneficiaries, set their level as low as possible, and if feasible, have them distributed by a separate agency that can monitor them against program objectives. "Block grants" to transport companies are not a good idea, since the government will have no control over their use, and the way the company distributes them may not be in keeping with the government's social equity goals. Cross-subsidy schemes are often used in Tunisia to reduce the need for outside assistance, by having one group of users subsidize another internally. This is simple enough to manage, but it can have perverse effects, for example, if higher-income users switch to other, private modes of transport, or if perceived overcharging ends up reducing demand and growth in the more profitable services. Cross-subsidization should thus be used sparingly. A proper understanding of the economic value of time can also be used to cut subsidies without distorting demand or ignoring social goals: rush-hour surcharges can then help to spread out demand more evenly over the day, and enhance overall profitability.

Promoting competition and reducing regulation

2.12 Government interventionism tends to outlive its original rationale, whether it was instituted to counter hard economic times, or to wrest some essential activity from foreign control. There may be a fear that a too-fragmented, multi-provider approach to transport services will fail to meet demand, in terms of quality or quantity, or that it will lead to chronic over-capacity and waste. The idea that economies of scale can only be realized if companies are given time to organize themselves and are protected from too strenuous competition - the domestic "infant industry" argument - and concerns about countering the abuse of monopolistic power through Government control, all help to explain the past proliferation of Government-owned enterprises, or the creation of international marketing cartels based on bilateral understandings or market-sharing arrangements with dominant foreign firms. It is

easy enough to turn to public controls to prevent a company from abusing its monopoly power and taking advantage of its customers. While the results are often disappointing, ideology sometimes wins out over reason to justify a continued government role even where it has been shown to be pointless or even harmful. Restraints on competition in the road transport business, for both trucking and bus services, are often thought to generate economies of scale, but closer analysis shows that any such effect is marginal. International experience suggests that Tunisia would have done well to deregulate its road freight transportation much sooner, and that such a move would have produced demonstrable benefits in terms of both the supply and the cost of services²⁴. Generally speaking, as Tunisia's economy develops, its industrial plant and its range of productive options will tend to broaden and diversify. The increasing complexity of management problems will demand more and more decentralization of decision-making. Market forces will have to be freed from their Government-imposed straightjacket.

2.13 The problem of public enterprise under-performance has less to do with externally-imposed regulation than with government interference in their internal management. They need to be given more autonomy, within clearly defined boundaries. There are still too many constraints on public enterprises - on their investment policies, on their choice of suppliers and means of payment, and on their employment practices. Management decisions should be taken at the level closest to the action, and the best way to train managers and make them accountable is to expose them to the facts of competitive market life. The recent debate over equipment purchases for the ports under the Ninth Plan is symptomatic of the tendency to decide important issues in the wrong place. The OPTN [Tunisian National Ports Authority] and its responsible ministry concern themselves with how many and what type of cranes they should buy to increase productivity in the ports. In fact, cranes are an integral part of the cargo-handling process, and decisions of this kind should be left to the handling companies themselves, since they alone have a first-hand view of the requirements and the business risks involved. Instead, the current decision-making system relegates business aspects to the background, and occupies itself with general concerns far removed from any exposure to market risks - OPNT indeed, as a monopoly, will always find a way, directly or indirectly, to shift the cost of poor business decisions onto the shoulders of its clients²⁵.

2.14 The conditions of market entry for the private sector in the transportation area often seem to be too restrictive. A minimum level of equity capitalization (typically 30%) is the general rule. For sea and air transport, setting up business on a time-chartering or leasing basis is allowed for only a few years, after which the equipment has to be owned outright. There are fleet-composition restrictions on used vehicles, aircraft and ships (for example, a trucking fleet must have new vehicles representing 75% of its freight capacity, and no truck can be more than 4 years old). In the ports, the entry-qualification specifications for would-be freight-handlers include a detailed list of the minimum equipment they must own. Requirements of this kind represent real technical and financial barriers to market entry. The goal of discouraging speculators and promoting professionalism is a worthy one, but the means now used to pursue it can only serve to stifle financial innovation and efforts to optimize the factor mix. Regulations should leave room for operators to propose better alternatives. OPNT, for

²⁴ In the United States, after only 5 years of deregulation, it is estimated that trucking fees are already 40% lower than they would have been if the market were still controlled. Additional reductions are expected, as carriers learn to operate more efficiently in a free market.

²⁵ OPNT, "Port activity and revenue indicators". This report shows that existing fixed and mobile cranes are seldom used, because they do not meet user needs (p. 31).

example, should focus on the quality of performance, by whatever means, and should limit itself to setting productivity targets, backed up by stiff penalties for non-compliance.

2.15 Care should be taken to ensure that regulation is never at cross-purposes with underlying market trends. The policies that countries around the world have pursued in support of a national-flag merchant marine underline the importance of this principle. Tunisia itself was once a prime example of a useless and costly regulatory approach to shipping policy. The goal was to promote Tunisian flag carriers and save foreign exchange, by giving a monopoly to CTN and negotiating cargo-sharing agreements. The results were disappointing, to judge from the erosion that has occurred in the national fleet's market share. From the shipper's viewpoint, this "administered" market has worked in favor of the shipowner, and has helped to keep freight rates disproportionately high. In effect, ensuring protective cover for a national shipping line often undermines its capacity to adapt to changing markets and technologies, so that in the end freight rates may well be higher than they would be under open competition. Bureaucratic cargo reservation systems are another constraint, for which shippers must in the end pay the cost. Protecting domestic shipping in this way may give the illusion of helping to shore up the country's balance of payments, but in fact any such supposed benefit is far outweighed by the resultant low productivity and the denial of contractual freedom. A World Bank study showed that Venezuela had ostensibly saved US\$ 20 million in foreign exchange by sheltering its merchant fleet under a cargo reservation system - but it lost almost ten times as much, by paying freight rates that included a built-in component for inefficiency, and another for "rent" to the foreign shipowners who shared the traffic²⁶. Leaving aside the question of foreign exchange, some would argue that protecting the national merchant fleet is justified, in an uncertain world, on the grounds of ensuring the security of external supply and the promotion of exports. Such an argument fails, however, in the face of the current surplus of merchant tonnage throughout the world, which is enough to minimize any risk that Tunisia could be cut off by a shortage of shipping. Still other attempts to justify protectionist shipping policies appeal to employment creation, and to the "prestige" of flying the national flag on the world's oceans. Yet, Chile's experience (see Box 3) suggests that local shipowners have found deregulation to work to their benefit, since they can now register their vessels under foreign flags, and are free to be more innovative in reducing transport costs.

26

Source: Messerlin et al., "The Uruguay Round: services in the World Economy", World Bank and United Nations Center on Transnational Corporations, April 1990.

Box 3. Shipping deregulation and national flag protection: Chile

Chile, a middle-income country like Tunisia, offers an instructive experience in shipping deregulation. Cargo reservation systems were introduced by law in 1956, and prevailed until 1979. Vessels registered in Chile were given rights to carry 50% of foreign cargo trade. Those vessels had to be 75% Chilean-owned, and regulations governed the size and make-up of their crews. The twin objectives were to develop the national merchant marine and to promote Chilean trade - but they proved mutually incompatible. Shipments were assigned ex-ante to shipping services that often could not guarantee on-time delivery, and were not always technically equipped to meet shippers' requirements. Waivers would then have to be issued by the "entitled" shipowner, leading to further delays, and leaving shippers at risk of failing to meet their delivery schedules. The blurring of the distinction between liner shipping and tramping led to disputes between shippers and the liner conferences, which added further costs and delays. Market entry restrictions were imposed on independent shipowners, to shelter conference members from competition.

The 1979 Act abolished the cargo reservation system, except for a few trade routes to and from countries that opted to keep it intact. Some degree of interventionism remained, to help financially troubled Chilean shipowners, and to support the state-owned shipping company's efforts to join the European cartel. But the 1979 Act had a positive impact, nonetheless. An analysis of trade between Chile and the United States showed a major shift toward tramping from regular liner shipping, whose share fell to 4% in 1986, thus forcing it to become more efficient in order to survive. According to one estimate, freight rates dropped by 22-25% below what they would have been if the pre-1979 regime had remained in effect. Private shipowners took advantage of these policy changes to look abroad for more attractive places to register their vessels. In the end, Chilean shipowners actually saw their market share rise beyond what it had been in the days of the national flag policy.

Source: E. Bennathan et al., "Deregulation of shipping. What is to be Learned from Chile?", World Bank Working Document N° 67.

2.16 It should not be concluded from the foregoing that all regulations are useless and should be discarded. The key is to adapt regulations to market needs. The Government should set for itself the goal of becoming an efficient regulator, instead of an active economic agent operating through public enterprises. It must improve its record in essential functions such as drafting and enforcing supervisory regulations, especially over routes where the growth of the "informal" sector threatens to destabilize markets, or protecting users against the various risks inherent in transportation. Standardizing service quality, and setting professional qualification standards for shippers, are clearly in the public realm. The business environment also needs to be kept in mind. Competition is the best of all regulatory instruments, but it still needs the proper conditions to flourish. Governments should find the means to monitor market behavior, and correct or punish any dysfunction, while guarding against the risks of cartelization. It may have to go further in certain sub-sectors where particular features are involved (such as a natural monopoly, or an essential public service) that make them unsuitable for open competition. This category might embrace ports and expressways, where the "lumpiness" and scale of the investments required makes competition incompatible with a balanced approach to management, or urban mass transit, where important economic and social externalities are at stake. In all such cases where business tends to be monopolistic, a regulatory mechanism is indispensable to set the conditions of service and manage the granting of concessions, supervise contract performance and negotiate amendments (which are especially important for contracts of long duration), and settle disputes. But this regulatory function must be placed on a systematic footing and applied with technical discipline and with a constant eye to the public interest, at full arm's length from the companies involved, or even from the government itself (as in the USA and the UK).

Freeing transport services from import restrictions and over-taxation

2.17 Vehicles cannot be freely imported into Tunisia. The current system relies on import licenses, conditional upon the creation of off-setting local value-added, and on the allocation of import quotas (see Box 4). International bids are regularly invited by the trade ministry for imports of vehicles with government-mandated specifications²⁷. This system, intended to bolster the local auto industry and defend the national currency, involves a number of direct and indirect costs for both shippers and users (ranging from 15 to 20 per cent). Customs duties and various other taxes on imported vehicles are especially heavy: the rates rise progressively, from 85 per cent of the CIF price for gasoline-powered motor vehicles of less than 1000 cc to 377 per cent for engine displacements above 2,500 cc. The scale applied to diesel vehicles varies between 120 and 450 per cent, as displacement rises from 1500 cc to 2800 cc and over. The November 1994 decision to reduce import taxes to 21 per cent for "mass market" cars (1200 c) was well received by the public, but appears to have encountered some administrative roadblocks on its way to implementation. On the other hand, most luxury automobiles entering Tunisia apparently escape import duties, a paradox that is explained by the rule allowing nationals returning from a stay of at least two years abroad to bring their car with them duty-free.

