THE APPLICATION OF THE EUROPEAN RAILWAY POLICY TO THE HELLENIC RAILWAYS: AN OPPORTUNITY FOR EFFECTIVE OPERATION?

By

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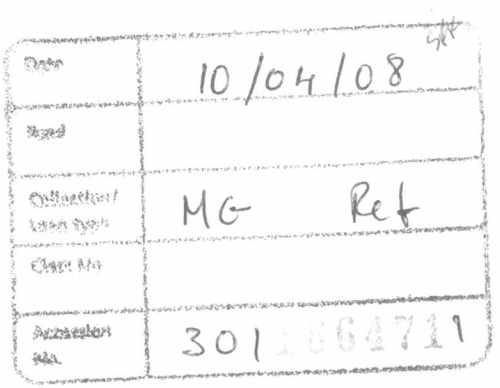

Abstract

This thesis provides analysis of the current European Railway Policy and its effects on the organization of Hellenic Railways.
The focus will be on the design of a new organizational model for the operation of the whole railway system in Hellas by identifying the strengths and weaknesses of the current Hellenic Railways organization and proposing an alternative solution taking into account the demands of the European Union (E.U.) policies and legislation.
The diverse study area of the European Railway Policy allowed the examination of the policies followed by several E.U. Member-States, but necessitated a narrowing to the case of the Hellenic Railways operation to enable a meaningful analysis to be carried out.

The early part of the thesis is a diagnostic report of the Hellenic Railways before moving to the identification of the elements of change and reorganization, as determined by the E.U. policies and legislation.
Appraising the information gathered from the experience of reforms pursed by the other Member-States of the E.U. and the comparative analysis of similar European Railway Networks provides a well formed, clear insight into the changes that Hellenic Railways have to achieve.
Finally, a new organizational model of the Hellenic Railways will be offered, indicating the changes that have to take place and the stages that have to be followed. This model has the specific objectives of achieving a successful implementation of the reformed Hellenic Railway Network.

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Author's Statement

A number of points should be considered before reading this thesis.

The research area is extremely diverse, involving a number of areas which have witnessed continuous changes, hence the use of a cut off date (end 2003) to ensure consistency.

During the course of the research the second enlargement of the European Union increasing the Member-States from 15 to 25 occurred. Also, at the time of writing, the situation was as follows: the application of Directives 91/440, 95/18 and 95/19 were not fully in force, at least in Hellas, being exempted for the time being. The first railway package has not entered into force yet, even though the European Union has demanded the adoption of the national law of the Member-States by March 2004. The European Commission and the Council of Ministers of Transport have already sign the second railway package and are working on the proposal of the third railway package. The European railway agency was just founded by mid 2004 and it is in the process of organization.

As a member of the Hellenic Railways Reserve Management Team, the Author is privy to information and insights into the Hellenic Railway System.

Permission has been given by the Executive Board to utilize such information in order to contribute to the successful re-organization of the system, within the new E.U. guidelines.

The Hellenic Ministry of Transport and the Executive Board of the Hellenic Railways were still considering the reorganization of the Hellenic Railway System.

The role of this research will be to contribute to this decision making process.

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Chapter 5 : Hellenic – Irish and Portuguese Railways

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Glossary of railway terms

RAILWAY TRANSPORT

Urban and suburban rail transport, as well as metro (underground) transport which is not part of the main national network and is not organized by the principal railway enterprise (see page 15 definition 1) is excluded, unless otherwise specified.

I. INFRASTRUCTURE

01. Railway

Line of communication made up by rail exclusively for the use of railway vehicles

Line of communication is part of space equipped for the execution of transport.

02. Railway network

All railways in a given area.

This does not include stretches of road or water even if rolling stock should be conveyed over such routes, e.g. by wagon-carrying trailers or ferries. Lines solely used for tourist purposes during the season are excluded as are railways constructed solely to serve mines, forests or other industrial or agricultural undertakings and which are not open lo public traffic.

03. Track

A pair of rails over which railway vehicles can run.

04. Track gauge

Distance between a pair of rails measured between the inside edges of the rail heads.

The following track gauges are in use:

Standard gauge: 1.435 m
Large gauge: 1.524m (VR,SZR)
1.600m (CIE,NTRj
1.668m (RENFE,CP)
Narrow gauge: 0.60 m, 0.70 m, 0.75 m, 0.76 in, 0.785 m, 0.90m, Metric gauge: 1.00 m.

II. TRANSPORT EQUIPMENT (VEHICLE)

01. Railway vehicle

Mobile equipment running exclusively on rails, moving either under its own power (locomotives and railcars) or hauled by another vehicle (coaches, railcar trailers, vans and wagons).

The following vehicles are included in the statistics for a principal railway enterprise:

a) All railway vehicles belonging to the principal railway enterprise and hired by it and actually at its disposal, including those under or waiting for repair, or stored in working or non working-order, and foreign vehicles at the disposal of the system and vehicles of the enterprise temporarily engaged in the normal course of running abroad, or upon secondary railway enterprises network.

b) Private owners ' wagons, i.e. those not belonging to the principal railway enterprise but registered on it and authorized to run on it under specified conditions, together with wagons hired out by the railway enterprise to private persons and being operated as private owners ' wagons.

02. Locomotive

Railway vehicle equipped with prime mover and motor or with motor only used for hauling railway vehicles.

03. Railcar

Railway vehicle with motor constructed for the conveyance of passengers or goods by rail. The definition of the various categories of locomotives (electric, diesel) apply, mutatis mutandis, to railcars.

In motor vehicle statistics, each railcar in an indivisible set is counted separately; in statistics of passenger vehicles and goods vehicles, each body fitted to carry passengers or goods is counted as a unit.

04. Passenger railway vehicle

Railway vehicle for the conveyance of passengers, even if it comprises one or more compartments or spaces specially reserved for luggage, parcels, mail, etc.

These vehicles include special vehicles such as sleeping cars, saloon cars, dining cars and ambulance cars. Each separate vehicle of an indivisible set for the conveyance of passengers is counted as a passenger railway vehicle.

05. Coach

Passenger railway vehicle other than a railcar or a railcar trailer.

06. Railcar trailer

Passenger railway vehicle coupled to one or more railcars.

07. Wagon

Railway vehicle normally intended for the transport of goods.
Railcars and railcar trailers fitted only for the conveyance of goods are included.

III. ENTERPRISES, ECONOMIC PERFORMANCE & EMPLOYMENT

01. Principal railway enterprise

Enterprise owning and/or operating the largest network(s) in the country,
The following are considered as principal enterprises:

Austria:	Austrian Federal Railways (OBB)
Belarus:	Belarus Railways (BC)
Belgium:	Belgian National Railway Company (SNCB/NMBS)
Bosnia and Herzegovina:	Bosnian Railways (ZBH)
Bulgaria:	Bulgarian State Railways (BDZ)
Canada:	Canadian Pacific (CP)
Croatia:	Croatian Railways (HZ)
Czech Republic:	Ceske Drahy (CD)
Denmark:	Danish State Railways (DSB)
Estonia:	
Finland:	Finnish State Railways (VR)
France:	French National Railway Company (SNCF)
Georgia:	
Germany:	German Federal Railway, German State Railway (DB)
Greece:	Hellenic Railways Organisation (CH)
Hungary:	Hungarian State Railways (GYSEV/ROEE)
Ireland:	Irish Transport Company (CIE)
Italy:	Italian State Railways (FS)
Latvia:	Latvian State Railways (LDZ)
Lithuania:	Lithuanian Railways (LG)
Luxembourg:	Luxembourg National Railway Company (CFL)
Netherlands:	Netherlands Railways (NS)
Norway:	Norwegian State Railways (NSB)
Poland:	Polish State Railways (PKP)
Portugal:	Portuguese Railways (CP)
Romania:	Rumanian Railways (CFR)
Russian Federation:	Ministry of the Railways of the Russian Federation
Slovak Republic:	Zeleznice Slovenskej Republiky (ZSR)
Slovenia:	Slovenian Railways (SZ)
Spain:	Spanish National Railway System (RENFE)
Sweden:	Swedish State Railways (SJ) Swedish National Rail Administration (BV)
Switzerland:	Swiss Federal Railways (CFF)

The former Yugoslav Republic of Macedonia:	Chemin de Fer of The former Yugoslav Republic of Macedonia (CFARYM)
Turkey:	Turkish Republic State Railways (TCDD)
Ukraine:	Ukrainian Railways (UZ)
United Kingdom:	British Railways (BR), Northern Ireland Railways (NIR)
USA:	Association of American Railroads (AAR)
FR Yugoslavia:	Jugoslav Railways (JZ)

02. Secondary railway enterprise

Railway enterprise other than principal which carries out transport operations for the public.

Lines solely used for tourist purposes during the season are excluded as are railways constructed solely to serve mines, forests or other industrial or agricultural undertakings. Urban services operated by secondary railway enterprises are included.

03. Urban railway enterprise

Railway enterprise wholly operating urban, suburban or similar lines within the boundaries of one or more built-up areas.

IV. TRAFFIC

01. Railway traffic

Any movement of a railway vehicle on lines operated.

When a railway vehicle is been carried on another vehicle only the movement of the carrying vehicle (active mode) is considered.

02. Shunting

Operation of moving a rail vehicle or set of rail vehicles inside a railway station or other railway installations (depot, workshop, marshalling yard, etc.)

03. Train

One or more railway vehicles hauled by one or more locomotives or railcars, or by one railcar alone, running under a given number or specific designation from an initial fixed point to a terminal fixed point.

A light engine, i.e. a locomotive travelling on its own, is not considered to be a train.

04. Types of train

The main categories being considered are:

- Goods train: Train made up of one or more wagons and, possibly, vans moving either empty or under load.
- Passenger train: Train for the carriage of passengers composed of one or more passenger railway vehicles and, possibly, vans moving either empty or under load.
- Mixed train: Train composed of passenger railway vehicles and of wagons.
- Other trains: Trains moving solely for the requirements of the railway enterprise, which
- involve no commercial traffic.

V. TRANSPORT MEASUREMENT

01. Rail transport

Any movement of goods and/or passengers using a railway vehicle on a given railway network.

When a railway vehicle is being carried on another rail vehicle only the movement of the carrying vehicle (active mode) is being considered.

02. Types of rail transport

The main categories are:

Revenue earning rail transport: Transport conveyed for an outside party against payment.

Service rail transport: Transport which the railway enterprise performs in order to meet its internal requirements whether or not such transport produces revenues for bookkeeping purpose.

03. National rail transport

Rail transport between two places (a place of loading and a place of unloading) located in the same country irrespective of the country in which the railway vehicles were registered. It may involve transit through a second country.

04. International rail transport

Rail transport between two places (a place of loading and a place of unloading) in two different countries. It may involve transit through one or more additional countries.

05. Rail transit

Rail transport in the same railway vehicle through a country between two places (a place of loading and a place of unloading) both located in another country or in other countries

Wagons loaded/unloaded at the frontier of that country onto/from another mode of transport are included.

06. Consignment

Collection of goods transported under cover of the same transport document in accordance with regulations or tariffs in force where they exist.

07. Types of consignment

The main categories are:

Full train load: Any consignment comprising one or several wagon loads transported at the same time by the same sender at the same station and forwarded with no change in train composition to the address of the same consignee at the same destination station;

Full wagon load: Any consignment of goods for which the exclusive use of a wagon is required whether the loading capacity is utilized or not;

Smalls: Any consignment for which it is neither necessary nor required that a wagon be used exclusively.

Chapter 1

Introduction & Objectives

1.1. Outlining the Problem

Throughout the last three decades the railways' share of the transport market has declined considerably. For the 15 member-states of the European Union, the railway market share in the inland transport was diminished to 6% in passenger transport (while it was 10% in 1970) and to 15% in freight transport (it was more than 35% in 1970).[1]

For Hellas, the railway market share, the last decades, has been limited to 1.5% for passenger transport and to 1.7% for freight transport.[2] There are many reasons behind this underlying trend. Most of them lie outside the rail sector and are linked to socio-economic changes and policy choices that have favoured the growth of road transport. Some of them, however, originated within the rail sector. There is an increasingly pronounced mismatch between the organization of rail transport services and rapidly changing patterns of demand.

In some cases the services offered are no longer meeting the needs of the market, which in their majority have changed substantially, particularly with the development of a demand for transport on extremely short notice e.g. just-in-time production needs. Also, the lack of the necessary administrative tools, such as, a well organized accounting system and an investment plan, are some of the weakness that bring railways to an even worse position.

The Hellenic Railways being overstaffed, having huge deficits, insufficient rolling stock and facing rapidly increasing competition, with inefficient management, can not flexibly manipulate the fast market changes.

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[1] EU Energy & Transport in figures, Statistical Pocketbook 2001, European Union, p:133, 162

[2] EU Energy & Transport in figures, Statistical Pocketbook 2001, European Union, p:133, 162

Adding, the very limited investments, its geographical isolation and its heavy bureaucratic - centralized management system, are identified the reasons for not being competitive for many decades.
However, railways possess advantages in terms of the environment, energy efficiency and safety.

In general, rail transport is still vital for many journeys, both for those who do not have access to a car and for large numbers of commuters traveling between their home and their place of work or education.
Rail is an excellent substitute for road and air transport in this segment as it helps to reduce congestion and to benefit of other traffic, such as short distance road transport and intercontinental air travel.
Notwithstanding the sharp decline in traffic resulting from economic and industrial restructuring (affecting heavy industries such as coal and steel in particular) and the relocation of production in certain sectors, rail remains well placed on the market for freight transport over distances greater than 150 - 200 km. The elimination of frontiers across Europe and the enlargement of the European Union undoubtedly have offered new opportunities.

The general approach adopted in Europe, was also analyzed in the Commissions' White Paper " European Transport Policy for 2010: time to decide", for improving the efficiency and competitiveness of railway undertakings centers on fostering commercial freedom. This has been pursued on the basis of three complementary pillars:
- A clearer definition and separation of the roles of railway undertakings *vis a vis* the state
- Improvement in the financing of railways through greater transparency
- A progressive opening, through provision of non-discriminatory rights of access, of rail infrastructure for specified categories of service.

These developments have been facilitated notably through (1)separation of accounts for infrastructure and operations and (2) isolation of non-commercial debts.

Common rules have been applied to debt restructuring in the countries of the European Union.

So, the aim of this research is to take into account the approach of the European Policy for the improvement of the efficiency of the railway system and the practices followed by E.U. Member-States, and to investigate the possibilities of optimizing the operation of the Hellenic Railways, from an administrative point of view.
The possibility to apply the E.U. Railway Policy in the Hellenic Railway System effectively, is the hypothesis underlying this thesis, examined through the following analysis and the proposed model.

Generally the hypothesis of this work, is:

To what extent can the adoption of the E.U. Transport Policy Reforms, effectively reorganize the Hellenic Railway System ?
(basically by adopting Directives 2001/12, 2001/13, 2001/14).

1.2. Scope of the Study

The research was carried out in collaboration with the Hellenic Railways and the Hellenic Ministry of Transport, as well as with the E.U. Institutions and Organizations involved in the operation of the railway industry.
Visits were made to the European railway networks and extensive discussions were held with many decision makers of the railway environment as listed in the List of Contacts.
Additional information was collected from extensive searches in libraries.
There are numerous and substantial problems which one could expect to encounter within this study area.
The subject area covers a wide range of disciplines dominated by the fields of economics, politics, law and management but having to incorporate far more, as described in the Methodology Chapter. So, each of these areas had to be researched, understood and integrated within the thesis in order to have a full

analysis of the situation of the European Railways and the demands of the E.U. legislation for their effective application to the Hellenic Railways.

Moreover, on certain subjects there is a serious lack of updated and reliable data (e.g. annual reports with two years delays, updated freight and passenger transport statistics, updated ratios, comparative statistics with the other transport modes performance, etc) and some more work had to be done in order to elaborating available data for the needs of this study.

Additionally, working in a wide area, as Europe, and with an industry which operates internationally some times there were language barriers which were skipped over by visiting and interviewing people directly in English (as described in the respective chapter), as well as translating documents from the various European languages to English.

However, the lack of previous work in the field adds to the qualities of originality and uniqueness.

Therefore, with constant changes taking place, the research had to be constrained to a certain time period. The end of 2003 was used as a cut off date to provide consistency throughout the study. Consequently, detailed changes in the social, economic and political environment since then, have been largely excluded.

Nevertheless, given the range of problems, the objectives of this research are formed and will be met at the following chapters, as follows:

1.3. Specific Objectives

Chapter 2 will present briefly the historical developments of the Hellenic Railways and their administrative and ownership status. Also to be investigated are the policies of the Hellenic Railways Organization (OSE) regarding investments, personnel, organization, etc and will be identified its strong and weak points.

This investigation will also support another objective of this research, the analysis of recent developments of the transport market in Hellas, to the extend they affect the railway industry.

After the extensive diagnostic report of the Hellenic Railways and the observation of the recognition of the advantages and disadvantages of the system, the outline of the research is going to be set (Chapter 3). That is to say through the syntaxes of the background of the research, the identification of aims and objectives, the evaluation of the similar researches and the identification of the gap to the knowledge that will be covered by this research, as well as the methodology that will be followed for meeting the objectives set. The hypothesis of the research, is set clear at this point and through the next Chapters is going to be examined.

Thus, since the hypothesis of this study is whether E.U. Railway Policy can be effectively adopted by the Hellenic Railway System, this policy has to be clearly defined and analysed.

Consequently, E.U. Transport Policy, to the extent that it effects railways, from the Treaty of Rome to the current legislation, is going to be studied in Chapter 4 and the key points that demand changes and actions and affect E.U. railways will be underlined. Still, in this Chapter, is presented the way the theory is transferred into practice and the measures taken by E.U. Member-States, showing its positive and negative effects, to the extent that some positive elements can be adopted by the Hellenic Railways, while negative can be rejected.

Additionally to that, an even more thorough study of similar to the Hellenic Railways Network in terms of size, performance, geographic position, etc, in Chapter 5 will offer to this research extensive views of the strategic, financial and economic policies followed by the Irish and the Portuguese railways which adopted E.U. policy demanded changes earlier than the Hellenic Railways. The basic objective of this stage of the research is to extract useful information and elements for the design of the new organizational and administrative model of the Hellenic Railways.

In Chapter 6 will be analyzed the views of the stakeholders, gathered through questionnaires and face-to-face interviews, aiming to have a global view of the European Railway Reforms and an indication of the future developments.

the study and evaluation, compare and contrast of the policies followed by So, Chapters 4,5, & 6, are an analysis, compare and contrast of the consequences using the E.U. railway policy tools in different railway contexts.

And it is from this analysis that the question of viability of E.U. railways should be answered.

However, at the present time there is not any clear scientific way to compare and test the models adopted by E.U. Member-States.

Thus, the study of the existing managerial theory for planning, organizing, leading, promoting and controlling companies, in general, with some specifications to transport companies, which will be presented in Chapter 7, will support the modeling procedure.

The most important points extracted from the available bibliography, combined with the extracts of the analysis of the practices of Member-States, and stakeholders' views, will set a concrete basis for the design of the new organizational model of the Hellenic Railway System.

So, in Chapter 8, with the experience and knowledge gained from the extensive view of the theory and practice available in the organization of railway companies in E.U., incorporating the elements of the E.U. Railway Policy and noting the key points that should and/or should not be further used, or matched better to the Hellenic case, will be delivered the key aim of the study, the new organizational strategy of the Hellenic Railway System.

The idea is to set the basic strategic goals of the Hellenic Railway System in order to meet successfully the E.U. Railway Policy, railway development criteria and then to set the elements that will contribute to the renaissance of the Hellenic Railways.

Further to that, the proposed organization model, will be extensively analyzed by introducing, in practice, (Chapter 9) all the required changes in the Hellenic Railways Organization in terms of organization and administration and examining the hypothesis of this research as far as the achievement of the effective operation of the Hellenic Railways based on the proposed changes.

Also, will be proposed policies necessary to adopt changes and to eliminate possible resistance to change.

The proposed model will highlight changes easily made, with fast positive results, without interrupting the current operation of the system, since trains can not stop running. It will be extended to the reorganization of the activity units, to personnel and customer policies, to reallocation of resources and

setting mechanisms allowing fast response to changes in the competitive transport market.

The resulting changes aim to an affirmation that customers, railway employees and state can acquire the benefits of a competitive railway system based on an effective administrative model, also cost and time effective organization, meeting the demands of all the stakeholders of the system.

So, a new effective administrative model is going to be added to the knowledge and moreover will be given the chance for other people to pick up and go further by studying the possible challenges of a reorganization model or by identifying new roles for the railways and the transport system.

1.4. Rational of the Research

1.4.1. Introduction

The essential aim of this study, the design of an effective organizational model for the Hellenic Railway System, has now been stated. The thesis also aims to provide answers to some of the key questions on the reform of the E.U. railways, such as the effectiveness of the systems adopted, the regulatory needs for the market, difficulties in contracting between new railway companies, etc

In essence this thesis is an investigation and analysis of the organizational, political and economic issues which affect the railway market.

The following section briefly outlines the process and the way this research supports the original hypothesis, while has to be noted that the Hellenic Railway System and the E.U. Railway Policy have to be analyzed separately in the first steps of this research for identifying the needs of this study and then again, to think them together for comparisons and for the synthesis of the appropriate model.

This thesis has 3 broad objectives:

- The first one is to evaluate the current organization and operation of Hellenic Railways and to identify strong and weak points.
- The second one is to analyze the E.U. policy and the respective practices adopted by Member-States, supporting the hypothesis on the effectiveness and viability of the introduction of this E.U. policy, by conclusively providing useful elements to the design of a model for the Hellenic case.
- The third one is to extract and isolate from the extensive managerial theory the key points necessary for the design of the required organizational and administrative model, to meet E.U. reforms.

1.4.2. Testing the Hypothesis

Chapter 2 provides a diagnostic report of the Hellenic Railway System and the Hellenic Transport Market. This includes the underlying reasons for its reform, identifying the arguments for this research, developing the hypothesis of this thesis and facilitating the setting of the main research objectives, which are presented in Chapter 3.

So, Chapter 3 gives an explanation of the various subject areas in order to allow the reader to understand how the research will progress and supports the hypothesis by outlying again the scope of the research.

It also has two additional purposes: to introduce the relevant literature, the communication channels and the methodology followed by the author and to analyze the available researches, comparative studies and general literature, which are focused on the railway policies of recent years, being the backbone of this research, also identifying what is missed and how this research can contribute to the knowledge.

Chapter 4 is designed to analyze separately, as mentioned above, the E.U. Transport Policy, to identify exactly the E.U. will, that is to say, what was meant by reforming railways and to review the practices followed by Member-States in order to test the effectiveness of the models adopted and to support hypothesis stated demand, for the design of an effective model for the Hellenic Railways.

Chapter 5 is a more extensive approach to the hypothesis by analyzing the methodology adopted by Irish and Portuguese Governments for the reorganization of their railways, which are similar to the Hellenic Railways in terms of size, economic growth, geographical position, relation to states, etc. In order to provide a coherent picture of these case studies, comparative tables will be designed by the author and essential conclusions will be drawn, supporting the relevance of each study in terms of the original hypothesis.

Chapter 6 is an attempt to summarize the views of the stakeholders, through the different practices followed at the E.U. Member-States, with different institutional structures, with different political, economic and performing results.

So, up to that point, by reviewing the developments of railways of E.U. Member-States and discussing characteristics of the models that should be used or should be avoided, should be employed the appropriate scientific managerial tools for the design of the right reorganization model of Hellenic Railways.

Then, Chapter 7 demonstrates the managerial steps followed for the effective operation of an organization, safeguarding its viability, supporting considerably the hypothesis of this research.

By determining all the necessary ingredients for the synthesis of a new model, in Chapter 8 are described the key points of the new strategy and the redefined aims of the proposed, reorganized Hellenic Railway System and further is set out its organization framework.

Chapter 9 is linked with Chapter 8 by providing the basis for the administration of the new organization model, introducing the application of "Business Units" in the organization of the Hellenic Railways Organization and dividing activities respectively.

Further, the procedures for applying the model are presented by dealing extensively with matters such as: the strategic orientation of OSE, definition of the transition stages, the development of the implementation plan, etc.

In order to facilitate the critical analysis of OSE, the following chapter provides a diagnostic report of the system.

Chapter 2

Diagnostic Report

2.1. Introduction

The task of re-structuring a traditional state controlled rail network requires some attention to be given to the current organization, its assets, capabilities and, moreover, its managerial culture. Additionally, competition is a parameter that has to be assessed, facilitating the understanding of the Hellenic Railways' position in the market and the preferences of the users.

For this study three general forms of information will be used. The first form can be viewed as the prior information accumulated from the past and current situation, the second as the assessment of the experience gained and similar practices and the third form is the identification of points or elements, subject to future action. The identification of points that "have to change" is the backbone of this research, since have to be generated solutions to those problems, on line with the E.U. policy that also aims in over passing them.

This chapter provides an analysis of the practical situation.

Through the inferential knowledge of the situation, problems are going to be identified clearly, a good or optimal hypothesis test will be constituted and the decision making process will be supported considerably, leading to the design of the appropriate model.

So, it is required to go through a detailed analysis of the present situation of the Hellenic Railways Organization (OSE).

Firstly, the present situation of (OSE) will be studied by analyzing its external and internal operating environment in detail, aiming to identify its most serious problems and its strengths and weaknesses. This analysis will facilitate the elaboration of the most appropriate way to adopt the European Union Policy.

Specifically, the objectives of this chapter are to provide a diagnostic report on the current structure, organization and performance of (OSE). This will be formulated by:

1. The analysis of the (OSE) environment – geographic position and historical perspective of rail transport in Hellas
2. The analysis of (OSE) technical aspects – infrastructure, operation, passenger and freight transport, human resources, organizational structure.

The findings of this diagnostic report will be then utilized throughout the thesis, namely in working out the hypothesis question of how the E.U. Rail Reforms Policy will impact on the Hellenic Railway System.
This diagnostic report will identify the strengths and weaknesses of the system in relation to these reforms.

2.2. Hellenic Railways Organization (OSE) Environment

2.2.1. Specific Position of Hellas in Europe

For a better understanding of the operating conditions of (OSE), the identification of specific parameters concerning the geographical position of Hellas and the status of the neighbouring countries is necessary.
Hellas stands on the south-eastern boundary of the European Union (E.U.). This might be considered as a limitation, as it stays isolated from the economic developments of Western Europe and as an advantage, because it is one of the gateways to the Balkan Peninsula and developing countries of Eastern Europe and Asia.
The inland connections with Western Europe used to be mainly through the former Yugoslavia, on the Thessaloniki – Belgrade axis, via the Idomeni and Nis border crossings, and then either through Austria and Hungary, or to Italy via Zagreb.
However, this route is currently jeopardized by the dramatic developments in the former Yugoslavia and by the political instability in the region. The European

Union (E.U.) bodies and the E.U. Member-States are trying with several types of aid (e.g. Stability Pact) to promote the political stability in the region, but a lot of work still needs to be done.

So, OSE is suffering from a further isolation due to the serious damage to the railway network of Yugoslavian Republic.

The majority of Hellenic economic relations are with other member-states of the E.U. and they have been severely harmed by the above developments.

On the other hand, the political and economic opening of the Balkan countries to a free economy has resulted in the development of more exchanges with Albania, Bulgaria, Romania and the countries of the former USSR.

Relationships with Turkey are always in a delicate condition which allows for commercial exchanges with Hellas, generating railway transport services, but not necessarily on a permanent basis.

The geographical shape of Hellas and its location between the Ionian and Aegean seas tends to favour maritime transport especially for freight often transiting through the ports of Piraeus and Thessaloniki. Other Hellenic ports that also have significant traffic are Volos, Kavala, Alexandroupolis, and the ports in the Western side of the country, namely Patras and Igoumenitsa, which are also connected to the Hellenic Railway Network, generating most of the international passenger transport through Italy.

International passenger transport by sea is mainly concentrated at Patras and Igoumenitsa which provide good connections with the south east part of Europe through car ferry services with Italian ports such as of Brindisi, Ancona, Trieste and Venice.

2.2.2. Outline of the country

Hellas is a very mountainous and fragmented country, surrounded by sea with a lot of islands (approximately 3000). The inhabitants are unevenly distributed on the 132,000 km2 of the territory (including the islands). Mountains make up over 45% of the country. The overall density of the population is rather low and inhabitants are concentrated in two main cities Athens and Thessaloniki. This explains that the density of the Hellenic railway network is low (19 km of railway

lines per 1,000 km2 and 239 km per one million inhabitants), if compared with other European countries which have about the same surface and /or population.[1]

Table 1

Comparison of surface, population, track length between different European countries

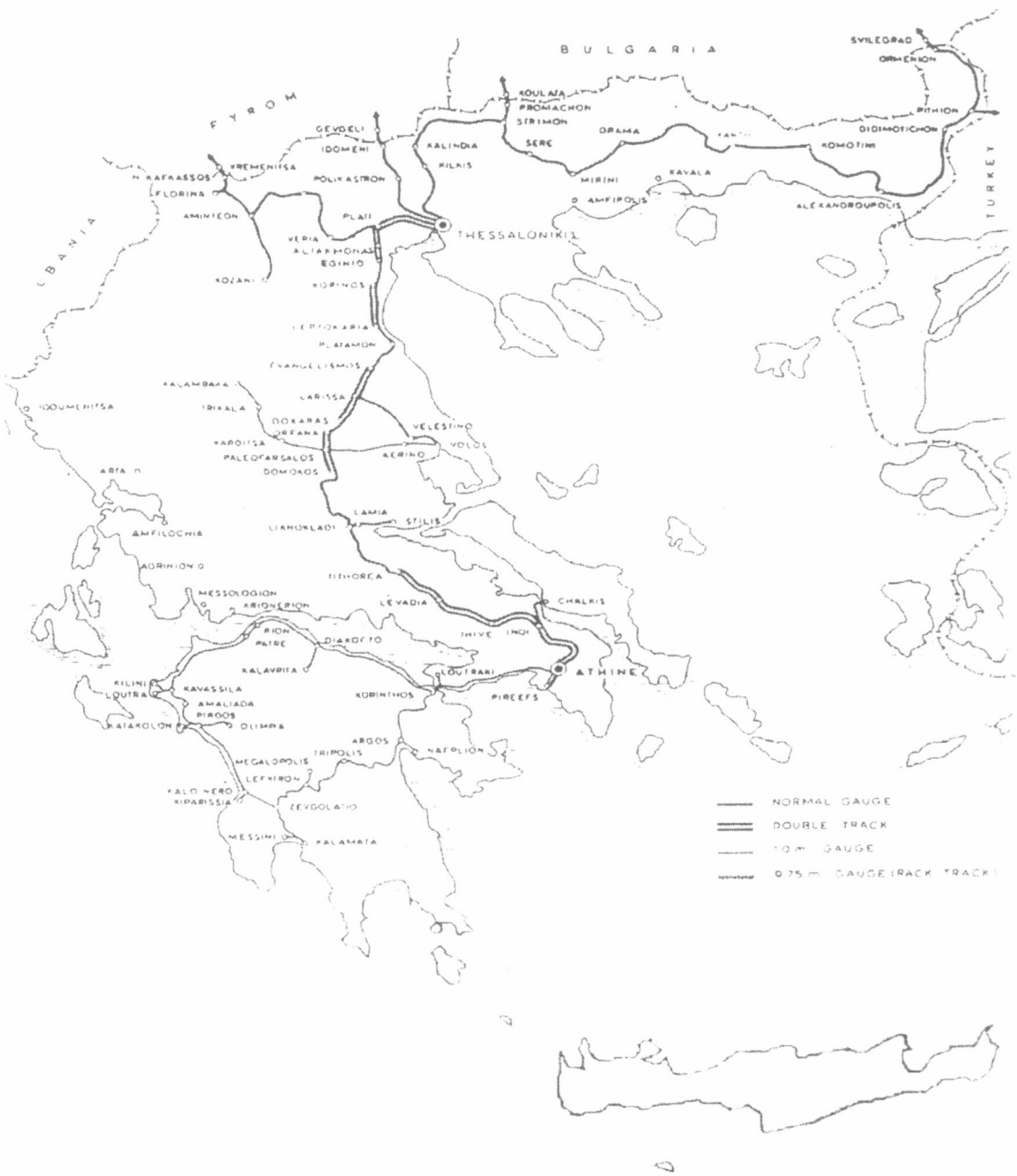
	A	B	C	D	E	F
Countries	**Surface (x1000 km^2)**	**Population (million)**	**Population Density (inh / km^2)**	**Track Length (km)**	**D/A**	**D/B**
Hellas	132	10.37	78.6	2511	0.0188	239.5
Ireland	70.3	3.56	50.7	1944	0.0276	546.0
Portugal	92.1	10.58	114.9	3062	0.0332	289.4
Austria	83.9	8.00	95.4	5600	0.0667	700

Source: Union International des chemins de fer (U.I.C.) 1999

However the areas which the railways serve contain 75% of the total population, and their market share is about 3% of total passenger traffic. More specifically, the Athens – Thessaloniki line serves 52% of the country's population and generates 90% of the total railway passenger transport in Hellas.[2]

The country has succeeded in preserving its own identity while keeping in touch with the Western part of Europe and the rest of the world mainly through maritime connections.

[1] Hellas 2010: Development Strategic Plan. Ministry of National Economy. May 1998, p.I3



Map 1: Railway Map of Hellas
Source: Hellenic Railways Organization

Hellas is divided into different regions, some of which have had limited development due to the mountainous aspects of the country and the weak

[2] Hellenic Railways Organization, Annual Report 1999, p.4

commercial links between them. Athens is a rather centrally placed capital, which eases the links with other regions, such as Peloponnese (especially Korinth and Patras) and Thessaly and Macedonian Regions to the north. The Athens Metropolitan Area is the traditional consumption and the main industrial production area while the central and northern regions account for the largest part of agricultural production and for the remaining part of industrial production.
The improvement of the north-south rail and road axis tends to facilitate the exchanges between the populations. It has also increased industrial trade between the two main centers, Athens and Thessaloniki. (Their wider areas, together, accounts for about 50% of the population).
Especially, for passenger transport, it seems that the continuous improvement of the infrastructure and rolling stock used on the axis, leading to a steadily improvement of the journey length, attracts customers and increases the market share of OSE on the axis.

Table 2

Passenger Transport Market Share on the axis Athens –Thessaloniki

	2002	2001	2000	1999	1998	1997
OSE	31.62%	26.38%	21.91%	25.30%	18.71%	18.40%
Aegean Airlines	24.13%	18.81%	13.90%	5.22%	0.00%	0.00%
Olympic Airways	21.99%	23.05%	23.73%	27.82%	39.08%	50.20%
KTEL Thessalonikis	15.87%	16.76%	15.54%	16.54%	24.16%	22.13%
KTEL Attikis	6.20%	7.14%	5.59%	5.85%	7.82%	6.71%
Hellenic Star Airways	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%
Cronous Airlines	0.00%	6.92%	19.28%	16.06%	7.22%	0.46%
AXON Airlines	0.00%	0.94%	0.00%	0.00%	0.00%	0.00%
Air Greece	0.00%	0.00%	0.05%	3.22%	3.01%	2.16%
Total Passengers	2.016.176	2.088.255	2.316.477	2.146.958	1.655.452	1.626.725

Source: "Study of the passenger transport environment on the axis Athens-Thessaloniki" The Athens Laboratory of Research in Marketing, Economic University of Athens, 2003

Table 2 refers to the services provided on the axis Athens-Thessaloniki, by comparing the three alternative transport means, concluding that the bus (KTEL) offers often services but the journey takes longer, and the quality of services

offered is low in terms of safety, customer service, comfort, etc. The airplane has a competitive advantage in terms of travel time and customer services, but it is rather expensive, comparable to the other means of transport, and especially for the heavy users.