Box 4. The burden of import restrictions on transport equipment

Imports of utility vehicles are subject to "offset" performance contracts whereby 50% of the import value must be compensated for by the value-added content of local purchases of goods within, or related to, the same sector. Since Tunisian output of transportation equipment still depends heavily on imports of semi-finished products, the ministry in charge of the import system has ruled that domestic value-added for offset purposes is to be calculated at 25% of the selling price of vehicles assembled within the country. Consequently, for an imported vehicle worth 100 units, 200 units of local goods must be purchased. These offset provisions represent a significant restriction on imports, since the actual need for local goods may not match the purchase requirements. A key objective of this policy is to promote local industrial development: an importer, for example, might be induced to start manufacturing products related to his core business, just to generate the domestic value-added needed to meet his offset quota.

With respect to industrial and commercial vehicles (trucks and buses), the Government-owned STIA (Tunisian Automotive Corporation) is the main importer of knock-down components for assembly in Tunisia. Until 1994, it enjoyed a *de facto* monopoly over component and vehicle imports. At present, a quota system is in place and import "rights" are distributed between private firms (e.g. Ennakel and Industries Mécaniques Maghrébines) and STIA, with the latter retaining its dominant position. The method for allocating import licenses is far from transparent. Quotas are normally based on the previous year's sales, but they may also be awarded quite arbitrarily. The quota system is costly and time-consuming, and places severe limits on private buyers seeking the best transportation equipment. The quality of locally assembled vehicles is poor (employees at the Government-owned Sousse bus company reported premature rusting and door mechanism failures), and the heavy degree of protection keeps prices high, thus making it harder for Tunisian truckers to compete in the TIR business. Finally, the system leads to inventory shortfalls, delayed deliveries (vehicles imported in 1994 were delivered in 1995), and "rent" premiums for those willing to give up their place on the waiting list.

2.18 The end result of this policy is to raise the cost of vehicle ownership in a country where average incomes are still low, and it thus encourages people to keep their vehicles long past their normal life expectancy. With some 25,000 vehicles newly registered each year, 1987 to 1992²⁸, and an

²⁷ The last such bids were called in 1992

²⁸ See DGPC, "General traffic census 1992" (p. 98).

active fleet of about 425,000 units, the average age is close to 17 years, which is high indeed. The most obvious impact is in the high cost of maintenance and the low availability ratio of vehicles. There are other, less visible costs. Highway safety is jeopardized, since mechanical upkeep and servicing is less regular and less efficient in Tunisia than in the major industrial countries. Excess fuel consumption is another handicap, since older-model engines have much poorer fuel performance than the newer makes. A simple calculation gives an idea of the cost involved: if we suppose, *ceteris paribus*, that fuel consumption is 30 per cent higher because of the average age of the fleet, and we assign a frontier price of gasoline at US\$ 0.20 per liter, we can see that the economic cost of this over-consumption is about 100 to 120 million Dinars per year²⁹. Environmental protection is another source of concern. A recent Bank study points out that road traffic is the source of 90 per cent or more of atmospheric pollution from lead and carbon monoxide in major cities³⁰. The fact that gasoline consumption is higher over the same distance traveled for an aging fleet suggests a definite contribution to pollution. Moreover, engines become out of tune and more polluting with the passage of time. Beyond such questions, there is another problem with the types of fuel in use. The burning of lead-free gasoline, which is to be preferred from a public health viewpoint, is now becoming widespread within the European Union³¹, and Tunisia should be making efforts to promote its use - but the vehicle fleet will first have to be modernized to include more engines that are equipped to burn this kind of fuel. The predominance of diesel fuel is another worrying aspect. Medical research has shown that fine particles (sulfates, nitrates etc.) in diesel exhaust fumes are an important factor in causing heart and respiratory diseases. The quality of fuel refining in Tunisia also leaves much to be desired. Renewal of the vehicle fleet and a switch to less-polluting fuels should therefore be priority objectives. The deregulation of imports and alleviation of the tax burden would make it easier to rejuvenate the fleet, and would reduce the costs of adjustment for road users.

Promoting multimodal transport and logistical services

2.19 For passengers and merchandise alike, the difficulties of interconnection between different modes of transport in Tunisia give rise to extra costs and delays. In the case of international trade, most people point to customs formalities as the major cause of delays - yet in reality the situation is more complex. The obstacles to the easier flow of transport may be technical, e.g. the lack of proper transshipment facilities, but they are often institutional, to the extent that transport market deregulation is too recent for the old compartmentalized habits of Government monopolies to have completely disappeared, while multimodal transport operators are just beginning to make their appearance. What is needed today is to encourage complementarity and substitutability among modes of transport. Containerization is in fact one of the most efficient embodiments of the multimodal concept, because it is based on a standardized module that can be moved readily, for example, from a truck to a train and on again to a ship. But the use of containers has been relatively limited and uneconomic until recently in Tunisia, because of the lack of specialized transport and handling facilities. For one thing, local capital has been slow to invest in the potential of multimodal transport, and even more importantly, there is still a lack of commercial logistics expertise, which is so essential for penetrating markets at home and abroad. Transport logistics experts are able to integrate availability data on all potential

²⁹ Ibid. This report indicates a total gasoline consumption of 1.4 million tons for motor vehicles in 1992. For 1995, this figure would be close to 1.7 Mt.

³⁰ See IBRD, "Sustainable transport: Priorities for Policy Reform" - 1996 (para 3.1)

³¹ The share of lead-free gasoline in the EU averaged 53% in 1993, reaching 70% in Germany and the Netherlands. All gasoline sold in the USA is lead-free.

modes of transport at once, and compare these with the client's needs, to select the best routing - which may not, after all, be the shortest physical distance between origin and destination. Such experts act not merely as intermediary, but as carrier and provider of services such as retail distribution, warehousing, packaging and handling. The development of logistics platforms in Europe is an example of the changes now underway whereby transport services are becoming more specialized to meet the strategic needs of industry. There are now many large multimodal transport firms, sometimes nicknamed "transport supermarkets", around the world, providing valuable services to their clients by making all the arrangements necessary for assuring door-to-door shipment and on-time delivery. The "just-in-time" system popularized by Japanese firms has become a "must" today for companies engaged in global trade. For both parties in any transaction, proper logistics means substantially lower inventory and warehousing costs.

2.20 Although Tunisia's export industries have enjoyed a degree of protection, they cannot hope to succeed in today's more competitive environment without the support of local logistics services. The stakes are high - assuming that inventories represent 30 per cent of sales, and the profit margin is 10 per cent, cutting inventories by half would lower the cost of sales by 2.5 per cent (inventories of 15 per cent, at an interest rate of 15 per cent), and boost profits by 25 per cent. An essential step to promote multimodal transport would be to introduce a more appropriate institutional framework, in light of the fact that Law 95-32 of April 1995 defining marine transport auxiliary services neglected to recognize this type of activity. While further government measures can be envisaged, such as training and the selective improvement of transport infrastructure in areas like telecommunications, which are so important for linking local logistics experts to the world network, the fact remains that the private sector will have to take the initiative on the commercial and investment fronts, in order to take full advantage of multimodal transport to meet the country's needs.

Opening the sector to private participation

2.21 Tunisia has recently taken steps to promote private participation in the transportation sector, but its approach has been cautious and hesitant, and excludes a number of areas that could be better exploited by the private sector. Protecting jobs and purchasing power are frequently cited as justifications for maintaining the status quo, but the gains from privatization in terms of economic efficiency should far outweigh any such considerations. To begin with, the government will have to make a clear resolve to turn over to the private sector a number of services that until now have been provided by Government enterprises. This can be done gradually, but there must be no doubt about the ultimate goal, if private investors are to take the reform seriously. The legal framework is an important factor in allowing private firms to enter the sector, and even more in ensuring that they respect the highest quality standards. Private participation can take many forms, from working under a management services contract with a Government firm, to buying it out, in addition to such intermediate forms as out-sourcing and build-operate-transfer (BOT) concessions. The potential for fostering competition - the key to any real progress - must be examined before selecting one model over another. For those forms of privatization that involve essentially the delegation of a public service, it would be advisable to give users more say in major decisions on infrastructure, service configuration and pricing. If users are given a degree of control over expenditures and the level of service, they will be able to hold management accountable, and will thus be readier to pay a higher price for the improved service. Would it be a good idea to open up the sector, but at the same time keep certain public enterprises alive "just in case"? Some pointers in this regard can be gleaned from the experience with trucking deregulation in the late 1980s. At that time, the public trucking companies were retained under state ownership, and quickly lost ground to their new private competitors. A recent study on the impact of trucking deregulation has shown that freight rates fell by 20 per cent or

more, undermining the profitability of public carriers who were burdened with surplus staff and inflated overhead costs³². This experience suggests that deregulation without privatization not only deprives the government of potential receipts from the timely sale of its enterprises, but may in time drive them into bankruptcy.

2.22 There are many examples of activities that could be privatized. In the case of roadway infrastructure, most routine and periodic maintenance work is done by Government crews, employing some 3,000 workers and consuming a good third of the total road maintenance budget. It is obvious that Government-run maintenance work is not very efficient from an economic viewpoint, once account is taken of all the costs involved. With close to 1,300 pieces of equipment, of which at any time one third is out of service, and the rest is allotted to the Governorates under too-rigid rules, the maintenance fleet is a good example of the drawbacks of public management. The quality of publicly-managed works also suffers in comparison with that performed by private sub-contractors. By withdrawing from the field, the government would open up possibilities for small and medium-sized firms to participate for the first time in Tunisia's still-narrow public works market. Although the level of current public performance in the airports area is more satisfactory, the record is still not good enough to dispel the idea that greater private sector involvement could breathe fresh life into such operations, by making their management more business-like and so reducing costs. The world is full of examples where the private sector has been able to make better use of commercial facilities and invest in upgrading them. Even functions that have been deemed "public" by nature are now being delegated to the private sector: air traffic control in Canada and the United States is one example. In the UK, seven of the major airports have been privatized under the aegis of the BAA (British Airports Authority), which is now quoted on the stock exchange, while the airport at Belfast in Northern Ireland is now 50%-owned by a group of managers and employees of the former public entity - further evidence that the notion of total privatization of airports is far from academic³³.