Regarding punctuality and access to the transport means, passengers are mostly satisfied by bus and rail services. The competitive advantage of OSE is the combination of comfort, safety, travel time (4:30h) and travel cost, since it is the cheapest transport means available for the axis travel.

The above mentioned competitive travel price results from the huge, on-going investment in the axis Athens-Thessaloniki, and of course users are taking advantage of the investment benefits.

However, this is not the case for the rest of the network, as for example, the Peloponesse network, which is threatened with shutting down (political decision), since the network has not been maintained and modernized for decades and the quality of services is very poor.

The following short historical review of the Hellenic Railways will contribute to the detailed analysis and understanding of the development of this multiform rail network.

2.2.3. Historical Perspective of rail transport in Hellas

Before 1918, there existed 2 separate standard gauge networks which were not linked:

- the Attiki – Thessaly network, progressively opened from 1900 to 1918.
- the Macedonian network built between 1870 and 1896, to which the Thrace network was added after 1922.[3]

It was only in 1918 that the two standard gauge networks were joined, at Plati, (see map No2) enhancing greatly the unity of Hellas and permitting trips from Athens to the other European railways.[4]

Similarly, the metric gauge network operated at the end of the last century, but in separate parts:

[3] The Hellenic Railways History (1888-1940) P.Giannakakis, National Bank, 1983, p.23

- from 1884 to 1886 the railway in Thessaly.
- from 1882 to 1902 the Peloponnese railway,

making the modernization process, even more difficult.

The Peloponnese network, initially a private company, joined the State Greek Railways, as the Macedonia – Thrace network, in 1962.[5]

Three quarters of the network is single track. This results in long journey times and delays. Since 1987 work is ongoing for a double track line between Athens Thessaloniki and Idomeni and relevant work on 60% of this line has been completed, allowing more frequent and reliable connections between Athens and Thessaloniki for passenger transport and facilitating the development of freight transport that is very limited today.[6]

One third of the network still consists of metric gauge track. The two different gauges, metric and standard, split the network and impede the operation of the railways since the adequate infrastructure for transferring passengers and freight is missing.

The current network consists mainly of a main North-South trunk line, which does not facilitate east-west movement. The mountainous nature of the country results in lines with steep gradients and tight curves, thus reducing trains' speed.

2.3. Technical Aspects

2.3.1. General information on the fixed assets

2.3.1.1. Network

Map 2 refers the length of the OSE network, which is 2,511 km, 1,584 km with standard gauge, 854 km with metric gauge and 23 km with combined standard and metric gauge. There are also two small tourist (partly rack rail) lines, 22 km, 750mm width which links Diakopto and Kalavrita and 28km, 600mm width which links Volo and Pilio[7].

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[4] Ibid. p.25
[5] Ibid. p.34
[6] Hellenic Railways Organization, Annual Report 1999, p:4
[7] Hellenic Railways Organization, Annual Report 1999, p:13

The network provides two main lines with international connections: (1) on the north-south axis, the Athens-Thessaloniki line, with two international connections at Idomeni and Promachon, and (2) on the east-west axis the Thessaloniki – Alexandroupolis- Ormenio line.

In addition the Athens – Korinth – Patras metric line provides indirect international link to the Italian and European railways networks through maritime links in the Ioanian and Adriatic Seas.

Some smaller regional lines (Inoi-Chalkis, Lianokladi-Stilis, Larissa-Volos, Plati-Aminteo, Kozani-Florina-Kremenitsa, Strimon-Koulata) complete these trunk links. The metric network is mainly at Peroloponnese.

There are no electrified lines, except on the 76 km Idomeni – Thessaloniki section (25KV-50Hz). Currently there is in progress an investment plan for the electrification of the Athens – Thessaloniki axis.

2.3.1.2. Procurement procedure

Procurement procedure is a function adding difficulties to the effective and flexible management of OSE, since for every supply there is a need for approval from top management, often taking months for obtaining the required supplies. The Supplies Directorate is the only one (except the recent New Works Directorate) entitled to purchase new stock or spare parts. However all the orders are submitted to the Managing Director (who may delegate to the General Directors in case of emergency) and subsequently to the Board of Directors which operates under the control of the Ministry of Transport.

The delegation of authority given to General Directors, without the need of authorization from the Managing Director, is for tendering up to 176.000 Euros. For tendering procedures and purchases up to 586.940 Euros, the Managing Director is authorized, but must also inform the Administrative Board. When amounts get higher, then a decision should be taken from the administrative Board, subject to approval from the Minister of Transport. [8]

The needs of the different departments must be notified to the Supplies Directorate before the end of August for delivery the next year. The program is

elaborated every year, in November, and submitted to the Board and the Ministry of Transport.

The current average request-delivery delay is about 1.5 to 2 years, partly due to orders sent to foreign countries and to the great diversity of materials, with insufficient support from any computerized purchasing procedures, resulting in serious inconvenience to the generation of scheduled services and activities.

2.3.2. Property

Hellenic Railways are listed among the richest organizations in terms of fixed assets, owning millions of hectares all over Hellas, without having any updated list of properties and values.

Currently, management has entered into an evaluation process of the company's assets, in order to make a full inventory and systematically record all of them, but their nature and their wide dispersion is time and money consuming.

The responsible subsidiary (GEAOSE) of OSE is still understaffed and is not able to take any serious action towards a profitable exploitation of the property of OSE, today. It has not yet developed an effective information system, it has not yet recorded all the OSE property, and it does not communicate with the other technical, financial and administrative organization units which are involved in the management of the property issues of OSE.

Consequently, OSE lacks considerable income from the appropriate exploitation of its property.

2.3.3 Operation

2.3.3.1 General information on operation

At this point, special attention has to be given to operations, since here are identified many problems regarding reorganisation, being directly related to the hypothesis of this study for the effectiveness of the E.U. railway policy to the reorganisation of OSE.

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[8] Legislative Decree 674/1970 about the foundation and the operation of the Hellenic Railways and Organization. Article 2

A valuable contribution to this task, is the author's long working experience with the railways, and in particular the Hellenic Railways, facilitating the identification and understanding of the problems that have to be solved.

2.3.3.1.1 Operation at stations

On the Athens - Thessaloniki line, most of the stations have at least two tracks with their own signal boxes at the largest and locally controlled switches at the smallest. The station employees are also responsible for providing commercial services for passengers and freight. So there are assigned tasks related to infrastructure and to provision of services. There are some closed stations, without personnel, where safety operations are carried out by on train staff. For example, on single track lines, when two trains have to cross at a station without personnel, the on-board personnel handle the points. This slows down operations.

On the Athens - Thessaloniki section, there are very few stations with pedestrian passages or footbridges. The consequence is that trains must whistle and slow down every time a station is approached. InterCity trains must slow down from 160 km/h to 120 km/h when passing through station areas (e.g. on Inoi - Larisa, 20 minutes could be saved).

Despite the importance of the quality of services provided in the Capital, none of the main stations in Athens ("Larisa" and "Peloponnese") is very large, with only 3 and 2 main tracks, respectively, as the rail network was not extended proportionally to the population growth, due to the lack of investments, for more than 50 decades.

Although being about 500 metres apart, they are not connected one to the other. Thessaloniki station is better sized, with 7 tracks since it facilitates the trade with foreign countries.

In most of the stations, the plan of the tracks is not enough and modern switch controls are lacking. There is also stored a lot of rolling stock due to be scrapped.

2.3.3.2. Operational Organisation

The two Directors responsible for the Athens and Peloponnese regions are both based in Athens and are in charge of all operations but signalling, electrification and telecommunications. Another Director is based in Thessaloniki and is in charge of the Macedonia - Thrace Region.

There is a split between the Athens and Peloponnese regions, due to the gauge difference, confirmed by two separate stations co-existing next to each other in Athens, one for each network, but without connecting tracks and coordinating train operations, being inefficient for customers using all the network from south to north and often they are discouraged in using it.

Also, the cooperation between the two directions in Athens and Thessaloniki is often difficult in terms of confusing delegation of authority.

2.3.4. External Factors Affecting Transport

2.3.4.1. General Information

Several external factors, such as socio-economic (population, employment, income, production, inflation, Gross Domestic Product (GDP) car ownership, fuel prices, imports/exports, etc), political, national or international, environmental, new technologies and industrial developments, affect not only the total transport product in terms of mobility, travel patterns and goods transportation but also the modal shares.

2.3.4.2. Socio-economic issues

The population in Hellas during the 1981-1991 period increased by 7.9%, due to slight increase of births and migration of neighbouring countries, while for the decade 1991- 2001 decreased almost 5%. The unemployment in 1991 was 7.7% and in 1998 was 10.4%.[9]

The average annual Gross Domestic Product (GDP) growth rate for the 1981-1991 period was 1.7%, while at the same time the E.U. countries had an average annual growth of 3 to 4%. For the years 1998 and 1999 the growth rate was

[9] Bloomberg Professional Statistics

7.7% and for the years 2001 and 2002 was 4.1% and 4%, respectively. The average GDP has increased considerably, from 64.1% in 1993, to 68.6% in 2001.[10]

The average inflation rate had been 18.5% per year from 1978 to 1993, 14.4% in 1993, less than 10% by the end of year 1995, almost 6% by the end of year 1997, less than 4% by the end of year 1998, 2.1% by year 1999 and about 3.1% currently (6/2004).[11]

Since 1985, the share of transport activities (road, rail, maritime and air) of the total GDP is decreasing. Road transport dominates with an approximate 50% share of all transport. Rail share has been constant during the same period with only 2% of GDP attributable to transport.[12]

Taxes comprise about 75% of the total fuel prices. In 1993, the gasoline price in Hellas was 13% cheaper than the highest price in the E.U. (The Netherlands) and 21% more expensive than the lowest (Luxembourg). During the period 1979-1998, gasoline prices increased 7.5 times, that is only 50% of the rise in the general price index.[13]

2.3.4.3. Political and environmental issues

The closure of the international railway corridor passing through former Yugoslavia caused significant losses in rail traffic, limiting the Hellenic Railways opportunities for long distance freight traffic. Since 1990 OSE has lost 80% of its international passengers traffic, that is to say, its market share in the international passenger market declined from 3% in 1990 to 0.6% in 1993, and to 0.1% in 1999. International freight traffic through the Idomeni border accounted for up to 25% of exports before the Yugoslavian crisis.[14]

However, the opening of the new Balkan and Eastern markets has started to boost the traffic in these areas. Nevertheless the role of railway in these new routes is questionable as it would now depend on the quality and compatibility of the respective infrastructure in these countries with that of Hellas.

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[10] Bloomberg professional Statistics
[11] Ibid.
[12] National Statistics Office (ΕΣΥΕ) Transport Statistics
[13] Bloomberg Professional Statistics
[14] Hellenic Railways Organization, Commercial Operation Dpt Annual Statistics

So, the much needed modernization of the infrastructure should be examined together with the respective modernization programs of the neighbouring networks, in order to build a harmonized railway network, meeting the customer needs.

The modernization and harmonization of the Balkan region railway network, can be accelerated by this study of the reorganization (hypothesis of this research) program of OSE. By exploiting all the opportunities deriving from the developments in the region, giving Hellas a leading economic position, Hellenic Railways have also the opportunity to play a dominant role in the regional railway transport market.

Up to this point, there has been drawn up a clear view of the general geographic, economic, political and operational environment of the OSE.

Supplementary, the analysis of its actual performance in terms of passenger and freight transport is considered fundamental, for enriching the inputs of this research, illustrating a more accurate inspection of the reorganization needs of OSE and supporting the hypothesis testing.

2.3.5. Passenger Transport

2.3.5.1. General Information on the OSE passenger transport

2.3.5.1.1. OSE market share

Table 3 shows that the total rail passenger transport in Hellas amounted to 12,160 million trips in 1999, while in 1998 it was 11,509 and five years before, in 1993, it amounted to 11472 million trips. (In 1993 domestic transport was 97.66% of the total annual passenger transport – 11747 million trips).[15]

In 1999, the OSE market share of passenger transport on the Hellenic mainland was 4.5% (57% for private cars, 35% for buses and 2% for air, excluding air services and shipping operations to the islands).[16]

The domestic rail passenger traffic increased steadily in the '80's, from about 9.7 million people carried in 1980 to 11.4 million in 1989 (which represents an annual

[15] Hellenic Railways Organization Annual Report 1999, p:20
Hellenic Railways Organization Annual Report 1998, p:14
Hellenic Railways Organization Annual Report 1993, p:11

growth of 1.5%). In total, OSE lost market share, from 9.4% in 1970 to 4.7% in 1990, and it was about 4-4.5% in 1998-99. [17]

However the domestic rail passenger transport for the year 1999 increased the number of passengers by 5.6% and by 2.7% in passenger-km, compared to the 1998 performance. On the contrary, the average km/passenger diminished by 3%. [18]

It is estimated that the increase in customers could be higher if the following events had not occurred:

-Closure of the Peloponnese Network for two months due to very urgent works

-Closure of the Paleofarsalos-Kalambaka section due to enlargement works on the track. (a combined transport (bus-train) service was offered, but was unattractive to customers)

-Inability to facilitate excessive demand due to the lack of passenger cars and railcars.

The evolution of domestic and international passenger traffic served is presented in the table that follows (derived from OSE annual statistics):

Table 3

Evolution of OSE passenger transport (in thousands passengers)

Year	Total	International	Domestic
1989	12293	858	11435
1990	12067	901	11166
1991	12252	592	11660
1992	12233	424	11809
1993	11747	275	11472
1994	11248	209	11039
1995	12038	212	11826
1996	12816	206	12610
1997	13261	210	13051

[16] National Statistics Office (ΕΣΥ), Transport Statistics 1999

[17] Hellenic Railways Organization Annual Report 1999. P:14
Hellenic Railways Organization Annual Report 1990, p:18
Hellenic Railways Organization Annual Report 1989, p:17
Hellenic Railways Organization Annual Report 1980, p:17

[18] Hellenic Railways Organization, Annual Reports, 1989-99, p:18

1998	11677	168	11509
1999	12268	108	12160
2000	12580	121	12549
2001	14035	124	13911
2002	14238	155	14073

Source: Hellenic Railways Organization Annual Reports 1989-2002 (developed by the author)

International traffic diminished steadily after the closure of the former Yugoslavia, and the recent problems at Kosovo, bringing international operations practically to zero by the end of the century.

For the year 1999 the main origin-destination pair is Athens-Thessaloniki-Athens with 18.7% of the OSE passenger traffic and then the suburban Athens-Chalkis line with 8.17% of the traffic. The wider region of Athens (where almost half of the Hellenic population leas) generates the most traffic (39.15%) followed by the region of Thessaloniki (20.48%) and the region of Larissa (10.86%).[19]

The years 2001 and 2002 present a better performance, due to the improvements on the infrastructure of the Athens-Thessaloniki axis and the increased capacity.

2.3.5.1.2. Stations

Also for the year 1999, Athens station (for the standard gauge line), with 2.61 million passengers in 1999 (31.44% of the total) is the first station for passenger transport, followed by Thessaloniki (1.89 million passengers, 19.34% of the total) and Larissa stations (902,649 passengers, 10.61% of the total).[20] Then comes Athens Peloponnese station (about 486,000 passengers that is 5.85% of the total).[21] Therefore, the two Athens stations cater for 37.29% of all traffic, since more than half of the Hellenic population is concentrated at the Athens area.

So, Athens and Thessaloniki stations are generating more than half of passenger transport of the whole network, underlying the importance of the two sites and also the importance of investing on the infrastructure on the northern line and the need for continuous improvements of the services offered between the two cities.

[19] Hellenic Railways Organization, Commercial Operation Dpt, Annual Statistics
[20] Hellenic Railways Organization, Commercial Operation Dpt, Annual Statistics
[21] Ibid.

Also, by adding the passenger traffic generated at Larissa, to the traffic generated at Thessaloniki and Athens, is identified that almost two thirds of the whole network's users are travelling northern and mainly between Athens-Thessaloniki, stressing again the urgent need, not only for improvements on the network, but also for organizational and operational reorganization in order to satisfy current users' demands and to attract even more.

2.3.5.1.3. Inter City (IC) Service

For year 1999, Inter City services represent about 48.6% of the total OSE passenger transport. IC operations on the Athens - Patras line represent 55% of total traffic followed by the Paleofarsalos-Thessaloniki section where they represent 40%. On the Athens-Paleofarsalos section IC operations also represent 50% of the total. The two latter sections constitute the Athens-Thessaloniki line.[22]

2.3.5.2. Characteristics of the competitive modes

2.3.5.2.1. Private Road Transport

The private road transport in Hellas increased from 10,850 million passenger kilometers in 1975 (out of which 9,262 million was for passenger cars) to 24,230 million passenger kilometers in 1999 (19,437 million for passenger cars). The share of private passenger transport in interurban passenger transport developed from 31.5% in 1975 to 71.9% in 1990's.[23]

Road transport is performed at very low direct cost to users, as no tolls are demanded on the network except on the Patras-Athens-Thessaloniki and Corinth-Tripoli Motorways, which are very low (2-2.5 Euros).

2.3.5.2.2. Public Road Transport

The total buses transport (including OSE buses) increased from about 7,900 million passenger kilometers in 1975 to 11,900 million passenger kilometers in the 1990's. Local operators who all together participate in the "KTEL" cooperatives, generate interurban public transport services, by road. The total

[22] Hellenic Railways Organization, Commercial Operation Dpt, Annual Statistics

share of interurban buses in interurban passenger transport work decreased from 58% in 1975 to 20% in the 1990's.[24]

Bus fares increased for the last 15 years at a rate equal to 75% of the inflation rate, being in most cases two times more expensive than the rail fares. The cost (at constant prices) of using a private car increased by 6% between 1978 and 1998, while the cost of using "KTEL" buses decreased by about 12% during the same period.[25]

Rail remained indifferent to users due to the low quality of services offered, even though fares were very low. In the 1990s the majority of railway users was the cheap labour, immigrants from Asia, Africa and former Communist Countries, with extremely low incomes.

By the end of the 1990's, where the railways start to modernize networks and rolling stock, becoming more competitive, gradually, is witnessed a change to users' quality and preferences. The modernization programme together with the competitive prices still offered by railways, attracted many users, especially on the northern part of the network.

However, even if the unit cost of using the car is 2 or 2.5 times higher than that for buses, as soon as two passengers are considered, the car becomes more attractive. Indeed the average occupancy of cars in interurban transport is over 2.2 passengers. Moreover, private cars provide other advantages such as privacy, comfort and a convenient door-to-door service.

2.3.5.2.3. Air Transport

Hellas has an extensive network with 43 airports, 21 being on the mainland. The 5 most important ones are in Athens, Thessaloniki, Iraklion, Rodos, Kerkyra, serving 85% of the total air traffic.[26]

In 1976, Olympic Airways carried 2,38 million passengers on its internal lines, and about 3,18 million in 1998.[27]

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[23] National Statistics Office (ΕΣΥΕ) Transport Statistics
[24] National Statistics Office (ΕΣΥΕ) Transport Statistics
[25] Ibid.
[26] Hellas 2010: Development Strategic Plan. Ministry of National Economy, May 1999. P:II40
[27] National Statistics Office (ΕΣΥΕ) Transport Statistics

Currently, the Athens –Thessaloniki railway route, seems very competitive due to the time and location convenience, and there is a shift from air to rail, in users' preferences, as analyzed previously in par. 2.2.2

2.3.5.3. Travel times, frequencies and connections

The travel times on the OSE trains have decreased during the last year. On the Athens-Thessaloniki line, the travel time was 8.04 hours in 1987, 7.24 hours in 1995 for ordinary trains, and 6.42 hours for the InterCity service in 1991 down to 5,55 hours in theory, but to 6.35 hours in practice, in 1995. Today for the conventional trains the travel time is 6.05 hours and for the InterCity trains it is 4.20 hours, compared to road that is between 6-7 hours.

The frequency was 7 conventional trains per day in 1987 on the Athens-Thessaloniki line down to 6 in 1995, but with 4 additional InterCity trains per day. Today there are only 3 conventional trains (including one night train with couchettes) and 5 InterCity trains serving the Athens –Thessaloniki route on a daily basis. Similarly, the travel time on the Thessaloniki-Alexandroupolis line was 7.13 hours for ordinary trains and now it is 5.31 hours with InterCity (a total of 5 trains per day, 3 conventional and 2 InterCity). The travel time Athens-Patras was 5 hours in 1987 for ordinary trains which were down to 3.19 hours for InterCity trains (4 per day) and 4.30 hours for conventional trains (4 per day as well), while by road it is 3.5-4 hours.

The average delay on operations and travel times dropped by 34% over the last 8 years (72% on the Athens-Larissa line and 22% on the Athens-Patra line), due to the introduction of modern rolling stock and to infrastructure improvement.[28]

There are scheduled correspondences to particular routes according to the existing demand. Main connections are made in Paleofarsalos, Larissa and Plati.

So, the positive implications of the modernization program of the infrastructure are obvious, but it has to be commented that this is the case mainly for the axis Athens-Thessaloniki and to a shorter extent for the axis Thessaloniki-Alexandroupoli.

[28] Hellenic Railways Organization, Annual Reports 1989-99

There is no doubt that there is an urgent need for the completion of this program, building up the image of OSE and improving its operation.

2.3.5.4. Road Passenger Transport (operated by OSE)

OSE owns 42 coaches, and provides international passenger services, mainly to the Balkan Countries (e.g. Bulgaria, Romania, and Albania). It is considered as the only commercial activity run by OSE that is profitable.[29]

The numbers of passengers and the revenues have increased tremendously over the last decade. The increase in revenues from 1998 to 1999 was almost 7%, in passengers 12.4% and in passenger-km 11.4%. In 1999, 453,000 passengers traveled with OSE coaches, running 266,325 thousand passenger-km, bringing to OSE some 2.292 million GDR, about 6.7 mil. Euros, which is 6.19 times higher than the revenues of the year 1995. [30]

2.3.6. OSE Passenger Business SWOT Analysis

Strengths

- established position as carrier of passengers
- well - known national organization
- new high quality services in IC trains
- attractive services on night trains
- energy wise efficient transport mode, when electrified
- contributes to E.U. policy on environmental friendliness and sustainable mobility

Weaknesses

- lack of policy and quality for suburban and regional railway operations
- single track and steep gradient sections reduce capacity and reliability of operations
- different gauge between continental Greece and Peloponnese networks
- access to stations and on site services not satisfactory
- limited correspondences between lines
- lack of knowledge of preferences of passengers and of competing modes

[29] Ibid. p:14
[30] Hellenic Railways Organization, Annual Report 1999 p:22-23

- lack of marketing policy

Opportunities

- very attractive pricing policy in relation to the quality of services offered
- large benefits from current investment plan
- door to door transport can become competitive, even to air transport (and to private cars and buses)

Threats

- serious competition from road transport modes (buses, taxis, cars)
- crisis in former Yugoslavia reduces international transport
- the high cost and the low productivity of OSE contributes to increasing losses as long as prices remain at the same levels.

2.3.7. Freight Transport

2.3.7.1 General information on the OSE freight transport

2.3.7.1.1. OSE market share

Table 4 shows that the total rail freight traffic in Hellas, in full wagonload transport, amounted to 347,290 million tones-km in 1999.[31]

In 1993 it was 647,210 million tones-km, while in 1990, the OSE freight market share was 2,5% (97,4% for the road, 0,1% for air transport, whereas sea transport mostly serves the islands).[32]

Rail freight traffic peaked in 1975 at 931 million tones-km (about 7% of the market share). The annual decrease in the period 1980-1991 was 3,2% for domestic rail traffic, when during the same period, road freight traffic increased by 2% per year.[33]

International Rail freight transport represents over 85% of the tonnage transported in 1999, where 58% was transit and 15% imports. Since the main transit flow is short distance (Thessaloniki-Idomeni), the contribution of both international and transit traffic to the whole volume in tones-km is very

[31] Hellenic Railways Organization, Annual Report 1999 p:26
[32] Hellenic Railways Organization, Annual Report 1993 p:23
Hellenic railways Organization, Annual Report 1990 p:21
[33] Hellenic Railways and their contribution to the domestic and international transport of the country, OSE 1996, p:31

small.[34]

Out of the domestic traffic in full wagon load, the most important origin-destination (O-D) pairs (one direction) is Vevi-Komanos (18,5% of the total traffic) and Katerini-Plati (11%). For imports the first (O-D) pair is Bulgaria to Thessaloniki (14%) and for exports Thessaloniki to the former Yugoslavia (17%)[35].

Major origins and destinations are found in the centers of commercial and industrial activities such as Athens and Thessaloniki Metropolitan Areas and in particular industrial or agricultural production areas such as Komanos (lignite), Megalopolis (electricity generators-lignite) and Vevi (sugar beet, lignite).

Over the last ten years there has been a decline in freight traffic, resulting almost entirely from the drop in domestic traffic. It seems that the traffic generated from the major customers has been relatively stable, while major traffic losses have been experienced in general freight cargo.

The volume of international traffic was rather stable, but the civil war in the former Yugoslavia led to extended transport times and low reliability, with consequent diversions of traffic to other routes and modes.

The evolution of the OSE freight traffic is presented at the table below (derived from OSE annual statistics):

Table 4

Evolution of OSE freight transport (in thousand kilometer tones)

Year	*Total*	*International*	*Domestic*
1989	657295	375062	282233
1990	647210	410827	236383
1991	605845	373361	232484
1992	564410	375998	188412
1993	523770	349270	174500
1994	458320	324100	134220

[34] Hellenic Railways Organization, Annual Report 1999 p:24
[35] Ibid.

1995	387565	238805	148760
1996	349780	194040	155740
1997	331330	195350	135980
1998	322090	195770	126320
1999	347290	244405	102885
2000	426000	278700	147300
2001	379490	242900	136590
2002	326630	170600	156030

Source: Hellenic Railways Organization Annual Reports 1989-2002 (developed by the author)

The average length of freight transport carriage journey was 176km in 1985, declining to 154km in 1993 and to 142km in 1999.[36]

Later on, a slight increase is observed due to some annual contracts with particular customers, but the quality of services was poor and over a period of two years, most of the contracts were not renewed.

The container traffic is served with special InterContainer trains almost exclusively for international operations. The volume of goods transported in containers rapidly increased between 1980 and 1990 from 15000 to 174000 tones, and rapidly declined to 60357 tones in 1998 and even more in1999 to 36541 tones,[37] a 39.5% decline from 1998 to 1999. The main reasons for this decline were: firstly the war at Kosovo, forcing trains to bypass Yugoslavia and instead to go through Bulgaria and Romania, increasing transport costs by about 40%. Secondly there was the weakness to operate trains on a daily basis, along with the low quality of services offered and thirdly the strong competition from the road transport, having the competitive advantage of being flexible in tariffs' adjustments to the market demands.

Unfortunately, the management of the company has not yet designed any particular policy for attracting freight transport.

[36] Hellenic Railways Organization, Annual Report 1999 p:26
Hellenic Railways Organization, Annual Report 1993 p:24
Hellenic Railways Organization, Annual Report 1985 p:24

2.3.7.1.2. Stations

The busiest stations regarding domestic traffic are Plati, Komanos, Vevi and Thessaloniki. For international traffic the busiest stations are Thessaloniki, Thessaloniki Dialogis, Athens and Komanos.

2.3.7.2. Characteristics of the competitive modes

2.3. 7.2.1. Road Transport

The main competitor is road transport operated by privately owned trucks. The market's needs are covered by the "Public Use" – ΔΧ - trucks (for any type of cargo) and by the "Private Use" – ΙΧ –car (for personal needs).

In Hellas there are about 42,000 trucks for public transport offering a capacity of 300,000 tons net cargo weight. In addition there are 750000 trucks operating for private transport.[38]

The Privately owned truck fleet has increased by 10% per year from 1972 to 1999. The respective rate for public trucks was only about 2.5% as this segment of the market is regulated by the State (for entry and exit to the market and geographical area of operations).[39]

In addition there are trucks for international transport (TIR) which represent only 0.7% of the total fleet (about 5000 trucks).[40]

Only 3% of the existing enterprises have more than 10 trucks.[41]

Tariffs for domestic public freight transport are determined by the Ministry of Transport with a minimum base to ensure fare competition and a maximum base to limit any excess drawn from a monopoly position. These limits are very often desecrated.

Tariffs do not depend on the type of goods transported but on the type of vehicle used. The average Athens to Thessaloniki tariff is today about 200000 GRD, approximately 600 Euros, by vehicle used.

In international transport there are no basic tariffs. Transport is charged according to market conditions based on demand for transport, supply of

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[37] Hellenic Railways Organization, Annual Report 1999 p:24
[38] National Statistics Office (ΕΣΥΕ), Transport Statistics 2000
[39] Ibid.
[40] Ibid.
[41] Ibid.

vehicles, type and quantity of goods, type of vehicle and period of transport. Road transport benefits from the low to zero infrastructure costs, from the limited controls on the tariffs and the quite liberal operating characteristics of trucks in Hellas.

2.3.7.2.2. Air Transport

Airfreight volume is low and confined to the major domestic routes. The total freight transport of Olympic Airways (national air carrier), international and domestic, in 1989 was about 98500 tones-km, with an average increase of about 8% per year until 1991 that was 114000 tones-km (85% on Athens-Thessaloniki route). Since then, a reduction of 7% per year has been observed till today.[42]

2.3. 7.2.3. Sea Transport

Sea freight transport is complementary to rail rather than competitive, except for some coastal bulk liquid traffic (oil and petroleum products) and dry bulk cargoes.

Lately, Hellenic Governments and the management of Hellenic Railways and the main Hellenic ports as Piraeus, Thessaloniki, Patras, Alexandropolis, have started extensive discussions aiming to plan a common policy for developing cooperation between railways and ports.

2.3.8. OSE Freight Business SWOT Analysis

Strengths

-established position as carrier of bulk goods for big clients
-well-known national organization.

Weaknesses

-poor reliability, mainly because of traction problems
-limited possibilities to expand operations due to technical constraints
-dependence on the road transport for the collection and delivery of the most consignments

[42] National Statistics Office (ΕΣΥΕ), Transport Statistics

-terminals and depots not conveniently located
-few private sidings
-single-line and steeply graded sections limit capacity
-the different gauges limit potentials for transit between Peloponesse and elsewhere on the network
-low quality service
-no marketing policy for being aware of the customers' needs and thus to improve the services.
-inefficient organization .

Opportunities

-main line upgrades
-potential cost savings, permitting the offer of competitive freight rates, whilst still reducing deficits
-developing combined transport techniques e.g. swap-body vehicles to facilitate road/rail transfers.

Threats

-the severe road competition depresses the rates charged
-the crisis in former Yugoslavia extends transits and reduces reliability
-the reduced volume of traffic limits potentials for forming block trains, further reducing quality of the service-offer
-high costs and low productivity lead to deficits if the freight rates offered are similar to those offered in the transport market
-the offered freight rates, if calculated in order to cover present costs, will not be acceptable any further to the market, leading to further loss of traffic.

2.3.9. Parcel Transport

2.3.9.1. General Information on OSE parcel services

The parcel services of OSE are managed as a part of the freight function. Passenger trains carry express parcels or there are specific parcel service trains while other parcels are carried in wagons. The international express service is called "Colis Express". Domestic parcel services are conveyed on

ordinary trains and excluded so far from InterCity trains.

Consignments up to 200kg are received at passenger stations, in the "parcel office". When above that weight, they are received at the freight station. Consignments above 3 tones are handled as full wagonloads.

In 1998 part loads and express parcels carried by OSE amounted for about 311,000 consignments, corresponding to 13300 tones and 4.3 million tones-km. These figures represent 0.37% of freight tones and 0.43% of tones-km carried by OSE nationally.[43]

Express parcels contributed 85% of domestic receipts and 95% of domestic consignments in 1998, which reflects the higher unit price of high value express parcels and the smaller size of express parcel consignments.[44]

Since 1983 there has been an overall decline in parcel traffic. This decline is predominant in the international and non-express domestic traffic. Domestic express traffic has maintained its volume, with some growth till the mid 1980's, but decreased in the recent years due to the rapid growth of the competitors.

2.3.9.2. Characteristics of the competitive modes

The potential competitors of OSE parcel services are couriers, road hauliers, air transport, the Post Offices and the buses.

The services of OSE compared to the competitors are considered quite competitive as they offer cheaper service than road haulage, especially for large parcels and daily delivery, which can only be achieved by air or bus. Parcels of all sizes can be accepted, which is not the case for couriers who are the most obvious competitors.

However, improvements to the motorways will allow the competition from road hauliers to be accelerated, increasing the distance covered in the same day delivery by trucks.

However, there is not expected any development of the OSE parcel transport services. On the contrary, day by day the numbers of trains that can accept parcels are eliminated. Management is mainly concerned about passenger

[43] Hellenic Railways Organization, Annual Report 1998, p:19

transport services and ignores the opportunities offered by the liberalization of this market and the competitive advantages that railways possess.

2.3.9.3. OSE Parcel Business SWOT Analysis

Strengths

-Rail serves most major centres of business
-Established and well-known organization with obvious points of contact
-Pricing policy generally competitive
-Minimal time required for formalities especially compared with air
-Wide range of sizes/weights accepted

Weaknesses

-Handling of heavy consignments is expensive and extends transit times
-Closing times of goods depots is too early for the typical hand over times from customers
-On main routes, low frequency of non-Inter City/conventional services to convey express parcels
-Same day door-to-door service generally not possible between main centres
-Complex tariffs compared with competitors

Opportunities

-Use of Inter City services would make useful same-day transits possible between main centers
-Investment to accelerate Inter City service would benefit parcels business
-publicity and marketing of services could be build on a pre-established position
-likely increase in demand for urgent high-value consignments as economy expands at the services sector

Threats

-Unless Inter City trains are opened to express parcels, frequency of available services will reduce as more trains are converted to Inter City
-The high costs of part-wagon load operation is not accepted to be passed on

[44] Hellenic Railways Organization, Annual Report 1998, p:19

the customer

-Depressed and unregulated road haulage industry undercuts rail traffic

-Road transit times potentially reduced by investment in motorways and other road improvement schemes.

2.3.10. Human Resources

After viewing the passenger, freight and parcel transport performance of Hellenic Railways, the human resource factor has to be examined. Human resources always determine the current face and the prospects of an organization, especially, when a reorganization process is going to be examined and further more its effective application is basically based on the human element.

2.3.10.1. General Information on OSE Human Resources

According to the organisational scheme, the theoretical number of employees in OSE amounted to 14024 in 1994 and 10336 in 1999. In reality 11591 employees worked for OSE in 1994. The effective numbers was of 14555 in 1987, showing a decline accumulated from 1990, when the government asked the Public Companies to stop recruiting. Today the rule is to employ one employee for every three retirements and the total number of employees is about 8900.[45]

The majority of the staff in 2002 was between 35 and 55 years old (9081 employees, 8617 men and 464 women), and the retirement rates increase, as about 2050 employees over 50 years.[46]

There is no management by objectives for the work force. Any modification in the organization chart should be submitted to the General Manager and the Ministry of Transport, despite the 1970 Royal Decree stating that OSE is allowed to manage its personnel policy.

The staff is mainly promoted by seniority, up to the level of sub-chief engineer

[45] Hellenic Railways Organization, Annual Report 1999, p:54
Hellenic Railways Organization, Annual Report 1994, p:35
Hellenic Railways Organization, Annual Report 1987, p:28

or supervisor, but the Government, according to political criteria, names the top management and some executives. This system cannot enhance staff productivity, which is quite sure that benefits from pay raise every two or three years, regardless its productivity.