2.23 In the railways area, which historically were built by the private sector before being nationalized, there is once again growing interest around the world in the idea of contracting out management and operations to the private sector, as has recently been done in Argentina. If Tunisia were now to take a first step in this direction, by contracting out some of the services currently performed by the SNCFT (e.g. on-board food services, track and rolling stock maintenance, special-purpose trains and express mail service), it would no doubt reap benefits in terms of reduced costs and improved levels of service. In the country's ports, maintenance work has already been opened up to the private sector, but not much has been achieved in the way of tangible results. The authorities point to the small size and weak financial footing of local private loading contractors and handling agents to justify the continued role of the OPNT in purchasing cranes and tugboats, for example. Private participation could be stimulated, however, by revising the institutional framework to provide greater incentives for efficiency. A stable and reliable system for awarding operating concessions and for leasing facilities that was more in tune with the physical peculiarities of Tunisian ports would encourage private businesses to accept greater risks than they are currently willing to take on, and to

³² The study concluded that the manpower costs of private carriers were only one-third those of their public competitors, because they employed 50% fewer workers per truck and paid lower wages. The private firms also subcontracted for fleet maintenance, kept overhead costs lower, and were able to generate internal cash to finance 30% of investment requirements, against 7% in the public enterprises.

³³ In the US, the October 1996 law on the airport improvement program restricts the scope for privatization beyond the Indianapolis International Airport where it has already been done; uncomprising tax laws and a strong airlines lobby still prevail over advocates of better airport management through private sector takeover.

invest, not only in new equipment, but in port infrastructure works as well, as experience has shown in several countries (Argentina, in particular). Another major stumbling block to the growth of private handlers is the monopoly now exercised by the Government enterprise that runs the Port of Tunis. Box 5 describes some interesting highlights of Canada's on-going ports reform program, which is designed to achieve a better balance between public responsibilities and private-sector initiative, reduce the government's fiscal burden and empower local levels of government. In the end, even public modes of transportation are not beyond the realm of potential privatization. Experience with inter-city passenger service in Chile and the United Kingdom shows that privatization can go hand-in-hand with deregulation. In the case of urban transport, deregulation is more difficult to envision, but service concessions or sub-contracting have been shown to be effective ways of introducing competition and progressive private involvement.

2.24 (a) *Straightening out the macro-framework and relying more on private production.* Despite a strong economic performance in recent years, Tunisia has to measure up against new challenges like creating more jobs to reduce unemployment, a daunting task as the urban work force is growing rapidly, counteracting the tendency to diminishing returns as the economy grows and expand its capital base, reenergizing the engines of growth which, like the textile industry, are showing increasing managerial and technical strains³⁴, and coping with environmental degradation in coastal areas and arable lands, and rapid depletion of ground water resources. The public sector needs to release resources to higher potential activities in the private sector if Tunisia is to grow rapidly. In the early nineties, the public sector still accounted for about 70% of GDP. Recent Bank economic work on Tunisia³⁵ envisages two scenarios both assuming continuation of reforms to straighten out the macroeconomic framework and eliminate distortions. The high-growth scenario providing for a sustainable growth of about 6% per year implies reduction of the public deficit meaning rationalization of Government spending and restructuring and privatization of public enterprises, and revitalization of the domestic economy through heightened competition. Higher competitiveness in international markets will require, among other things, better infrastructure, a market-driven exchange rate, and flexible domestic wages and prices. Because transport is an intermediary goods and exerts a pervasive influence on productivity, raising its efficiency will go a long way toward achieving the higher growth objective.

³⁴ The textile industry must modernize to keep up with international standards. Investments designed to put it at par with the foreign competition (the "mise à niveau") have been estimated at DT 700 million, of which DT 200 million is for revamping management.

³⁵ See: Country Economic Memorandum 1995. "Towards the 21st Century".

Box 5. Privatizing Canada's ports: making port operations more business-like and responsive to local needs

Canada has about 600 ports, not including fishing ports. Privately managed ports handle less than 20% of total traffic. The public ports are run by three separate kinds of authorities. (a) Seven of the largest ports are operated as semi-autonomous agencies by the Canada Ports Corporation (CP), which is under the responsibility of the federal department of transport (Transport Canada - TC). These agencies are based on the "Crown Corporation" model that exposes them to market disciplines and requires them to operate in an efficient, transparent and financially sound manner. (b) Nine regional or local ports are operated by Harbour Commissions, autonomous federal bodies again under TC, whose boards are generally drawn from local political and business circles, but which do not enjoy the power to set port user fees or to manage Crown lands within the ports. (c) The Harbours and Ports Directorate of TC exercises direct management over more than 500 smaller public ports that receive federal subsidies. Total traffic is distributed among these three types of ports as follows: (a) 50%, (b) 13% and (c) 20%. The multiplicity of regimes has been viewed as a factor in encouraging over-investment in port facilities, and as a handicap for the seven major ports, which enjoy only limited autonomy under CP and must face competition from subsidized public ports.

The reform plan put forward in June 1995 by the House of Commons Standing Committee on Transport (with some details still to be worked out) attempts to simplify ports management by drawing a distinction between ports that are commercially viable and those that are not. For the former category, CP would disappear and TC's supervisory functions would be left in the hands of a small ports secretariat. The ports would have permanently delegated powers to sign contracts, lease out facilities, purchase or sell property, and undertake any other commercial activity approved by the Minister in the context of their annual capital budgets. Their powers to set port fees and to borrow money would be expanded. The federal government would no longer provide subsidies or loan guarantees. Local municipalities and businesses would have greater management input, although the plan appears to retain the powers of TC to appoint a majority of members of the boards of directors. Ports deemed not commercially viable would be taken over by the federal government when they represent a strategic interest or provide an essential public service. The others would be transferred to the local level of government, placed under concession to private companies, or even closed down if there is not sufficient interest in maintaining them.

The basic objective of the reform is to reduce the number of public ports, to limit TC's interference in port management as much as possible, to enhance the decision-making role of the private sector and local elected officials, and to remove from port employees the status of civil servants. This reform would in effect recognize and reinforce the commercial autonomy of the port administrations, which have for some time been making a practice of delegating services and infrastructure to the private sector under various form of management contracts and BOT arrangements. The "commercialization" of port operations would extend to pilotage services: severe criticism has been leveled at the current monopoly, particularly as the regulatory bodies (the four Pilotage Area Authorities) are run by a board with heavy representation by the pilots themselves. The intent is to set up a specialized unit within TC to regulate pilotage, to place pilots on a private footing and let them negotiate freely for contracts with the shipowners, and to introduce an arbitration system for resolving conflicts between pilots and users.

*Source: Report of the Standing Committee on Transport: "A National Marine Strategy", May, 1995**

**Translator's note: the English titles in this Box have been confirmed with Canadian sources.*

(b) *The trade liberalization challenge*: Regional integration within the European Union (EU) together with the Uruguay Round, all working toward minimization of trade barriers worldwide, constitute the background for promotion by Tunisia of export-oriented growth and industrialization. Opportunities will follow as well as potential risks. The Free Trade Agreement (FTA) with EU will lift restrictions in preferential agreements designed to protect intra-community producers, allowing Tunisia to expand its exports where it enjoys strong comparative advantages, one being its proximity to Europe. Reciprocally, Tunisian firms supplying the domestic markets will face new competition from European suppliers. The Uruguay Round will also bring lower protection for trade flows under the most-favored nation status which may trigger intensification of trade with countries outside the EU because EU countries may switch to import sources elsewhere than those covered heretofore by preferential agreements. Lifting of restrictions under the Multi-Fibre Arrangements (MFA) will make the EU market more competitive. On the other hand, countries that profited most from the MFA are bound to lose ground in a more liberal system, making more room for other exporting countries. On balance, sectors likely to profit most should include textile and food products. Partial integration of the world agriculture market will tend to make international prices less volatile thereby encouraging production in areas of comparative advantages for Tunisia. Full convertibility of the dinar will contribute to efficiency, but, as the Mexican experience indicates it leaves little margin for poor macroeconomic policy. Stakes are high as Tunisia is expected to move to a higher growth path (a gain of 3-5% of GDP annually) from a rapidly implemented FTA. Additional gains (0.2-0.5% of GDP annually) would be derived from trade liberalization under the Uruguay Round.

CHAPTER III. THE NINTH TRANSPORT PLAN : STRATEGIC DIRECTIONS

A. MARITIME TRANSPORT: GROWTH THROUGH PRIVATIZATION

Policy and regulatory framework

3.01 Tunisia's maritime shipping policy should draw some lessons from current experience in Europe, its major trading partner. The EU has adopted a liberal set of maritime policies. Cartels and agreements between shipowners are subject to Community competition regulations, which require that any agreement to restrain competition must assign a fair share of any resulting economic advantages to shippers and handling agents. These rules apply to liner conferences and shipping syndicates, which are permitted as long as they serve to streamline operations through technical, operating or commercial provisions. Pricing agreements are prohibited, and an advisory commission on cartels and market domination in marine transportation has been set up to watch for violations. Consequently, the traditional system of liner conferences now exists only in name, and its underlying principles - control over prices and market access, and cargo sharing arrangements - have been undermined by the new EU provisions. The "40-40-20" system of the UN Code of Conduct is also scheduled to disappear shortly. Continued vigilance will be required to resist the protectionist tendencies that still hold sway in the region.

3.02 The future of Tunisia's merchant marine will thus depend on its ability to become competitive. Further deregulation of maritime shipping will help in this regard. The interests of Tunisian shippers should come first, which implies that their freedom to contract for shipping must not be infringed. Protecting some 2,000 jobs in the local maritime trades is not justification enough to deny this freedom

for businesses and producers - indeed, from this viewpoint, the number of potential jobs at stake is much higher. We suggest the following initiatives:

- a) streamline the regulatory framework, to encourage the emergence of new Tunisian shipping companies, equipped with modern fleets. Investment incentives and tax advantages should be considered to place Tunisian shipowners on an equal footing with foreign competition, to encourage older vessels to be withdrawn from service and sold, and to assist in the purchase of new and serviceable dockside facilities. To promote improvements in the productivity and competitiveness of Tunisian vessels, the government should review its regulations governing crew size and nationality, leasing arrangements and Tunisian flag registry. It should also provide for training and refresher courses for seamen, staff and management personnel. Until such time as local shipyards are upgraded, the conditions governing use of foreign shipyards should be made more flexible, to reduce the costs of repairs and the length of time that a vessel must remain out of service.
- b) The practice of "prior notice" introduced by the 1977 Act is at odds with the new policy of shipping deregulation, and should be abolished. The goal of that article is to provide opportunities for Tunisian shipowners and to save foreign exchange. The Merchant Marine Directorate (DMM) manages this prior-notice system, apparently, with a good deal of flexibility. Whenever a shipper wants to charter a vessel, he must give prior notice to the DMM, which will then invite Tunisian shipowners to make a counter-offer, and will award them the business if their bid is equivalent or better. Otherwise, the shipper may proceed with the foreign vessel owner. Overall, the practical drawbacks inherent in the policy appear to be minor, and in any case, exceptions are frequently allowed. The policy is admittedly sometimes constraining for the exporter, however, to the extent that it is hard to take advantage of any last-minute foreign bargains. Yet the real objection is that the rule has an unfortunate psychological impact on local and foreign customers that goes beyond any financial disadvantage they may suffer, and there is always the risk that the policy could be "toughened up" at any time.