2.3.10.2. Qualifications & Status

About 34 different railway professions have been listed since 1970, without any job description. The system is complicated and in general, it does not allow any easy distinction of hierarchical levels, ranks, functions, specialties, etc.

The possibilities for staff promotions, according to education and qualifications, are roughly divided into 4 levels. Each level comprises 16 positions, reached automatically every two or three years and the salary increase from the first to the sixteenth level is about 60%. For the senior executives, there is a special salary policy.

The staff is paid over 14 months, with extra payments according to the number of children, the working conditions, etc.

2.3.10.3. Staff education and training

About 4% of the whole personnel hold an academic degree, 4% holds a higher education degree, and 27 employees, only, hold a postgraduate degree and about 50% have taken secondary education.[47] This distinction is appropriate, as it is easier to train employees having a secondary level degree, in order to take a different job responsibility.

The capacity of staff to deal with difficult cases, organizational changes, managerial and financial subjects, etc, is very limited and only the mobile personnel can cope with its responsibilities, since as soon as it is hired, takes particular professional training (further discussed in chapters 8 and 9).

However, further to chapters 8 and 9 is extensively discussed this issue, making long reference to possibilities improving human resource

[46] Hellenic Railways Organization, Annual Report 1999 p:55

management and managing resistance to change problems.

2.3.10.4. Unions

There are 17 unions, represented by one confederation, even though they can be represented and bargain independently.
Two elected members of the unions participate on the Board of Directors, which meets twice a month.
The unions are characterized by maturity and a positive predisposition to support the changes, which would contribute to OSE economic efficiency, but they are very sensitive to protecting the interests of personnel, especially the assurance of employment.

No matter how low or high the academic level of employees, the problem is that there is no stated human resource policy and personnel management is determined by politics and personalities developed in the organization. In addition, Hellenic Railways lack a company identity, staff motivation and training policy in order to familiarize staff with current railway industry trends, with "change management" needs, with basic knowledge for responding to their day-to-day responsibilities, and of course the way that can contribute to the reorganization of the company.
In parallel to the human resources an analysis to the organizational structure of OSE is demanded for the needs of this research in order to identify the elements that should be redesigned and reorganized for hypothesis testing.

2.3.11. Organizational Structure

2.3.11.1. Organizational Structure of OSE (see appendix 8)

The top management of OSE consists of a nine-member Administrative Board, including the President and the Managing Director. Two out of the nine members are employees' representatives, elected directly by the personnel. The government appoints the other five members.

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[47] Hellenic Railways Organization, Annual Report 1999, p:47

The Managing Director has five assistants, the General Directors.

The top management level includes a Management Council, which consists of the Managing Director and the five General Directors. The Management Council has the power to decide on certain issues provided by Presidential Decree 59/85 (e.g. expenditures between 50 to 200 million GRD that is 145.000 to 590.000 Euros) and issues delegated to it by the Managing Director. It may also give advice on any issue the Managing Director wants to have their opinion.

The organisational structure is based on a geographical and functional distribution of responsibilities.

There are 19 directorates and 9 autonomous services, which report to the Managing Director either directly or through the General Directors. These 28 organisational units are further divided into 107 departments and services.

In the OSE the span of control is wide at the top and narrow at the base, whereas the opposite would be more effective. A lot of co-ordination problems between the directors and the various hierarchical levels, as well as communication difficulties, are raised due to the above mentioned weakness. This fact contributes to the dispersion of responsibilities and the reduction of effectiveness.

2.3.11.2. Management Control

The concentration of the power is limited to two levels. The State delegates minimal management autonomy to OSE, since the decision making power is concentrated to the top management, mainly appointed by the Government.

Managers do not have authority and responsibility for crucial matters, such as recruitment and personnel policy, sales, budget, and services design. For example, fares are set by the State and the special sales are examined by the Administrative Board.

The rolling stock investment plan needs annual Government Approval given on a project-by-project basis and not for the whole program. Integrated business plans have not been elaborated in the past. Similarly there were no action programs or specific goals set at any level. The first business plan was

elaborated in 1998. Since 1973 there was elaborated only a fifteen year investment plan. The last investment plan set goals for the period 1999-2004. Regarding the human resource planning can be easily said that there is no manpower planning system and there are no effective incentives (financial or other) systems. The existing personnel appraisal system is not modern (as it is not based on targets and results) and it is not connected with remuneration and training. Moreover the recruitment system is established by the State, using traditional methods of personnel selection, such as tests, interviews, etc.

The use of modern management systems for Human Resources would contribute to the creation of a stable and sound communication framework with the unions and the Federation and to the development of the internal aspect of the social character of OSE.

Of equal importance is the lack of an effective information system at all levels and especially concerning the management.

2.3.11.3. Adoption to the European Directives

The 91/440 Directive demands the separation of infrastructure from operation, which is realized in the OSE accounts at a minimal and very typical level.

The public service activities, susceptible of State subsidies, and the commercial ones that should be profitable, are not clearly separated.

Even if access to the railway networks is liberalized according to the E.U. Directive 95/19 there is no interest from any private investor[48], at least at the moment. However, the OSE in co-operation with the State has to estimate the charges for the use of the network, and the charges for the track access in case there is any interest (E.U. Directive 95/18).

There are no units with organizational identity and budget that act as business centers. There are too many small regional units, which will make the adoption to the directive difficult, especially the management of the infrastructure activity by OSE if no changes take place.

The Public Service activities require a good knowledge of the costs and services involved. The transport operator must clearly define all the operating functions (e.g. traffic, safety) so that they can be budgeted separately.

2.3.12. General Comments

This diagnostic report has provided a detailed description of the current operation of the Hellenic Railways and will be used as a tool for the analysis of the Hellenic Railway System.

The identified strong points will be used for building up the basis of its future policy, along with its developing points that have to be encouraged and supported and its weaknesses that will have to be reformed.

Specifically, regarding the *general operating environment of OSE*, it possesses some strong points:

* Greece is the door to Europe for some developing Eastern countries

* The Athens-Thessaloniki axis offers a satisfactory rail service and is continuously upgraded.

* There is a railway tradition in Hellas and the railway assets (and particularly its property and its location along the main corridor of the country) are potentially promising.

However, OSE faces some difficulties:

* Hellas is a mountainous country, surrounded by sea, with low density of population, which does not favour the development of public transport.

* OSE network is not homogeneous as some regions are not served by rail. In addition two different gauges coexist.

* the recent war in former Yugoslavia, closing the route through the country, contributed to the decline of the OSE's international freight market share.

As far as the OSE *technical aspects*, starting with the *infrastructure,* emphasis has to be given to the following strong points:

* OSE has started to modernize its lines, targeting to increase up to 60% the length of double track on the Athens-Thessaloniki section

[48] Hellenic Railways Annual Report 2002, p.1

* The new constructions will give OSE the possibility of using modern fixed assets, with upgraded infrastructure, improvement of the speed and the safety.

Among the weak points, we have to point out:

* The infrastructure investments are limited to particular areas of the network
* The great number of level crossings and the general lack of safety equipment (e.g. nets against stones falling) cause safety problems in the operation of infrastructure
* The non-homogeneity of the track equipment and other infrastructure components
* The lack of capacity of the network
* The insufficient maintenance, due to lack of specialized labour and capital, leading to extra costs and delays
* The lack of modern data processing systems to help the design of works and maintenance
* The delay in the supplying procedure, because of the insufficient use of modern computerized systems, the huge variety of materials and the too great dependence on governmental authorization.

For the management of the *Property,* responsible is the subsidiary (GEAOSE), which first of all is understaffed, it does not have any effective information system and it does not communicate with the other departments that are involved in the property issue of OSE.

Many individuals, municipal authorities and others are taking advantage of the OSE weakness to protect its property and often are occupying it.

OSE has to be more effective in its effort to protect and manage its property by exploring the possibilities of generating additional revenues by utilizing its property in a profitable way. A first step towards this could be the organization of the directory of its fixed assets and the evaluation of them.

As far as the *Operation* of the railway services, it seems that the OSE is able to get satisfactory results in some fields such as the efficient operation of Inter City trains on the Athens-Thessaloniki line.

Some regional trains, equipped with modern rolling stock, are also quite commercial, from a technical point of view (e.g. Thessaloniki-Alexandropolis).

OSE should develop appropriate market policies for further improvement of operations.

Regarding *Rolling stock,* OSE has made a big effort to modernize its standard gauge fleet and the metric gauge fleet, to a limited extent.

There are projects in progress upgrading some metric lines to the standard gauge (e.g. the Athens-Patras line).

The weakest points of the rolling stock are the following:

-the fleet is heterogeneous, because of the two different gauges, but also because of the existence of too many suppliers

-the procurement procedure is not efficient, giving rise on the one hand to an excessive stock of obsolete and unsuitable spare parts and on the other hand to a shortage of spare parts indispensable for the maintenance of rolling stock. The main reason is the very long time elapsing between the order and the delivery of spare parts,

-due to the above reasons the breakdowns are numerous and the reliability of operation is poor

-the depots and yards, in certain areas, are in general decayed and too numerous

-the role of the Commercial, Operating and Rolling Stock functions is not clear regarding the definition of investments and the distribution of the rolling stock

-the Rolling Stock department is not solely responsible for the maintenance and the spare parts management which is the cause of the delays

-the depots and workshops are not managed with efficient rules, strict contracts and clear objectives.

By examining the Commercial aspects of OSE, it was observed that even though the development of the European railways as the most environmental friendly transport mode compared to the others, highlights a new era for railways, OSE, the last decades, has lost a lot of their market share because of changes in market and traffic demands, such as the increase of income and of car ownership, the obsolesce of the rail network and the closure of the Yugoslavian border, (one of the main routes to Western Europe).

Until now the State subsidized railways, being indifferent to the competition between road and rail (low subsidies = weak position of railways), but the State, is no longer obliged to balance this competition.

Some evolutions modified the problem:

-car and bus transport have developed, competing with OSE passenger transport,

-trucks have increased their productivity, partly because of the improvement of the road network,

-E.U. has set new rules asking for the elimination of public services subsidies.

In this context, OSE freight and long distance passenger transport will have to be competitive, but neither the State, nor OSE have taken any action to this direction.

In more details, as far as *passenger transport*, the last decade is increasing by 1.6% annually. From September 1989 the increasing use of modern rolling stock improved travel times mainly at InterCity services. The improved travel times, mostly on the route Athens-Thessaloniki, increased considerably the demand for this route giving clear evidence that passengers are willing to respond positively to any improvement and there is a friendly railway culture easily enhanced.

However, the insufficient operating conditions, still keep OSE to an unfavourable position in the transport market. The long journey times, the delays, the lack of modern rolling stock and the high operating costs resulted, as for many other railways, in the loss of their market shares, generating the most railway problems, demanding urgent action for change and being the basis for current railway political decisions.

The peripheral location of Greece in Europe does not favour the international rail exchanges and, furthermore, the closure of the route through former Yugoslavia had a negative impact on OSE international traffic. Alternatively, Hellenic Railways could have a dominant position in the Balkan railway transport since it is connected to the largest ports, operating as exits to south Mediterranean Sea and to the Middle East.

There is a need for a new pricing policy in accordance with the new network performance, provided that the Ministry of Transport will give OSE some freedom.

The main stations are small and decayed with limited capacity, unable to satisfy passenger needs. There is no connection between the two Athens passenger terminals, making correspondences very difficult.

OSE operates in an open market economy. However, OSE does not proceed with publicity campaigns based on marketing methods, in order to inform its actual or potential customers about the offered improved services.

As for the *freight transport*, domestic freight transport from major clients provides the largest part of domestic transport. However, some of these clients stopped their cooperation with OSE due to the insufficient services offered. Transport of general freight has been declining steadily. International and transit freight used to provide the largest part of freight transport, the volume of goods carried in containers was increasing, and the international traffic was stable before the crisis in former Yugoslavia.

The OSE freight transport suffers from an uneven demand due to seasonal traffic and due to unfair road competition that does not pay the cost of the infrastructure use.

The location of freight terminals is, in some cases, inappropriate to support traffic flow while the services provided to clients are also poor. Some important potential origins and destinations are not served directly by rail (e.g. Ikonio).

Overall transport times, in many cases, are too long as the opening hours of terminals and offices do not care much to customers` demands and there is a lack of siding, for major potential customers in areas of freight activities.

The delay between the order and the provision of wagons is too long.

Road delivery to or from the terminals is not efficient.

The use of new techniques and modern equipment for container handling is not developed enough.

The pricing system is complicated, especially for small clients and it is not adapted to competition, especially on routes on which the train can be competitive.

The reliability is poor mainly arising from low availability and frequent failures of locomotives.

There are no appropriate marketing policies and procedures developed for identifying clients' needs, in order to adjust offered services to them. The implementation of a marketing policy presupposes the technical ability to offer high quality of services at reasonable cost.

The freight activity is not profitable, but the State, unlike for the road transport, directly covers only 45% of the infrastructure expenses.

And finally the *parcels services,* which are offered at very competitive prices, especially for large parcels, which is not the case of some competitors, should be promoted and widely advertised.

The lower costs and added value of the express parcel service suggest that a favourable contribution of revenue to costs can be made especially for the domestic traffic.

The profitability of the parcel activity is difficult to be estimated as there are no detailed and recent statistics available, especially about the cost of the service.

Further to OSE *organizational aspects,* starting with its *human resources,* most of the staff is proud to work for OSE and willing to cooperate with management.

But the framework of human resource management at OSE is similar to that of the public sector, with a tight control from the State and with a lot of political and syndicate influences in all hierarchical levels.

Manpower planning, related to the mission of OSE is missing, and the personnel distribution at the various specialties, functions and geographical areas is not always based on rational criteria. There is a particular shortage of marketers, transport economists and management specialists.

There is no evaluation system of the managerial work based on objectives and results, and there is no clearly defined "career path" or "managerial development" program based on foreseeable future needs. The evaluation criteria (health, intelligence, morality, psychological situation, managerial qualifications, and professional qualifications) do not meet the needs of a

modern and effective evaluation system. The remuneration system is based on qualifications in terms of academic degrees and seniority.

The information system of personnel administration has been developed to a limited extent and cannot be a tool for effective management.

And finally, from the *organizational structure analysis*, seems that OSE is basically acting as a construction entity than as a market oriented organization. In parallel, its present organizational structure corresponds more to an entity of socio-political character, serving the socio-political aims of the Hellenic governments, raising serious considerations for the methods that have to be followed in order to monitor the E.U. policy effectively.

However, given the objectives of transforming OSE into a financially and socially competitive and profitable company, its current organizational structure is poor and inadequate.

The main strengths of the organization of OSE are:

-there are procedures that ensure the typical control, the legality and the predictability of behaviours and functions

-well-defined delegation of authority

-there is a formal participation of employees, through representatives, in the Administrative Board

-a lot of managers and staff are devoted to OSE and the overall climate is positive

-the personnel are conscious of the external pressure as well as of the need of restructuring.

The main weaknesses of the organization of OSE, and their consequences are:

-no clear defined vision, mission and objectives. There is a lack of orientation towards the market needs and profitability, leading to low morale, lack of control, responsibility of results, clear orientation and direction

-there is bureaucratic state intervention and restrictions on strategic, commercial, human resources, financial, investment, purchasing issues. The top management is appointed by the government. The relationship between OSE and State is not clearly defined and ineffective, leading to low adaptability to the changing environment conditions, to a lack of managerial

autonomy, to social-political influences and orientation, to a lack of accountability of results and to a low level of quality and productivity

-there are a lot of functional and regional organizational units ; there is a lack of crucial functions as costing, statistical analysis, communication, marketing, sales; and there is a wide fragmentation of functions and tasks, leading to a structure without any market orientation, with functional overlaps, co-ordination problems, low responsiveness to business environment, low competitiveness and small market share

-there is large span of control at the top and narrow at the bottom, leading to inflexibility, co-ordination and control problems, communication difficulties and high costs generation-the decision making is very centralized (managing director and general directors), leading to low responsiveness to the market needs and to lack of managerial control and accountability

-there are poor co-ordination mechanisms and a lot of functional overlaps, leading to malfunctions, ineffective decision making and high operating costs

-there is poor MIS system, ineffective Human Resource Management system, lack of adequate corporate planning and bureaucratic budgeting, leading to low effectiveness, lack of managerial capacity, poor decision making and lack of control of results-there is no customer, profit and market culture, leading to low motivation, ineffective behaviour, low quality of services and high costs.

2.3.13. Conclusion

Subsequent to this detailed diagnostic report regarding the organization elements of the Hellenic Railways, the main weaknesses of the OSE organization and their main consequences are identified:

WEAKNESSES	CONSEQUENCES
VISION-MISSION-OBJECTIVES -Not clearly defined -Lack of orientation toward the market needs and profitability	-Low moral -Lack of control and responsibility for results -Lack of clear orientation and direction

INSTITUTIONAL FEATURES -Bureaucratic state interventions and restrictions on strategic, commercial, human resources, financial, investment and purchasing issues -Top management appointed by the Government	-Low adaptability to the changing conditions -Lack of managerial autonomy -Social-political influence and orientations -Discontinuity in management -Lack of accountability for results -Low level of quality of services and productivity
BASIC STRUCTURE -Many functional and regional organizational units -Lack of crucial functions such as communications, marketing, sales, etc -Fragmentation of functions and tasks	-Structure with no market orientation -Functional overlaps -Co-ordination problems -Low responsiveness to business environment -Low competitiveness and market share
SPAN OF CONTROL -Wide span of control at the top -Narrow span of control at the bottom	-No flexibility -Co-ordination and control problems -Communication difficulties -Cost
POWER-AUTHORITY DISTRIBUTION -Centralized decision making (Managing Director & General Directors)	-Low responsiveness to market -Lack of managerial control and accountability -Inactivity
COORDINATION -Poor co-ordination mechanisms -Functional overlaps	-Malfunctions -Poor decision making -High costs
MANAGEMENT SYSTEMS -Inexistent MIS -Ineffective Human Resources Management Systems -Lack of adequate corporate planning -Bureaucratic budgeting	-Low effectiveness -Lack of managerial capacity -Poor decision making -Lack of control on results
ORGANIZATIONAL CLIMATE & CULTURE -Insecurity, low morale -No "customer", "profit" and "market" culture	-Low motivation -Ineffective behaviour -Low quality of services -High costs

The OSE ineffective internal organization along with the heavy bureaucratic system determined by its administrative structure and the state intervention are forming severe barriers to the demanded reorganization by the European railway policy.

The way that the Hellenic railway system is currently operating is not progressive, since there are not stated any clear objectives and strategies, meaning that while testing the hypothesis of this study, basic strategies and

objectives for the operation of OSE shall be proposed.

Based on these company objectives will be developed the appropriate organizational model, incorporating the reorganization elements of the E.U. railway policy and giving to the Hellenic Railways a real mission and vision for its future development.

The following chapters will develop a literature review and methodology which is consistent with the demands of EU rail reform strategy. Specifically this is to be employed in order to develop a managerial response to the task of network re-structuring, given the need to respond to the organizational restrictions identified in this diagnostic report.

Chapter 3

Methodology & Literature Survey

3.1. Introduction

Following the diagnostic report provided in the previous chapter, identifying the strengths and weaknesses of the Hellenic Railways, it becomes evident that in principle the organization of the Hellenic Railways system has to change. What is concluded by this diagnosis report is in line with the E.U. observations for the European Railways. These observations underlined the urgent need for solutions that led the E.U. to propose a number of changes. Given these, the aim of this research is to find an academically accurate and practically effective way/model to organize Hellenic Railways. This is in order to move ahead in a modern administrative and operational organization.

So, the hypothesis of this research is to examine whether the proposals of the E.U. Directives for the development of the railways can be successfully implemented by Hellenic Railways, in order to overcome its problems.

The basic aim is to investigate the possibilities of optimising the operation of the Hellenic Railway System through the development of a new organizational model, which will adopt the proposals of the European Union and will give to Hellenic Railways the flexibility and effectiveness needed for its recovery.

Moreover the policies followed by the other E.U. member-states and to the extent that these can be implemented by the Hellenic Railways will be evaluated.

In order to evaluate the hypothesis the overall objectives of this research are:

a. To present the historical developments of the Hellenic Railways, regarding their administrative and ownership status (public-private enterprises, investments, deficits, the role of the workers, etc.).

b. To evaluate the transport environment in Greece and the railway's competitors.
c. To examine the current administrative and organizational structure of the Hellenic Railways in order to identify changes needed.
d. To analyze the European Transport as it is presented in the Treaty of Rome and in the respective Regulations and Directives.
e. To study the development of the European Railway Transport Networks and to evaluate their contribution to the aims of this study
f. To study and evaluate the railway policy of the European Union Member-States.
g. To examine the possibilities and the methods that the European Union Legislation can be adopted by the Hellenic Railways.
h. To analyze and evaluate the operation of the Irish and Portuguese Railway Networks, which are at a similar situation to the Hellenic Railway Network and to identify positive actions that can be also followed, or negative actions that should be avoided.
i. To gather and assess the views of the stakeholders, on the European railway reorganization process
j. To study and analyze what the managerial theory for transport services has to provide to the design of administrative models and to organizations' reorganization.
k. To investigate the possibilities of improving the Hellenic Railways operation and to propose respective strategies and policies.
l. To examine whether and how a new administrative reorganization of the Hellenic Railways could contribute to their renaissance, and finally to propose such a model.

Objectives (a), (b) and (c) are met at Chapter 2 forming a working basis for this research, identifying the weak points of the operation of the Hellenic Railway System, noting which ones need to be redesigned and reorganized and which ones should be abandoned. Also with the extensive SWOT analysis of all railway activities provided the strong points of the Hellenic

Railway System were recognized. These which will constitute the basis for the required reorganization.

Chapter 4 meets objective (d), proving essential for this study since it provides the necessary issues for the familiarization with "what Hellenic Railways have to do" and what "E.U. is expecting by E.U. Member-States to do". Here are recognized the rules that OSE has to adopt and consequently the basis for testing the hypothesis of this research for their proper adaptation for gaining an effective OSE operation.
The objective (d) is strongly supported by objectives (e), (f) and (g) which in reality is the transfer of the theory/legislation into the practice.
The detailed analysis of the experience of the E.U. Member-States and E.U. railway networks, brings this study closer to its basic aims, since the evaluation of available experience leads to a classification of cases, to a grouping of advantages and disadvantages, what for example "small networks do" or "strong networks do" and building this research gradually supporting hypothesis by testing the effectiveness of the E.U. policies at other networks and member-states.

Objectives (e), (f) and (g) are further supported by objective (h) in Chapter 5 which is testing even further the effectiveness of E.U. policies and legislation as they are adapted to a group of railways similar to OSE, the Irish and the Portuguese.

The views of the stakeholders are summarized and evaluated at Chapter 6, by meeting objective (i).

So, by concluding, in Chapters 4,5 & 6 are identified the steps that OSE and Hellenic Governments have to follow and the experience of others is evaluated, leading somehow to obvious conclusions and shaping the pillars for the most preferable policy that should fit to the OSE current status and profile in order to be seen effectively reorganized.

Additionally, there is a need for theoretical and academic support of the policies tested. That is to say what is recommended by the existing managerial theory. This need is met at Chapter 7 by objective (j) where the study of the managerial theory will support the hypothesis of this research by providing the theoretical basis for designing administrative models and reorganizing organizations. It is also providing guidance to the design of the new OSE administrative model, bringing this study very close to an "effective" outcome, protecting designer from wrong policies or proposals that might have been designed since managerial theory reflects the outcome and conclusions of the systematic examination and analysis of the practice in "managing companies".

Then the basic aim of this research is finally met at Chapters 8 and 9 with objectives (k) and (l) contributing to the knowledge with a new administrative model for Hellenic Railways and in general for European Railways that are geographically isolated, that lack investments, that have financial problems, that operate a small railway network but are willing to survive and to be reorganized entering proud into the transport competition.

3.2. Types of research & research approaches

The above mentioned variety of objectives demand different types of research. Also wide is the variety of resources and methods used for extracting the needed information for each chapter in achieving the objectives of this research.

For this study the documentary or historical search sheds some light on the problem. Such a research does offer rewards, because it is determining the factors which have led Hellenic Railways to their current situation and also supports researcher providing some background information helpful for setting the stage for current action.

The observation and the experimental procedure, in this case contributes to the researcher's work by means of examining and analyzing the policies which have already been practiced in other European Union Member-States.

Interviews are valuable tools for this study, since the view, the knowledge and the experience of the railway administrators, the scientists and the politicians involved in their operation, are the basic indications for the policy implemented for the Hellenic Railways recovery.

But, for the design of the new administrative model of the Hellenic Railways, there is not any suitable model available, so it has to be developed by the author.

The model will provide a basic managerial system and an internal organization of the Hellenic Railways by applying the current E.U. railway directives and adopting the positive effects of other models used for the development of the flexibility, independence, competitiveness and viability of OSE.

The model apart from the above mentioned characteristics that are needed, has to be designed in a way that all future changes that have to be done either because of changing demands of customers, or changes in the European or National Railway policy, can be adopted rapidly and without affecting the general operation of the company.

The most common form of organization, increasingly used, is the matrix organization. The matrix management really represents a compromise between functional and product departmentalization.

When matrix organizations are dealing with more than two dimensions (project or product/service) then we have to do with multidimensional matrix organizations. The most common third dimension of a matrix is to superimpose over the product/service and functional departments a market manager or/and a brand or product/service manager. This is mostly the case of companies that are providing the market with consumable goods, having a big number of established products, serving various segments of the existing markets.

In some cases it has been found that even three dimensions are not enough and then a four dimension matrix organization is used, called organizational model[1]. "Business" managers and geographic area managers are overlaying functional and/or product/service managers. Then, the establishment of "business boards" is also necessary along with a "management by objectives" managerial program.

The use of "business" managers refers to what is generally referred as "Strategic Business Units" (SBU)[2]. These are separate units in a large company assuring that a certain product/service or product line is promoted, handled and managed as though it were an independent business. Each SBU has its own mission and targets and develops and implements its own plans and strategies for its product(s)/service(s). Products/services do not get lost among other products/services in a large company, on the contrary they have the attention they need and if there are changes in the main policy of the company, they can be adapted easily and rapidly to the product/service. It seems that this organizational model fits best to the Hellenic Railways Organization as it is a big organization with a variety of services with different characteristics and customer target groups.

Moreover, special attention has to be given to the type of the product/service itself.

The distinction between a product and a service can be made on several points. A service refers to the satisfaction of human needs by facilitating certain procedures by caring for the maintenance and/or repair of living and nonliving systems and by attendance to other needs for basics and luxuries.

Moreover, services are intimately related to the persons rendering them and they are consumed in the process of being offered, they present unique distribution problems, because unlike physical products, they cannot be stored ahead of time for later consumption and they cannot be separated from those dispensing them.

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[1] Lichfield N. "Evaluation methodology of urban and regional plans: a review", Regional Studies, Vol4, p.151-165, 1970

[2] "Management", H. Koontz, C.O'Donnell & H.Weihrich, 1986

They are to a great extent perishable (empty seats in an train, unused beds in a hospital) and they do not lend themselves to extensive standardization, even though they are outputs of the same production system and display significant demand fluctuations on a seasonal, weekly or daily basis, calling for different approaches in the planning and control of production systems that are mainly service-oriented.[3]

Also, services have intangible nature and it is difficult to measure the output of a service business, to specify and measure objectively the quality offered.

Each one of the above mentioned characteristics applies to the railway industry. The services provided by railway companies are intangible, perishable in that they can not be stored, inseparable from the person of the seller, heterogeneous because they are lacking standard output and the use of the services does not result in ownership of the railcar or wagon.

When examining the operation of a railway company and designing its organizational structure in order to position it properly in the market, these characteristics have to be taken into account.

In planning a new strategy, a new business or a new service must start from the beginning; however, an established company may has to face a repositioning task if unsatisfied with its current position, if the position has become outdated or if the position has acquired negative associations – all three of which apply to this research.

The way the modeling of the railway system in Hellas will be designed is going to be developed by the author, as well as the new strategy of the Hellenic Railway Organization and the reorganization of OSE, as no suitable technique exists. However the methodology used basically is going to follow the guidelines of the Goal Achievement Matrix (GAM)[4] and the Frameworks[5] ones, but amended to fit with OSE objectives.

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[3] "Operations Management" K.N.Devritsiotis, Mc Graw Hill 1981 p:145

[4] Kucharzyk K. "A comparative critique of economic evaluation methods" MSc II Seminar Papers, University of Aston, 1977

[5] Clark D & Rivett B.H.P. " A structural mapping approach to complex decision making", Journal of International Operational Research, Soc, Vol 29, No2, p.113-128, 1978

The GAM makes simplifying assumptions. The matrix is a useful conceptual framework within which detailed assessment methodology can be developed. It is flexible, allows political weighting to be introduced, can accommodate any number of factors and can be varied in form so that any particular consequences can be emphasized.

Information for the frameworks was gathered through the above mentioned participation in meetings of the European bodies, a number of personal or individual interviews and visits to the European railway networks. In cases that interviews were taken, they were carefully structured and facilitated by an interview schedule format in a face-to-face interaction. After the interviews the discourse was analyzed, and the responses were incorporated in the analysis made.

However, very often the two approaches are combined in one study. This combination is often called triangulation. The divergent results can lead to enriched explanation of the topic and the use of different methods can lead to a synthesis or integration of theories.

In this study, triangulation of different methods will be used in order to increase the understanding of the examined topic. It is assumed that the information gathered from existing bibliography, involved organizations and administrators cover the research from different points of view and therefore complement each other.

3.3. Organization of research

The study, in terms of time spent, was carried out by 70% in Greece – Athens, where the basic installations and the headquarters of the Hellenic Railways are, 20% in Brussels where most of the European transport policy decision making bodies are situated and meetings about the EU transport policy are taking place and 10% at other European Union Railway networks, where travels were generated by the author, for gathering info for the needs of this study.

Being privy to insights and communications in Hellenic Railways for almost two decades a lot of practical information was provided. Also, the experience gained was fundamental for the correlation of the theory and the practice and for understanding how the E.U. Directives are interpreted in practice and how the new railway market environment can be formed.

Valuable was also the experience and knowledge gained by author's regular visits to Bruxelles and E.U. Member-States, participating to several committees, as an expert, both at employers and employees side. [e.g. Economic & Social Council(Transport Committee), European Transport Federation (Executive Committee & Women's Committee), International Transport Federation / European Transport Federation (Corridor project), United Nations – Economic Commission for Europe (Inland Transport Committee), etc].

Interviews and personal meetings with railway professionals and politicians took place in order to have a better description and understanding of the problems to be solved in this project, by providing additional experience, detailed, valid and reliable data.

Also, the regular meetings with railway decision makers and specialists in the industry supported significantly this research, since almost on a monthly basis through those informal interviews, meetings and open discussions, were extracted considerable views, ideas and experiences.

After all, the above mentioned contacts and views of experts, matched with author's views, experiences and long work on the subject, concluded to a valuable, but often unreferenced, knowledge.

So, the long period of work for the Hellenic Ministers of Transport, the global planning experience gained and the familiarity with the subject, lead to the initiative to start this research.

3.4. Background to the study

All the European Union member-states are currently experiencing the reorganization of their railways, through new legislation, through new administrative procedures, through several types of ownership, through deregulation, privatization, etc, driven by the demands of Directives 2001/12, 2001/13, 2001/14/EE.

However, since every network is a different case, it is rather difficult to experience the same model at each Member-State.

E.U. recognizing and accepting the differences between Member-States allows them to develop their own models, incorporating their national needs and only cares about the results.

Many Member-States have already entered their models into force, the European Commission has extensive reports of their operation, but there is not yet any study available commenting on the results and the accomplishment of the targets of the E.U. railway policy.

Specifically, in Hellas, the case has been somehow examined by the state and the railway organizations, but very limited, only to the extent that European Union's policies and directives have to be adopted by the national law. However, there is a big gap between theory and practice and neither Hellenic Railways, nor Hellenic Government has yet undergone any research in the field.

In general, in Hellas, research in the railway industry does not exist. The financial situation of railways does not allow any kind of expenses, apart from investments on the infrastructure and again studies are limited to technical and construction plans and they are not linked to any feasibility study or any further exploitation plan, not mentioning research for managerial and administrative needs.

So, yet there is no particular decision made, and no particular policy adopted for the Hellenic Railways Organization.

This research can contribute to the Hellenic Railways by offering a total view of its existing position in the market, underlying the strong and the weak

points and identifying further action. Additionally, it offers a clear analysis of what has to be done and which is the European practice.

The comparative study with the similar networks gives valuable examples and practical lessons of what should be expected to face by adopting particular practices, the advantages and the limitations of the systems adopted, how interested parties, i.e. governments, workers and public react to those changes, how is the new financial situation of these networks, etc.

The proposed model will be an attempt to mix all the existing theory and practice and to provide Hellenic Railways with a thorough study of what to know, what has to take into account and what has to do.

So, the hypothesis of this research will be tested in the framework of the applicability of the E.U. railway policy to the Hellenic Network, for an effective reorganization.

Then, this research can contribute to the Hellenic Railways renaissance context, providing the basic guide for its reorganization along with its extensive modernization program.

Moreover, it can be a useful guide for other railway networks of the countries of E.U. enlargement, or new candidates.

3.5. Justification of the study

The current period, could be characterized as a period of strong political, economical and social reformation and reorganization.

The European Union Member-States have entered to the process of deregulating and privatizing public entities in order to eliminate the public deficit and to restructure the European Economy.

Hellas has entered recently to that process, and for the moment, is at the stage of recovering the national economy. The situation seems to be very difficult since the public sector has been enormously expanded and civil servants account about the one third of the acting workforce.

Moreover the public owned entities, offering public goods, are too many and unprofitable. One of them is the Hellenic Railways Organization.

So, one of the objectives of this study is to search for the optimum ways to improve Hellenic Railways productivity and profitability. If possible to be self financed and to extract elements that can be adopted through the research and the evaluation of the E.U. experience.

By taking into account all the needs of Hellenic Railways, developing the appropriate model, this research contributes to knowledge by providing Hellenic Railways (and also to similar isolated poor networks) the basis of a unique administrative model for further use and/or development.
Moreover, this model is aiming to provide scientists and researchers the basis for further study and analysis, extracting useful information about the organization and administration of the modern railway networks and evaluating results of its application, subject to further development and amendments.

3.6. The progress stages of the research

In the first stage of the process was planned to meet the Managing Director and Members of the Administrative Board of the Hellenic Railways, as well as representatives of the employees' trade unions and after that Directors of various departments in order to be informed about the current structure and operation of the Hellenic Railways.

Similar meetings were scheduled for the second stage of the research, with the General Directors and Administrators of some of the rest European Railway Networks.

After examining the results of all the interviews, meetings, statistics gathered from the railways' annual reports and economic data, a full diagnosis of the current situation was developed.

It was necessary to go further, by analyzing the E.U. policies, directives, regulations, etc through an extensive research in the E.U. bodies and the available documentation, getting a first idea of what E.U. wants and what Member-States have to do.

This step is of vital importance for this research, since has to be tested whether the E.U. regulations can be successfully adopted by Hellenic Railways. The experience of the other E.U. member-states and the views of the stakeholders contribute to this investigation by identifying elements of success and points that can be adopted by Hellenic Railways or being discouraged of using them.

Then, through a detailed literature review and by using the outcome of the proceedings of the meetings of the E.U. decision making bodies attended, and the views and ideas extracted from the interviews of the General Directors and Administrators of some of the European Railway Networks (Belgium, Denmark, Finland, France, G.Britain, Germany, Italy, Netherlands, Portugal, Spain, Sweden), will be presented the most sound policies of the EU Member-states that might be helpful to the design of the Hellenic Railways administrative model.

By concluding with the E.U. member-states experience in terms of railway polices adopted, it is useful to go further into a detailed examination and comparison of the similar to Hellenic Railways networks, the Irish and the Portuguese.

This comparative study will be extended to the organizational and administrative policies followed, as well as to the operational results of those policies, contributing fundamentally to the identification of some strong and weak points of the policies followed, offering clear evidences about the contribution of E.U. railway policy to the rejuvenation and effectiveness of the European railway system.

Their examination and comparison will offer this research viable information of what is going and what is expected to happen as the Portuguese have adopted EU regulations, since 1999. Through this comparison, along with the conclusions of chapter 4 and chapter 6, will be pictured in detail the current railway environment and all actions that have to be taken, or avoided.

Nevertheless, this research needs a complementary theoretical foundation on managerial principles, for ensuring that the proposed practice/model is on line

with managerial theory and the basic managerial elements have been incorporated and used at an optimum level.

So, in this last stage of this research, a theoretical analysis of what has to be done, follows, by investigating in the existing literature the ways and procedures that effective management of an organization is conducted.

Then it is the time for the preparation of the proposed model.

3.7. The follow up of the research

Further to the second chapter, examining in detail the Hellenic Railway Network and the environment in which it is operating, similar examination and comparative analysis is going to take place and for the Irish and Portuguese networks since they are approximately of the same size and situation as the Hellenic Railways and they have already experience a reorganization program.

Also, necessary is the analysis of the demands and tendencies of the European transport policy, and the way it has been applied by most of the Member-States.

The relationship between the existing models used by the E.U. Member-States seems clear regarding the application of the EU directives and regulations. But simultaneously, the models vary in a high degree since each Member-State has its own railway policy, its own type of network and network organization, its own traditional relationships with the state, its own aims and prospects, different market shares at national levels, different positioning policies and different types of products/services, of customers, of target groups and so on.

In attempting to examine these relationships and to correlate them in order to design the ideal model for the Hellenic Railway System, this study will be completed into the following stages:

The first stage of this research was an attempt to analyze the operating environment of the Hellenic Railways and its performance, a broad and complex task due to the inexistence of updated information and the difficulties

faced in gathering information in Hellas from state owned organizations. (e.g. no available data for accidents, unwillingness to provide information, civil servants do not believe in research and changes, etc).
However, gathering information from the Irish and Portuguese network, at a second stage, was much easier, since two visits were made and interviews were taken from the heads of the International Affairs Departments, who were very committed to research projects.

Those two networks were chosen with several criteria similar to the Hellenic Network, based on:

- their geographical position, all three countries form external borders of EU,
- their economic situation
- their railway systems – under development with serious organizational problems and poor investments
- their will to change
- their obligation to comply with E.U. directives
- their aim to survive and to be independent companies

  The comparison of them is an idea of identifying common elements and transferable evidences, strengthening the opinion for urgent action for the reorganization of the European Railway System, and in particular for such underdeveloped networks.

It was also evident that the E.U. policy had to be studied in detail in order to be clear what Member-States are advised to do and how it can be done.

Then, at the next stage, an insight to the practices followed by the E.U. railway networks, will transfer to this research, the E.U. experience in adopting changes, following the E.U. policy.

As mentioned before, also valuable was the experience and the information gathered from author's participation, on a regular basis, at the meetings of the Executive Committee of the European Transport Federation (ETF), (as an advisor to the Greek delegations) and at the Economic and Social Committee

(ECOSOC), (as a consultant), in examining and presenting the ECOSOC opinions on the E.U. railway packages.

3.8. Literature Review

The study of the attached articles and bibliography was very important for familiarizing the researcher with the models developed, with comparative studies and case studies analysis. Also, it contributed to the clarification of the aims of this research, by making clear the gap in the knowledge that this study is going to fill in. (e.g. "*Changing Trains: Railway reform and the role of competition. The experience of six countries - Great Britain, Sweden, Germany, Switzerland, Japan, France*" by D.M.Van De Velde, Department of Regional, Port and Transport Economics, Erasmus University Rotterdam, The Netherlands, Ashgate, 2000).[6]

This book was in reality a study on the basic models used and practices followed, experiencing the various forms of railway regimes at countries with comparable levels of economic development and density and relatively intensively used networks, allowing for a maximum of comparability. These countries are U.K. Sweden, Germany, Switzerland, Japan and France. Their railway networks have been analyzed independently in terms of policy followed, management and legislative regimes and at the end a synthesis is tabulated regarding the chosen models.

This comparative study is comprised by:

1. -presentation of the organizational framework of services
2. -description of the forms of competition and functions of the regimes
3. -presentation of the main arguments (for and against) used in the countries concerned, considered prior to the choices made

[6] "Changing Trains: Railway reform and the role of competition. The experience of six countries - Great Britain, Sweden, Germany, Switzerland, Japan, France" , D.M.Van De Velde, Department of Regional, Port and Transport Economics, Erasmus University Rotterdam, The Netherlands, Ashgate, 2000

The most realistic options were:

- direct competition on the tracks (on all services or only a subset of services, such as long-distance services)
- a concession franchising system (e.g. splitting up the network in a number of areas or products to be tendered)
- some form of monopoly for one operator on a core network (with a more or less detailed management contract and possibly some competitive threat) and contracting (with or without) on regional lines,

while further combinations are possible with different choices in different regions of a same country or different choices.

However, the study concentrates on the reforms being implemented in Europe and Japan, in rather developed networks. So, it supports considerably this research regarding the E.U. experience, but again leaves a gap in the study of poor, underfinanced and mallmanaged networks in isolated countries and networks, leaving enough room for this study. However, it sets the guidelines for the respective study of the Hellenic, Irish and Portuguese network.

The U.S.A. market analysis was also a good case study, since deregulation, privatization and free competition have been well evaluated and analyzed. Conclusions made, are well tested and give serious and responsible lessons to Europe.

In this deregulated environment carriers are placing more emphasis on determining what the shippers' requirements are, and being more responsive in terms of putting together a total transportation package. This has gone hand-in-hand with new freedoms to develop contracts on an exclusive basis to take advantage of a carrier's size and scale. Operating under the deregulated environment, carriers realized that in order to survive, they must be the competitive carriers, and this is resulting in rather drastic actions to become more cost efficient. Most carriers in the rail industry are going through extensive rationalization of staff. So, are coming out in the shedding labour negotiations and change has proved difficult to both management and labour.

The adoption of a new railway organization model for Hellas, should respect labour agreements and should have to be realized in such a way that staff will

understand it easily, find it rational and consequently, will agree with those changes in order to be cooperative in the implementation of changes.

Rail industry is striving to be the low-cost carrier, is also attempting to capture additional or stabilize existing market share on a "consistent service basis". If railways fail to do so, they are pushed into a never ending cycle or continuing price reductions to meet competition, if further reductions are not possible, then pressure is put on staff, reduction of working positions, worsening of working conditions and reduction of staff standards (all harming quality of services offered and credibility and reliability of railways) on closing non profitable lines, unless state wants to run those services by covering losses generated to operators. Viability of certain lines or operators is uncertain.[7]

So, again this experience contributes to this research by leading final decision to a serious consideration for the model proposed, safeguarding the unity of the railway system, and even though E.U. policy demands separation between operation and infrastructure, this should be applied to a minimum level, without separating railways to different companies, but introducing the operation of business units under the umbrella of the state managed railways.

A further study of the U.S.A. system and for example, a study of the article of D.C.Nice, "State and Local Ownership in Freight Railroads"[8], was examining the state and local governments owned lines, most of them threatened with elimination due to abandonment or bankruptcy, but others, also state built for satisfying particular national economic or transportation needs.

By studying the great diversity of state-local lines in U.S.A. were identified the tools used for estimating the quantity and quality of commodities chosen to be transported, in order to achieve the viability and profitability of the freight business. In addition, regarding passenger services offered, many of them were operated by private companies and a number of lines are operated by some form of public authority.

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[7] "Transportation in the Era of Deregulation", R.H.Wilson, M.A.Brenner, J.O.Leet, E.Schott, F.L.Nageotte, S.P.Murphy, G.Sines, J.W.Hershey, Transportation Quarterly, Reports of Joint Conference, Eno Foundation, Board of Directors & Board of Consultants, 1985, p.p.171-206. "What is the future going to look like", T.P.Merrick, K.Orski, T.B.Deen, T.D.Larson, Transportation Quarterly, Reports of Joint Conference, Eno Foundation, Board of Directors & Board of Consultants, 1983, p.p.224-244.

[8] "State and Local Ownership in Freight Railroads"[8], D.C.Nice, Transportation Quarterly, Vol 41, No3, 1987, p.p.587-599

Regarding ownership and managerial management decisions (e.g. public, private, leased, franchised, etc) 3 basic factors are considered: the traffic potential, the extent of interest in preserving lines and/or networks and the condition of infrastructure, track, rolling stock and technical equipment.

In addition to that, the article of W.Rothengatter "Deregulating the European Railway Industry: Theoretical Background and practical consequences",[9] presents a good analysis of the experience of the railway privatization policy in U.S.A. and Japan. By freeing railway companies from regulatory obligations has increased the profits of the companies, but the unprofitable passengers' services have been given up by the private companies, or there are bad quality services offered, because of the limited public support, diverting of these particular areas, transport demand to the aircraft industry, and also relates it to the European Market, by explaining why the Japanese example cannot be transferred to the European case. It is because of the almost ideal market condition for railways in Japan. For example, the Tokaido & Sanyo Shinkansen lines of the East Japan Railway Company have a higher passenger turnover on an 1.100km network than the Deutsche Bundesbahn on its 22.000km network (for passenger service).

So, this pure privatization model, as it is implemented in U.S. & Japan, can not apply in Europe, even though privatization can solve some financial problems, there is a price which society has to pay to get rid of the subsidies. If railway companies in Europe had to restrict their activities to profitable business they have to give up a considerable part of the market and concentrate on high distance relationships and high traffic volumes. This again leads to a diversion of traffic flows to road and air transport and generates new problems as bottlenecks, environmental and air pollution, etc. Thus, in these terms, the public support of railways may be socially valuable.

Regarding Hellenic Railways which are operating at a state with a high density of population and are providing social services to many underdeveloped regions with low incomes, the pure privatization model could be very difficult to succeed. There is only one line with high traffic volumes, namely the Athens-Thessaloniki, but still unprofitable.

Consequently, Hellenic Railways, at this stage, firstly should have to be reorganized and modernized, in order to increase productivity and at a second stage to consider its privatization.

Nevertheless, governments have to increase the efficiency of the railway companies, so on the one hand have to define a regime of conditions ensuring the considerations of the social needs and on the other hand to maximize the market efficiency. According to the objectives of the European transport Policy, one way to respond to the above governmental needs was to subdivide the railway system into (at least) two distinct organizations: a network company which is publicly owned, controlling the investments and selling network capacity units as prices compatible with public goals and a set of operation companies which operate on private accounts and maximize profits.

However, the relationships between the government, the network and the operation divisions may be formulated as principle problems, which are dealt in different ways from the different European governments and railway systems and for this reason are adopted the various models.

Lessons from the Swiss, Austrian and German experience give a representing outlook of the basics of the reforms: For example, the heart of Austrian organizational reforms consists of two elements: clear definition of public services and financial compensation for public services. The principal components of the Swiss railways reform are: definition of public services, full financial compensation of public services-financial support for particular segments and financial responsibility for the network and charging the use of infrastructure.

However, could be accepted that particular parts, the most modernized and profitable, of the railway transport business in Europe, can be profitably operated and thus managed by private companies, but there will still remain segments of the railway business/networks which have to be organized under strict public control. These are the infrastructure network and basic public services for local and regional transport.

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[9] "Deregulating the European Railway Industry: Theoretical Background and practical consequences", W.Rothengatter, Transport Research-A, Vol.25A, No4, 1991, p:181-191

Consequently, the Hellenic railway model has to be developed in a more linked to state status since there are not any extremely modernized and profitable lines and most services offered are characterized as public services and should be financially compensated or supported directly by state ownership.

At this point, also valuable was the knowledge gathered by the studies done by E.L.Fitzsimmons "Can Railroads compete with each other?"[10], on intermodal rail competition, what is promoted in reality by the E.U. railway policy. E.L.Fitzimmons, claims that perfect competition in rail market exists when firms are many relative to the size of the market, when products are homogeneous, when economies of scale are lacking, when resources are perfectly mobile and when information is perfect. When these conditions are met, consumers reap the benefits of competition – namely, the social optimal price and lowest possible production cost with known technology. But these conditions rarely ever exist and of course this is not the case for Hellas, a small isolated country with a small market and limited resources.

However, for the needs of this study, the extracted views were valuable, since was stated clearly that the E.U. intermodal competition can not be achieved since E.U. networks vary dramatically in terms of size, quality and types of products/services offered, in levels of equipment, infrastructure and resources. So, keeping that in mind, the proposed model for the Hellenic railway system organization should have to eliminate the intermodal rail competition, introduced by E.U. policy by promoting mostly, intermodal cooperation.

Also valuable was the contribution of a study of A.G.Woodburn, "A logistical perspective on the potential for modal shift of freight from road to rail in Great Britain".[11] The study aims to identify the impacts of supply changes on the likely use of rail in the future. A combined questionnaire and interview survey of manufacturers and retailers in a number of different supply chains was conducted during 1999 and 2000. From this research it was evident that railways can gain a substantial increase in mode share only if they meet the

[10] "Can Railroads compete with each other?", E.L.Fitzsimmons, Transportation Quarterly, Vol 42,No3,1987, p.365-380

much more stringent requirements from industry than they ever had to when they were the dominant mode in the past. Most logistical changes in recent years have been influenced by increasing customer demands and the impacts that this has had on companies trying to become more efficient to remain competitive. The longer-term changes that have taken place in both the provision of rail freight services and the growing dominance of logistics-based systems across industry as a whole have created a difficult set of circumstances for rail upon which to build significant growth in its customer base and affect a sizeable modal shift from road. There are clearly big expectations amongst manufacturers and retailers that railways will be able to rise to the challenge and meet their demands in the future. For rail freight to become a much more serious competitor to road haulage would require considerable restructuring. These market views are very alike to the E.U. views for the restructuring of the European railways, and this should be the aim of the OSE management and the Hellenic Government for the Hellenic Railways restructuring process; how to gain market share and to be really competitive.
However, the interface between government and the transportation industry is to produce maximum benefits for the society.

The study of the Swedish model, being together with the U.K. one of the pioneering liberal policies in Europe, and well tested, contributed much to this research in terms of practice and experience. For example, the article of L. Hansson & J.E.Nilsson "A new Swedish Railroad Policy: Separation of Infrastructure and traffic production",[12] provides a good view of the Swedish railway market, which, as mentioned above, was one of the first markets adopting the organizational separation of infrastructure and operations. The split of the Swedish railways into two separate entities, was implemented by the 1988 Transport Policy Act, of the Swedish government. Banverket (BV) – National Rail Administration- responsible for investment in and maintenance of rail infrastructure and the "New SJ" in charge only of running rail traffic.

[11] "A logistical perspective on the potential for modal shift of freight from road to rail in Great Britain", A.G.Woodburn, International Journal of Transport Management 1 (2003) p.237-245.

One important reason was the deficits of Statens Jarnvagor (the Swedish State railways, SJ for short) and the new company should be profitable and not rely on subsidies. However, both new entities, are operating as state agencies, being under public care, and are expected to supply services to the society also where this is not commercially viable.

The main practices followed regarding the provision of services by railway companies are:

(i) Services of a railway company are treated as a public service. Operations are deemed to be beneficial to society without being financial viable

(ii) The company is treated as any private firm, doing business only when passengers, trade, and industry pay for the services

(iii) The company is formally required to be financially profitable but the objective is never performed because of additional requirements. Deficits are ex post taken care of by the government (the most common practice)

For both BV and SJ costs and revenues are controlled from the public treasury. For both rail and road traffic external effects are considered by variable fees being a part of their infrastructure charges.

SJ and prospective private companies are able to act as entrepreneurs to the Country Authorities, offering their services on strictly commercial conditions.

The new railway policy means that different bodies have different goals: SJ maximizes profits and considers if revenues are sufficient to meet the costs of providing these tasks. BV uses government appropriations in order to maximize social welfare. The Swedish Board of Transport "buys" traffic which is not commercially profitable, but which is believed to be important because of national or regional leveling objectives, etc. SJ decides whether or not traffic is to be continued (traffic which is not self-financed will not be operated), which was not the case before and the national Government is decided if for national or social reasons wants to pay for "buying these services" keeping operating. All demand for non commercial traffic is therefore

[12] "A new Swedish Railroad Policy: Separation of Infrastructure and traffic production", L. Hansson &

not directed to SJ, but to authorities. Substantial change from the former policy. The new policy has also opened up to allowing additional traffic operators to the railway network.

This model was something like pioneer to the EU suggestions. The idea is that each state in the community is to take responsibility for the railway infrastructure. Thereafter, it is up to any traffic operator to run business on the tracks of any country. All that is required for the operators is to pay appropriate fees when using tracks in different countries.

What is important to note is that new entities, operate as state agencies and is for first time practicing the policy of the obligations of public services offered by the operators to state and that railways are still supplying services to society, the way it is considered railways as social service, keeping competition under control and facilitating citizens.

But the situation in Hellas, as defined at the Diagnostic Report, should need changes to regulations which then, will clearly define the obligations of the state for the public services offered by OSE. In this case, again, Hellenic railways should provide services to the society, in a state like Hellas with low income and extensive needs for transport, but should also survive financially in a competitive transport environment.

Moreover, this analysis will be followed by a theoretical study of the models, based on the existing literature on managerial aspects and change management aspects in order to be more managerial literate for the design of the model.

This managerial literature review together with the thorough literature review on the existing railway policies (in Europe and world wide), provide foundation for the design of the model.

So, having narrowed the research area, attention will be drawn in modeling specifically the Hellenic Railway System.

Although several models have been designed and used in order, productivity of the network, staff management, state policy etc, to accommodate specific needs with difficult social and political character, they can not apply to the

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J.E.Nilsson, Transport Research-A, Vol.25A, No4, 1991, p.p.153-159

Hellenic Network, since it presents a lot of particularities. (e.g. geographical position, lay out of the network).

These particularities and the complexity of the problem due to the way that the E.U. directives are expressed, means that it is not possible to use any specific theory of models or to use any of the existing managerial and/or organizational models (e.g. management by objectives, total quality management / vertical or horizontal organization, etc), since the model has to meet the specific conditions for Hellas.

Nevertheless the study of the various models is much influenced by highlighting their positive points and rejecting the negative ones. For example, the Belgian Model can contribute with its simplicity and low operating costs. The German Model with the clearness of its Holding System. The French Model, even if very complicated, is representing, to a wide extent, the social concern and is incorporating the railway workers views about retaining the railway system integrated.

After this investigation, was evident that the research on Railway Policies, Management and Organization is very limited. The most relevant thesis to this work, were the:

"Competition in Rail Markets: Economies of Open Access"[13], by Brewer P.R.

This research examines the role played by Open Access as a strategy for promoting competition in UK rail freight markets. The theoretical basis for this research is an investigation of alternatives promoting competition in related markets.

The overall aims of the research were first of all to understand the contestability of the rail freight market against the background of its underlying market conditions. Secondly, the research compared the experience of Oren Access rail freight operators in an international context in order to confirm or reject the explanatory relevance of key variables, as postulated by economics. The research aims have been satisfied in each case through the attainment of a number of specific objectives. These objectives include gaining a wider

[13] "Competition in Rail Markets: Economies of Open Access", Brewer P.R., University of Huddersfield, PhD 2000, Dissertation Abstracts International Vol 58 No3

understanding of the theory of contestable markets, identifying and evaluating a range of barriers to entry faced by Open Access operators (and the strategies they have employed to overcome them), and an appreciation of the factors and processes that determine Open Access Activity.

The research process has generated a number of successful outcomes relating to its aims. Markets are not contestable and contestability should not be regarded as an appropriate framework for analyzing industry behaviour. This outcome is the result of an awareness of those factors representing barriers to entry and those structural complexities accounting for a lack of Open Access entry. An understanding of the relative significance of entry barriers and of strategies adopted by operators has also been achieved, along with awareness of those factors and strategies regarded by them as important.

This research also offers a view of the entry barriers in closed markets and changes that have to be planned for transferring to an open access market regime, as it is the case for the Hellenic Railway System, where there are many entry barriers in the market as mentioned in the diagnostic report.

Then, another research attempting to lay down parameters for Railway Policy Making in Great Britain, was the "Change and continuity: an appraisal of railway policy making in Great Britain"[14] by Squires M.

In introduction, it sets the scene of government intervention in the railway industry and the concept of a publicly owned railway system. Then, it deals with the various theoretical aspects of policy making, and with the 1947 Transport Act and the creation of a policy Community. After, looks at the financial problems of the railways during the 1950s, discusses the implications of the Beeching Report and examines the concept of the origins of the Social Railways and how this changed, in particular, the Policy community. Finally, it analyses the various threats to the Social Railway in the 1970s and how the various pressure groups responded to the situation and concludes with some details on the onset of Privatization – how this came about, the responses of

[14] "Change and continuity: an appraisal of railway policy making in Great Britain", Squires M., University of Sheffield PhD 1999, Dissertation Abstracts International Vol 52 No4

the various interests and the type of policy Network that is created. Also so charts are included in the research, which plot the various changes in the policy framework.

Going further to the analysis of the deregulation experience valuable information was extracted from one more thesis, the "Performance of the United States Railroad Industry since Deregulation"[15] by Kimura Kenji.

According to this research the U.S. freight railroad industry has operated in a deregulated market environment since the Staggers Rail Act was passed in 1980. Railroading had been a financially troubled industry in the decades prior to deregulation. Rail earnings had long been stagnant and deteriorated over time. Several railroads went into bankruptcy in the 1970s. It was strong hoped that the regulatory reform would provide a relief for the industry's serious financial situation.

By the mid-1990s, the industry improved its financial performance significantly. Railroad stock outperformed broader market indexes considerably from the late 1970s through the mid-1990s. Railroad cash flow has in fact improved gradually since deregulation and the industry has become much healthier than it had been in the past in terms of earnings capacity. In addition, although the rail traffic growth had long been chronically stagnant, total rail output (in terms of revenue ton-miles) began to grow fairly rapidly in the late 1980s.

These improvements were driven largely by the industry's significant productivity gain since deregulation, not by changes in economic trends or setting rates at a high level. Rail rates actually declined substantially for most major commodities after deregulation. Also, freight demand did not change in ways particularly favourable to railroads. Although railroads benefited from a sharp rise in domestic coal production in the 1970s, the post-Staggers period generally saw a stagnant growth of production of both major raw materials and rail-flavored manufactures.

The significance of the post deregulation rail productivity gain is that the industry improved considerably the extent of utilization of its major capital

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[15] "Performance of the United States Railroad Industry since Deregulation", Kimura Kenji, Harvard University, 2000, Dissertation Abstracts International Vol 58 No2C

assets (track & rolling stock) and at the same time reduced labour requirements much faster than these assets. Deregulation contributed significantly to this process, directly or indirectly.
Looking at the railroads' investment capacity, however, it seems still premature to conclude that the industry as a whole has been restored to a long-term financial health at least as of the mid-1990s. Whether the industry as a whole can attain financial viability in the long run still remains to be seen.
But, has to be underlined that there is no social obligation for railways in the U.S. transport market which is basically business oriented in contrast to the Hellenic Railways that have a strong social character and the organizational and administrative models adopted are more social.

Some useful knowledge was also extracted from the study of the deregulation of other transport industries, like the road industry, even though there are many differences in its operation.
So, the thesis "Optimal Capacity with Uncertainties and Applications to the Truckload Sector of the Motor Carrier Industry"[16] by Arthur Daniel Seth, starts with the analysis of the industry prior to deregulation, when economists argued that the Motor Carrier Industry is inherently competitive and regulatory reform would increase competition, decreasing rates toward marginal cost. Then, the post-deregulation period of 1982 through 1992 is examined and is observed that output prices fall toward the marginal cost estimates as the number of competition increases. There is an increase in the percentage of firms producing beyond capacity with price not significantly different from marginal cost, consistent with deregulation leading to more competitive behaviour in the truckload sector.
At this research, a theoretical oligopoly model demonstrates both domestic and foreign firms' optimal capacities when the foreign firm's marginal cost is uncertain, due to uncertainty in the exchange rate. Optimal capacities for the domestic and foreign firms are asymmetric depending upon the expected

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[16] "Optimal Capacity with Uncertainties and Applications to the Truckload Sector of the Motor Carrier Industry", Arthur Daniel Seth, Northwestern University, 2000, Dissertation Abstracts International Vol 58 No4A

value of the foreign firm's marginal cost. This model provides predictions of foreign firms' capacity and pricing behaviours in the trackload sector of the Motor Carrier Industry when NAFTA allows foreign competition in the domestic market.

Though, the railway network is very long in U.S. and consequently the operation of long trains allows operation at marginal costs, but in Europe and even worst in Hellas that the railway network is very short, competition with road transport is very hard and railways can not compete operating at marginal costs.

The evidence drawn from deregulation in the US trucking industry points to a high level of competition between carriers. Overcapacity results in a price wove and firms face extinction if they are unable to achieve cost efficiencies. The situation is similar to that of Hellas, where many small truck operators compete with the Hellenic Rail system. In the USA rail operators can match truck competition on trans-continental routes. The long distances involved plus the ability to achieve economies of scale via long, heavy freight trains, allows the private rail operators to retain competitive edge. These conditions are not attainable in Hellas due to reduced distances and a geographically restricted rail system. Opportunities for long-haul traffics via the Balkans is restricted due to political instability.

Then a comparative study on the application of divestiture legislation on three small ports of Quebec, again provides useful experience on the methods used for the diversification of activities, as it is experienced by many railway networks today, but also gives some more information on the way the comparative studies are developed. The title of the thesis is "A case study of the application of divestiture legislation on three small Quebec ports"[17], by Remillard Claude.

It states that the transportation Sector in Canada has historically been under federal government ownership and control, as it is the case for the Hellenic

[17] "A case study of the application of divestiture legislation on three small Quebec ports", Remillard Claude, Concordia University, Canada, 1997, Dissertation Abstracts International Vol 38 No3

Railways. Over the years, however, the marine system has become over-built. It is unable to cover costs and overly dependent on government subsidies. The Canadian Government recently enacted legislation to divest the bulk of its regional port and maritime facilities to the provinces, municipalities or private concerns.

Reducing the government's operating role in the marine sector reflects the principles of privatization, commercialization and competition already evident throughout Canada's transportation sector. This divestiture policy continues a growing trend among many nation states whereby monetarist policies of privatization, commercialization and deregulation of public goods and services are replacing Keynesian economic Policies of active government involvement in the economy.

So, this thesis, being a case study of the divestiture process, focuses on three regional ports in Quebec Baie-Comeau, Tadoussac and Pointe au Pic. It explores the divergences between the legislation and the reality of the process of divestiture. It also considers how these small communities are adjusting to this restructuring of government services.

Dealing with restructuring of the market and with the limitations of state intervention, this thesis was a good experience on studying a different approach of changes to governmental ownership and control as it traditionally was the case for railways.

Also, much of the work done by British institutions on the so much debated subject of British Rail System organization, and several comparative studies with similar systems all over the world were studied.

Starting with the article "Rail Privatization in Britain"[18], by Chris Nash, commenting that from the beginning of 90s, had been clear that the British Government was thinking through the details of how it proposes to carry through privatization and had been prepared to modify its original proposals, in particular with respect to the first round of franchises.

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[18]"Rail Privatization in Britain", Chris Nash, Journal of Transport Economics & Policy, July 1993, p.317-322

At the same time, European countries were also looking at proposals for radical changes in rail organization. Generally, these involved three elements:

- separation of infrastructure from operations
- privatization of rail operators and possibly eventually also the infrastructure
- Open access arrangements for other private operators to enter the market and compete with the existing operator- this was the intention of both Britain and Sweden.

When alternatives for privatization in Britain were considered, there was, as is commonly the case, a major conflict between minimizing disruption through structural change and maximizing the degree of competition. Any approach, which maintained integration of infrastructure and operations – whether on a geographical or a sectoral basis –, would lead to little competition, because the infrastructure itself represents a natural monopoly. Whilst it would be possible to promote competition by granting rights of access to the infrastructure to competing operators, it is always difficult to police such arrangements to ensure that the integrated operator is not using its monopoly power in the infrastructure market to gain advantage in operations.

Thus the government had decided to adopt an arrangement which replaces BR by an infrastructure company (Railtrack) and a set of operating companies. However, was planned for passenger operations to be franchised out to private companies in some 20-30 group of services, at what was current profit center or subsector level, so that the franchise will cover a group of services.

A new Franchising Authority was set up to undertake the process; franchisees could lease existing BR rolling stock and take over the employment of BR staff. Where no acceptable offer was made, BR could continue to operate the service but BR were not allowed to bid for franchises or to continue to operate on a route that has been franchised out.

Regarding the infrastructure, Railtrack was undertaking the timetabling of all services across the network, allocating paths and levying charges to cover costs and make a commercial rate of return on its assets, although it was eligible for grant-aid where projects show external benefits. A new regulatory authority was set up to ensure that Railtrack provides open access to all operators on fair terms and conditions. Railtrack was required to subcontract

activities such as track maintenance to the private sector wherever it is economic to do so.

It was intended to sell the freight and parcels sectors in their entirety, as a number of separate companies. Three regionally based bulk freight companies were proposed while the parcels network would be sold as a single entity.

One of the most difficult areas for resolution in this new structure was the question of what should be charged for the use of the infrastructure. The British government proposed to establish Railtrack as a commercial organization, which in due course would have been privatized itself.

What was proposed may be summarized as follows:

a. There will be no published tariff; all charges will be based on individual negotiations
b. In the case of freight and open access passenger operators, Railtrack will have the aim of maximizing the contribution to track costs that it earns from any given traffic.
c. Where freight traffic is unable to cover even the avoidable costs of using the infrastructure, a new track charges grant will be introduced whereby up to 100 per cent of the charge will be available as a grant, provided that this is justified in terms of the wider benefits of the traffic using rail rather than road.
d. For franchising passenger services, the franchising authority will negotiate with Railtrack to obtain the paths need to run the franchised services, and the Franchising Director will guarantee the total payment for access rights for each franchise. Charges will be divided into fixed charges and variable charges depending on the frequency and timing of trains.
e. After the first generation of franchises, Railtrack will be under no obligation to provide the paths needed by the Franchising Director. The intention is apparently to free up access, so that if an open access operator wishes to take on certain services on a given route and can bid more than the franchising authority, those paths will be transferred from franchised to open access operation.

f. Access to stations and other facilities such as depots, which may be in other hands, will be negotiated by Railtrack and included in the access agreement.

g. The regulator will have the role of approving access agreements, as part of his statutory duties to promote competition and to protect the interests of users ensuring that there is no abuse of monopoly power and that train operators are treated fairly by infrastructure owners.

Then, P.K.Else & T.J.James, discussed the "Privatization and the quality of rail services".[19]

The restructuring of the British rail industry, proposing the privatization of many of the services, focuses on the division of responsibility for the functions formerly performed by the previously integrated organization between a numbers of independent concerns.

P.K.Else & T.J.James using the concept of generalized costs to reflect quality in rail services, consider the level of provision and quality of these services in the various forms they may take in a privatized environment within a model which is assumed linear and separable demand and cost functions for analytical simplicity.

The analysis suggests that the proposed changes to the rail system in Britain in the various forms that may emerge pose any regulator of the privatized system difficult problems. The outcomes of the cases that have been considered, in terms of the quantity and quality of train services are inferior to that which a social planner or indeed a profit-maximizing monopolist, could offer from a fully integrated network. In the cases of bilateral and complementary monopoly the likely outcomes are also inferior to that which an integrated profit-maximizing monopoly would provide.

The main conclusion is therefore, unless there is careful and considered regulation of any privatized system, there will inevitably be less train services generally provided at higher fares with a lower level of integral quality.

Later on, Ian Jones, discussed "The Evolution of Policy towards On-Rail Competition in Great Britain"[20]. He examined the development of public policy

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[19] "Privatization and the quality of rail services", P.K.Else & T.J.James, Transport Research-A. Vol 29A, No6, p.387-400, 1995

towards on-rail competition in the provision of passenger rail services in the privatized and restructured railway industry in G.B. There was shown that policy has sought to restrict on-rail competition in order to ensure the maximum possible reduction in public subsidy to passenger rail operations through competition for passenger franchises.

After many years of stagnation or very slow growth in traffic, the period since 1994 (which coincided with the onset of privatization and restructuring) has seen a sustained increase in passenger volume and revenue.

In 1992 the Government set out the strategic vision of the restructured industry and anticipated the transfer of passenger train operations to the private sector through a franchising process. The franchised passenger operators are competing with open access operators on the basis of non-discriminatory track access charges set by a publicly owned Infrastructure Manager. The industry Regulator was given a duty to promote such competition.

Two types of access agreements for passenger services were envisaged:

- Franchised passenger services access agreements, for packages of train paths defined by the Franchising Director, who would negotiate a package price directly with Railtrack to be reflected in the franchise bids. The Franchisee would subsequently enter a track access agreement with Railtrack covering the provision by Railtrack of the train paths in return for payment of track access fees by the franchisee.
- Open access agreements: although open access competition would need to be moderated to the extent necessary to ensure the successful launch of the first generation franchises, "subject to these constraints and the oversight of the Regulator" operators of non-franchised services would be able to negotiate terms with Railtrack for "open access" train paths. Open access charges would generally cover avoidable costs; any contributions to common costs would reflect ability to pay.

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[20] "The Evolution of Policy towards On-Rail Competition in Great Britain", Ian Jones, Journal of Transport Economics & Policy, Vol.34, Part 3, September 2000, p.371-384

Consistent with the timetable of the moderation of competition regime set out in the December 1994 policy statement, the Rail Regulator issued a consultative document in September 1997 reviewing options for the development of on-rail competition. A policy statement in March 1998 dully followed this, confirming the Regulator's intentions.

Both documents emphasized the importance of encouraging both co-operation and competition to promote the use of the network for the greatest benefit of passengers.

Increased on-rail competition could result in the more widespread marketing of dedicated tickets, and the resulting increase in the costs and complexity of ticket retailing could discourage demand.

Some franchisees also argued that a lead operator could be disadvantaged when competing against new services by the Ticket and Settlement Agreement (TSA) constraints on introduction of dedicated tickets and that the passenger Service Requirements (PSR) conditions might restrict incumbents' ability to adjust output in response to new entry.

However, this required a mechanism for evaluating new service proposals case by case to ensure that they generated real consumer benefits and was not primarily abstractive. To this end, was envisaged that the Regulator would apply a social cost-benefit framework, similar to that promulgated by the franchising authority to evaluate new service proposals.

The evaluation process also involved consultations with local authorities and other parties. Finally, the Regulator argued that although the incentives for anti-competitive conduct and erosion of network benefits would certainly be stronger the fewer were the constraints on market entry; such actions would be efficiently inhibited by the combination of license conditions and competition legislation.

Thus, for resolving the tensions between franchising and open access might ultimately required further evolution of the industry structure, either towards a full open access model, or towards a more vertically integrated structure with little or no on-rail competition. In fact, the tensions between open access competition and economy in public expenditure had been resolved within the vertically separated structure by the moderation of competition policy. A

heavily regulated form of on-rail competition only persists where franchises overlap.