Business strategy: privatization and partnership

3.03 Some adjustments are needed in the privatization policy now in place, which still imposes limits on the growth of private shipping by confining it to what appear to be the less profitable areas of business such as "tramping". The private sector's participation in regular liner traffic is today reduced to those rare services that the CTN is willing to allow. Should the future of Tunisia's merchant marine in fact be tied entirely to that of a restructured CTN, or should separate and parallel poles of private activity be developed? The strategy in the Ninth Plan should favor the latter approach, as a means to stimulate competition and open up prospects for able and willing private shipowners. If it is to succeed, this strategy will have assure greater regulatory "elbow room" for the private sector.

3.04 The development of Tunisia's shipping industry is also hostage to the availability of financing. The major banks could be induced to set up marine branches to offer specially-designed ship mortgaging services of the kind that have become widespread internationally over the last two decades. Greater freedom of contractual relationships between shippers and shipowners could open the way to securitizing future earnings, and thus help to facilitate access to bank financing. Another way would be to have the Government assist in establishing a fund for financing private projects in the marine and ports sector. Such an approach has been followed by Malaysia, where the government set up a Maritime Investment Fund that is itself now in the process of being privatized. Without taking on the

fiscal burden of providing direct subsidies for this subsector, the Government could perhaps grant a certain measure of tax relief to enhance the ability of Tunisian shipowners to compete against often heavily subsidized foreign firms. Support of this kind should, however, be limited in duration, and should be aimed primarily at securing the “start-up” of a local shipping industry. A specific investment code for the area could be drawn up.

3.05 The longer-term outlook for the subsector will depend on what happens with the CTN. There are several options. Privatizing it should be the first option considered, since it is above all its “public” style of management that constrains its chances of becoming more dynamic and business-like. Its shares should be offered for public sale, but at the same time, efforts should be made to find a strategically placed foreign investor who can upgrade its management and help it build links to the international shipping industry. Majority ownership might remain in Tunisian hands, but the foreign investor should be in a position to put his stamp on its management. A possible variant might be to transform the CTN into an operating company that could work under a leasing contract to run vessels belonging to a foreign-owned corporation. There are many advantages to leasing: it can help to limit indebtedness, and make more cash available for working capital and for other investments. It can also help to reduce taxable earnings. Another advantage of leasing could be to allow CTN to draw upon the many opportunities available in the world’s more highly developed financial centers to raise money indirectly at attractive terms. There are a number of investment companies now active in channeling funds from institutional investors into investments in capital goods, with revenues guaranteed by long-term leasing arrangements with an operating company.

3.06 An in-depth study is needed to come to grips with the many and complex problems facing CTN, before any restructuring strategy is adopted. Such a study should include a more accurate diagnosis of the company’s strengths and weaknesses; reliable traffic forecasts; the various scenarios for retrenchment and re-focusing on its basic market, and spinning off ancillary activities to the private sector; and the potential for opening its capital structure to private local and foreign investors.

B. COMMERCIAL PORTS: PROMOTING PRODUCTIVITY AND FACILITATING TRADE

Infrastructure development

3.07 Tunisia has ample reserve port capacity, but some further selective investments will be needed to cope effectively with increased traffic, which is expected to grow by 5 to 6 per cent yearly in terms of general merchandise. It is a notable feature of Tunisia that its major ports are concentrated along a stretch of coastline less than 200 km long (from Bizerte to Sousse). A better-integrated system of ports management would allow better use to be made of inter-port complementarities and permit a more satisfactory distribution of traffic among them. To this end, the road and rail linkages between the ports should be upgraded. To begin with, rail service should be extended to the ports of Radès, Sousse and Sfax, followed in priority by a road link between La Goulette and the Tunis-M’Saken autoroute (which will require building a bridge to replace the current ferry service). A better means of routing traffic through the city of Sousse is also needed to remove access bottlenecks for the port. The only major investment contemplated under the Ninth Plan (apart from the lengthening of a few specialized wharves) is the construction of a new container terminal. Bizerte is the most suitable of the several possible sites for this terminal, thanks to its relatively easy access by sea, the planned autoroute connection to Tunis, and the potential for synergy with the developing free-trade zones.

Port management

3.08 The role of OPNT needs to be redefined, in terms of its two principal responsibilities. (i) The “regulatory function” covers issues relating to safety and security of activities in the sea lanes and the ports; environmental management and measures to reduce marine pollution in the ports and at sea; integrating planned port expansions into the broader process of urban development planning, so as to optimize the use of space and facilitate port traffic; and finally, promoting private sector participation in the ports. OPNT should be responsible for preparing and managing the regulatory framework for private port-related business. Priority should be given to defining terms of employment for dock workers and productivity standards, promoting competition and preventing monopolies. (ii) The “facilitator function” has three [sic] dimensions: taking care of basic infrastructure needs, as a collective good that cannot be left to private financing; defining and implementing measures to promote foreign trade through the “port interface”; facilitating the two-way flow of information with the various port-related businesses; and creating and fostering a community of interests around the ports. All of this will require an in-depth review of organizational aspects, and a concerted approach to training or recruiting personnel to perform these new duties. Personnel questions pose a delicate management issue, to the extent that the abandonment of some former activities will inevitably mean staff downsizing. A period of transition will be required, and a study should be undertaken immediately to define its features and duration. The revisions of the port fee structure should also be studied as a priority.

Private port operation

3.09 Encouragement should be given to private investment in port infrastructure. This could take place in two ways that are not mutually exclusive. The “build-operate” formula could be used in constructing the specialized facilities needed to handle container traffic. A private operating company could be granted a concession for an existing port (Sousse, for example), and be allowed thus to compete with OPNT. The purpose here would be to make the ports sector more dynamic and offer users a private alternative over the whole range of services. It would be best to test out these formulas through some pilot operations. To pave the way for such activities, a complementary study should be undertaken to investigate the legal framework, identify the pilot operations and prepare the bidding documents.

Reorganizing cargo handling

3.10 Handling operations, both aboard ship and along shore, as well as warehousing and protective surveillance functions are now handled in an unsatisfactory and piecemeal fashion by the OPNT monopoly in the regional ports. The STAM monopoly over the port complex at Tunis should also be abolished. Encouraging private handlers implies three [sic] requirements: (i) give them access to all ports; (ii) avoid public interference in production and operational decisions; (iii) encourage companies to form consortia so that they can offer effective competition to STAM; (iv) develop a system of concessions. As far as STAM is concerned, it has announced its intention to offer a minority holding of its shares to private investors; the government should however make clear its intention to privatize the agency completely, within a stated time frame. Given the complexity of this undertaking, specific studies should be undertaken to pave the way for drawing up a plan of action. One such study should attempt to define the process of restructuring STAM; another would examine the overall organization of materials handling in the ports, the procedures for private sector participation, and the equipment needed. Finally, the legal status of port workers should be amended: the 1949 Decree setting labor conditions for dock hands is a stumbling-block to more efficient port operations.

Trade facilitation

3.11 Highest priority should be accorded to the following tasks:

- a) streamlining customs procedures: computerization of declaration forms should be extended to transmission of data from them, automated systems for dealing with fraud risks, direct issuance of release warrants, automated regularization of export declarations post-loading; a procedure should also be put in place for performing customs clearance at the importer's domicile for unit-sized imports.
- b) establishment of a National Trade Facilitation Committee: its mandate would be to simplify and harmonize international trade procedures and the handling of related information. The Committee would perform the technical task of adapting systems in place, sensitizing port users, and training all those involved in the procedural chain. The Free Trade Agreement makes this kind of upgrading imperative and urgent.

C. RAILWAYS: TRANSFORMING SNCFT INTO A COMMERCIAL ENTERPRISE

Focusing on viable areas of activity

3.12 The railway should be specialized in areas of activity where it can offer services that meet a client need under a competitive cost and price structure, i.e. in areas that are commercially profitable. The most promising areas of concentration are: (a) hauling phosphates over the Gafsa/Sfax and Gafsa/Gabès rail lines; (b) carrying general cargo over the whole network; and (c) inter-city passenger service, but only over the Tunis/Sousse/Sfax/Gabès corridor and that from Tunis to Ghardimaou (on the Algerian border). In addition to these commercial services, the company should be required to sign agreements with the Government to provide public transit services for passengers from the southern suburbs of Tunis, and to operate the "Sahel metro". The SNCFT should quickly abandon its operation of all other money-losing services.

Reshaping the institutional structure

3.13 The institutional framework of the railways needs to be reformed to give it a commercial orientation, as part of the general move to a competitive transport market. The SNCFT should have a new charter giving it full liberty to determine the configuration and fares for its commercial services of carrying merchandise and passengers, and to clarify the financial relationship between the Government and the company. Government financial assistance to SNCFT should be strictly limited under the Ninth Plan to paying compensation for specifically mandated public services, under specific agreements, and for financing the construction of new lines and infrastructure, including the elimination of level crossings and fencing off sections of track. SNCFT should take over full responsibility for maintenance and replacement costs for track and rolling stock. An exception could be made, however, as part of the Ninth Plan, so that the Government can provide financial assistance to rehabilitate the railways and upgrade infrastructure. Finally, consideration should be given to the feasibility of managing the Northern and Southern networks separately, so that the latter section could eventually be turned over to a private operator under some form of concession or operating contract.

Reshaping the network

3.14 The railway system needs to be redefined, to establish a basic network comprising the following lines: Gafsa/Sfax, Gafsa/Gabès, Tunis/Sousse/Sfax/Gabès, Tunis/Ghardimaou, Tunis/Khalaa Khasba and Djedeida/Bizerte. All other lines should either be operated as branch lines, or abandoned where potential traffic demand is insufficient. Track maintenance standards need to be revised, line by line, to reflect actual traffic loads: this should result in significant savings in maintenance costs. Radio-operated block signal systems could be introduced on lightly traveled lines to reduce the need for station personnel. Maintenance facilities and logistics should be reviewed to eliminate redundancies. Finally, efforts are needed to enhance employee productivity, as part of the move to reduce staffing to about 5,900 by the end of the Ninth Plan.