Going further, and dealing with infrastructure management matters, Stuart Holder expressed his ideas for the "Recent Developments in Rail Infrastructure Charging in the European Union"[21], the policies and practices followed in relation to rail infrastructure charging in the European Union, paying particular attention to the measures recently put forward by the European Commission in the form of proposed Directives (currently Directives 2001/12, 2001/13, 2001/14).

The proposed Directives seem to lead to some significant improvements in rail infrastructure charging, particularly in that Member-States currently using the Adjusted Average Cost Approach. (Germany, France, Austria) In some of these Member-states the overall structure of charges may be already consistent with the proposed directive. The main failing is that there is not enough variation between the charges for different types of traffic; with the result that charges for particularly price-sensitive traffic are higher they need to be. The proposed Directive would certainly lead to lower charges for freight services and might also lead to lower charges for the most price-sensitive types of passenger services.

The British Approach contains some elements that appear to be contrary to the provisions of the proposed Directive. The franchised passenger train operating companies (TOCs) currently pay very high fixed charges, though these are not distortionary as they were reflected in the TOCs' franchise bids. In addition, however, freight services are also charged above short-run marginal cost (SRMC) within a framework of negotiated charges that aims to allow Railtrack (the infrastructure manager) to recover its total freight-specific costs. To maintain the current situation, the government would almost certainly need to provide direct subsidies (either to Railtrack or to train operators) to prevent a significant loss of rail freight traffic.

Finally, it is important to note that the impact of any change in infrastructure charging will depend on other developments affecting European Railways.

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[21]"Recent Developments in Rail Infrastructure Charging in the European Union", Stuart Holder, Journal of Transport Economics & Policy, Vol.33, Part 1,1999, p.111-118

The full benefits of improved infrastructure charging may only be realized, therefore, if measures are taken to ensure a proper separation in all Member-States between infrastructure managers and train operators, and also to ensure that infrastructure managers and train operators are managed on a proper commercial basis.

So, becomes evident that worldwide decision makers want rail competition. It is also obvious that the British system is included in almost all the analysis of the developments of the transport system.

However, has to be clear that the case of BR is the case of a wide, well developed network, with potential for profit for many operators. It is a good example incorporating a lot of ingredients that contribute in having a clear view of what has been done to a member-state regarding deregulation, prior to the E.U. decisions for railway privatization.

But, it is not the case of Hellenic Railways, being very weak and incompetent to survive in a such competitive environment.

For chapter 4, which can be characterized as a piece of work based on a review and analysis of the existed E.U. regulations and directives for the railway development and the way they have been interpreted and adopted by E.U. Membet-States, are used the referenced E.U. regulations and directives, (namely Directives 91/440, 95/18, 95/19/EEC and Directives 2001/12, 2001/13, 2001/14/EC), the existing bibliography and journals regarding not only the European railways but also models and practices followed world wide as well as working documents of the Commission, the European Parliament, the Community of European Railways, the International Union of Railways and the European Transport Federation.

Chapter 5 is a comparative study of three similar railway networks (the Hellenic, the Irish and the Portuguese) and data is extracted from the annual reports of the three networks and from their internet sides, as well as from the visits to them, generated by the author.

For chapter 6, which is a chapter based on the analysis and appraisal of the views of the stakeholders, valuable is the author's communication with the railway decision makers of the E.U. Member-States

Chapter 7, is a theoretical one, based on the managerial principles required for the design of an organisational model of a customer oriented company, like railways, and valuable is the knowledge extracted from the bibliography studied, and in particular the books "Managing transport operations" Edmund J. Gubbin, Kogan Page, London 1988, and "Management" H.Koontz – C.O'Donnell & H.Weihrich, 8th edition, McGraw Hill 1986, were giving a clear view of the goals and objectives of the transport policies and especially the railway policies by identifying its main strengths and weaknesses and providing the basic theory of the 4 principles of management and how they can apply into the railway management process.
Also, the "Applied production & operations management" James E.Evans, 4th edition, West Publishing Company, 1993, and the "Production and operations management" Dilworth, James B. McGraw Hill 1998, were extensively analyzing the theories of organization, making clear what organization means. Strategies and structures for reorganizations were studied along with a thorough analysis of the planning process for the effective adaptation of reorganization plans.

Concluding worth mentioning is the article of Clinton V. Oster, JR & John S.Strong, "Transport Restructuring and Reform in an International Context",[22] illustrating the general picture of the Transport Restructuring, offering valuable knowledge at any stage of this research, by explaining in simple words why transport privatization occurred, the key challenges for the public sector in the new transport environment and the expected lessons to be learned from this process.
There are mentioned the following: "While direct government provision of transport was prevalent in many countries, an increasing proportion of transport now comes from the private sector". According to the World Bank, by 1997 this included 75 percent of bus service, 95 percent of trucking and paratransit and even an increasing proportion of rail service. In aviation and waterborn transport, many government airline and shipping companies have

[22] "Transport Restructuring and Reform in an International Context", Clinton V. Oster, JR & John S.Strong, Transportation Journal Spring 2000

been privatized, or at least exposed to new private entry. Moreover, transport infrastructure which has been even more firmly the domain of the government, has seen an expansion of private finance, operation, and even ownership.

Privatization process varies substantially by mode and by region, due to differences in transport environments. However, it also has been the result of historical or political factors that have caused governments to resist privatized transport or because the underlying economic conditions for entry and participation are not attractive to the private sector.

But why has transport privatization occurred?

- Changes in transport technologies: the extension of competitive opportunities
- The economic development legacy: a large state control (most nations have a long legacy of state enterprises and a direct government role in operation, investment and ownership. Thus it should not be surprising that in many countries, transport regulatory issues first arise in the context of privatization initiatives.
- Changes in markets (in the industry sector production processes have become more streamlined, with increased emphasis on managing inventories and developing flexibility with respect to the volume and variety of output. This emphasis requires a transport system geared to provide 'just-in-time' logistics, integrated services to move inputs to factories and outputs to markets., greater emphasis on reduced shipping times, faster and more flexible modes, especially intermodal trucking and air operations
- Changes in the financial environment (the integration of global financial markets, the rise of new markets and associated foreign direct investment and the development of new financial instruments expanded opportunities for private financing of transport. The private capital markets were tapped by public transport organizations
- Changes in thinking: new ideas (over time, the academic research in transport, recognizing the changes in technology, scale and networks, began to focus on the opportunities for the introduction of competition and

entry by new transport firms. This respective sorts transport not by mode, but by function or activity. This change in perspective spurred realization that there were opportunities for competition and entry within a given transport activity. There is considerable opportunity for competition and various forms of private sector participation across all of the major transport sectors, including those most traditionally the domain of the public sector.

- Poor performance by the public sector (privatization was spurred by the poor performance of government-run transport. Transport infrastructure commonly has been publicly provided. In the provision of transport services, governments have controlled entry, products, prices, profits and investments either through regulation or through state owned enterprises. This had four important consequences: (1) assets have not been maintained and investment has been suboptimal, (2) costs have been too high, (3) service failed to respond to needs or changes in market demand, (4) as governments incurred mounting losses from state owned transport enterprises, they faced growing financial needs in other areas and saw privatization as a means to raise revenues.

Competition can be introduced in a variety of ways. When entry restrictions are relaxed and when entry barriers are low, competition in the market is likely to occur. But competition for the market may provide a means to introduce competition at the bidding stage (for a franchise or a concession).

As privatization and regulation have taken place, governments have found themselves faced with different responsibilities, requirements and challenges. Five key challenges for the public sector in a new transport environment include the following:

1. Restructuring to promote competition (the development of effective competition requires three conditions: (1) the sector must be liberalized, (2) creation of effective enterprises is needed, (3) the operating environment must not give undue advantage to incumbents. Regulation must be applied consistently
2. Managing concessions (for transport infrastructure, the award of long-term concessions has become the primary means for introducing

private provision, management and capital. Designing sound concession arrangements is not easy. Commercial and contract legal structures must be developed, since infrastructure concessions typically shift oversight from sectoral regulation to more general civil law.

3. Competition policy (in a competitive transport sector, the focus of economic regulation is no longer on control of monopoly through tariff, route and rate of return policy. There is need for some supervision for promoting or insuring competitive or potentially competitive markets and controlling anticompetitive behaviour.
4. Maintaining small market services and access (in many cases, privatization and/or deregulation will result in cost saving that allow previously uneconomic routes or services to be served at a profit. In many cases operations that were operated at a loss and financed via cross-subsidies will no longer be served in a privatized, competitive market. Governments may be faced with the need to provide direct financing of such routes.
5. Safety and environmental regulation (while maintaining high levels of safety may be in the long-run interest of transport companies, short-run pressures may lead to decisions and practices that may compromise safety. As a result, the demands on, and resources needed by, safety regulators are likely to be significantly higher in a privatized transport environment than in a state-owned one.

The rapid changes in transport technology and the developments in the economy have totally changed the scenery of the industries and the financial markets.

The public sector often has certain difficulties in adopting changes and performing according to market needs, controlling strongly the transport market, causing inefficiencies.

So, the various methods of privatization used, according to the characteristics and needs of each market, especially in transport, are boosting the industry, improve competition and give to states the regulatory role that they should have as supervisors and planners of every state economy, supporting also

this research to the decisions taken for incorporating in the modernization plan the competent autonomy and structures for Hellenic Railways in order to be fit in the new competitive transport market, with the minimization of state intervention.

Lessons and future prospects

Overall, transport reforms have taken place under a variety of guises, from privatization to restructuring to deregulation. There appear to be at least three main lessons to be learned:

1. Transport privatization appears to be most successful when sustainable competitive conditions exist. Privatization appears to work best when potential efficiency gains are large, with limited externalities, redistributions or transfers. Such reforms also are easier when the transport service or activity covers its costs, neither requiring public subsidy nor generating sizable surpluses
2. Economic growth and incentives for transport reform go hand-in-hand. Sustained growth creates demands for increased quality and quantity of services and economic growth is accompanied by increased trade.
3. Transport reforms have worked best when the government has accepted and adapted to its new role. In privatized transport systems, the government's role as manager and operator decreases, while its responsibilities as monitor and "setter of the rules of the game» become more important."

Finally, the knowledge gained from the theory and the practice will be applied to the specific characteristics of the case examined.

So, the application of the model will be divided into two stages:

1 - The design of the basic managerial system of the Hellenic Railway network by applying the E.U. directives 12/2001, 13/2001, 14/2001 by setting the background for the liberalization of this market, minimizing the tendency of founding many companies and developing another bureaucratic system. The changes taking place

in E.U. may be considered in designing this system by adopting the positive effects of the other models used (e.g. minor changes to the existing system and adopting to the minimum the obligations derived from the E.U. directives, since the system has proven that works properly in Belgium) and avoiding the negative effects (e.g. low customer services, low safety standards in UK by applying a fully liberal model in the market), and

- the design of the internal organization of the 'new OSE' in order to be more flexible, independent, viable and competitive.

2 - When the design of the managerial model of the whole system has been completed, the aims of the new OSE, have to be set and to be designed its new administrative and organizational system for positioning the new company properly in the market with clear targets, vision and appropriate qualified staff for the case.

3.9. Conclusion

The basic aim of this chapter was the development of the methodology needed for the completion of this research. Another aim was the literature research, identifying what scientists and researchers have up to now observed and summarizing for the changing railway industry, also for similar industries that can support this research and identifying the gaps in the knowledge that will be filled in with this research. The diagnostic report has revealed serious organizational barriers to OSE efficiency and market growth. The theoretical focus on the organizational model allows for the selection of a more suitable managerial model, one that will deliver the stated EU rail directives. The organizational model developed in chapters 8 & 9 will be derived from the organizational theory specified.

The literature survey provided here has revealed that the problems facing OSE are not unique. Specific issues of privatization, de-regulation, open-access and operational reforms are common to many transport systems

around the world. The literatures provided lend considerable analytical rigour. In re-designing OSE's organization, it is incumbent on practitioners to take note of this rich vein of evidence drawn from a variety of transport modes and systems undergoing organizational transition.

So, having discussed the methodology for this research, now follows the first part of the research devoted to the E.U. legislation and to the European experience and then, will follow the second part of the research, the actual model, which is divided into two chapters, the modeling of the Railway System in Hellas according to the demands of E.U. Directives 2001/12, 2001/13, 2001/14 and the reorganization of the Hellenic Railways.

Chapter 4

E.U. Rail Legislation and its application to the Member-States

4.1. Introduction

Building on the foundations provided by the diagnostic report, this chapter firstly will analyze E.U. rail policies, directives and regulations, in order to identify their scope and to outline the legal and political framework to which Hellenic Railways should be oriented, and secondly will study the different models adopted by the railways of the European Member-States and will extract the necessary elements and practices for designing the demanded efficient organizational model for the Hellenic Railway System.

Starting with the aims for the transport development of the Treaty of Rome and continuing with the analysis of E.U. Railway Policies, will be identified all the key policy areas that European railways have to respond with drastic changes.

Further, will be examined the aims and objectives of the European Member-States and Railway management, trying to be on line with the E.U. demands, since their interpretation varies between Member-States, according to national policies, opinions of politicians and managers, attitudes and assessments.

In order to have a thorough evaluation of the hypothesis, the E.U. demands have to be noticeably documented, underlined and valuated for pointing out the required action, taking also into account the existing experience and the up to now reorganization models adopted by the other E.U. Member-States, since this railway modernization concept constitutes the basis of the considerations behind the hypothesis of this study.

Therefore, the first objective of this chapter is to outline the framework of E.U. Rail Policy, in order to assess the changes and challenges faced by the management of the Hellenic Railways, given the particular characteristics and structure of the Hellenic Railway System as discussed in the Diagnostic Report in Chapter 2.

The second objective is to examine whether the E.U. demands were efficiently implemented by the other Member-States and to use this experience in designing an also efficient organization model for the Hellenic Railways.

The information gathered for the needs of this chapter, apart from the existing bibliography, E.U. documentation and available scientific articles is based on personal experience and contacts with people from the European railways responsible for their organization and on personal contacts with the unions of the railway workers, as well as on meetings, discussions and outcomes at several E.U. bodies (while representing Hellas).

4.2. European Transport Policy

Transport and its associated services is one of the major industries of the European community. It is a rapidly growing industry, on the one hand, strongly related to the development of the economy as a whole and on the other hand contributes essentially to the economic and social progress. At least two of the essential freedoms of the European Union, the movement of goods and persons can only be realized through an effective transport system.

So, the integration of the European Union and the completion of the community's internal market made absolutely necessary the establishment of a common policy in the field.

The Article 3(e) of the Treaty of Rome 1957 (on which the European Community was founded) states that one of the objectives of the EEC is the adoption of a common transport policy[1].
It devotes a whole chapter (see appendix 1) to the transport sector - providing in particular for the elimination of all forms of national discrimination and disparities and the establishment of a series of common rules for setting up a common market in transport services.
The Council is appointed as the main responsible body for the adoption of a common transport policy. (title IV, article 75 par.3)

In 1961 the Commission proposed a memorandum with measures for unifying the European Market on the basis of some major principles as free competition; free choice of means of transport for users, equal treatment for all forms of transport and all transport companies, public and private, financial and commercial independence of firms, coordination of infrastructure etc.
In 1973 the Community defined its objectives and extended its concern to sea and air transport.
Particular measures in such areas as rights of establishment for transporters, length for driving periods for those in charge of heavy goods vehicles, administrative independence for railway companies and cooperation between them, standards for ships operation etc, had been adopted by the Council of Ministers of Transport.

However in comparison to policies such as that for agriculture, the achievements of the common transport policy had been limited.
This led to a judgment, in May 1985, by the Court of Justice in an action brought against the Council by the European Parliament. This fact together with the Single European Act accelerated the decision-making process by introducing majority voting on questions of transport policy and opening a very active period for the Commission and the European Parliament. Since then Member-States are continuously bombarded by new directives that they have to adopt.

[1] Treaty of Rome, Article 3 (e), p.1

In parallel the Commission had to run an extensive transport infrastructure program until 1997.

Following, the Maastricht Treaty, established the Community's legal competence to set down guidelines and objectives for European Transport Networks, to implement measures for their operation and to give financial backing to Member-States' measures judged to the common European interest.

4.3. Objectives & Scope of the Common Transport Policy (CTP)

4.3.1. Objectives of the common transport policy

According to Article 74 of the EEC Treaty, the fundamental objectives of the Common Transport Policy (CTP) are those of the Treaty itself, taking also into account the wider issues of depletion of natural resources and environmental degradation at the global level, which are of particular importance for the transport sector.

In addition, the formulation and implementation of the CTP had to take proper account, according to Article 130b of the Maastricht Agreement, of the objective of strengthening the Community's economic and social cohesion, in particular, by reducing disparities between the regions and the backwardness of those least favoured. The link between the improvement of transport infrastructure and the accessibility of the regions should be seen in the light of its consequences on the planning of residential areas and centers of employment, production districts and areas of consumption as well as on the volume of traffic and its organization.[2]

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[2] European Communities "The future development of the common transport policy - A global approach to the construction of a Community framework for sustainable mobility". Bulletin of the European Communities, Sup.3/93, p13

4.3.2. The global approach of the common transport policy

The global approach of the common transport policy included:

(a) the support of the integration of the internal market, facilitating the free movement of goods and persons throughout the Community;

(b) the elimination of the legal and quasi-legal obstacles, for the development of integrated transport systems for the Community as a whole using the best available technology;

(c) the development of the appropriate transport infrastructure that contributes to the reduction of disparities between the regions and linking island, landlocked and peripheral regions with the central regions of the Community, strengthening the economic and social cohesion;

(d) reassuring that the measures taken for the development of the transport systems contribute to the protection of the environment policies;

(e) actions to promote safety;

(f) measures in the social field;

(g) the development of appropriate relations with third countries, where necessary giving priority to those for which the transport of goods or persons is important for the Community as a whole.

The adoption of such a global program and the preparation for any new Community action required the cooperation of the Member-States. In particular in areas of shared power, such as transport networks and certain aspects of safety, the harmonious functioning of the internal market in transport services, the common policy on transport, the obligation to integrate environment protection and common actions on economic and social cohesion, the setting of transfrontier dimensions of a transport problem, etc.

4.4. European Community Railway Policy up to '90s

For the needs of this study, the analysis of the Community Transport Policy will be focused on railways.

First of all it has to be clear that railways have certain particularities compared to the other transport means, for example, more than any other transport mean, they provide social services and their finances depend on the member-states and their government policies. So, they are very sensitive to the structural changes in the national and world economy and to the competition (especially from the road transport that is so flexible and so liberal).

The last 2-3 decades, in E.U. and worldwide there are many industries in transition and free competition is the current trend. In transport sector, air, road and maritime services have also been deregulated and liberalized. Consequently, E.U. believed that railways had to follow the market forces, as well, and to be prepared for surviving in this competitive environment, starting with wide harmonization programs since European countries had developed different transport infrastructure in the last two hundred years by natural demand and according to the physical geography of the individual country. Therefore, the national interests have to be re-orientated according to the interests of the wide European Network; the efficiency and the harmonization of the networks.

During 1960-70 the Commission was concerned about the elimination of discriminatory practices, unjustified support and unjustified agreements and monopolies. It was also aiming to the integration of the transport systems by forwarding the adoption of common rules for international transport, to the technical harmonization; and to the general organization of the market by agreed tariff measures, greater freedom of entry into the transport sector at the national level, the co-ordination of investments, the elimination of fiscal distortions and the achievements of high social standards in the sector.

However Member-States, could not follow so fast, since they could not recognize yet the forthcoming railway decline. At this time more than one third of goods in Europe were transported by rail.

Later on, in 80s, industries like gas and oil start to be deregulated and privatized and the transport policy had to develop closer links with other community policies and to decide the future developments for the industry. It was considered necessary to ensure the proper organization of the transport market and to develop an infrastructure policy where links with environmental

and regional development objectives were of great importance, for satisfying future demand.

By this radical re-appraisal of the transport policy, the infrastructure development and the liberalization of the market were brought into a central role.

But progress was still slow. Hellenic Railways were lacking of proper organization resources investments on infrastructure and consequently were facing serious decline in passenger and freight transport.

Moreover, another area for further improvement was identified. It was the promotion of international combined transport, which could utilize both rail and road in co-operation, rather than in competition. Simultaneously it could reduce the road congestion and could improve the rail traffic.

At this stage, the co-operation between the national railway companies of the Member-States and the harmonization of the national networks were of high priority.

Nevertheless rail transport had entered to an accelerated declining period.

The Member-States and the Commission tried urgently to find a solution for the railways survival.

The main pillars of the new orientation towards railway survivor can be summarized in to the following aims:

- the improvement of combined transport
- the improvement and harmonization of railway infrastructure in Europe
- the improvement of railway management and operation
- the improvement of the level of services which railways offer
- the cure of railways of their huge deficits
- the expansion and utilization of railways as the most friendly to the environment, transport mean.

So, in 1990 railways are entering in a new period of their history. The Commission put forward a global plan to put the railways on a sounder footing that will enable them to make use of their advantages in the context of the single market. Several essential measures were proposed:

- clarification of the division of responsibilities regarding the infrastructure and the public service obligations.

- improvement of the financial situation of railway companies giving the companies complete responsibility for their own commercial operations.
- development of combined transport and high-speed rail
- promotion of research in rail-traffic control.[3]

In June 1991 in Luxembourg, the EU Council of Ministers of Transport decided for the future of railways, by voting for the application of Directive 91/440, determining the framework of their operations:

- company autonomy
- clearing of past debts
- separation of the accounts for infrastructure and operation which create advantageous conditions for new forms of cooperation between the European networks and for the design of new products.

At that moment it was widely believed that the rail transport was undergoing a new revolution. The Community of the European Railways (CER) and the International Union of Railways (UIC) cooperated for the realization of the new railways (proposed image). The message which they were seeking to convey to national and international transport policy decision-makers and to all concerned for the future of rail transport, was that they were fully accepting the principle of competition between the various modes of transport; on the expressed condition that there will be proper harmonization, under certain requirements, which were summarized in a few simple and simultaneously important ideas in 1991, in the UIC White Paper "Transportation of the international railway system as part of the new European Transport Policy", 1991:

- the placement of the railways on a sound financial footing
- the gradual harmonization of social regulations and working conditions
- the harmonization of infrastructure
- the environmental, harmonization, whereby each mode would bear the costs corresponding to its external effects on the environment
- the competition must be combined with efforts to develop efficient intermodal chains for both passenger and freight transport

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[3]Commission of European Communities "European File" European Community Transport Policy in the approach of 1992

- to maintain the railway system as an integrated whole, both infrastructure and operation. This imperative is based on reasons of technical and economical efficiency, productivity and quality
- the rights of access could be granted to new groups originating from the railway enterprises, essentially belonging to them and considered as being operators active in international transport, since maximum efficiency can only be attained through unitary organization, both to the area of infrastructure and operation
- railways should be sufficiently autonomous enterprises by giving them the possibility to fulfill their public service obligations through the contractual framework which as has been decided at Community level probably offers the most satisfying solutions in this respect.
- to give priority to strong cooperation in the field of international traffic, considering incentives resulting in outside competition with other modes a sufficient stimulus.[4]

4.4.1. The relationship of national Railways with their Member-States

Up to that moment relations between states and railways in most of the European Countries were very close. The reasons are both historical and rational, which came out from the fact that railways have been regarded as natural monopolies.

Also railways are expected to be functional systems, profitable enterprises and public institutions with social responsibilities.

However, it is quite difficult for an enterprise to be profitable while it is offering social services and the government is interfering in its organization, operation and administration with its policies.

The European Union Member-States, trying to give railways the level of autonomy they were seeking for, had adopted several different policies. For example: British Railways (BR) – Railtrack was a mixture of public-private corporation. It owned the infrastructure only (private companies run the train

[4] UIC White Paper :"Transformation of the International Railway System as part of the new European transport Policy", 1991, p:42-43

services to the regions), there was no governmental control on general administrative and managerial matters, but there was a level of control on investments while subsidies were reduced to a minimum. German Railways (DB) was an autonomous entity, special property of the government. The Ministry of Transport supervised it and there was government control on rates, tariffs, investments, plans and budgets. Most of the employees were civil servants.

In Hellas, railways had very close relations with state, adopting the social policy of the government and being subsidized by state, but to a minimum level since resources were limited and the obligations of the state to companies providing public services were not regulated yet. Due to that inability of state to cover all its financial obligations, were generated the huge deficits of OSE.

4.5. The Post 90s' E.U. Railway Policy – An alternative approach

As mentioned before, it was the decade of the dynamic entrance of the principles of liberalization in the industry.

E.U. could not more stand watching the rolling down of the railways and the increase of their deficits. Due to the particularities of the sector, infrastructure and operation were strongly linked. The railway operations used to take place in a system where infrastructure and rolling stock were very tight related.

However, the operation and the maintenance of the infrastructure and the rolling stock was generating very high expenses-costs, binding the railway operations and removing their possibilities to respond to the modern customer needs, by offering competitive services.

Competition demands for investments and development of offered services, but at the moment it was impossible since the infrastructure and operation costs were unified.

Action had to be taken, and then E.U. introduced the Directive 91/440.

4.5.1. Council Directive 91/440/EEC on the development of the Community´s Railways (appendix 2)

With the application of the Council directive 91/440, the EU aimed in:

- greater integration of the Community transport sector as an essential element of the internal market
- the improvement of the efficiency of the railway system, in order to integrate it into a competitive market, whilst taking into account the special features of the railways
- rendering railway transport efficient and competitive as compared with other modes of transport, (member-states must guarantee that railway undertakings can afford a status of independent operators behaving in a commercial manner and adapting the market needs)
- the future development and efficient operation of the railway system by distinguishing the provision of transport services and the operation of infrastructure
- boosting competition in railway service management in terms of improved comfort and the services provided to users, by having member-states retaining general responsibility for the development of the appropriate railway infrastructure
- the allocation of infrastructure costs, where member-states can, after consulting the infrastructure management, lay down rules providing for the payment by railway undertakings and their groupings for the use of railway infrastructure, whereas such payments must comply with the principle of non-discrimination between railway undertakings
- giving a sound financial structure, to railway transport undertakings, in particular to the ones that are still owned or controlled by the states
- in giving to railway undertakings established in the EU member-states, the freedom to form groupings with railway undertakings established in other member-states. (Such international groupings should be granted rights of access and transit in the member-states of establishment of their constituent undertakings, as well as transit rights in other member-states as required for the international service concerned),

- encouraging combined transport, by granting access to the infrastructure to the railway undertakings of the other member-states, engaged in the international combined transport of goods
- providing certain access rights in international rail transport for railway undertakings and international groupings of railway undertakings.

4.5.2. Consequences of the application of Directive 91/440

So, the Directive 91/440/EEC obliged Member-States to separate their infrastructure from the operation in the accounts of railways. For the Commission it was a solution, which would contribute to the financial recovery of railways.
Also the Commission stated that the operators should own and be responsible for the rolling stock for passenger and freight traffic, traffic control and timetabling systems, real estate including land, stations, freight terminals and workshops.
For a railway company, commercial calculations can be more simple when the long-term costs of infrastructure are properly defined in comparison for example, with the marginal cost to run an extra train on that infrastructure. European Railways accepted this separation underlying that separate accounting need not mean separation of railway management into two independent parts. The whole railway system had to be kept under the supervision of single management in order to ensure its optimum operation.

In practice, governments start reducing grants and subsidies to railways. Restrictions on investments had been imposed and the grants for keeping the unprofitable lines running had been reduced.

Many governments start thinking that railway privatization could contribute to railways renaissance and to a more effective railway operation. Also it could reduce state control or regulation, it could increase competition, it could transfer assets from the public to the private sector, and it could gain access to private capital.

While the basic aim for the privatization of the railways is both to increase private ownership and to promote competition, there have been adopted several different policies as contracting out some services (but there is little private involvement in the core business for running trains), franchising, time access to private capital with government control, etc.

It is the first time that Hellenic Railways are going to be challenged by an open railway market, meaning that many changes have to be taken up both in terms of organization and operation, but also in investments for infrastructure and rolling stock. There is an urgent need for investments, first of all for safeguarding the survival of OSE and later on for achieving its effective operation in a competitive market because OSE is not only challenged by other modes, but is also going to be challenged by other railways.

4.5.3. Council Directive 95/18/EC on the licensing of railway undertakings (appendix 3)

Since certain access rights in international rail transport for railway undertakings and international groupings of railway undertakings were provided by Directive 91/440/EEC, and in order to apply the principle of the freedom to provide services to the railway sector (taking into account the sector's specific characteristics) and to ensure that access rights are applied uniformly throughout the Community, Directive 95/18/EC entered into force in 1995.

It was laying down the broad principles for the implementation of a licensing system, leaving to member-states the responsibility for the granting and the administration of licenses.

For the needs of the application of this directive, member-states had to designate a body responsible for issuing licenses and carrying out the obligations imposed.

Railway undertakings must be able to demonstrate to the licensing authority, before the start of their activities that they will, at any time, be able to meet the defined requirements relating to good repute, financial fitness, professional competence and cover for its civil liability.

In addition, railway undertakings should comply with the following national (compatible with Community) provisions:

- specific technical and operational requirements for rail services,
- safety requirements applying to staff, rolling stock and the internal organization of the undertaking,
- provisions on health, safety, social conditions and the rights of workers and consumers.[5]

4.5.4. Council Directive 95/19/EC on the allocation of railway infrastructure capacity and the charging of infrastructure fees appendix4)

As mentioned previously, certain access rights in international rail transport for railway undertakings and international groupings of railway undertakings were provided by Directive 91/440/EEC, and it is ensured that these access rights are applied uniformly throughout the Community, through the Directive 95/18/EC on the licensing of railway undertakings. Following, it was appropriate to be established a system for the allocation of railway infrastructure and the charging of infrastructure fees, introduced by the Directive 95/19/EC, entered into force in 1995.

So, the purpose of this directive was to define the principles and procedures to be applied with regard to the allocation of railway infrastructure capacity and the charging of infrastructure fees for railway undertakings which are or will be established in the Community and the international groupings which they form, where such undertakings and groupings carry out services referred to in Article 10 of directive 91/440/EEC under the conditions laid down in that Article.[6]

Member-States had to designate the allocation body according to the requirements of this directive, which, in practice, shall be informed of all train paths available, and shall ensure that:

- railway infrastructure capacity is allocated on a fair and non-discriminatory basis,

[5] Council Directive 95/18/EC on the licensing of railway undertakings, Article 12, p:5
[6] Council Directive 95/19/EC on the allocation of railway infrastructure capacity and the charging of infrastructure fees, Article 1, p:2

- the allocation procedure allows optimum effective use of the infrastructure.

The rules for determining the infrastructure fees shall be laid down by the Member-States after consulting the infrastructure manager. The fees charged by the infrastructure manager shall be fixed according to the nature of the service, the time of the service, the market situation and the type and degree of wear and tear of the infrastructure. They shall be paid to the infrastructure managers and will be charged on a non-discriminatory basis[7].
However, regulating access to the railway network raises complex issues. For achieving safe and efficient operation, rail services have to operate according with a very detailed timetable. Also there are difficult issues about how different types of passenger and freight services should be changed for the use of infrastructure and related overheads.

The access and charging regime should ideally meet a number of objectives:
- To promote efficient operation.
- To promote competition and innovation.
- To encourage efficient use of infrastructure and other resources.
- Not to discriminate unfairly between competing operators and services.
- To provide the means for financing investment in rail track's infrastructure, environmental standards and continuity of services.[8]

Moreover, the member-states shall provide in addition a safety certificate in which the railway undertaking´s safety requirements are set out, in order to ensure safe services on the routes concerned.

4.6. Commission Proposes Measures for the more efficient use of railway infrastructure

Even though Member-States tried to adopt the previous mentioned Directives with the most effective way for the improvement of their railways operation,

[7] Council Directive 95/19/EC on the allocation of railway infrastructure capacity and the charging of infrastructure fees, Article 1, p:2

[8] The Department of Transport: "New opportunities for the Railways - The privatization of BR" 1990, p:54

Commission was not satisfied of the results, and was searching for ways for further development of the European Railways.

Hellenic Railways were extremely delayed in applying 91/440 on the one hand because of the manual and complicated accounting system used and on the other hand because there was referred a derogation in the directive for Hellas, till the moment that would be submitted an official application to by a private operator to operate railway services (there is not any application until now).

However, Hellenic Railways have to be properly prepared for the new market status. Especially for the profitable routes, for example the Thessaloniki-Athens, where there is enough room for competition and for the Athens-Patras, after the completion of its renovation program, along with the development of other E.U. Axis, for example the Motorways of the Seas and Axis 29: Ionian-Adriatica Intermodal Corridor, which will cater this route with high volumes of passengers and freight.

So, in 1998, the Commission proposed three pieces of legislation (the so called infrastructure package) to ensure more efficient use of railway infrastructure through more fair and non-discriminatory conditions of access, improved train path allocation, and efficient charges. The three Directives proposed would complement the rules laid down in European legislation in the rail sector in 1991.

Neil Kinnock, the European Commissioner for Transport Policy, said: "A renewed railway sector is vital for the future of Europe's transport system and the wider economy. We want to reverse rail's long term decline in market share by creating the conditions for an expanding, competitive, customer-orientated rail system. The proposals made will make a major contribution to, ensuring that rail transport can compete effectively with other forms of transport by providing services that people and business need."[9]

But again, Hellenic Railways have firstly to be financed by state in order to be reorganized and modernized for being competitive and then can be considered the ways that can provide people and business the services they need.

[9] European Commission "Porte-Parole" IP/98/681, Brussels 22 July 1988, p:1

In terms of European legislation, Directive 91/440/EEC was a first step in the revitalization of the railways of E.U. It partially opened the market to competing railway companies and it allowed them to operate trains on the same track as incumbent rail operators. In also required management independence and the separation of infrastructure management and transport operations, at least in the accounts.

The scope of the Directive is, however, limited, in particular because the national railway bodies that must implement the rules determine the conditions under which other companies enter the market and conduct their business, thus giving rise to a conflict of interest.

Therefore, the Commission proposed the three directives aiming to ensure that all railway undertakings are treated in a fair and non-discriminatory way, and to provide for the efficient and competitive use of infrastructure.

The first proposal would replace the provisions of Directive 95/19/EC on the allocation of infrastructure capacity and on the charging of infrastructure fees, the second aims to amend the provisions of Directive 91/440/EEC primarily on the separation of accounts of infrastructure management and of transport operations, the third proposal would widen the scope of Directive 95/18/EC on the licensing of railway undertakings.

In parallel, by the September of 2001, Commission presented its White Paper "European Transport Policy for 2010: time to decide", by proposing specific measures to be taken at Community level under the transport policy, again based on the revitalizing of the railways, the improvement of quality in the road transport sector, promoting transport by sea and inland waterway, striking a balance between growth in air transport and the environment, turning intermodality into reality, building the trans-European Transport Network, improving road safety, adopting a policy on effective charging for transport, recognizing the rights and obligations of users, developing high-quality urban transport, putting research and technology at the service of clean, efficient transport and managing the effects of globalization.

While, the Commission's first White Paper on the future development of the common transport policy, published in December 1992 had as guiding

principle the opening-up of the transport market, this objective has been generally achieved, except in the rail sector.

Revitalizing this sector means competition between the railway companies themselves. The arrival of new railway undertakings could help to bolster competition in this sector and should be accompanied by measures to encourage company restructuring that take account of social aspects and work conditions. The priority is to open up the markets, not only for international services, as decided in December 2000, but also for cabotage on the national markets (to avoid trains running empty) and for international passenger services. This opening-up of the markets must be accompanied by further harmonization in the fields of interoperability and safety.