Reorganizing the SNCFT

3.15 The current organization structure of the SNCFT is cumbersome and bureaucratic, and should be replaced with a simpler structure focused on the needs of customers and on sound commercial and financial performance. The recommended re-organization would be based on three operating divisions: one for phosphate transportation, one for freight and one for passengers. Each of these divisions would be responsible for all commercial aspects of its activities, and for making best use of the human and material resources assigned to it. It will also have to ensure that it operates within overall financial objectives. The headquarters establishment would be light, consisting of a financial office and a technical section. Finally, the SNCFT would be expected to promote greater private sector participation, by contracting out infrastructure maintenance work (the company's maintenance subsidiary, SOTRAFER, would be privatized) and other railway support activities to private firms.

D. INTER-CITY TRANSPORTATION: BETTER AND SAFER ROADS

Infrastructure aspects

Upgrading highways

3.16 The starting point for the new surface transport strategy is to upgrade the existing road infrastructure. Improvements must be made to the network in terms of its grid coverage, its density and its capacity. A strategically planned network of trunk roads is needed to link the country's major regions. This network should include not only the major radial highways (Bizerte - Tunis - Sousse - Sfax; Tunis - Jendouba; Tunis - Siliana and the border), but also several lateral roads between the North-West and the Sahel, in order to complete the national grid. The secondary roads network also has to be upgraded: roadways must be resurfaced and smoothed, the pavement should be widened to 7.40 meters, bridge clearances rebuilt to standard, new bridges and culverts built to replace fords, roadways raised above water levels, high-accident zones identified and remedied, etc. In addition, road shoulders need to be raised, stabilized, or paved. Priority for all this work should be given to the most heavily traveled routes - those carrying over 5,000 vehicles per day, which amount to a total length of 1,000 km. This program should be scheduled to cover 200 km per year. In a subsequent phase, similar attention should be given to roads carrying more than 3,000 vehicles per day, again representing a total length of some 1,000 km.

3.17 In the South, the links in the network are naturally more widely dispersed, reflecting the relatively low density of economic activity and of traffic. There are, however, some important links from an economic and administrative viewpoint that are in sub-standard condition, and these gaps

should be gradually remedied. Construction (85%) and resurfacing (15%) of rural roads is also needed to service interstitial agricultural areas within the existing network. Generally speaking, road maintenance budgets must be increased. The 20 million Dinars budgeted for 1995 covered less than half of needed work for the year.

3.18 With respect to the urban-intercity interface, priority should be devoted to projects for eliminating bottlenecks, and for reducing the costly and time-consuming reloading of long-distance freight transport. This means that access roads in and out of cities ring roads, and by-passes around them, must be viewed as parts of a coherent whole: attempts to deal with congestion at an isolated intersection by building a cloverleaf, for example, will simply shift the problem on to the next intersection. Such work must therefore be built into the overall urban planning framework. Moreover heavy infrastructure investments can sometimes be avoided by putting the same resources into more efficient public transit. By-pass highways are needed in particular around Jendouba, Kairouan, Gabès and Zaghouan. Rights-of-way should be secured for the eventual doubling of current 7-meter roadways into dual highways.

Promoting private sector participation

3.19 Freeway construction lends itself well to the system of private concessions. Care should of course be taken to select the most heavily traveled routes for this type of project, since traffic volume will be the key determinant of their financial viability. The most promising candidates in this respect are the Tunis-Bizerte corridor (60 km) and that from Tunis to Mejez el Bab (60 km); the M'Saken-Sfax stretch could perhaps be undertaken at a later stage. Before private participants are sought for such projects, careful planning will be needed with respect both to setting target dates for their completion, and selecting standards and specifications, especially those that will have an important influence on construction costs. Standards must be consistent with the basic purpose of freeways, which is to move large volumes of traffic and good, quickly and safely. Government financial involvement should be limited to paying for expropriation of the required rights-of-way. Contractors should be selected on a transparent basis through the issue of properly documented international invitations to bid. The concession contract should leave the contractor a wide degree of latitude in designing and carrying out the project, including the setting of tolls.

3.20 Road maintenance should be privatized for the most part. The basic principle should be not to undertake any job on force account, if it can be done better by a private firm. Work should be sub-contracted wherever possible, whether it involves maintenance and construction or supervisory services. Some small portion of highway maintenance should remain in government hands, for emergency work and where market mechanisms break down. Public works equipment and supplies should also be privatized, and encouragement given to the emergence of local, specialized contractors. Private firms will need better access to credit and foreign exchange, larger down-payments to purchase parts and supplies, and a technical assistance and training program. Privatization in this area could begin by contracting out maintenance work in some of the Governorates on a pilot basis. In fact, a further reason for increasing the maintenance budget would be to ensure that there is a sufficient work load for these private firms: since their productivity is likely to be higher, it will probably be found that maintenance budgets will not to have rise in strict proportion to the additional length of highway serviced.

Redesigning highway administration and operations

3.21 The current weaknesses in the DGPC and DREH bureaucracies suggest that the government role in managing the highways network needs to be redefined. This role should ideally be that of the landlord who conscientiously manages his property in the best interests of the user, and pays close attention to the use that is made of it (through careful inspection and surveys), plans for investments and recurrent maintenance work, arranges for contracting of works, and monitors the performance of the contractors. This approach will require up-to-date management tools, regular field surveys and assessments, and constant feedback from experience.

3.22 Management of regional and local roads should be decentralized to the appropriate level. The DGPC should retain responsibility for setting suitable construction and maintenance standards over the entire inventory of such roads, but the Regional Councils should be given control over investment and maintenance budgets. Planning will be needed to determine the required financial and technical resources for assuming these responsibilities. To avoid creating new roads management bodies, it would be best to ask DREH to continue as the executing agency for the Regional Councils, with the status of a delegated project manager. Each Regional Council should draw up a regional transport master plan to provide a frame of reference for future budgetary calculations and negotiations.

3.23 Creation of a highways fund has been found to be a useful approach in many countries for improving road maintenance management. Such a fund can ensure a degree of stability and availability of financing for essential work, and can also contribute to a clearer definition of responsibilities, sounder management and greater efficiency on the part of maintenance agencies involved. The financial resources of the fund could come from road users themselves, in the form of license fees and various taxes paid in connection with the purchase and operation of vehicles. A highways fund could be accompanied by creation of a Highways Management Council to oversee the network and manage its budgetary aspects. Councils of this kind are now in place in Finland, Japan, New Zealand and the UK; road users represent the majority of their members, and they bring with them a market-oriented approach to ensuring that the level of road taxation is in line with that of the services provided.

Road safety

3.24 Institutional reform should include the appointment of a single responsibility center at the political level, the creation of an appropriate coordination structure, and the establishment of a special road safety fund, financed through a mandatory contribution from the insurance industry. Priority actions in the area of road safety should include stricter enforcement of seat-belt regulations, the elimination of "death traps", a low-cost safety promotion program, a training program, a master plan for emergency services, a computerized, multi-user data access system, and an accident prevention research program. In addition, there should be a public communications strategy involving everyone with an interest in road safety. (See Annex 2).

Transport services

Upgrading the existing fleet

3.25 Policy in this area should be aimed at helping road transport companies to upgrade the efficiency of their fleets: lowering the average fleet age through the purchase of new vehicles and the disposal of outdated ones, and at the same time realizing economies of scale by increasing their average haulage capacity. Such a policy should focus on three [sic] points: (i) progressive liberalization of

vehicle imports: a study is needed to examine this problem and establish a five-year plan of action; (ii) reform of road taxes: the study on road taxation must be updated, so that the tax burden can be distributed more fairly and effectively and placed on an equal footing with rail competition, the taxes on cargo transport can be restructured, an optimum level of overall road taxation revenues can be defined, and the fiscal impact of the proposed reduction in customs duties on vehicle imports can be assessed; (iii) stricter vehicle inspection; (iv) measures to put Tunisia's TIR (international road transport) operators on an equal tax footing with their foreign competitors.

Privatizing road transport

3.26 The privatization of merchandise transport, already underway, should be pushed to its conclusion. With respect to inter-city passenger transport, and in particular the SNTRI itself, there are several possible avenues of privatization, including its outright sale (to a single national buyer, or to a number of buyers by region), the granting of concessions for individual routes, with an obligation on the operators to take over SNTRI's assets and personnel, or registration on the stock exchange. The company could be split up to some degree, so that no single buyer will have a dominant market position. The financial difficulties of SNTRI must be addressed before proceeding with deregulation of the inter-city transport business: otherwise, the company could be driven into bankruptcy by competition from more aggressive private firms, as happened with some of the SRTMs. Questions concerning the company's real estate holdings also needed to be addressed in advance.

Redesigning the government's role.

3.27 As the Government withdraws from the business of providing commercial services, it must reinforce its market regulatory functions. An essential feature of this role is to promote conditions for healthy competition among suppliers, without intruding itself into the commercial aspects of the business or trying to determine the configuration of services, assuming that market forces are sufficient for that purpose. The Government should also exert control over aspects related to external economies and diseconomies, and take action when needed to correct market mechanisms and to ensure an optimal level of service. Another essential role is to provide for the highest possible standards of safety for road users. With respect to tariff setting, the MT should not go beyond determining indicative prices. Finally, local or regional authorities should have control over transport and travel within their respective zones, and should have the available resources to exert that control.

3.28 In the case of merchandise transport, existing regulations should also be revised, to eliminate constraints on market access. At the same time, regulation should relate to the technical characteristics of vehicles, and the testing and licensing of drivers, rather than concern itself with, for example, load limits for different types of trucks, or the age of particular vehicles, or the ways they are financed. Careful thought should be given to criteria for professional qualification, and the education or training required to make those criteria effective. The issue of "informal" transport services also needs to be studied, to examine the economic role fulfilled by such services, and the extent to which they owe their success to loopholes in current regulations, before any decision is taken to restrict these carriers. Another study should be undertaken as the basis for a government decision on whether to eliminate the official permits system by the year 2000, as part of its ongoing approach to market deregulation. Finally, care should be taken not to fall into any system of setting quotas on TIR transport, in order to protect Tunisian truckers.

3.29 In the area of public passenger services, adequate service is obviously of both economic and social importance. There is room for various modes of transportation to co-exist, as they do now, and

the Government's only role should be to ensure the personal safety of passengers, drivers and pedestrians. The following measures are recommended: (i) as a temporary measure, the system of market segmentation by route could be retained, but current practice would be changed so that these routes are awarded by concessions on the basis of competitive tendering. For "social" route services - i.e. those that are not financially viable - the basis of award would be the degree of subsidy demanded in the bid. Fee revenues from "profitable" concessions would be deposited in a compensation account to finance subsidies for the "social" routes. The Government would manage the granting of concessions for routes linking two or more Governorates. Clearly, the great number of routes involved (more than a hundred) will require the creation of a specialized body under the Ministry of Transport, for handling the bidding procedures and supervising the award of concessions. (ii) At a subsequent stage, beginning at the expiry of the Eighth Plan, the entire intercity passenger market could be deregulated, except for the "social" routes, which would still be awarded by competitive bidding. One condition for moving to this further stage of deregulation would be the existence of a sufficient number of efficient, financially sound carriers. Passenger fares would be determined by the market, except in the case of the social routes. Shared bus stations would have to be developed for use by all competing operators, to ensure market transparency and prevent any one of them from gaining a dominant position. The stations, again, could be built and operated by private concession, to limit the need for Government investment.

3.30 The MT could also consider opening up transport leasing and rental services and the area of combined rural transport. This would involve abolishing route restrictions and abandoning efforts to standardize rural service vehicles, in favor of insisting, at the time a license is issued, that the vehicle to be purchased must meet basic safety requirements (e.g., a minibus is preferable to a stretched panel or pick-up truck). Encouragement should be given to companies that can achieve sufficient economies of scale and of fleet management that they can improve the quality of service, while reducing its cost. The current structure of fares, taken together with prevailing regulatory constraints, may help to explain why so many rural vehicles are diverted into illegal use around the urban periphery: we suspect that the officially decreed 10 per cent surcharge will not be enough to cover the cost differential. The move to deregulate operations must therefore be accompanied by deregulation of fares. The Government should put an early end to its fleet renewal subsidy program, at the same time as it liberalizes the importation of vehicles.

3.31 To prepare the way for implementing the guidelines discussed above, a number of further studies should be undertaken. We have already stressed the importance of a study on the road taxation system. We also need a better understanding of the geographical pattern of transport, and forecasts of future flows, for which purpose an origin-destination survey should be conducted as a basis for data modeling and manipulation. Finally, there should be a study of the future of the SNTRI so that needed reforms can be planned.

E. INTEGRATING PUBLIC TRANSIT INTO URBAN PLANNING

Clarifying objectives

3.32 The objective here should focus on public transit in general, and on its contribution to overall urban planning. Transit services of a social nature should be provided under special contract, on a basis of fair compensation.

Decentralizing management

3.33 Activities under urban planning agreements should be decentralized, by delegating management initially to the Governors, and the municipalities should be given the opportunity to have a say in defining them. A capable technical unit should be established in Tunis to coordinate the work of SNT and SMLT. Ministries should be properly equipped to provide technical assistance to local institutions during the first years of their expanded responsibilities.

Encouraging private sector participation

3.34 The private sector has shown an interest in providing public bus services. Allowing a greater private role would help bring transit coverage closer to the needed levels. The proposed strategy calls for a series of staged measures: i) allow the private sector to offer high-end, seats-only bus service; ii) private concessions and sub-contracts for regular routes, to introduce an element of competition for public bus companies; iii) gradual privatization of public bus companies.

Improving traffic management

3.35 The streets of Tunis are reaching saturation point, and significant economic benefits would flow from remedying the current weak state of traffic management. Traffic flow plans for the city are out of date, and studies are needed to take account of changes in travel habits and urban land use. Some recommended measures include reserving bus-only lanes, widening sidewalks, improving parking facilities and undertaking infrastructure upgrades as needed. The building of by-passes to re-route traffic (especially truck traffic) around the major cities should be an integral part of urban land-use planning, and here again, detailed studies are needed.

Improving transfer points

3.36 Complementarity between different transport modes (transferring between private cars, buses, light rail) is difficult to achieve with existing facilities. There is a need for better and high-capacity transfer points, and for parking facilities in the vicinity of train stations, bus stations and secondary bus services, in order to improve the productivity and overall quality of urban transportation.

F. AIR TRANSPORT: PROMOTING INTERNATIONAL COMPETITIVENESS

3.37 Flights between Tunis and the EU account for more than 80 per cent of Tunisian air traffic, and current air transport developments in the EU are thus of great interest in designing a strategy for Tunisia. The policy of deregulation that has been adopted by members of the EU, and the resulting intensification of competition, have tended to undermine the principle of equal opportunity stipulated in the various bilateral air agreements. These new EU provisions will likely lead to a reorganization of air transport patterns along the lines of the American "hub and spokes" model. This may well, in turn, result in congestion and saturation of the hubs, which could make it more difficult for smaller airlines like Tunis-Air to gain access to them, and could lead to marginalization of secondary airports in terms of direct flights to and from other parts of the world. The traditional distinction between scheduled and non-scheduled (charter) airline services is disappearing, as European companies make use of their new authorization to match charter fares on their regular flights, if those flights are offered under equivalent conditions of quality and service. Price differentials between the two types of service are thus being squeezed. In light of these international developments, we recommend the following:

Airports

3.38 Investments must be properly timed in light of market conditions, they must have demonstrated economic viability, and they must be efficiently managed.

- a) *Update strategic planning.* Two major studies will be of assistance under this heading: (i) a study for the airports master plan was put to tender in the summer of 1995, but administrative delays have postponed award of this important study contract to the first months of 1996; (ii) a study is now underway on air services in the Tunis region, to determine the need and feasibility of a new airport. This long-term project raises a number of complex issues (urban development, environment, etc.) that deserve immediate analysis.
- b) *Airport capacity expansion.* The Ninth Plan will include certain minimum provisions for further airport infrastructure investment, once the current program is completed. Chief among these items will be a project to expand the Tunis airport during the later years of the plan. No new project is recommended for Sfax. Air cargo services should be improved. Better warehousing and storage facilities in the airports, including cold storage, and introduction of more efficient customs procedures would be assets for attracting foreign investors seeking an efficient base for their global market operations.
- c) *Opening airports to private participation.* Private sector participation should be encouraged as a means of enhancing airport efficiency. Privatization could be carried out to varying degrees. (i) In addition to more contracting out of maintenance work, we recommend introducing competition for the provision of ancillary operations such as ground service. Since it would not be practical at the present time to have multiple operators in this area, the best way to proceed would be to call for tenders from pre-selected companies, and award a contract of carefully limited duration: not so long as to give the winning bidder an undue sense of security, but long enough that he will be willing to invest in and maintain the contracted facilities. (ii) OPAT (or DGAC) could perhaps focus their attention on providing management services related to air traffic control and the beyond-customs zone, in particular the servicing of approaching and on-the-ground aircraft. Remaining facilities would be contracted out to a private company that would either manage them directly, or sub-let some portion. (iii) With respect to the construction of new terminals or the expansion of existing ones, the BOT formula could be use to attract capital to Tunisia; foreign investors are likely to plan and perform such work more efficiently than can OPAT, which is subject to greater procedural constraints. One or two pilot operations could be used to try out various privatization formulas and test them for more general application. Further study could be undertaken to develop the legal framework for such concessions, and to prepare the invitations to bid.
- d) *A cost-based fee structure.* Airport fees should be established on the basis of real costs, rather than on some regional market indicator that may be heavily influenced by monopolistic practices. The policy of cross-subsidization between airports should be re-examined.

Domestic air transport

3.39 A domestic air transport strategy, which can only be touched on here, should take into consideration several factors:

- a) The Tuninter experiment should be allowed to proceed, if only because its domestic service has performed far better from an economic viewpoint than did Tunis Air before 1992³⁶; an attempt to combine domestic and foreign air services once again would risk damaging Tunis Air at what is a critical time for that company.
- b) Tuninter should make a systematic effort to reduce those costs that are directly under its control. Should it consider taking over areas such as maintenance, ground services and marketing? Answers to these questions must await an objective analysis of the relationship between Tunis Air and Tuninter. In principle, it would be better to sub-contract certain services so as to realize economies of scale, of the kind that Tuninter can never hope to achieve alone. There remains the risk of upsetting the balance of the contractual relationship between the two companies, a factor that might argue for self-sufficiency.
- c) One option might be to find another "strategic" buyer who could take over ownership of Tuninter and promote its international business; this might be better than simply selling its shares on the market. An alliance of this kind with Nouvelair (the former Air Liberté Tunisie) might be possible. The existence of two Tunisian groups that compete with each other to some extent might encourage incentives to economic efficiency on both sides, while allowing each to develop broader market coverage in certain specialized areas. Creating a second air transport pole might seem to run counter to the current worldwide trend towards concentration. Yet there could be an advantage to such duality of effort in relatively unexploited markets, in terms of extending the market network of Tunisian firms, even if means that concentration will inevitably occur at some later stage.
- d) Rather than rely on cross-subsidization between domestic and foreign routes, the Government should accept its responsibilities and involve itself in the configuration of domestic routes, on the grounds of protecting the public interest. Routes that the Government specifically wants to see operated could then be awarded through a process of bidding between the two domestic airlines, on the basis of detailed service specifications and a guarantee of financial compensation.

3.40 In conclusion, it would be advisable to examine the characteristics and outlook of the domestic air transport market more closely, before deciding on a detailed policy for the Ninth Plan. A study to this effect could identify more clearly the structural weak points of Tuninter, the social and economic role that air services should play within Tunisia's overall transport system, and how the Government should deal with the company's deficit.

³⁶ Tuninter's performance is actually more impressive from the viewpoint of the expanded scope of its services than from that of the cost of those services. In fact, the company has benefited from tariffs that were twice as high, and has still operated at a loss.

International air transport

3.41 What Tunisia needs above all is to be assured of adequate air service at the lowest possible cost. This objective should not be compromised by any concern about preserving a national flag carrier. There are four possible approaches that should be explored.

- a) *Privatization*. The recent sale of a minority of shares in Tunis-Air should be just the first step in a policy of further privatization. As long as the government remains the major shareholder, Tunis Air will continue to labor under management constraints that will handicap it in the face of private competition. It is too early, however, to decide the best form for that privatization. A study should be undertaken.
- b) *Eliminating excess costs*. We would echo the recommendations made by CMR during the meetings of 18 January and 14 April, 1995. Competition will become stiffer, and air fares are going to tend downwards. Cost savings can be achieved in a number of areas: employment policy, wages and salaries, and marketing offices. Fares and tariffs policy is also an area that could contribute to efficiency, if it were adjusted to fill now-empty capacity. Distortions related to the current policy of administered exchange rates should disappear.
- c) *Cooperation within the Maghreb*. The small scale of Tunis Air is a theoretical disadvantage in meeting future competition. Royal Air Maroc and Air Algérie are in much the same position. If the three companies combined forces to bargain with their European partners, they might have more success in such areas as securing advantageous slots at major airports. Integration of these Maghreb airline companies could result in a broader network, and offer possibilities for pooling and exchanging materials and equipment, using common facilities³⁷, particularly in the area of foreign marketing offices, etc. Tunisia could promote the creation of an "Aviation Committee" of experts from the three countries for exchanging information, conducting technical and legal studies and preparing a joint business strategy.
- d) *Strategic alliances*. The goal here would be to achieve a greater degree of integration into the international network of air transport services, by finding a well-placed foreign partner. A strategic alliance could take the form of a commercial agreement with partners that operate worldwide. Tunis Air has already followed this route, by signing an agreement with KLM, a majority-private Dutch airline. A wider-ranging and more permanent strategic alliance could involve integration through the exchange of shareholdings. This is what KLM and Northwest have done, for example. There are a number of parameters to consider in deciding whether such an arrangement would be appropriate for Tunis Air. A special study would be useful in analyzing the implications of such an alliance for the company's independence and its national identity³⁸, and for assessing the risk of domination and of a negative impact on the net flow of foreign exchange earnings back to Tunisia. This study should also compare the various strategic alliance options from the

³⁷ For example, Royal Air Maroc invested heavily during 1993 and 1994 in maintenance facilities for its fleet of Boeings. These facilities will only be viable if they can also serve foreign clients. One possibility would be to turn RAM's maintenance arm into a subsidiary and sell shares in it to Air Algérie and Tunis Air, which also fly Boeing aircraft.