This priority can resolve the problems holding back its development: the lack of infrastructure suitable for modern transport and of interoperability between networks and systems, the constant search for innovative manufacturing technologies, the non-transparency of costs, and the patchy productivity and shaky reliability of the service, which is failing to meet customers' legitimate expectations.

For integrating rail transport into the internal market, should be created a genuine internal rail market with the arrival of new railway companies, making this sector more competitive and encourage the national companies to restructure while also taking social issues and working conditions into account. It is important that the community competition rules be applied properly to prevent anti-competitive practices and ensure that the community rail transport market is genuinely opened up.

Every effort must therefore be made to convince the countries in question of the need to maintain the railways' share of the freight market at a high level, with a target of around 35% for 2010.[10]

[10] European Community, , Commission's White Paper "European Transport Policy for 2010: time to decide"

As demand for transport keeps increasing, the transport system needs to be optimized to meet the demands of enlargement and sustainable development, from an economic and social as well as an environmental viewpoint.

4.6.1. The Infrastructure Package

Allocation of capacity - the proposed, directive defines the rights of railway undertakings and-of the infrastructure manager and a procedure for the preparation of timetables. It also ensures that capacity is allocated by an independent authority and institutes a right of appeal.

Charging of infrastructure fees - the proposal is to base, in principle, charges on marginal cost, that is the cost that is directly incurred as the result of the operation of a train. It also requires that the charging system rewards good performance and penalizes bad.

Separation of accounts - The essential provision of Directive 91/440/EEC about the separation of infrastructure management and transport operations (at least in the accounts) aimed for the efficient operation of two different but linked activities, transparency of the use of public money and a solid foundation for infrastructure charges. The amended directive aims to clarify the legal situation and requires the separation of both profit and loss accounts and balance sheets of the activities.

Licensing of railway undertakings - Directive 95/18EC on licensing only applies to railway undertakings providing the services covered by access rights (i.e. international services and combined transport). For ensuring that these rights are applied to all railways, the Commission proposes to extend rules on licenses to all railway undertakings. This would also significantly help the development of Rail Freight Freeways: all companies with this license would have access to the Freeways.

4.6.2. Directive 2001/12/EC of the European Parliament and the Council amending Council Directive 91/440/EEC on the development of the Community's railways (appendix 5)

It is amending Directive 91/440/EC, by separating not only the profit and loss accounts of railway infrastructure managers from the providers of transport services, but also their balance sheets, aims to ensure transparency in the use of funds in such a capital-intensive sector, in particular by ensuring that separate accounts are kept for passenger transport business and freight transport business. The former often receives substantial subsidies, unlike freight transport that is more clearly commercial. The directive also aims to award responsibility for functions determinant for equitable and nondiscriminatory access to infrastructure to an independent body. It also defines the Trans-European Railway Freight Network (TERFN) which includes a list of all relevant freight lines as well as access to major terminals and ports.

Also, it lays down that railway undertakings seeking access shall be granted, on equitable conditions, access to the TERFN for the purpose of operating international freight services whatever the mode of operation. A recital provides that a Member State may grant a more extensive access, and can limit it to railway undertakings licensed in such member-states where similar rights are granted. However, the rules of the Treaty must be respected.

The separation between management and infrastructure from the provision of railway transport services, provides that member-states shall ensure that bodies independent of railway undertakings will lay down safety standards and rules, will certify rolling stock and railway undertakings and will investigate accidents.

Member-States shall adopt the laws, regulations and administrative provisions necessary to comply with this directive by 15 March 2003.

A derogation is referred to Ireland (as a member-state located on an island with a rail link to only one other member-state), to United Kingdom (in respect of Northern Ireland, on the same basis), and Hellas (as a member-state that does not have any direct link to any other member-state), till 2008. However, when a railway undertaking operating services in Ireland, N.Ireland or Hellas

submits an official application to operate railway services on, to or from the territory of another member-state, this derogation shall not apply. This means that E.U. recognizes that the three networks need further development, investments and reorganization in order to manage to compete in the railway market with the new rules of the market. So, somehow these networks are protected from competition, at this stage, but they have to take advantage of the time given from this derogation for adopting demanded changes.
Since the Hellenic network is under development and its market share is extremely low, it is not attractive for new entrants. However, Hellas has to develop its new reorganization model in such a way that will speed up development and will leave enough room for new entrants, when time comes, providing the appropriate tools for the effective operation of the market.

4.6.3. Directive 2001/13/EC of the European Parliament and the Council amending Council Directive 95/18/EC on the licensing of railway undertakings (appendix 6)

It is amending directive 95/18/EC on the licensing of railway undertakings, by extending the provisions of that directive which introduced a system of licenses only for railway undertakings offering international transport services and to those engaged in international combined transport of goods. The licenses, granted by the member-state in which a railway undertaking is established, are valid throughout the Community. The scope of the directive is extended to cover all railway undertakings established in the Community (excluding some companies operating limited services, e.g. local or regional services). All railway undertakings could therefore benefit of the opportunities for access to new markets on a uniform and non-discriminatory basis and the risk that licenses would become an obstacle to entry to the market would disappear.

From the scope of this directive, member-states may exclude only:

- railway undertakings which only operate rail passenger services on local and regional stand-alone railway infrastructure

- railway undertakings which only operate urban or suburban rail passenger services
- railway undertakings whose activity is limited to the provision of regional rail freight services that are not covered by the scope of directive 91/440
- undertakings which only carry out freight operations on privately owned railway infrastructure that exist solely for use by the infrastructure owner for its own freight operations
- undertakings the business of which is limited to providing shuttle services for road vehicles through the Channel Tunnel are excluded from the scope of this directive.

Member-states shall bring into force the laws, regulations and administrative provisions necessary to comply with this directive by 15 March 2003.
Again, here we have the derogation for Hellas, Ireland and Northern Ireland till 2008.

4.6.4. Directive 2001/14/EC of the European Parliament and the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification (appendix 7)

This Directive lays down, as regards the allocation of capacity,
-a more exact definition of the rights of railway undertakings and of the infrastructure manager,
- a procedure to resolve conflicts between demands for capacity and to overcome problems caused by scarcity of capacity,
- that the body responsible for allocating capacity may not itself be a provider of transport services,
- right of appeal.

As regards the levying of charges for the use of infrastructure, the directive foresees that charges should be calculated on the basis of the marginal costs (costs that are directly incurred as a result of operating the train service). In addition, charges may be increased or modulated to attain other objectives, e.g. better cost coverage, the inclusion of external costs and to solve problems caused by scarcity of capacity. It also lays down a performance

scheme together with incentives and penalties to bring about greater efficiency and the publication in advance of charging systems and of information on the method of calculating charges, so as to guarantee equitable treatment. It applies to the use of railway infrastructure for domestic and international rail services. It considers licensed railway undertakings and international groupings of railway undertakings as "applicants" (for rail path allocation). It also authorizes member-states to consider other bodies with public-service or commercial interests in procuring infrastructure capacity (e.g. public authorities, shippers, freight forwarders, combined transport operators) as applicants, but only in their own territories.

As derogation from the general rule of charging is based on marginal costs, the directive allows the infrastructure managers to levy increased charges (to be added to the marginal cost pricing), if the market can bear this, on the basis of efficient, transparent and non-discriminatory principles, while guaranteeing optimum competitiveness in particular of international rail freight. The charging system shall respect productivity increases of the railway undertakings. In particular market segments, e.g. where there is high demand for access, the charges should not end up with an exclusion of undertakings that can only pay the costs directly incurred as a result of the train operation costs, plus a rate of return which the market can bear.

Member-States shall adopt the laws, regulations and administrative provisions necessary to comply with this directive by 15 March 2003.

Again here derogation is referred to Ireland (as a member-state located on an island with a rail link to only one other member-state), to United Kingdom (in respect of Northern Ireland, on the same basis), and Hellas (as a member-state that does not have any direct link to any other member-state), for a period of five years. However, when a railway undertaking or company operating services in Ireland, N.Ireland, Hellas or elsewhere submits an official application to operate railway services on, to or from the territory of another member-state, this derogation will be decided upon in accordance with the advisory procedure.

4.7. Evaluation of the First Railway Infrastructure Package

The main objective of the Commission, to increase the railways' share of the transport market and in general to improve rail and intermodal services in the European Union, is more than welcome. This objective was also emphasized in the 1992 White Paper on a Common Transport Policy of "sustainable mobility."

The railways believe that this mode can play a bigger role in both the freight and passenger markets provided that the new regulatory framework stimulates real traffic growth and not merely a transfer of existing volumes between railway operators.

4.7.1. Principles

The members of the Community of European Railways have a commitment to generating new business, recognizing that on-rail competition can boost the rail share, notably in international freight, provided that certain conditions are met:

-competition is between licensed railway undertakings and not with undefined "transport operators "[11];

-such competition does not exclude customer-oriented co-operation between undertakings;

-there is sufficient capacity, especially at saturated points on the network, to realize new business;

-there is effective progress towards a level playing field.[12]

At this point has to be stated that treating European railways as homogeneous can be misleading since they are at different stages of reform.

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[11] Case T-374/94, T-375/94, T-384/94 & T-388/94 European Night Services Ltd (ENS) v Commission [1998], par.185

[12] Community of European Railways, position paper on the European Commission´s Railway Infrastructure Package, 1998, p:3

The legislative process needs to recognize differences and the separation process should be a matter of national policy and not of Community rules.
Moreover, in comparison with legislation for other competing modes, the proposals appear unreasonably prescriptive and complicated. Part of the complexity arises from the accent in the text on defining how things should be done rather than on what should be accomplished. Therefore the Commission should better focus on impacts and outcome.

More specifically, the following issues can be commented:

- Finance & Management Autonomy
- Charging Principles
- Authorized Applicants
- Regulatory Instruments
- Secondary Markets

4.7.1.1. Finance and management autonomy

For most railway undertakings, the burden of past debt is at the heart of their problem. The 91/440 Directive called for improving the financial structure of railways in particular, to reduce the indebtesness of undertakings. It also took into account provisions to "finance investments and cover excess operating expenditure resulting from the business of rail transport or from railway infrastructure management. Without the full implementation of these measures the main objective of "developing the railways" is in jeopardy.
Unfortunately, the Directive failed to set a timetable for the Member States. This alone creates a serious handicap for existing operators at a time when they are being asked to face new competitors that may be free from similar constraints.
Healthy finances are a prerequisite to management independence. These two basic conditions go hand in hand. If debts are accumulating, the effects are disastrous for the operation of railways. New investments are difficult to make and need further capital injections. The need to charge higher tariffs to offset losses leads to a vicious circle of decline.
Restoring the financial health of the railways does not mark an end of the Member States involvement in their capacity as shareholders. The Member

States will continue to invest responsibly in the railways to allow them to provide safe and efficient transport.

4.7.1.2. Charging Principles

In the case of transport services that are considered as social goods, the principle of marginal social costs should be used as a basis for ensuring uniform treatment between modes and within the sectors. This basis is important not only for a fair but also an efficient pricing system across modes, as mentioned previously at this chapter.

However, clarification is needed on the definition and application of marginal social costs. These costs need to be fully comprehensive, including external costs such as congestion, accidents, pollution, noise. Also important is a strengthening of the commitment by public authorities to compensating rail when the costs of other modes are insufficiently internalized.

Some infrastructure managers fear that gaps in financing reflecting the socioeconomic benefits of rail will not be covered. It is important that robust mechanisms are in place to fund infrastructure investment, notably capacity enhancement.

By replacing Directive 95/19 with Directive 2001/14/EC, the Commission imposes an obligation to apply the same charging regime throughout the network. Provided that non-discrimination is assured, the efficient use of infrastructure may be enhanced in certain states if targeted pricing schemes can be applied to different parts of the network. Networks differ according to traffic density, geography (centre or periphery) and policy considerations, so the use of different pricing regimes within one network should be a clear case for subsidiarity. In general, Infrastructure Managers will be unable to attain their objectives, if charging systems are too rigid.

4.7.1.3. Authorized Applicants

By allowing "authorized applicants" other than railway undertakings to reserve paths is introduced a new process in the building of a rail offer and changes fundamentally rules of access as defined by Directive 91/440. This concept needs to be considered in the light of the additional transaction processes: the increased complexity in optimizing the allocation of paths and in planning

capacity enhancement. It is important to assess whether or not such newcomers would revitalize the rail mode through business growth or whether such intervention would in practice work against the development of the rail mode. It seems that this approach is based on discriminatory access for players that, unlike railway undertakings, would not bear the heavy and risky investments that railway activity requires. This constitutes an artificial restructuring of the rail market, which has no application on a significant scale, anywhere in the world, and whose economic effects the Commission has not assessed. There is a risk of provoking only a cherry-picking effect. The majority of CER fears this could seriously harm investment and therefore the development of the rail mode in Europe. However, some members, with experience of comparable processes, welcome the opportunity to widen the scope for rail end-customers to operate services and to contribute to investments. For them, "authorized applicants" would also stimulate competition.[13]

4.7.1.4. Regulatory Instruments

According to Directive 91/440, the starting point must be the development of true business and market focus for Railway Undertakings but also defined business responsibilities for Infrastructure Managers. In freeing railways from political interference, it is therefore important not to create new complexities through prescriptive rules, regulatory instruments, and imposed structures. These may impact on the competitiveness of the rail mode.

The proposals of the Commission may result in strengthening the Infrastructure Managers' position by allowing the delegation of government responsibilities to Infrastructure Managers. The proposals rightly recognize the need for Railway Undertakings to retain leverage, where applicable, on monopoly suppliers of infrastructure. Care will be needed however, to ensure that regulation is proportionate to risk of abuse and not a further bureaucratic device, which restricts and slows down the rail response in comparison with its competitors.

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[13]Community of European Railways, position paper on the European Commission's Railway Infrastructure Package, 1998, p:5

4.7.1.5. Secondary Markets

The Commission's proposals apply new definitions to railway undertakings and create two different markets by changing "rail transport services" to "services for the transport of goods and/ or passengers by rail". The consequence of introducing different markets in railway transport would be the fragmentation of the components that make up the rail offer. The approach presupposes that such components of production are sufficiently profitable. If individual parts do not earn enough in themselves and transaction costs increase, there is likely to be a gap in the funding of renewal of assets, which would harm responses to market opportunities.

4.8. Rail Infrastructure - Harmonization

As it has been mentioned previously, the railway companies used to be state monopolies, in the E.U. Countries. At the same time they are responsible for the provided services and for the infrastructures.

The pricing policies of the railway companies were influenced by considerations of a public nature, giving rise to a complicated system of state subsidies, for operation of the system and for the infrastructure, which are difficult to distinguish.

Recently a lot of European Railways have been trying to apply commercial criteria in their operational strategies by dividing their areas of activity into segments, placing unprofitable parts of their network under separate management and orientating government subsidies to those parts of the network by reference to political and social criteria which are based on suitability and competition.[14]

Commission attempts to improve the flexibility of the European railways and to facilitate the task of clarifying the ways in which the costs of using railway infrastructures are covered.

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[14]"Community Policy on Transport Infrastructure" European Parliament/Research & Development papers. 1991, p:27

As far as the complexity of the problem of allocating and fully covering the infrastructure costs of rail transport, the European Union has made several programs for investments on railway networks and has planned several rules of action, i.e. the high speed network.

The proposal and the implementation of an integrated European network of high speed trains can illustrate the way in which railway companies should develop, so that they can offer transnational high speed services. A similar program has been drawn up for the integrated combined transport networks and undertakings.

What is of high priority for the implementation of the inter-european efficient operation of railways is the necessity of harmonization between networks.

4.9. The application of the E.U. rail legislation to the Member-States

So, for the implementation of the E.U. demands, Member-States, should direct their efforts towards:

- completion of restructuring
- establish principles of railway infrastructure charges
- creation of administrative capability required for the proper operation of the regulatory bodies
- contractualization of the states financial relations
- clarification of financial ties between national and regional transport authorities
- prohibition of cross-subsidization between freight and passenger transport operations to maintain the ability of rail freight to be competitive
- the creation of transparent requirements for issuing safety certificates.

Also, Infrastructure Managers, should pay particular attention in setting charges based on the real costs engaged by rail traffic, in the cooperation at European Level on the granting of international paths and establishing harmonized conditions for infrastructure access based on standard contracts.

However, there is a need to distinguish between the organizational changes that took place by applying Directives 91/440, 95/18 and 95/19 and the proposed changes by Directives 2001/12,13,14 (The Infrastructure Package) that are at the process of implementation, and this research is mainly dealing with.

The following –two- tables give the general view of the work done regarding the application of Directives 91/440, 95/18 and 95/19, while the rest of the chapter is an effort to evaluate what has already been done regarding the application of Directives 2001/12,2001/13 and 2001/14 (The Infrastructure Package) and to identify further action needed.

Table 5

Key requirements of EU Directives 91/440, 95/18 & 95/19

Directive 91/440/EEC on the development of the Community's railways

Governments must:

- Afford railway operators independence to behave commercially.
- Ensure infrastructure and operations are managed separately - optional - with separate accounts - compulsory.
- Prevent aid given to infrastructure passing to operations and *vice versa*.
- Establish rules for payment for infrastructure use based on non-discrimination.
- Grant rights of access for international groupings to run international freight and passenger services.
- Grant track access to international combined transport operations.
- Ensure sound financing structures for public railway undertakings.
- Reduce indebtedness to levels that do not impede sound financial management.
- Provide State Aid to reduce debts only in accordance with Articles 77, 92 and 93 of the EEC Treaty.

The Commission set up an advisory commission on the application of the Directive.

Directive 95/18/EC on the licensing of Railway Undertakings

Requires that:

Operators obtain:

1. An operating license (conditions cover financing capacity, professional qualifications, insurance)
2. A safety certificate
3. Path allocations

States designate licensing authorities.

Directive 95/19/EC on allocation of railway infrastructure capacity and the charging of infrastructure fees

Governments must, in general:

- Ensure nondiscriminatory access for international consortia and combined

transport operators as defined in 91/440/EEC.
- Ensure optimum use of infrastructure.
- Ensure no discrimination in charging for the use of in6astructure.

In particular (within 2 years of 27 June 1995):
- Define an infrastructure manager.
- Ensure infrastructure managers accounts balance income and expenditures.
- Lay down rules for determining infrastructure fees based on type of service, time-tabling and infrastructure wear.
- Publish procedures for allocation of capacity.
- Define an allocation body.
- Explain reasons for refusals to allocate capacity.
- Appoint an independent body for appeals.

Source: developed by the author

Table 6

RAILWAY UNDERTAKING INDEPENDENCE

KEY	**1** indicates highest level of potential independence	
Legal constitution	**1** join stock company **2** joint stock company 100% state owned **3** state enterprise with commercial statutes **4** state enterprise with statutes substantially limiting commercial freedom	
State influence on investment decisions	**1** Low (e.g. overall programme only requires approval as a formality) **2** Intermediate **3** High (e.g. if government has to be asked for funds or Loan guarantees for all investments)	
Public services Obligations	**Form of agreement**	**1** Legal contract **2** Written agreement **3** Other **4** None
	Basis for compensation	**1** Competitive tendering **2** Negotiated agreement **3** Imposed by government
	Compensation mechanism	**1** Ex – ante payment **2** Deficit financed **3** Failure to make agreed payments habitual
Tariff	**Passenger tariff controls**	**1** None **2** Some specified services **3** All subsidised services **4** All domestic services **5** All passenger services

Freight tariff controls

n: No controls exist
y: Some or all freight rates controlled

Companies- Major undertaking only Infrastructure (I) Operations (O) or both	**Legal** Constitution				State influence investment decisions				**Public Services Obligations**											Tariff regulation							
									Form of agreement				Basis for compensation				Compensation controls			Passenger Tariff controls					Freight	
	1	2	3	4	1	2	3		1	2	3	4	1	2	3		1	2	3	1	2	3	4	5		Yes/ No
Austria OBB (Both)		X				X				X				X			X					X				N
Belgium SNCB (Both)		X				X			X												X		X			N
Denmark BS (I) DBS (S)		X		X		X X			X			X X		X			X	X				X		X		
Finland RHK (I) VR (O)		X		X	X		X		X				X				X			X						N
France RFF(I) SNCF(O)			X X				X X				X				X									X		N
Germany DB-AG (Both)		X				X			X					X			X			X						N
Greece CH (Both)		X			X																					
Ireland CIE(Both)			X			X			X															X		
Italy FS SpA (Both)		X					X			X												X				
Luxembourg CFL (Both)		X					X		X															X		
Netherlands Railned, RIB, NSV (I) NSR, NSC (O)		X X			X	X			X					X			X						X			N
Portugal REFER (I) CP (O)			X	X X		X	X		X															X		
Spain RENFE (Both)				X			X					X									X					
Sweden BV(I) SJ(O)			X X	X		X X			X				X				X			X						N
United Kingdom Railtrack (I) TOCs	X X				X X				X				X				X				X					N

Source: ECMT (European Conference of Ministers of Transport), 1998 Rail Restructuring in Europe p:24,25

4.9.1. The separation between infrastructure & operation as it has been adopted by the E.U. railways

4.9.1.1. The variety of Separation Models

Member-states are responsible for taking the adequate measures for the actual separation between infrastructure & operation of their national railways. Moreover, they have to separate the accounts of the passenger and freight transport services. This accounting separation is the minimum demand, since member-states have the freedom to apply and the organizational separation (e.g. holding system of German Railways, institutional split of British Rail (BR), creation of two companies: Infrastructure Manager (RFF) and Rail Operator (SNCF) of the French Railways).

In practice, the used models can be divided into three broad categories:

- the institutional separation,
- the organizational separation &
- the accounting separation

4.9.1.1.1. Institutional separation

Talking at least about two different legal entities, where each one of them can be divided to several independent bodies:

- *the case of two different entities*

France: The institutional separation between the Railway Operations entity SNCF and the Infrastructure Manager RFF was introduced by the national legal system in May 1997. The French Railway Network RFF is a new independent company with its own property and accounting independence (its own financial statements – balance sheet, income statement, etc)

Sweden: In 1988 the Swedish Railway Network was split in two: the Swedish Railways (SJ) which had to operate the national railway system and the Banverket (BV), a national public body responsible for the investments and the maintenance of the network. In 1996 the responsibility of the traffic control was deducted from the SJ and was added to the BV responsibilities.

Spain: In 1996, was taken the decision by the state to create a new state entity, the Infrastructure Manager (similar to the French Railway Network

RFF), but its responsibilities were restricted to the construction and management of the new built infrastructure.

In all these cases, the Infrastructure Managers are public/state owned entities and only the constitution of the Spanish Infrastructure Manager allows the future cooperation with private investors

- the case of more than two different entities

This is the case of the existence of two totally different models:

- either the "Infrastructure Manager" is a completely separate entity from the "Railway Company" which can be a "unified" entity or can be divided into several units or entities,
- or the "Railway Company" is separated from the Infrastructure Manager which can be a "unified" entity or can be divided into several units or entities.

The most typical example is the Dutch model, where the infrastructure is an independent legal entity, the "Infrastructure Manager", divided into 3 activities:

-a. infrastructure maintenance,

-b. reconstruction and new works,

-c. traffic control and technical operations,

and the "Railway Company", also independent, divided into 4 independent subsidiaries, covering all the country:

-a. passenger services, rolling stock, security,

-b. management of stations

-c. freight transport

-d. buildings & installations

Those subsidiaries which are legally independent companies can be privatized. (So here we have both the Railway Company and the Railway Infrastructure divided to independent entities).

The British case, till recently, was characterized by the existence of one Infrastructure Manager (the Rail Track) – now defunct , a private company which entered the British Stock Exchange, and the existence of Many

Railway Operations Companies, being (all of them) independent and privatized with franchise contracts of more than 7 years, more or less.
So, the operation is divided to many companies (25 for passenger services, 3 for freight services and for 3 for rolling stock. The operation of the passenger services at a regional level has a monopolistic character. Rail Track is not maintaining the railway network itself, but there is a variety of subcontractors and specialized companies which are undergoing the maintenance and the modernization of the infrastructure.

4.9.1.2. Need for a regulatory body regulating the railway system as a whole

Having an institutional separation between the Railway Company and the Infrastructure Manager, is absolutely necessary the existence of a regulatory body dealing with the conflicts that might occur from this separation, between the new entities.
This Regulatory Role can be entrusted:

- To the Ministry of Transport, this is the case of France, after the foundation of the RFF, since the two entities SNCF and RFF are under the same supervisory authority. However, the two entities tried in common to found an advisory body, but this effort was in vain.
- To an independent body, superior of the two entities (operations and infrastructure manager) which has also the right to issue licenses for railway companies, and this is the case of Sweden
- To a railway Regulator, an independent body supervising all the railway companies, also responsible for safeguarding the proper operation of the system, for the protection of free competition and for solving disputes. This is the case of the Rail Regulator in U.K.

4.9.2. Organisational Separation

Here, we are talking about the existence of one legal entity with independent business units which have the possibility to have separate assets and the same balance sheet, with full operational autonomy.
The business units have their own legal and commercial status.

The most characteristic cases of this model are the German and the Italian.

Germany: In 1994, the German Government introduced the organizational separation of the German Railways and set up the 4 basic sections of the DBAG (Deutche Budensbahn Aktien Gesellschaft):

-a. the passenger suburban services

-b. the local-suburban services

-c. the freight services

-d. the infrastructure

Later on, in 1999 the organizational separation was converted to an institutional separation and these sections are now legally independent entities. So, now the DBAG is the holding company of all its independent entities.

The German Railway System, as a whole is operating with the support of two new state/public bodies as well:

- the body of the Federal Railways (EBA), responsible for the organization, the management and the control of the railway traffic
- the body responsible for the management of the property of the Federal Railways (BEY) which has to deal with the railway deficits generated before 1999, the exploitation of the property of the Federal Railways and the staff training.

Italy: The final decision for the organizational separation of the Italian Railways was taken in 1994, separating the Infrastructure Managers (Area Rete) from the Railway Company (Area Transparato).

This organization model was modified in 1996, with the introduction of 7 business units (ASA):

a. ASA Infrastructure Manager (RETE)
b. ASA Technical Support & Infrastructure Works
c. ASA Rolling Stock & Traction
d. ASA Passenger Services of mid & long distances
e. ASA Urban & Peripheral Services
f. ASA Freight Services & Logistics
g. ASA Development of Buildings & Installations

In both cases, governments are aiming in a clear organisational separation, allowing a future -further- separation of activities by transforming the existing, independent business/operational units to entities or introducing more independent units.

4.9.3. Accounting Separation

This is the least demand from the E.U. legislation, by the application of Directive 91/440 and initially many Member-States adopted it.
Up to date, Belgium seems to be the state which has adopted the Community Railway Legislation to its minimum level/demands, that is to say, it has adopted only the accounting separation between operation and infrastructure.
Also Hellas with the 324/3-11-1996 Presidential Decree adopted the accounting separation (theoretically) since OSE is not using any general accounting system and this separation seems extremely difficult.
France, is the case that initially adopted the least E.U. demands, but later on, and following the new wishes of the E.U. was not satisfied with the results of this accounting separation, compared to its aims for the drastic weakening of the single structure of the traditional railways and the abolition of their monopolistic nature in order to organize a new open, liberal railway market, by applying the rules of free competition on it. So, the amendment of the application of Directive 91/440 was introduced by applying the organizational separation of the railway infrastructure and operation without rejecting the institutional separation.
So, Europe in general is in favour of the organisational separation and member-states which adopted only the accounting separation, had to move or are moving and to the organisational separation, since the operating results of the accounting separation were not satisfactory for the Commission.
The dissatisfaction of the Commission led to the further demand of the obligatory organisational separation, allowing member-states to adopt their own models according to their national railway network characteristics.

4.10. The role of State to the new organisation of railways

4.10.1. The fundamental role of the state, for the new organization of railways

According to article 7 of the Directive 91/440, Member-States have the primary role for the determination of the national transport infrastructure, which means and for the development of the railway network, the definition of the standards and rules of security and for the control of their implementation.
The state is also responsible for the finance of new works and investments on the infrastructure (but it is a possibility not an obligation) and this is an explanation to the use of private investors from some states (e.g. U.K.)

4.10.2. Free access to the network (according to Directive 2001/14)

The use of the railway infrastructure from any Railway Company is possible if it pays the prearranged fees for its use.
The state and not the Infrastructure Manager has the authority to define the level of the fees.
There should be no discrimination regarding the fee charges. The Railway Company (private or public owned) which has the privilege of the monopoly of the previous railway activities (that is to say the traditional railway company) should not be in a dominant position compared to the new entrants in the market (the new users of the railway infrastructure).
It is also state responsibility (The regulatory body) to safeguard the operation of the system.

4.10.3. Financial recovery of the railway networks

Each state has to anticipate the adequate measures for the financial recovery of its railway network. The directive 91/440 considers the financial recovery as extremely fundamental for the achievement of the new European railway market targets, since the reduction of the historic deficits of the railway companies is desirable before the implementation of their organizational

models. It is a common belief that the huge deficits of the railways have been generated due to:

- the inability of state (as the main shareholder or owner of the railways) to finance the railway investments of the past
- the lack of any attempt of the railways side to reduce their operating costs
- the lack of strict rules regarding the financial/economic obligations of the public authorities to the railways when they were running non profitable public services, and loses were not covered by state.

However, even if the aim of the financial recovery of the railways is stated very clear in the directive 91/440, we can not say that the methods used for their financial recovery are also stated very clear.

The directive is only limited to the case/example of the foundation of a body responsible for the depreciation of the external deficit accounts of the company, without mentioning any how, any mechanism or any financial resource for it.

4.10.3.1. Alternative approaches to the financial recovery of the networks

States have followed totally different practices for the financial recovery of the networks:

- The generous approach adopted by the German state: The German state took over all the deficits of the previous railway network (West and East German Railways), which counted about 67 billion DEM= 30.52 billion Euros.[15] So, the German Infrastructure Manager and the German Railway Undertakings entered into the competition of the transport market with a considerable competitive advantage.
- The conservative approach adopted by the French state: This approach is based on the practice of releasing from the balance sheet of SNCF only the old deficits generated from the loans for covering the finance of investments on infrastructure. So, a deficit of 134 billion FF=18.49billion

[15] Community of European Railways, Railway Statistics 2000

Euros[16] was allocated to the operations of the old SNCF and not to the infrastructure, it was not covered by state and it was passed to the new legal entity SNCF.

- The liberal approach adopted by U.K.: Any new railway entity undertakes the obligation to acquire for a prefixed price (usually notional) part of the assets (e.g. equipment and stations of BR) and liabilities of BR. So, it is clear that Railtrack has no more deficits.
- Many other countries adopted only partially this obligation, due to financial difficulties.

So, in Spain, in a total of 7.34 billion Euros deficits the state took over 2,76 billions euros.[17]

In Portugal some of the 2.05 billion Euros[18] deficit will be transferred to the new Infrastructure Manager.

In Belgium part of the 2.64 billion Euros[19] deficit will be covered by state.

Finally the Railtrack (U.K.), the NS (Netherlands), the SJ (Sweden), the DSB (Danemark),the VR (Finland) are considered financially healthy.

In Hellas, there is a proposal for the foundation of an independent service in OSE, where all the deficits will be allocated, but just that, there is not any special provision for covering them.

4.11. The Body issuing licenses for the access to rail infrastructure (according to Directive 2001/13)

Following the demands of the Directive 2001/13, has to be clearly defined in national level:

-what is meant by using the term license.

-which is the responsible body for issuing licenses

-which are the preconditions for issuing a license. Have to be defined the issues of financial standing, credibility, professional competence and cover of civil liability, for any company that applies for license.

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[16] Ibid
[17] Ibid
[18] Ibid
[19] Ibid

-the preconditions for the validity of the license and the reasons for its revocation.

The nomination of the competent authority/body for issuing the railway licenses is one of the basic problems arising from the implementation of the E.U. directives. This problem has to be handled very carefully because has to be safeguarded the character of the equal opportunities offered to the new railway companies which intent to enter into the free railway market.

In practice we have witnessed two different systems:

- the license issued by a neutral, independent public authority, but prior to that the application is examined by another neutral state body. It is the case of Germany, by founding the Federal Railway Office (EBA)
- the license issued by a neutral, independent public authority (e.g. Ministry of Transport), but prior to that the application is examined by an authority which has only responsibility on railway matters and is represented by the railway company which is following a monopolistic practice (e.g. France)

Regarding Hellas it is difficult to take a decision, since only Hellenic Railways have the capacity and the "know how" to deal with the case. The foundation of an independent body (probably with the supervision of the Minister of Transport) would face operational difficulties in hiring the appropriately qualified staff, or would again demand for the support of Hellenic Railways, at least for a transitional period.

Finally, has to be clear that, if one license is issued by one Member-State, it has to be recognized and accepted by all the other Member-States of the E.U., as it is the practice followed with the European Driving License.

4.12. The access to the infrastructure, the organisation of traffic & the operation of the railway services (according to Directives 2001/12,13,14)

The railway companies which are limiting their operation exclusively to the operation of urban, suburban or peripheral services, are out of the application

of the Infrastructure Package (Directive 2001/14, art.1). The permission of access and use of the infrastructure is a state decision and has to follow the principles below:

- no discrimination to the right of access to the infrastructure (since there are many users)
- optimization of the use of infrastructure

The traffic management and the technical support of the new organization of the railways should be based on 4 principles:

1. The fees charged for the use of the infrastructure have to contribute to the equilibrium of the balance sheet of the account of the infrastructure. So, it is important to be defined in national level the account of the infrastructure and the account parameters which generate its expenses and its income.
2. The charging system of the fees for the use of the infrastructure has to be fear and no discriminatory, between all the Operation Companies that offer transport services, either passenger or freight (Directiv 2001/14, art.4). Member-states have to define the way charges will be calculated, according to the previously mentioned principles.

   Directives demand for a charging system allowing the exploitation of the infrastructure to be done with commercial criteria, meaning that the management of the railway infrastructure, of the railway traffic and the technical exploitation will be based on commercial targets aiming to be profitable.
3. The calculation of the charged fees for the use of the infrastructure (Directive 2001/14, art.7) shall have to be based on several parameters, as the nature of the service, the market conditions, the nature and the damage of the infrastructure. Provisions for contracting general agreements can exist for the agreements concerning services offered for the general public.
4. The determination of the charge for the use of the infrastructure are the collection of this charge shall be performed by the Infrastructure Manager. (Directive 2001/14, art.4,par.1)

4.13. The Body managing the railway traffic & the technical exploitation of the infrastructure

According to the existing legislation, the infrastructure manager could be a railway company and simultaneously a body managing the railway traffic, covering different types of responsibilities (Directive 95/19, art.10).

This practice changed with the Directives 2001/12,13,14 and the body managing the railway traffic is already independent at many European countries:

- in U.K., Railtrack is selling to the users access rights
- in Germany this activity was committed to a company called EBA
- in Italy, a company called ASA is going to be responsible for the railway traffic and will be independent from the rest network
- in France, the case is not clear because SNCF (the Railway Company) will also be responsible for the management of the railway traffic on behalf of RFF (Infrastructure Manager), and will be responsible not only for SNCF and RFF, but probably and for the new users. SNCF and RFF will also cooperate for granting the traffic lines (not only directly RFF). This practice is the French effort for maintaining to the highest possible degree, the "united" character of the railways in the country. While in France the basic aim was to maintain the "united" character of the railways, in many other countries the separation of this activity imposed and its institutional separation from the old network e.g. U.K.).

4.14. Safety Certificates

Directives are mentioning the conception of the safety certificate (mainly Directive 2001/14, art.32). So, even if the licence for the railway companies is internationally valid, it is not the same with the safety certificates which are strictly nationally valid because they depend on the adequacy, sufficiency and competence of the particular rolling stock for the particular infrastructure, which is not the same at all the countries.