³⁸ Note that share participations by "mega-carriers" in small regional airlines are often limited to 49%.

standpoint of overcoming Tunis Air's current difficulties in joining a computerized reservations system.

G. INTERMODAL TRANSPORT; PROMOTING TUNISIAN COMPANIES

3.42 Tunisia has signed and ratified most of the major international agreements covering ground transport, but they have not been applied to much effect, especially where international road transport (TIR) is concerned. While foreign trucks can gain temporary entry into Tunisia without much difficulty, Tunisian trucks encounter problems in trying to enter foreign countries with a TIR permit. The restrictive vehicle import system described in Chapter 2 constitutes a further handicap for Tunisian truckers. The absence of any common supervisory committee is yet another reason for the failure of these international agreements. Consequently, Tunisian carriers have been overtaken by foreign competitors, who are now organized as intermodal transport companies, and are highly integrated upstream and down. The practice of cabotage, which is widespread in Europe, allows a German trucker, for example, to load goods in France and unload them in Tunisia. This means fewer empty-return trips for European carriers, and it also makes it easier for them to factor into their North-South rates the cost of repositioning their equipment to take on new cargo in [for?] Europe, thereby offering a lower price than their Tunisian competitor, who is still handicapped by the costs of returning empty. It has also become harder to monitor cargo sharing under these bilateral agreements, since there are so many factors that must be taken into account, such as the carrier's nationality, the origin of the goods, and any quota still in effect.

3.43 Bilateral agreements dealing with highway transport are based on the assignment of quotas: they will be undermined by the more liberal EU policy, and the new GATT agreements. The other solution is to revitalize the TIR system, and try to gain a competitive edge through partnerships, to take advantage of the habit of Tunisian business of buying on a C&F or carriage-paid basis and selling FOB. To enhance their international stature and permit better integration of logistical activities into manufacturing and marketing processes in Tunisia, Tunisian operators should strive for vertical integration, from warehousing to distribution, improve the quality of their service, and attain the critical mass needed to operate profitably. They should make sure that they meet European standards on safety, environmental protection and social aspects.. Measures for consideration include:

- a) *A policy of financial and tax incentives.* An up-to-date legal and regulatory framework that incorporates regulations now in force in Europe should be established (technical assistance will be needed to prepare it).
- b) *Partnerships with European companies.* To gain a greater share of North-South trade, Tunisian freight forwarders should act as commercial operators for Tunisian shipowners abroad, so that freight rates can be negotiated as part of the overall shipping contract. It would be worthwhile to seek out European partners who are recognized specialists in international road transport, and who can efficiently manage road interconnections over the whole chain of transportation. By being able to control a significant volume of diversified international shipping through this partner, the Tunisian agent will be able to offer better commercial support to Tunisian traders, who could never sustain such an organization on their own. Defining a suitable framework for partnering with foreign companies is a complex issue that will require a specialized study, covering the legal aspects, cost-sharing options and mutual auditing arrangements.

- c) *Systematic use of "Incoterms"*. International transport implies executing a contract between a buyer and a seller who may come from countries with very different legal and business systems. Under the terms of the contract, one of the two parties is responsible for arranging and managing international shipment of the goods. Depending on the terminology used, the Tunisian forwarder or carrier may be legally liable for transportation from one end of the chain to the other. A thorough knowledge of international commercial terms ("Incoterms") will strengthen the Tunisian operator's bargaining position.
- d) *Standardized transit documents*. Transit documents should be brought into conformity with regulations in Europe and elsewhere in the Maghreb. Any incompatibilities with respect to electronic data transmission systems between Tunisia and the EU must be avoided. Fast and reliable links with banking, port and shipping facilities are essential.
- e) *Promoting industrial logistics in Tunisia*. Carriers and producers should both be offered incentives to invest in communications systems, trucks, handling equipment and bonded warehouses to ensure the regular and rapid movement of cargo, as part of a policy to promote "just in time" logistics.

3.44 Consideration should be given to negotiating special transport agreements with the EU that would include provisions to foster closer cooperation and place Tunisian carriers on a more equitable footing with Europeans. The partnership and cooperation agreements that the EU has signed with other non-member states, especially in Eastern Europe, could be a basis for preparing a formula that would meet Tunisia's needs.

3.45 An action plan should be drawn up for execution during the Ninth Plan. The guidelines suggested here will require further elaboration before they can be translated into concrete measures. A study on trade logistics and on intermodal transport should help to define the necessary institutional changes, support facilities, training needs and dissemination activities, as well as the arrangements that must be made to obtain a greater Tunisian share in the TIR market.

Table A1.1: Public Investment in the Transportation Sector (DT million)						
Subsectors	VIth Plan (1982-86) Actual		VIIth Plan (1987-91) Actual		VIIIth Plan (1992-96) Actual	
Highways						
- Infrastructure	244		469		1030	
- Transport	<u>102</u>		<u>274</u>		<u>495</u>	
Total	346	37.5%	743	54.4%	1525	(53.0%)
Railways						
- SNCFT	205		182		188	
- SMLT	<u>125</u>		<u>138</u>		<u>126</u>	
Total	330	35.8%	320	23.4%	314	(10.9%)
Maritime Transport						
- Ports	115		50		112	
- Navigation	<u>46</u>		<u>4</u>		<u>189</u>	
Total	161	17.5%	54	4.0%	301	(10.5%)
Air Transport						
- Airports	15		83		197	
- Airlines	<u>70</u>		<u>166</u>		<u>543</u>	
Total	85	9.2%	249	18.2%	740	(25.6%)
TOTAL	922	100%	1366	(100%)	2880	(100%)

Table A2.1 : Structure and Growth of Air Transport in Tunisia
(millions of passengers)

	1986	1990	1991	1994	Annual growth rate 86/94
Tunis					
-intl. flights	1483	1848.5	1546.4	2036.0	4.0%
-charter	186	298.7	136.0	494.2	13.0%
-domestic	148	179.3	163.8	317.1	10.0%
total	1817	2326.5	1846.2	2847.3	5.8%
total in %	(50.8%)	(45.4%)	(49.1%)	(40.7%)	
Monastir					
-intl. flights	76	117.3	107.9	229.5	14.8%
-charter	1077	1815.9	1177.4	2322.9	10.1%
-domestic	24	24.0	26.6	22.3	-0.9%
total	1177	1957.1	1311.9	2574.7	10.3%
total in %	(32.9%)	(38.2%)	(34.9%)	(36.8%)	
Jerba-Zarzis					
-intl. flights	91	97.0	87.2	149.7	6.4%
-charter	298	484.0	289.9	958.4	15.7%
-domestic	129	170.1	156.5	290.3	10.7%
total	518	751.1	533.6	1398.4	13.2%
total in %	(14.5%)	(14.7%)	(14.2%)	(20.0%)	
Sfax-ElMaou					
-intl. flights	20	21.3	15.4	17.5	-1.7%
-charter	2	13.8	10.7	13.4	26.8%
-domestic	18	11.8	15.8	46.2	12.5%
total	40	46.9	41.9	77.1	8.5%
total in %	(1.1%)	(0.9%)	(1.1%)	(1.1%)	
Tozeur-Nefta					
-intl. flights	1	0.4	1.0	12.1	36.6%
-charter	8	10.7	2.5	11.5	4.6%
-domestic	17	32.2	24.9	27.7	6.3%
total	26	43.3	28.4	51.3	8.9%
total in %	(0.7%)	(0.8%)	(0.8%)	(0.7%)	
Tabarka					
-intl. flights	0	0	0	2.5	-
-charter	0	0	0	37.8	-
domestic	0	0	0	5.5	-
total	0	0	0	45.8	-
total in %	(0%)	(0%)	(0%)	(0.7%)	
ALL AIRPORTS					
-intl. flights	1671	2084.6	1757.9	2447.2	4.9%
-charter	1571	2623.1	1616.5	3838.3	11.8%
-domestic	336	417.4	387.6	709.0	9.8%
total	3578	5125.1	3762.1	6994.5	8.7%
total in %	(100%)	(100%)	(100%)	(100%)	

Table A2.2 : Tunisian Port Traffic Statistics, 1986 and 1994
(millions of metric tons)

Port/type of cargo	1986			1994		
	in	out	total	in	out	total
Tunis						
-bulk solid	0.00	0.03	0.03	0.01	0.01	0.02
-bulk liquid	0.05	0.03	0.08	0.06	0.02	0.08
-other	0.25	0.01	0.26	0.24	0.01	0.25
total	0.30	0.05	0.35	0.31	0.04	0.35
La Goulette						
-bulk solid	0.92	0.03	0.95	0.19	0.00	0.19
-bulk liquid	0.81	0.00	0.82	0.07	0.00	0.07
-other	0.62	0.31	0.93	0.22	0.02	0.24
total	2.35	0.35	2.70	0.48	0.02	0.50
Radès						
-bulk solid	0.00	0.00	0.00	0.88	0.14	1.02
-bulk liquid	0.00	0.00	0.00	0.95	0.00	0.95
-other	0.00	0.00	0.00	0.91	0.30	1.21
total	0.00	0.00	0.00	2.74	0.44	3.18
Bizerte						
-bulk solid	0.28	0.00	0.28	0.35	0.43	0.78
-bulk liquid	2.08	0.82	2.90	2.33	1.09	3.42
-other	0.34	0.22	0.56	0.45	0.08	0.53
total	2.70	1.04	3.74	3.13	1.60	4.73
Sfax						
-bulk solid	0.63	2.16	2.79	0.95	2.31	3.26
-bulk liquid	0.84	0.02	0.86	1.02	0.16	1.18
-other	0.29	0.03	0.32	0.37	0.14	0.51
total	1.76	2.21	3.97	2.34	2.61	4.95
Sousse						
-bulk solid	0.04	0.08	0.12	0.02	0.10	0.12
-bulk liquid	0.22	0.01	0.23	0.06	0.05	0.11
-other	0.23	0.02	0.25	0.29	0.02	0.31
total	0.49	0.11	0.60	0.37	0.17	0.54
Gabès						
-bulk solid	0.88	0.34	1.22	1.09	0.93	2.02
-bulk liquid	0.27	0.61	0.88	0.62	0.52	1.14
-other	0.03	0.37	0.40	0.08	0.17	0.25
total	1.18	1.32	2.50	1.79	1.62	3.41
Zarzis						
-bulk solid	0.00	0.00	0.00	0.00	0.00	0.00
-bulk liquid	0.00	0.00	0.00	0.01	0.23	0.24
-other	0.00	0.00	0.00	0.00	0.00	0.00
total	0.00	0.00	0.00	0.01	0.23	0.24
Total Tunisian Ports						
-bulk solid	2.75	2.64	5.39	3.49	3.92	7.41
-bulk liquid	4.27	1.49	5.76	5.12	2.07	7.19
-other	1.76	0.96	2.72	2.56	0.74	3.30
total	8.78	5.09	13.87	11.17	6.73	17.90