Each state has to define the cases and parameters covered by its safety certificate, according to the infrastructure of the country, taking into account the line particularities, the traction, the technical infrastructure of the country and its "cabarite", by setting its own standards for the safety.

The national standards regarding safety should apply to the rolling stock and to the mobile personnel and to the personnel working for the traction.

The certificate is issued from a body founded by the state. Usually it seems to be a special state body (EBA in Germany, organisation for issuing railway certificates in France).

Especially in France, the below procedure is followed for issuing safety certificates for railway companies:

- submitting the relative file from SNCF
- report from SNCF
- report from RFF
- examining the application from an Independent Committee.

4.15. Interoperability & Compatibility of the railway technology in European level

Aiming to an impetus of the European Railway Market of railway services, directives 48/96 and 16/2001 defined the terms of compatibility and interoperability of the different technologies used by the railways.

Interoperability can be defined as the ability of the trans-european railway system to allow the safe and without any interruption, operation of the railway traffic under comfortable and safe conditions[20].

This ability is based on a complex of regulatory clauses and technical and operational terms which have to be fulfilled, ending up to the establishment of technical provisions, compatible with the basic national demands, establishing operational relations between the subsystems of the trans-european railway system.

[20] "Technical Aspects of Railway Interoperability" C.Giannakos, V.Profillidis. 1st national Conference on recent advantages in mechanical engineering, American Society of Mechanical Engineers- Greek Section, Patra, September 2001.

Directive 48/96 defines, among others, the technical standards of interoperability (definition of the terms and methods of the technical standards of the interoperability) and its components.

4.16. Organisational impacts from the separation between infrastructure and operation

Initially Directive 91/440 offered the possibility of a choice between the separation in accounts (the minimum demand) of infrastructure and operation and the separation in accounts and management between infrastructure and operation.

At this very beginning, many networks were in favour of a minimal approach (e.g. France, Belgium, Spain, Italy) but later on they turned to more drastic changes.

So, finally, were formed two wide and general types of railway organisation in E.U.:

- the institutional separation: the railway company and the infrastructure manager are legally independent with different financial statements (balance sheet, income statement, etc) and different personnel. Further more this separation could be:

-clear-full separation between the Railway Company and the Infrastructure Manager.

The Infrastructure manager is legally, totally independent and it can either have a public owned character (e.g. Portugal & Sweden) or it can have a private owned character (e.g. Railtrack-U.K.) with its own balance sheet and personnel. The Railway Company (or companies as in U.K.) has the same organisation, by law, its own balance sheet and personnel. In the case of disputes between Railway Company and Infrastructure Manager, a Regulator is appointed. Similar in the case of Finland and France with the exception that all personnel belongs to one company, leaving the sense that is maintaining the previous railway organisation. So, the Infrastructure Manager has limited personnel (300 employees for RFF), but it is also responsible for the planning

of the railway system in France. The Railway Company is responsible for the maintenance and the operation of the infrastructure according to the contract with the Infrastructure Manager. In Finland the Infrastructure Manager is operating under the control of the Ministry of Transport. By following this solution, France and Finland seems that try to avoid social disturbances in the railways.

- the organisational separation is about the organisation of business units with wide autonomy, but under the umbrella of a single company with the character of a holding company. Further more, the company can be administratively divided in business units, by keeping the unity of the Railway Company (the case of Belgium). The Business Units have autonomous management, with the same balance sheet but not autonomous legal entities. Similar to the Belgian organisation, is the Italian organisation.

The Italian Railways (FS) are composed by 7 Business Units:

- Infrastructure management,
- Construction
- Rolling stock & traction
- Long distance passenger transport
- Regional & suburban passenger transport
- Freight transport
- Property management

In Germany there are independent business units that are independent and autonomous legal entities and are organised under the umbrella of a holding company. Here, the business units had an independent and autonomous status and gradually became independent legal entities.

4.17. The basic models of separation between infrastructure & operation in the E.U. Member-States

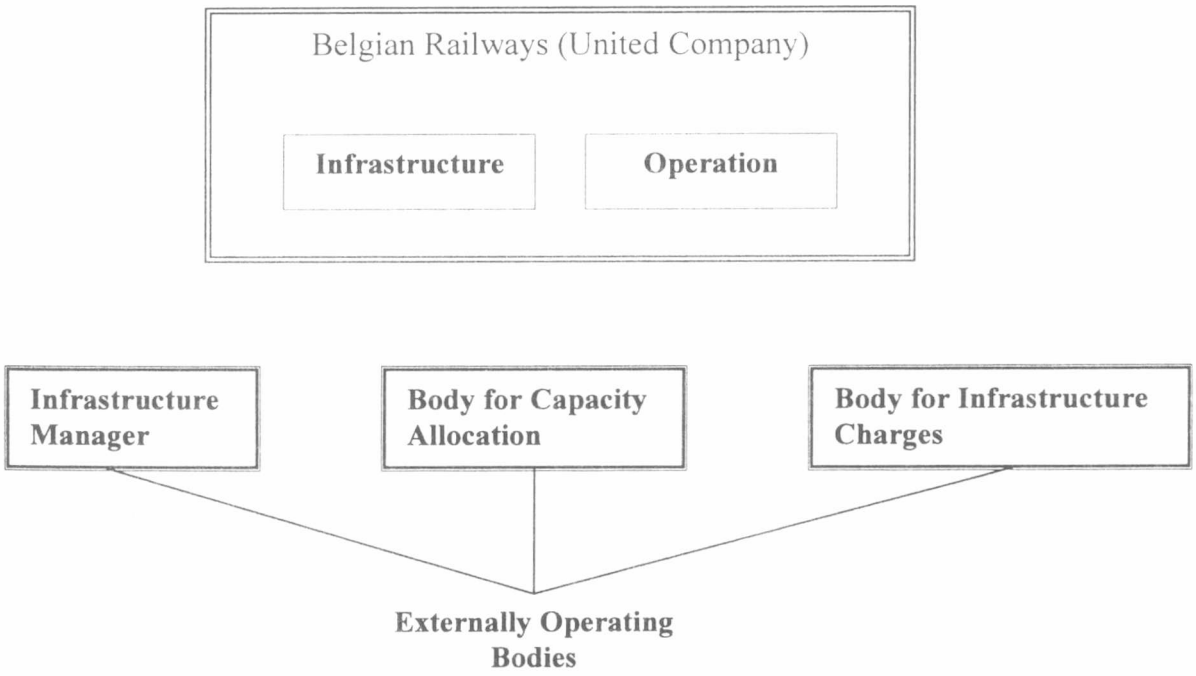
In general terms, we cannot see any uniformity in decisions taken by the E.U. Member-States regarding the application of the separation of railways between infrastructure and operation. What exists, is a variety of models of different and contradictory policies and practices which either are trying to

comply with the E.U. Directives to their minimum demands or they are oriented to major changes.

The most representing models of the new organisation of the National Railway Systems in Europe are explained bellow:

4.17.1. The Belgian Model

This model is based on the preservation of the unity of the traditional railway company:



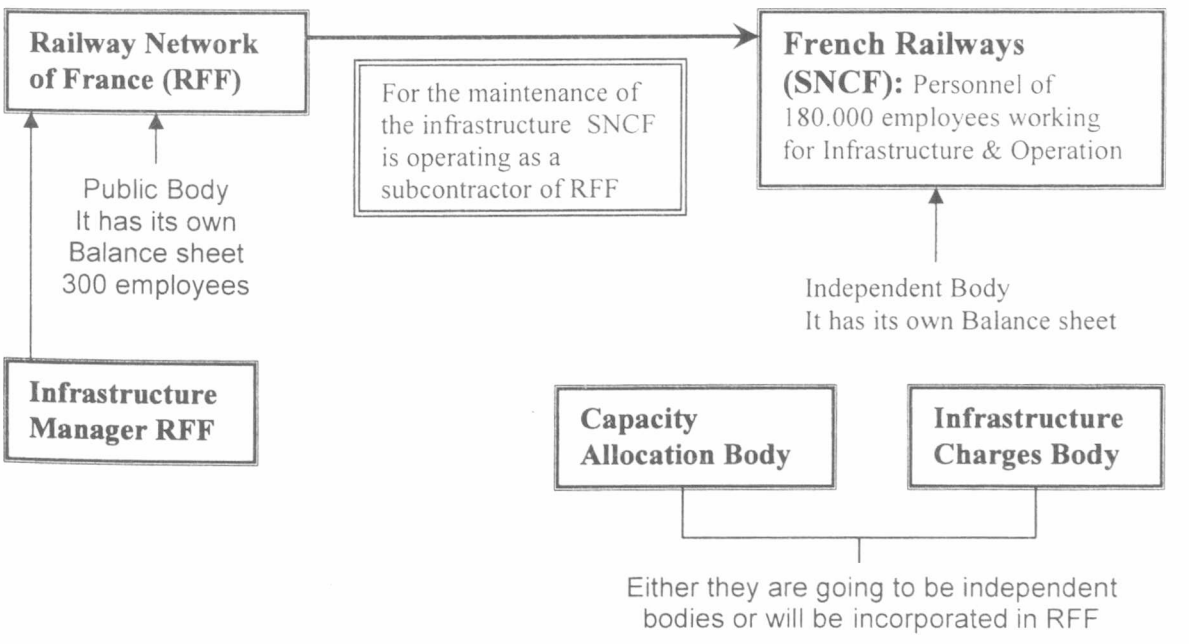
The model of a single company was chosen and adopted by the Belgian Government in order to satisfy the demands of the Belgian railwaymen Unions and to avoid civil disorders. Also, the Government has chosen this model, because it keeps changes to the management in a minimum level: management through business units which are independent but with only one Administrative Board and President and with only one legal structure.

Infrastructure is also an independent business unit with its own balance sheet and clearly separated from the other business units in order to comply with the demands of E.U., In order to comply with the E.U. directives, the Infrastructure Manager and the bodies responsible for the allocation of

capacity and infrastructure use charges will operate externally. Probably they are going to be a public body which will be responsible for both. This organizational model has been approved by the Commission and satisfies the majority of the railwaymen who initially were opposed to any type of separation.

4.17.2. The French Model

The French model (very much influenced by the Finnish model) is more complicated. It is based on an institutional separation of debits and credits accounts (and consequently we have a separation in the balance sheets), between the accounts of the operations of the company, the management and the responsibilities between the new companies (derived from the old company SNCF), the Infrastructure Manager RFF and the previous company SNCF which is considered now as the new Railway Company. However personnel or human resources were not separated as the French Railwaymen Unions demanded the preservation of all the social rights of the workers.



It is considered that the maintenance of the infrastructure (to an extend) and the investments for it should be responsibility of SNCF while will operate as subcontractor of RFF. This subcontracting practice will offer to SNCF the possibility to hold its professional activities and the respective personnel, that is considered by the railwaymen as a satisfactory agreement, and even more is considered as a very good deal, because a big part of the former deficits is planned to be transferred to RFF.

However, the above presented separation of the responsibilities of the former SNCF, the debits and credits accounts and the unity of the personnel are causing extra problems and costs (the so called handling expenses) and many conflicts between the two state-owned institutions.

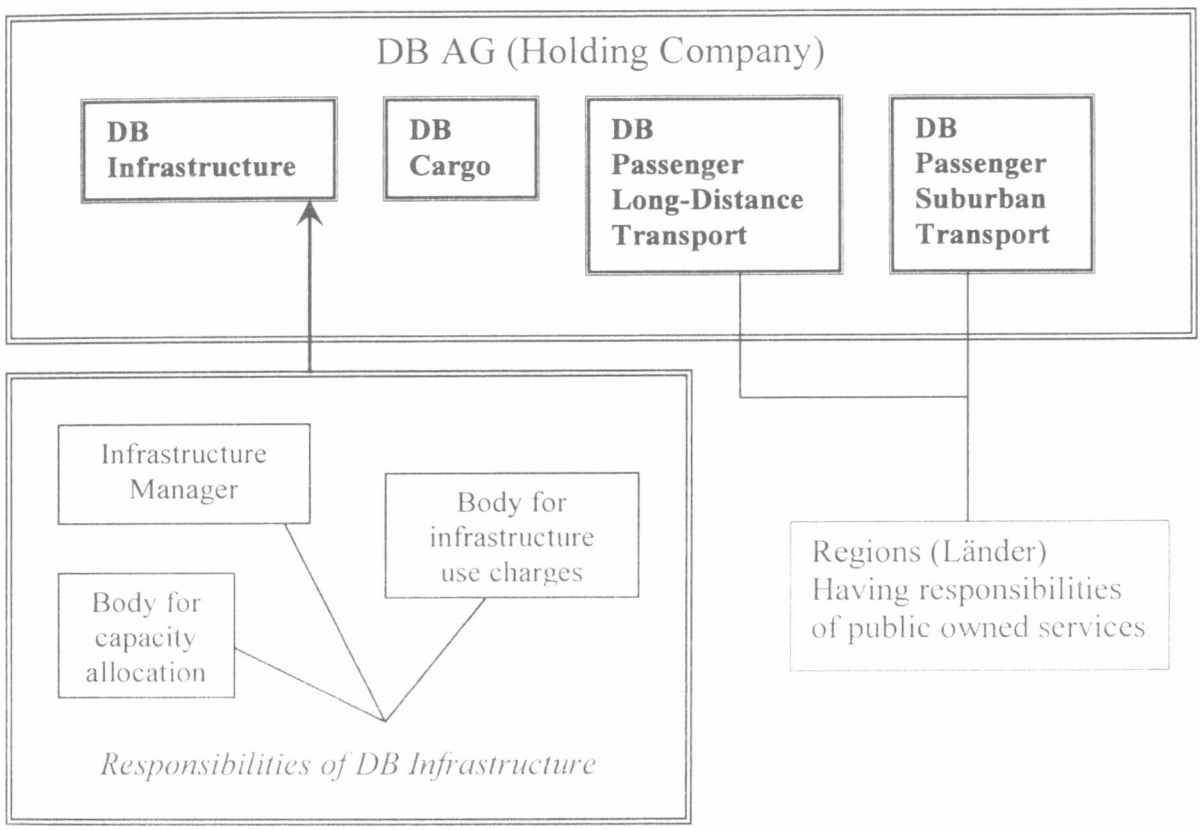
It might be presented as a socially accepted model, but its organizational cost is high, while the permanent conflicts have leaded government to found a new body supervising the two companies.

Regarding the application of the Directive 12/2001, SNCF have to abandon all their responsibilities regarding the allocation of capacity and the infrastructure fees charges, since they are transferred to a new public body which will be probably founded in RFF, causing even more conflicts in future.

4.17.3. The German Holding System

This model is based on the total independence of the commercial activities and the infrastructure. All activities and sectors are considered not only as business units, but also as real legal entities with their own legislative organization and independence and consequently with their own separate accounts, balance sheets, income statement, etc. The independence between sectors and activities is more important than at the Belgian system.

The top management of the company is formed by a common Administrative Board and one President. Theoretically this President has not any authority on the Infrastructure Manager (DB NETZ) that is totally administrative independent causing serious problems on supervision planning and decision making process of the whole railway system.



For example, it is difficult to follow and control the performance of the Infrastructure Manager since no one of the Administrative Board has no authority to do so. This is subject to strong criticism from the Commission and from several political parties in Germany.

This system, by the end, might turn to an institutional separation of the sectors.

The Infrastructure Manager (BD NETZ) is also responsible for the allocation of capacity and for the charges for the use of the infrastructure, since it is supposed that it is independent and acts on a fair basis policy for the new entrants in the market.

However, at the moment, several potential new entrants (there are 250 applications submitted) have severely been criticized the way this new system is operating.

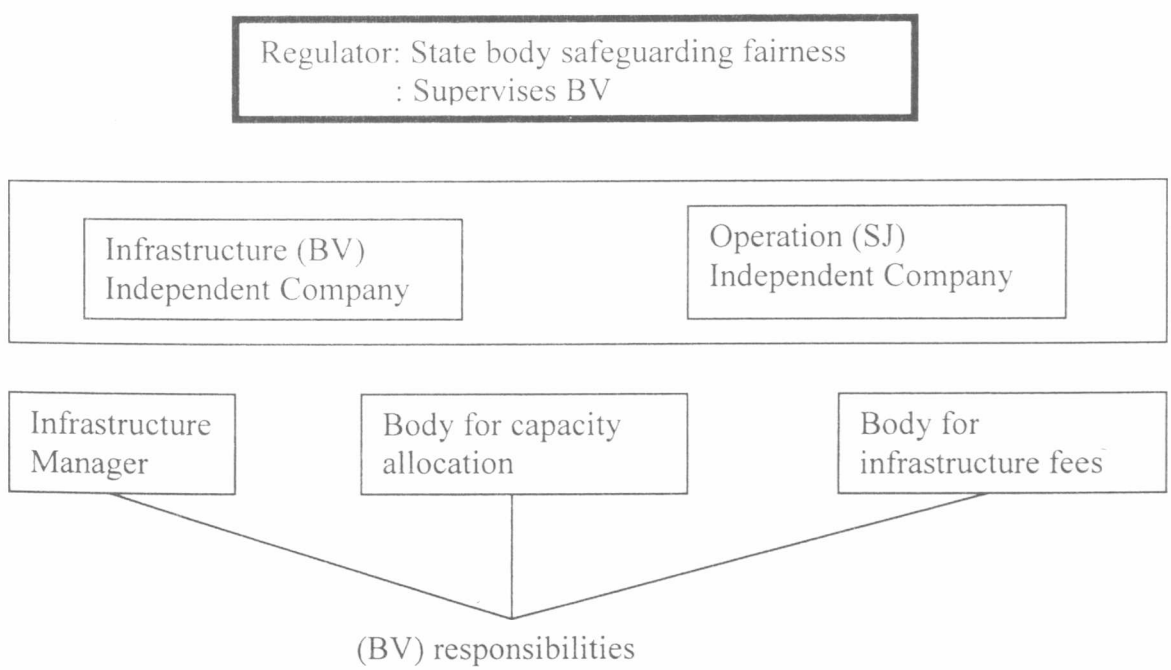
Similar is the case of the Italian System.

4.17.4. The Swedish Model

It is based on the complete institutional separation between the old railway Company -SJ- and the new Infrastructure Manager. The government is supervising and controlling this organization. This complete economic and legal separation will cause very soon a differentiation in the working conditions of both entities. It seems that railway workers of Sweden have almost approved this change.

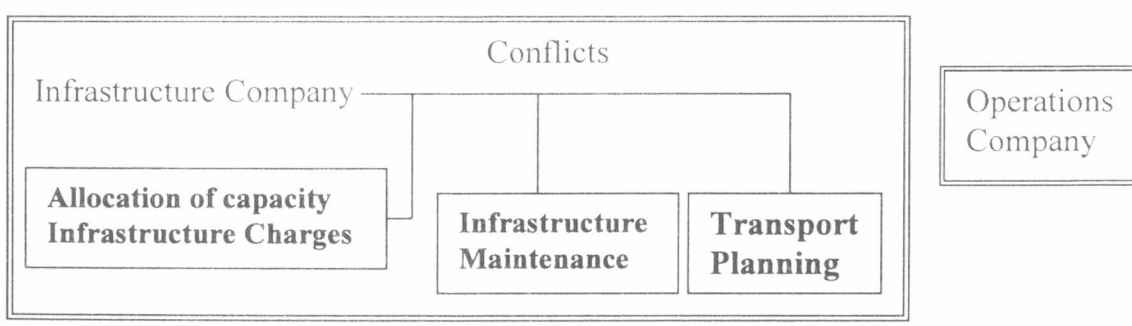
The responsibilities of the capacity allocation and infrastructure charges are part of the responsibilities of the Infrastructure Manager.

However, a Regulator who is appointed by the government will guarantee the fairness of the whole organization which has already accepted several applications of new entrants.



4.17.5. The Dutch Model

This model is based on the complete legal independence and consequently on the separation of the Infrastructure Manager and the several commercial activities of the old Dutch Railways –NS.
Additionally, the government has decided to separate the Infrastructure Directorate into three parts: (a) being responsible for the allocation of capacity and infrastructure charges, (b) being responsible for the maintenance, (c) being responsible for the long-run planning of transport.
However, many conflicts burst out between these parts, since their responsibilities and ownership were not clear and the government decided to establish only one entity as Infrastructure Manager, bringing the Dutch Model closer to the Scandinavian ones.



4.17.6. The General Approach of the Adopted Models

The more or less liberal approach of member-states in adopting the model of the organizational separation depends on the competitiveness of their railway system, on the national economy and on the views and reactions of the interested social groups.
Also, often, parameters as the length of the network, profitability, flexibility and relations with the state are taken into account.

So, on the one hand, we see the most simple and widely, nationally and politically accepted case of the Belgian Model which is adopting the organizational separation in a more theoretical rather than a practical base (just in order to comply with E.U. demands). And on the other hand the Swedish and German models which are adopting more drastic changes, altering completely the preface of the traditionally operating railways.
But has to be noted that in the above mentioned markets, there is enough room for the establishment of more railway companies operating in a fairly competitive environment, in contrast to the Hellenic case, that the railway network is still under development with a very limited market share.
Also in Hellas, the public opinion is very much against to the liberal approach, and workers' unions are completely opposed to the adoption of drastic changes. The Belgian Model could be a good solution for the Hellenic case, developing a model after consultation with all the interested social partners, managing social cohesion and limiting the resistance to change.

4.17.7. Organization and Operation of Regulatory Bodies by the E.U. Member-States

Regarding the way Regulatory Bodies have been organized by the Member-States, we can have a thorough look at the Tables in appendix 8,9,10. observing that the operation of the system has not been fully completed, since many of the networks have not set the appropriate regulatory regime yet, and the ones that already have, need more time for testing their performance and the respective results.
The practical experience in resolving disputes varies between 65 cases that have already been resolved, as in Germany, to none case, as in Austria, Finland, Italy, etc.
The most common problems they face in their operation, are the difficulties in applying the E.U. Directives and in gathering information, as well as the lack of transport experience, since the specialized personnel is very limited. So, the expertise of several institutions is used and have not been given clear guidelines for their obligations nor enough information about the operation of the system in order to act as required. Only their status seems to be clear

operating either as independent legal entities or under the umbrella of the Ministries of Transport and being financed either directly by the States or by the Infrastructure Managers.

4.18. Conclusion

This Chapter, has shown that the new E.U. rail reforms can be defined in terms of liberalization in operation and harmonization of the infrastructure. This sets the scene as the basis of re-structuring and modernizing Hellenic Railways.

The basic idea of this modernization, was the separation between the accounts of the infrastructure manager and railway undertakings, introduced in the railway legislation in 1991, with directive 91/440/ EEC. The directive provided that railway undertakings should have independent status, which required that assets, budgets and accounts were separate from those of the State (Art. 4). Also was provided that the accounts for business related to transport services and those for business relating to the management of railway infrastructure were kept separate (Art 6). Aids paid to one of these two areas of activity may not be transferred to the other.

Then Directive 2001/12/EEC was going for further amending Directive 91/440/EEC, by requiring that separate profit and loss accounts and balance sheets are kept and published for business related to transport services of railway undertakings as well as for business related to management of railway infrastructure.

Also, it concerns about public funding, especially about the separation of funding for public service contracts and ensuring Public Service Obligations funding, from all other forms of funding, as well as the prohibition of cross-subsidy between different rail business.

The separation of accounts requires railway undertakings to have a clear and precise system to illustrate revenues and provide efficient and appropriate services at the lowest possible cost for the quality of service required in the railway market.

According to Directive 2001/13, while there are not particular problems concerning the licensing of railway undertakings by independent bodies, more difficult questions arise in connection to the capacity allocation and charging which are key factors in opening up the market.

Directives 2001/12/EC and 2001/14/EC specify that these functions must be performed independently of the railway undertaking so as to ensure fair and non-discriminatory access to the infrastructure.

However, in practice was evident that networks applied these rules in different ways, for two reasons. Firstly because institutional separation between the activities of infrastructure manager and railway undertaking was not formally required, but was proposed as the best way of ensuring fair and non-discriminatory treatment for all railway undertakings wishing to gain access to the infrastructure, and secondly due to a combination of factors, as different track gauge, physical isolation, lack of common borders, development rates and financial situation.

So, the used models were divided into three broad categories according to the level of separation applied:

(1) institutional separation, by legal separation of infrastructure and operation

(2) organizational separation of essential railway functions

(3) Accounting separation between Infrastructure Manager and Railway Undertaking.

Mainly strong networks in terms of financial resources and development; as France, Sweden and Netherlands adopt the institutional separation. Consequently the foundation of a Regulatory Body was absolutely necessary, regulating the system and managing conflicts.

The organizational separation, wants railways being a legal entity with separated railway functions in the form of independent business centers or units with pioneers Germany and Italy, separating organizationally the Infrastructure Manager from the Railway Undertaking and by introducing, the first one four basic sections and the later one seven business units.

The accounting separation, is the most simplified version of separation, witnessed for example, in Belgium, adopting the community legislation at a minimum level, separating the accounts between Infrastructure Manager and Railway Undertaking being mostly on line with the scope of Directive 91/440.

Further to the E.U. will, as mentioned in the beginning of this chapter, the role of state is also fundamental in this reorganization process and the several states' approaches can also be grouped in the generous, the conservative and the liberal ones.

The financial recovery of the railway networks can be based on the generous approach, followed by the German State, which took over the past railway deficits and the conservative approach adopted by French State by releasing from the balance sheet of SNCF only the old deficits generated from the loans for covering the finance of investments on infrastructure. Also U.K. adopted the liberal approach, where any new railway entity undertakes the obligation to acquire for a prefixed price, part of assets and liabilities of B.R.

As far as licensing procedures, in practice two different systems have been followed; (1) applications are examined by a neutral state body and then licenses are issued by another neutral, independent public authority; or (2) applications are examined by a neutral state body being responsible for railway matters and then licenses are issued by a neutral, independent public authority (e.g. Ministry of Transport).

The problem with the Hellenic Case is that no public authority has the capacity to manage the situation. The support of the Hellenic Railways is absolutely necessary, but, if the support of Hellenic Railways is provided, the independence and the fairness of the system are quite difficult to be achieved.

Regarding access to infrastructure and setting priority rules in the allocation of the schedules and time intervals between the departures and the arrivals of the trains, Hellenic State has not taken any definite decision yet.

Going further to the procedures issuing safety certificates, Member-States might use the rules of the market, by tendering for the most advantageous financial offer (e.g. Belgium Germany) for issuing safety certificates. Again, in Hellas and in any other member-State has to be clearly organized an Independent Committee examining the cases, and safeguarding the competence of the applicant.

Concluding, was observed that Member-states have adopted several models, and the ones that are expressing more clearly the existing tendencies were analyzed. Among them, was the Belgian model which is representing the

tendency to preserve the unity of the traditional railway company and Railway operator. The Bodies being responsible for the capacity allocation and the infrastructure charges, and the Regulatory Body are operating externally.

The French Model representing the institutional separation of debits and credits accounts between the accounts of the operations of the company, the management and the responsibilities between the new companies SNCF and RFF and the traditional railway company SNCF, being considered now as a new railway company. Again here, the Capacity Allocator, the Infrastructure Charging Body and the Regulator are operating externally.

Then followed the German Model representing the tendency of the total independence between the commercial activities and the infrastructure. Activities and sectors are considered as independent legal entities and an Administrative Board with its President manages the DB AG Holding Company. The Bodies responsible for the Infrastructure charges and the capacity allocation are under the responsibility of the DB Infrastructure.

The Swedish Model is representing the complete institutional separation between the traditional Railway Company SJ and the new Infrastructure Manager BV. BV is also responsible for the Body allocating capacity and the Body issuing infrastructure fees.

Finally, the Dutch Model is based on the complete legal independence and independence between Infrastructure Manager and Commercial activities of N.S.

So, by completing the examination of the implementation process of the first railway package in most of the Member-states, is presumed that much remains to be done in several countries. Some states have passed the necessary primary legislation required for implementation but have still to put in place some or all of the processes and procedures that it requires. The traditional, state owned railway undertakings, whose long-term management must be ensured, should continue with their restructuring in order to adapt to the new European context while complying with competition rules.

Hellenic Railways were very slow in applying the E.U. railway transport policy due to their inflexible organization system, obsolete infrastructure, limited resources, low demand for rail transport in Hellas and on top limited political

will to adopt changes. Thus, it is evident that they have to go ahead by applying the E.U. legislative demands and taking advantage of the existing derogations, to be modernized both in terms of investing on the infrastructure and reorganizing the Hellenic Railway System, favouring its further development and preparation for entering competitively strong in the transport competition.
So, small networks like Hellenic Railways, need to have a long transition period, giving them the needed time for conversion and of course taking into account the valuable experience of the others.

Nevertheless, small networks need to be separately analyzed, taking into account their particularities and the existing derogations.
By identifying the fundamental elements of the restructuring process in the E.U. Member-States and evaluating them against the hypothesis of this research, the proposed model is going to be protected of the stated limitations of the system and improvised by the positive ones, getting closer to a rather conservative application of the E.U. demands for the Hellenic Railway System, giving many responsibilities to the state, (since Hellenic Railways are still strongly dependent from it, due to the modernization program it has to realize), but also giving greater administrative autonomy to railways for applying faster the required changes and responding quickly to the changing market demands, in order to gain the aimed flexibility and effectiveness.
However, there are specific cases to be examined (the Irish and the Portuguese Railways, that present many similarities with the Hellenic Railways) and then the researcher can make her own contribution to the design of the Hellenic Railways Model.
So, in next chapter will be analyzed the policies and the experience of Ireland and Portugal, bringing this research closer to the needs of the hypothesis, allowing, via comparative analysis, the development of the appropriate managerial model for reforming the Hellenic Railway System.

Chapter 5

Hellenic - Irish & Portuguese Railways

5.1. Introduction

By concluding the analysis of the E.U. legislative framework and the railway reorganization tendencies at the E.U. Member-Stares, in Chapter 4, it was realized that the application of simplified models for the reorganization of small networks, strongly related to the states (e.g. the Hellenic), can be more effective both in terms of administration and cost saving, showing also potentials for a gradual unchaining of the state protective umbrella.

Supporting the need for further introspection of the situation in the less developed and unprofitable railway networks, in this chapter will be presented and analysed three similar networks, of three European Union's Member-States, Hellas, Ireland and Portugal.

The Irish and the Portuguese railway networks, have rail link to only one other E.U. Member-State, while the Hellenic network has no direct rail link to any other E.U. Member-State, leading to certain difficulties in train operations and traffic and also to the isolation of the network, compared to the ones of the western and central Europe. This is also one of the main reasons for the derogations provided from the railway Directives, mentioned at previous chapters, for Hellas and Ireland. Portugal was not exempted from the application of the "infrastructure package" simply because Portugal was one of the pioneers in the railway modernization, since it has applied the separated railway regime, since 1997. Hence, until now, there is no interest from any private operator to enter in the Portuguese railway market, meaning that the network needs further improvement in order to be attractive for private investors.

However, given the similarities of the networks in terms of nature, geographic distribution, development and performance, the Portuguese case adds essentially to this comparative study, offering clear indicative information on

the operating results of full separation on small, isolated networks, as the Hellenic.

Also, the analysis of these networks, gives the possibility to familiarize with the administrative and organizational models used by railways with analogous problems and expectations to the Hellenic Railway Network, contributing to the identification of the most preferable changes for it.

The comparison between the effects of different practices followed for solving similar administrative, organizational and financial problems is giving useful indications of how the demands of the E.U. policy were understood from a variety of politicians and experts.

By comparing alternative conditions to relevant operations, are determined the best settings for the operational needs of small railway networks, discussed in relation to the particular circumstances.

Each approach is well documented individually, the relative advantages are pointed out, the differences are patiently explored and the amount of agreement already in existence is emphasized.

As in any comparative research, also here, in the beginning will be seen how policies may differ from one situation to another and then some attitudes will be adopted to what is an appropriate means of action for the Hellenic Railways.

The alternative basic principles leading to the development of different internal concepts will be assessed along with the performance of the different networks. Critical comments will appear in all areas of the subject and operations at various levels.

This work can be considered as a preliminary testing of the hypothesis, to the extent hat the application of the E.U. Directives to Portugal and Ireland has been effective or not. This testing will facilitate the design of an administrative model, useful to the improvement of the operations of the Hellenic Railways, by adopting useful practices and rejecting the negative ones.

Beside are placed the exchange rates between the national currencies and Euro, since Euro was introduced in 2002 and for this study have been used statistics and data both in national currencies and Euros:

Greek Drachma:	0.002935 Euro
Irish Pound:	0.787564 Euro
Portuguese Escoudos:	0.004988 Euro[1]

5.2. Ireland

5.2.1. Introduction

The history of railways in Ireland starts in 1834, when was opened the first railway station in Kingstown in Dublin. The Westland Row was the world's first suburban commuter line. Rapidly the railway expanded to their maximum route mileage of 3,300 in 1921.[2] However in the early 20th century road vehicles came to challenge the domination of railway and railways became less important. At that moment there where 26 different railway companies which where joined to one company, the Great Southern Company (GSC) in 1924, but even that attempt did not make the company profitable. Another attempt took place in 1944 and the company was then called Coras Iomrair Eireann (CIE).[3]

After the World War II the railways began to be modernized. Some branch lines were closed. The company began to use new carriages, wagons, railcars, and diesel locomotives. CIE was the first railway in Europe to be completely dieselized i.e. they began to use diesel locomotives instead of steam engines to pull trains.