Table 2.3: Railway Statistics 1980/1994

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total length of network (km)*	2047	2051	2180	2186	2211	2211	2227	2253	2253	2270	2270	2270	2278	2159	2159
ROLLING STOCK															
No. of main-line locomotives	122	121	121	121	191	198	186	204	189	195	195	195	194	136	136
No. of freight cars	5547	5763	5763	5763	5392	5318	5578	5624	5176	5416	5530	5524	5493	5628	5604
No. of passenger cars	90	90	90	90	83	138	175	206	348	301	208	276	280	280	280
Availability of main-line locomotives (%)	88	84	84	83	45	41	37	62	58	47	51	53	58	64	65
Availability of freight cars (%)	96	95	95	95	95	95	95	95	95	95	94	92	92	92	91
Availability of passenger cars (%)	92	92	92	92	93	92	64	77	78	74	77	79	80	77	75
FREIGHT TRAFFIC															
Tonnage (millions of metric tons)	8,2	8,3	7,4	8,3	8,2	8,5	9,5	10,1	11,4	10,8	9,8	9,8	10,6	10,6	11,6
Traffic volume (millions of tk)	1698	1707	1575	1667	1691	1867	1966	2144	2042	2050	1820	1813	1999	1993	2210
Revenue (millions of dinars)	19,7	21,4	22,7	31,4	32,7	33,3	36,1	41,2	46,2	44,2	42,8	46,2	52,1	54,7	60,9
Revenue per tk (thousands)	12	13	14	19	19	18	18	19	23	22	24	25	26	27	28
PASSENGER TRAFFIC															
No. of passengers carried (millions)	28,0	30,7	28,5	27,8	27,0	26,3	25,5	25,1	28,2	29,0	28,6	28,4	30,7	28,2	28,3
Traffic (millions of pk)	862	1011	887	802	743	743	750	798	1014	1037	1019	1020	1078	1057	1038
Revenue (millions of dinars)	6,2	8,3	9,1	10,0	9,9	10,3	10,7	12,5	16,4	17,2	18,2	20,0	22,7	23,6	24,6
Revenue per pk (thousandths)	7	8	10	12	13	14	14	16	16	17	18	20	21	22	24
PERSONNEL															
Total permanent personnel	9155	9176	9176	9176	9150	9352	na	9181	9124	9057	9125	8965	8641	8410	8016
Personnel costs (millions of dinars)	20,6	25,2	31,2	35,7	36,5	36,5	37,5	37,6	39,7	43,9	48,8	51,3	53,6	56,3	57,6
Productivity of personnel (000wu/employee)	193	210	190	191	217	244	302	294	313	323	295	302	336	363	405
FINANCES															
Gross operating ratio (%)	102	101	101	101	122	99	86	84	64 (?)	74	83	na	118	105	86
Net operating ratio (%)	135	149	161	143	140	139	133	125	115	132	151	145	145	138	112
Standardized net operating ratio (%)	130	144	156	139	136	136	130	122	114	130	149	143	121	120	111

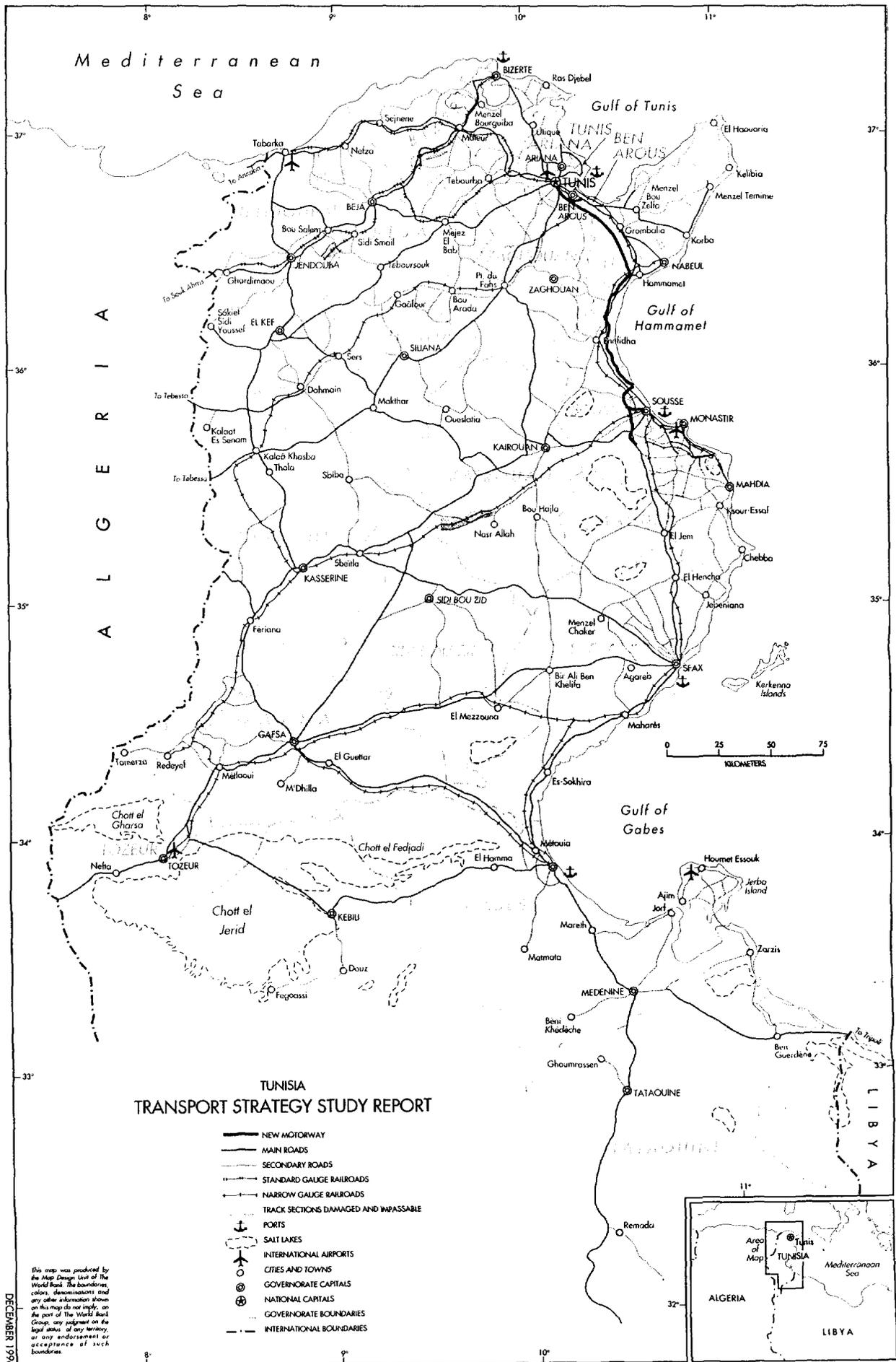
* Includes lines not serviced

Table 2.4: Tunisia -- Bus Transport Companies and Their Activities, 1994

	Actual Performance 1994					Projected Performance (Plan VIII)				
	Total traffic (000 psngs.)	School traffic (000 psngs.)	Share of school traffic (%)	No. of employees	Psngrs./ employee	Total revenue (D 10 ⁶)	Total outlays (D 10 ⁶)	Revenue/ outlays	Fleet	Investment rolling stock 1992-96 (no. of vehicles)
	310.781	124.536	40.1%	5407	57.5	48.146	74.732	64.4%	874	272
	102.221	23.793	23.3%	1700	60.1	17.800	29.400	60.5%		
	212.874	106.206	49.9%	6149	34.6	72.611	92.915	78.1%	1581	589

	Actual Performance 1994					Projected Performance (Plan VIII) 1994					
	Total traffic (000 psngs.)	School traffic (000 psngs.)	Share of school traffic (%)	No. of employees	Psngrs./ employee	Total revenue	Total outlays	Revenue/ outlays	Fleet	Investment rolling stock (1992- 96)	
SRTVs: <i>Sociétés régionales de transport de voyageurs</i>	Beja	6.184	2.960	47.9%	206	30.0	2.240	3.848	68.2%	74	24
	Bizerte	33.324	12.666	38.0%	682	48.9	8.970	9.824	91.3%	219	56
	Gabes	11.445	8.300	72.5%	495	23.1	5.734	7.694	74.5%	137	36
	Gafsa	10.820	6.730	62.2%	401	27.0	6.318	7.189	87.9%	113	39
	Jendouba	4.711	2.670	56.7%	270	17.4	2.065	3.801	54.3%	71	32
	Kairouan	7.600	5.636	74.2%	285	26.7	2.826	4.652	60.7%	71	35
	Kasserine	5.830	3.492	59.9%	238	24.5	2.790	3.786	73.7%	64	31
	Kef	4.752	2.582	54.3%	297	16.0	2.829	4.060	69.7%	82	35
	Medenine	16.985	12.607	74.2%	336	50.6	3.590	5.795	61.9%	93	56
	Nabeul	20.700	7.400	35.7%	561	36.9	11.500	9.980	115.2%	160	86
	Sfax	51.581	20.514	39.8%	1333	38.7	14.119	17.815	79.3%	307	74
	Sousse	38.942	20.649	53.0%	1045	37.3	9.630	14.471	66.5%	190	85
Total	212.874	106.206	49.9%	6149	34.6	72.611	92.915	78.1%	1581	589	

MAP SECTION



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