However railways in Ireland were still not making profits. On February 2nd in 1987 CIE was split in three companies/activities:

1. Bus Atha Cliath-Dublin Bus
2. Bus Eireann-Irish Bus- delivers provincial bus services
3. Iarnod Eireann-Irish Rail (IR) – charged with responsibility for national passenger and freight rail throughout the country as well as port services at Rosslare and a road freight function.[4]

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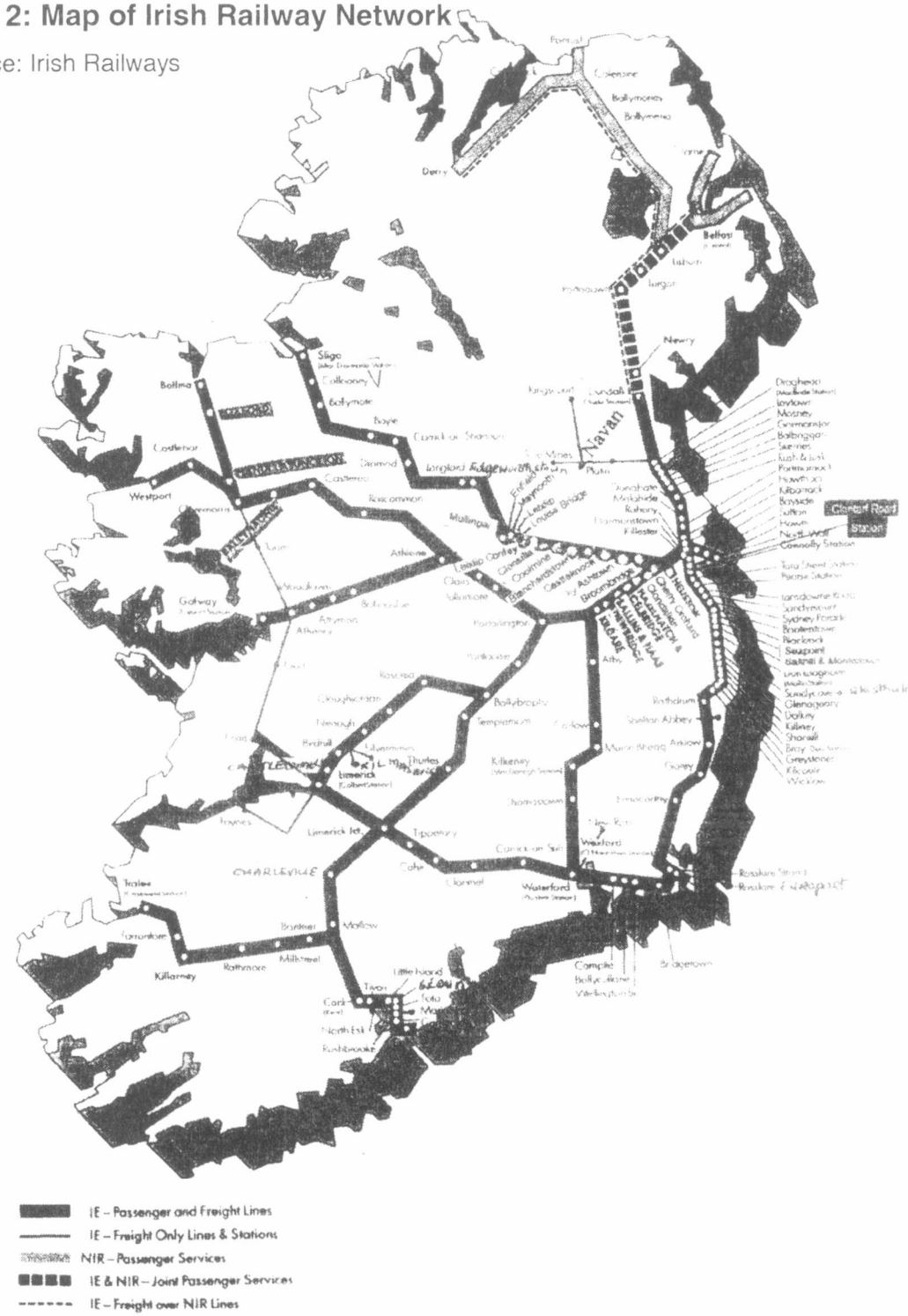
[1] As from National Bank of Greece, 01-01-2002
[2] http://www.irishrail.ie/html/schools/index.asp. "History of Railways in Ireland" p:1
[3] http://www.irishrail.ie/html/schools/index.asp. "History of Railways in Ireland" p:2
[4] http://www.irishrail.ie/html/schools/index.asp. "History of Railways in Ireland" p:3

5.2.2. The Iarnod Eireann-Irish Rail (IR)

Map 2: Map of Irish Railway Network

Source: Irish Railways



So, the Irish Railway Company (IR) was set up on the 2nd February 1987 under the terms of the Transport Re-organization Act in 1986. The principal objective of the Railway Company is to provide, within the state between the

state and places outside the state, a railway service and a road freight service. Moreover, it is responsible for the management of the infrastructure. It operates 1,900 route kilometers of railway in the country, and 2,800 track kilometers. It occupies 5358 employees.[5]

The railway serves most major cities and gives 60 % of the population access to 125 stations throughout the country. A minimum of three daily services are provided on the intercity routes, with a maximum of nine on the Dublin- Cork line. Dublin Area Rapid Transit (DART) services are provided between Howth and Bray and outer suburban commuter services are provided on all the lines radiating from Dublin. Freight services are operated throughout the network carrying traffic ranging in size from bulk fuel to the tiniest parcels.[6]

Services operate independently, but CIE is still the holding company. The CIE Companies have total autonomy for all aspects of their operations with two exceptions:

1. Overall financial control-because of the lack of capital and the existence of substantial borrowings.
2. Competition issues-so that wasteful competition between the different operating companies is eliminated.

5.2.3. Customer Volume

There is a steady growth in the number of passengers using IR, e.g. in 1996 passenger numbers stood at 8.4 million. In 2000, 9.1 million passenger were carried resulting in an 8.3% growth over 1996[7]. A fast increase in passenger numbers can cause operational difficulties if the network has not the capacity to facilitate such demand, but also brings financial advantage. Capacity problems can lead to overcrowding, which is a prime cause of customer dissatisfactions. Since capacity cannot increase overnight, several marketing strategies have been used, such as addressing the issue in the interim

[5] http://www.irishrail.ie/html/schools/index.asp. "History of Railways in Ireland" p:3
[6] http://www.irishrail.ie/html/schools/index.asp. "History of Railways in Ireland" p:3
[7] Irish Rail: "Hitting the Target" The Irish Times, Business 2000, p:1

compulsory seat reservation system and using a higher pricing structure for peak travel times.

5.2.4. Competition

Iarnod Eireann faces different types and levels of competition. In general, its main threat is the car. The car is likely to become even more of a competitor as levels of car ownership increase, the quality of cars improve and the national road network is upgraded. Private and public coach operators also hold a considerable market share.

5.2.5. Company structure

When the company was set up it was divided into eight main areas of activity:

- *Mechanical Engineering* – to maintain the train engines and carriages.
- *Civil engineering* – to maintain rail infrastructure including the truck and signaling.
- *Business Development (passenger)* – to provide service to passengers and customers including the development of timetables, fares structures and ticketing.
- *Business Development (freight)* – to provide freight services.
- *Finance and Accounting* – to provide all of the necessary administrative systems necessary to deal with all income and expenditure.
- *Operations* – to ensure that rail services were operated to timetable and in response to service needs.
- *Safety* – to ensure all operations are carried out in a safe manner so that both customers and staff are protected from accident or injury.
- *Human Resources* – responsible for the management of recruitment, training and industrial/employee relations across all functions.[8]

5.2.6. Implementation of the E.U railway policy

[8]Irish Rail: "Human Resources on the right track" The Irish Times, Business 2000, p:2

The legal independence of Irish Rail, predates Directive 91/440/EC. Irish Rail is a subsidiary company of Coras Iompair Eirean CIE which is a statutory corporation established under 1950 Transport Act. Irish Rail is established under the provisions of the 1986 (Re – Organization of CIE) Transport Act.
According to Directive 91/440/EEC separate accounts of the business of "transport services" and the business of "managing railway infrastructure" are kept by Irish Rail.
Directive 91/440/EEC was transposed into Irish law by Statutory Instrument No 204 of 1991. The legislation allows for suitably qualified operators to exercise the right of access to the Irish Railway network for the international services and international combined transport operations. There has been no demand for access to the railway consequent to that legislation. Ireland is in the process of transposing Directive 95/18/EC on the licensing of railway undertaking and Directive 95/19/EC on the allocation of infrastructure capacity and charging of infrastructure fees. Regarding the establishment of international groupings, there is not such demand.
Due to the geographic location of Ireland, isolation from the European rail network, differences in the gauge and the uneconomic nature of rail services in the State, the impacts of Directives 91/440/EEC, 95/18/EC and 95/19/EC are expected to be very limited, in terms of new operators entering in the Irish Rail Market.
Irish Rail is engaged in a capital intensive program of rolling stock replacement and track and infrastructure renewal. It is planned that the existing Exchequer subsidy payment to Irish Rail will be replaced by a number of public service transport contracts with the company. Among other things, the contracts will clearly specify the quantity and quality of services to be provided and what the Sate will pay in return.

5.2.7. Current Situation

The latest annual report (2000) shows the following facts:
Total Turnover 2000-IR£143.019 (1999- IR£142.283). For mainline rail division IR£81.720 (1999- IR£83.411), for suburban rail division IR£23732(1999- IR£23.152), for road freight division IR£19.984(1999-

IR£18.692), for Rosslare Harbour division IR£7901(1999- IR£7316), for catering services division IR£9615(1999- IR£9663)[9]

Total Expenditure IR£330.463 (1999- IR£267.861). For mainline rail division IR£119.326 (1999- IR£107.559), for suburban rail division IR£31962(1999- IR£28.971), Railway infrastructure IR£145.833(1999- IR£100.347), for road freight division IR£18.412(1999- IR£17.373), for Rosslare Harbour division 4.830(1999-4.415), for catering services division IR£10.100(1999- IR£9.196)

Public Service Payment IR£152.480(1999- IR£109.759) million (mainline rail division IR£4052(1999- IR£4.432), suburban rail division IR£2.595(1999- IR£1.980), railway infrastructure IR£145.833(1999- IR£103.347).[10]

Passenger Journeys-Mainline 9.1 million

Staff- 5.358 people (1999-5234)

Rail Network-1, 944 kilometers[11]

There is a £275 million investment program in place for Iarnrod Eireann, from 1994-99. New investment of over £50 million has recently been received, and many projects have been submitted by Iarnrod Eireann for consideration for the post-1999 round of EU funding.

5.2.8. Passenger Services

5.2.8.1. Intercity

The main services provided by Iarnrod Eireann's InterCity are *InterCity* (including *CityGold* 1st class service to Cork), the *Arrow rail* service between Heuston and Kildare, *Rail Breaks,* the *Executive Train* and *Rosslare Europort.*

Intercity services run from Dublin (Heuston & Connolly Stations) to Belfast, Sligo, Ballina, Westport, Galway, Limerick, Ennis, Tralee, Cork, Waterford and Rosslare Europort. Services also run between Rosslare Europort and Limerick; Cork and Tralee; and Cork and Limerick. There are 87 Intercity stations in Ireland.

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[9] Irish Rail: Annual Report & Financial Statement 1999, p:10-25
Irish Rail: Annual Report & Financial Statement 2000, p:10-27
[10] Ibid.
[11] http://www.irishrail.ie/html/schools/index.asp. "Irish Rail-Organisational Structure" p:3

Intercity services are divided into Standard and Superstandard classes. A supplement must be paid to travel in Superstandard carriages. Trains also have non-smoking and smoking carriages, although the Dublin-Belfast Enterprise service is completely non-smoking. The CityGold service on the Dublin-Cork route is a premium class service, designed to meet the needs of business people traveling between the two cities.

The Enterprise service is jointly operated by Iarnrod Eireann and Northern Ireland Railways and features new Eurostar-style luxury carriages, divided into Enterprise class and First Plus class. Enterprise is a high speed service that currently travels between the two cities in a best time of 1 hour 55 minutes (this will improve to 1 hour 45 minutes when upgrading of the track between Lisburn and Belfast is completed). The upgrading of the track, new signaling, and the purchase of locomotives and carriages, as well as station improvements were funded by the two companies and the European Union, which supported the project. It was launched in 1997, and has boosted passenger numbers on the route by over 20%.[12]

Passenger numbers across the Iarnrod Eireann Intercity network have been growing strongly in recent years, as investment in track, signaling and locomotives have produced an improved service. In 1999, a record 9.8 million passenger journeys were made on Intercity services.[13]

Many people travel by Intercity to avail of the comfort and speed of the service, and to work, read or relax whilst traveling. Iarnrod Eireann's catering company, Network Catering, provide meals or snacks on most services, including trolley services that operate throughout the trains.

Other Intercity services include:

Package holidays called Railbreaks, whereby the trains and hotels are organized together. Railbreak also organize complete day trips to places such as Fota Wild Life Preserve, Kfflarney Lakes, Boyle Forest Park and Bunratty Folk Park.[14]

The Executive Train is available for hire to business, sports and social groups for conferences, or special occasions. It is very luxurious, and

[12] http://www.irishrail.ie/html/schools/index.asp. "Irish Rail-Organisational Structure" p:4
[13] Ibid.
[14] Ibid.

includes a dining area, plush seating and a bar. It is extremely popular. Conferences, club outings, casino trains, business meetings and corporate entertainment have all been hosted on the Executive Train. In 1997, one couple used the Executive Train to bring their wedding guests from their ceremony in Malahide, Co Dublin, to their reception in Bagenalstown, Co Carlow.[15]

Other Intercity carriages can also be hired by private organizations for use.

5.2.8.2. Suburban

Suburban rail services are:

- the electrified DART service from Howth-Bray, and all other suburban services originating in Connolly and Pearse Stations, Dublin, to Arklow, Drogheda, Dundalk, Maynooth and Enfield. About 80,000 people travel everyday on the DART line. It opened in 1984, and is very popular. A new station in Clontarf Road opened recently, and another is planned for Barrow St in the City Centre.

The DART is the most successful public transport service in the country, and public transport patronage along its route is double the Dublin average, at 54% Dublin Bus provide feeder bus services to many stations on the route, increasing its catchment area.[16]

The suburban Arrow service operates between Heuston Station in Dublin and Kildare. The Arrow commuter service was introduced in May 1994, and serves seven stations on the Heuston-Kildare line. It runs about 20 trains each direction each day, except on Sundays. The Arrow service is operated by diesel-powered-railcars rather than electrified trains, or diesel locomotive-hauled trains.

The other suburban services are receiving a boost with a number of investment projects set to increase the capacity and frequency of services on certain lines, and the comfort and speed of journeys. Notably, the Maynooth line is set to be upgraded with a track, signaling and marriage investment package. New diesel railcars, the doubling of track between Clonsilla and

[15] http://www.irishrail.ie/html/schools/index.asp. "Irish Rail-Organisational Structure" p:5
[16] http://www.irishrail.ie/html/schools/index.asp. "Irish Rail-Passenger Service" p:5

Maynooth, and modernized signaling in the city center area will allow this. New stations have been opened on the route at Drumcondra and Kilcock.
The Drogheda service is a fast, regular service that allows Drogheda commuters travel to Dublin city center in as little as 30 minutes. Population growth has been experienced along the Drogheda, Maynooth, Arklow and Kildare routes, with the availability of a quality rail service a major factor in this growth. Gridlock in the city centre is increasing the demand for DART and suburban rail, and the 'commuter belt' continues to grow, with customers traveling daily from as far as Athione, Portlaoise and Longford to Dublin.
Over 20 million passenger journeys were made on DART and suburban rail in 1999, a record number. With new investment, growth in customer demand is likely to continue on all these routes.[17]

5.2.9. Freight Services

5.2.9.1. Major freight products[18]

Major freight products include: cement, fertilizers,lead, minerals, beers, timber, and sugar beet.
Fastrack is Iarnrod Eireann Freights parcel delivery service. It provides various services to a range of customers around the country. These services include - same day "door to door" to any part of the country and overnight services to the UK and other international destinations.
Containerail is the Unit Load service operated by Iarnrod Eireann. This service transports containers door to door throughout Ireland. The fast overnight trains ensure that goods are available for delivery from 08:00 the following morning.

5.2.9.2. Road Freight – "Roadliryer"

Iarnrod Eireann provide a comprehensive range of Road Freight services under its brand name. "Roadliryer" which operates in a highly competitive environment and provide two core services: (1) *Railhead;* Items from rail freight depots are collected by Roadliner Services and delivered to their ultimate destination - this includes beers, cement and parcels and (2) *Direct*

[17] http://www.irishrail.ie/html/schools/index.asp. "Irish Rail-Passenger Service" p:5

Road; Items delivered by road only. These include cement, Bank Data service, ISPAT - Irish Steel products and containers.

5.2.10. Rosslare Europort

Millions of pounds have been spent on Rosslare Europort. This project is supported by the EU, and will result in the port having four fully functional working berths, and the capacity to handle a broad range of both traditional, and fast craft shipping vessels.

Three of Ireland's major ferry companies operate from Rosslare – Stena Sealink, Irish Ferries and Pandoro Ltd, providing passenger and freight Services to Fishguard, Pembroke and Liverpool in Britain, and Le Havre, Cherbourg and Roscoff in France. In 1999 , Rosslare Europort made a Profit of £2.8 million. A total of 1.35 million passengers passed through the port.[19]

The operation of combined transport services at Rosslare Europort gives new perspectives to the development of rail transport in the country, generating substantial income and promoting the image of the Irish Railways.

5.2.11. Network Catering

Iarnrod Eireann operate a catering division known as Network Catering. Not only does it provide food and drinks on trains, it also:

- runs many catering outlets within the CIE Group, including station restaurants and cafes, and the new catering outlets in Busaras.
- owns two highly-regarded restaurants: Restaurant na Mara, Dun Laoghaire; and The Footplate Brasserie, Heuston Station.
- provides contract catering services: two of its greatest achievements were providing a banquet for 1,200 people at the opening night of Riverdance The Show at the Point Theatre, Dublin; and also the Eurovision Song Contest catering at the Point.[20]

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[18] http://www.irishrail.ie/html/schools/index.asp. "Irish Rail-Freight Service" p:7
[19] http://www.irishrail.ie/html/schools/index.asp. "Irish Rail-Rosslare Europort" p:8
[20] http://www.irishrail.ie/html/schools/index.asp. "Irish Rail-Organizational Structure" p:8

- provides Northern Ireland Railways with catering through it's subsidiary Dubel Ltd.

5.2.12. Conclusion

Concluding, we can see a railway company (IR) operating under the protection of a hypertransport company, the CIE, which in practice operates as a transport coordinator for bus and rail services for avoiding wasteful competition, since financial resources are limited. This is a very positive example of centralized coordination of transport activities for Hellas, a country with also limited resources.

The principal activities of the company are the provision of national rail passenger services, freight services, catering services, the management of the railway network and the management of Rosslare Harbour.

The recent financial performance of the company was adversely affected by a number of industrial relations disputes. The net cost of disputes is estimated at approximately IR£15 million, with up to 1.5 million passenger journeys cancelled and considerable volumes of freight carriage lost to competitors.[21]

During year 2000 the company's services carried 31.7 million passengers – a 3.2% decrease on the previous year. Total revenues from passenger services amounted to IR£143 million, of which the mainline rail and suburban rail business accounted of IR£105.5 million. Year on year revenue growth was static. Passenger journey growth of 2% and actual revenue increase of 7% were being achieved on Intercity services prior to the prolonged locomotive drivers' dispute. Passenger services were not increasing on suburban services due to rolling stock, track and signaling capacity constraints at critical high-demand periods of operation.[22]

Total operating costs of IR£46.7 million were IR£40.4 million higher than the previous year. IR£17.9 million of this increase is attributable to an increased depreciation charge as a result of a fundamental revision of the economic useful life of the rolling stock fleet.[23]

Increases in payroll costs and material costs are accountable for the balance.

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[21] Irish rail: Annual Report & Financial Statement 2000, p:2
[22] Ibid.

The average number of persons employed increased by 2.4%, mainly to support the Infrastructure Safety Investment program.[24]
The State grants for the maintenance of the rail infrastructure system and the provision of socially necessary but non-commercial services increased from IR£94 million to IR£105 million. This annual State grant was supplemented by a further payment of IR£120.9 million, for the Safety and Public Transport Investment Program. A total of IR£115.9 million was allocated to the profit and loss account and the balance of IR£110 million to capital and differed income. Overall, there was a surplus in 2000 amounting to IR£2.2 million. The accumulated deficit at 31st December 2000 amounted to IR£29 million.[25]

The operation of the Irish Railways seems easily captured to extraordinary events, meaning that its performance is instable, without any high percentage of permanent customers, also meaning that the services offered need organization and improvement.
The central separation of the traditional transport company to bus and rail services appears as a logical solution for the improvement and the effective organization of those services, market wise.
The separation of the railway activities to the 8 main areas, allows the management to monitor their performance and to adopt further changes respectively.
However it seems that those 8 areas could be classified into two groups of areas of activity: "technical" [mechanical engineering, civil engineering, safety] and "operational" [business development: freight, passenger, finance & accounting, operations and human resources] resembling to the practice followed by other E.U. member-states with the introduction of "business units" in the infrastructure and the operation of the railway system.
In practice, regarding passenger services, IR management shows to believe in Intercity services and therefore has developed an extended intercity network, almost for all national destinations, offering services of high quality. Also it has developed a very good marketing policy, identifying the special

[23] Ibid.
[24] Ibid.
[25] Irish rail: Annual Report & Financial Statement 2000, p:3

needs of existed target markets, trying to satisfy all customer needs (e.g. City Gold services for business people).

Important to note is also the particular attention paid to the provision of differentiated catering services on different trains and the development of holiday packages, along with the promotion of executive trains for business, sports, special groups, conferences and special occasions.

Suburban services, with the exception of DART and Arrow Services, need further improvement for being more attractive, as is the case almost at all European Railways. Extra investments on the track could be planned and then an extensive advertising campaign could attract more users, since it seems that in Ireland there is a positive attitude for railway use.

As far as freight transport, it is understood that most of the volume of cargo is transported between Ireland and England, so it is the case of a permanent market and there is limited potential for thinking of a different policy.

However, the operation of the Rosslare Europort and the on going investments sent a very hopeful message for the development of combined transport in Ireland.

Quite satisfactory is and the investment plans of IR, especially on safety, meaning that the company believes in security and really cares for its customers' safety and its safety record, beyond of any cost elimination policy attacking safety, as being practiced in the industry nowadays.

Aiming in the improvement of services offered, the adopted type of organization, might work for a transitional period, but it is very sensitive to any kind of problem occurred, since have not been specified yet, the main strengths and weaknesses of the business development areas. This specification could facilitate the separate study of the activities of each one area, for the development of the different commercial policies for each service offered.

Moreover, it was evident that the IR management has not work hard on building its public image, which, as mentioned above, was severely damaged between 2000 and 2001 when press and media were very often commenting on the "chaos" resulted from railway social disputes.

For example, the "Irish News" on the 30th of March 2000, under the headline "Strike-hit firm say send in the army", reports that "employers called for the Irish army to be brought in, to provide a transport service after half a million people across the Republic were hit by separate bus and rail strikes".

On the 15th of November 2000, under the headline "Train strike looks set to worsen next week", reports that "the Irish Rail dispute affected thousands of cross-border travelers and the situation will worsen next week. Neither side has shown any sign of compromise while the Labour Relations Commission said it has no plans to invite the unions and management to talk."

Six months later, on the 8th of May 2001 again the "Irish News", under the headline "Republic's rail strike goes ahead", comment that "widespread rail disruption looked certain in the Republic, as train drivers refused pleas to withdraw planned strike action". Also next day, on the 9th of May 2001, under the headline "Rail strike chaos in South", reports that "more than 10000 DART and Suburban passengers along the east coast were forced to make alternative travel arrangements after members of the Amalgamated Transport and General Workers' Union (ATGWU) staged pickets at station in Dublin, Dundalk and Drogheda".

However, the Irish experience is a useful case study for the Hellenic Railways by identifying the sensitivity of the operation of the divided organizational model "areas of activity" or "business units" when a network is not well established in the market and it has not permanent financial resources.

Also Hellenic Railways have to consider seriously the relations with the railway workers and the state, keeping balances and adopting changes, approved by both sides.

Dramatic changes in the Railway System can not have positive results without consensus of all the interested parties.

5.3. Portugal

5.3.1. Introduction

The Portuguese railways celebrated their inaugural journey on the 28th of October 1856. Following a period at the beginning of the century when several various public and private companies co-existed, the Companhia dos Caminhos de Ferro Potruguese (Potruguese railway company) were founded in 1951, to become, in 1975, CP - Caminhos de Ferro Potruguese (CP).[26]

The management of railway activity in Portugal was, until the end of the 80s, and in some situations even until 1990 when it was revoked, governed by Decree-Law No.2008 of 7th September 1945.This regime, covering everything from transport to investment had maintained unaltered for more than four decades.

In the late 80s and early 90s, Portuguese law came round to the decision that it is the State's prerogative and not the rail company's to finance Long-Term Infrastructures (LTIs). The state had, however, already been working on the principle that some rail conducted by legally separate entities via delegation of power to indirectly controlled state administration bodies. Thus, in the Greater Oporto region, and by means of the River Douro Rail Bridge Office, which was created by Decree-Law No.307/81,dated the 13th of November, the State's role was widened to include all the activities related with the modernization of the Oporto rail network ,through Decree-Law 347/86 of the 15th October which created the Oporto Rail Network Office (GNFP). Later, in order to assure the promotion, co-ordination, development and control of all activities regarding the Lisbon regional network, the Lisbon Rail Network Office (GNFL) was created by Decree-Law No.315/87 of the 20th of August.[27]

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[26] http://www.abouteCP-company.htm CP today, p:1

[27] Decree-law no 104/97 of 29 April, Ministry of Equipment, Planning and Territorial Administration, Portugal 1997, p:1

5.3.2. Creation of REFER (State Company) and the extinction of the GNFL, GNFP and GECAP

In the 1998 was founded the National Railway Network as Public entity aiming to the operation of the infrastructure of the National Railway Network based on the activities of the railway infrastructure. The operation of the rail services remained to the Caminos de Ferro Portugueses .E.P. (CP).

So, the National Rail Network (REFER), State Company, with legal personality – herein after known as REFER E.P , is governed by Decree-Law No.260/76 of 8th April, and its duration is undetermined.

- The Lisbon Network Office (GNFL), created by Decree-Law No.315/87 of the 20th of August
- the Oporto Network Office (GNFP),created by Decree-Law No.347/86 of the October
- - the Office for the Management of the Rail Installation Works on the Bridge over the Tagus in Lisbon (GECAF) created by Decree-Law No.71/94 of the 3rd March ,

are assumed fully by REFER ,.E.P in the terms and exceptions laid down in the current diploma.[28]

REFER,E.P is a corporate entity with administrative and financial autonomy and its own estate.

It has its head office in Santa Apolonia station, in Lisbon, and can set up any type of representation of facilities, where and when it deems necessary or convenient, for attaining its aims. It is subject to control by the Ministry of Equipment, Planning and Territorial Administration.

The main objective of REFER ,E.P is to offer public service in the management of the infrastructures which are integrated in the national rail network.

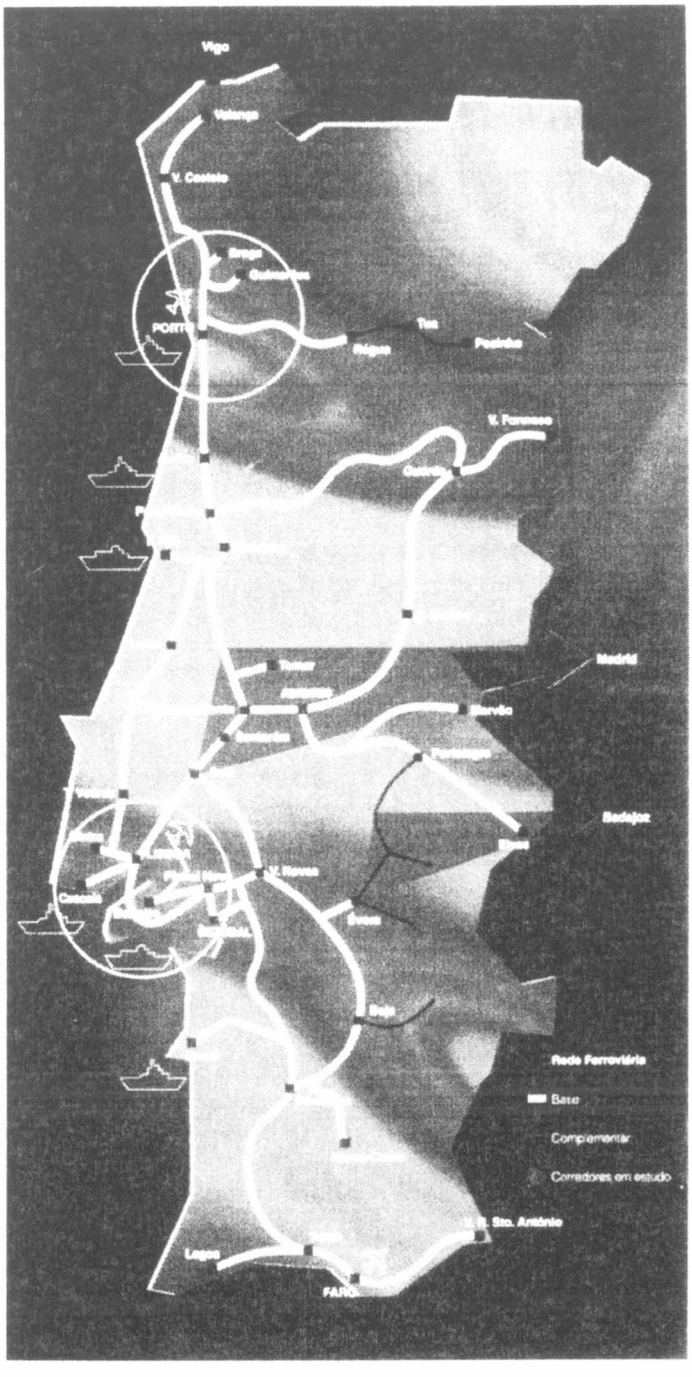
Without prejudice to the States responsibilities, or those of another entity designed by it, REFER, E.R. has the power to define the rules for access to

the infrastructure, or parts thereof, by rail transport companies or groups together with the issue, modification and extinction of the respective safety certificates as foreseen in article 11 of Directive 95/19/CE of the Council dated 19th June 1995.[29]

The main responsibilities of REFER were transferred from the state and from (Caminos Ferreos Portuguese) CP to the entity on a pre-organized timeframe as it was stated at article 10 of National Law 104/97.
However in reality this transformation of responsibilities and activities from CP to REFER was extremely complicated and difficult especially for the preparation of the financial statements of the first year of operation, of year 1998.
Moreover the transfer of assets was very problematic since all assets had to be re-evaluated and listed for depreciation calculation and taxation purposes. In spite the difficulties, has to be noted that REFER managed to realize the 1998 budgeted investment program and to maintain the infrastructure properly and safely and additionally worked on a reorganization plan of the repair, maintenance & technical operation.

Another difficulty faced was the high adaptability demanded from the company/staff to the needs of the administrative model used. The basic characteristics of the administrative model were the both ways information channel used, the often meetings of management, the high level of information (delivered and received through intranet) and the high level of staff productivity.

[28] Ibid. p:2
[29] Decree-law no 104/97 of 29 April, Ministry of Equipment, Planning and Territorial Administration, Portugal 1997, p:3



Map 3: Map of the Portuguese Railway Network

Source: Portuguese Railways

These characteristics allowed administration to have a continuous feedback of the application of the new model, in order to respond fast and drastically to needed alterations to the operational mechanism, in order to formulate the right model, combining the strategic aims and the practical needs.

Regarding the economic and financial operation of the company, worthies to note that it has not yet receive the fees from the users (CP) of the network and since 1998 it faces serious financial problems. The state finances the

operation with 1.709 billion Escoudos, yearly as it was agreed at the foundation of the company.[30]

5.3.2.1 Commercial Policy

The prospects of the company are based on three areas of activities in order to manage the development of the company:

- Access and use of the available railway channels from the users
- Access and use of the station and terminals from users and other bodies
- Economic evaluation of the company assets, which are not used by railways.

The commercialization of the access to the network has to be well organized with clear responsibilities. Management has to be effective especially for the proper and safe organization of trains circulation, stations operation and successful train operation paying particular attention on the time punctuality, reliability and safety.

5.3.2.2. Use of infrastructures, services and ancillary services

REFER , E.P will have the right to invoice rail transport companies and groups rates for the use of rail infrastructures as laid down by the Minister of Equipment, Planning and Territorial Administration or by entities granted the function of rail regulation.

Usage rates must be calculated so as to avoid any discrimination among rail transport companies or groups operating on the infrastructures, taking into account specifically the mileage, rolling stock composition, speed, axle-load and the period of the use of the infrastructure.

The ancillary services for the use of the infrastructures namely the supply of electrical power, ticket sales, marshalling yards and the use of interfaces, will be levied according to agreement between REFER, E.P and the rail transport companies or groups using them.

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[30] Rede Ferroviaria Nacional REFER EP: Relatorio e Contas 1998 p:38

5.3.2.3. Financing

REFER,E.P may take out the internal and external loans required to fulfil its obligations as given in the statutes.

The obligations contracted by REFER, E.P, namely those resulting from the issuing or contracting of loans, whether syndicated or not, and other forms of internal or external financing stated in the annual or longer operating plans, may benefit from legally granted State guarantees.

5.3.2.4. Estate and domain

All goods, rights and obligations regarding GNFL, GNFP and GECAF pass in their entirety to REFER, E.P.

The infrastructures belonging to CP-Portuguese Railway, are transferred to REFER, E.P with no alterations in their regime.

The rights and obligations regarding the estate of CP-Portuguese Railways, regarding infrastructures, which are an integral part of the public rail domain, are transferred to REFER, E.P with no alterations in the regime.

5.3.2.5. Staff

The workers of CP-Portuguese Railways, in general terms, will have the right to transfer to REFER,E.P. Therefore the workers who opt to join the full-time staff of REFER, E.P maintain their years of state service, and are exonerated from the public sector under the terms of the law. The workers who do not exercise the right of joining the full-time staff of REFER, E.P will return to their respective posts at the end of the period for exercising the option. Currently REFER occupy 2528 employees.[31]

5.3.2.6. Objectives

Additionally to the above mentioned general objectives of the company, consisting of the public service of the management of the national rail network, undertaking the activities according to its objectives based on the principles of best modern and efficient practise so as to assure the regular

[31]Rede Ferroviaria Nacional REFER EP: Relatorio e Contas 2001 p:27

and continual supply of the public service, using the best means at the disposal of the rail activity,

the objectives of REFER, E.P also include:

a) The construction, installation and renovation of the rail infrastructures, which specifically include the respective studies, planning and development;
b) The command and control of circulation;
c) The promotion, co-ordination development and control of all the activities related with the rail infrastructure;
d) Any other attributes required of it by law

REFER, E.P may also undertake any other complimentary or subsidiary activities, as well as operate in other areas commercial or industrial activities which are not prejudicial to its main aim.

In order to attain its objectives, REFER, E.P may also constitute or participate in other companies or societies.

5.3.2.7. Aim and coverage

The government is responsible for defining the general objectives to be followed by REFER, E.P and the framework in which it should develop the respective activity so as to ensure they are in line with the global and sector policies, under the terms of the law.

The government will accompany the future evolution of the company situation so as to safeguard its economic and financial balance as well as the debt servicing taken out for the construction, installation and renovation of the rail infrastructures in terms which in no way prejudice the correct rail modernization policies.

5.3.2.8. Economic and financial responsibility

The economic and financial responsibility for REFER, E.P is held by the Ministers of Finance and for the specific area, and covers:

a) The definition of the basic objectives of the company particularly in terms of preparing the financial and investment plans and budgets;
b) The power to demand all documents and information judged necessary to support the activity of the company.

c) The power to demand inspections or inquires into the functioning of the company or certain aspects of it independently of whether or not there are any indication of irregularities;

d) The power to issue or approve:

I. The investment plans and respective financial plans

II. The annual operating investment and financial budgets, together with the respective alterations implying the reduction in the foreseen results, increased investment costs or financial requirements

III. The documents regarding the accounts, application of the results and the use of the reserves

IV. Capital injections and other mounts granted by the state budget and autonomous funds

V. The acquisition and sale of fixed assets when the overall values are not foreseen in the approved budgets

VI. Programme contracts and management contracts

VII. The staff statues, the salaries and the privileges of the workers.[32]

5.3.2.9 Problems

REFER E.P cannot yet exploit their infrastructure. So the company could not generate profits. The only income it could have was coming from sales of scrap.

- However it presented 1.709.402 mil PTE income from the state subsidies, as it was prearranged from its foundation.
- All the company activities are presented as cost of the operation of staff and equipment or as investments.
- The recent alienations for new constructions were about 698.888 mil PTE.
- There were a lot of trials regarding demands for compensation of accidents, use of land etc, which cost about 126.977 mil. PTE.[33]
- The company also had to receive from:

[32] Statutes of REFER, E.P., Portugal 1998, p:7

	1998	1997
Suppliers	2071252	
CP	10291643	
State	20621923	473418
Others	8659891	6429
Total	41644709	479647

- The company had to receive for year 1999, 20.302.833 mil. PTE from several programs financed from the EU, from the Cohesion Found, from DG VI, etc, for investments on the network.[34]

All over there are about 65.400.000 mil. PTE as guarantees from state for several loans.

The cheques received as guarantees from supplies were about 18.377.136 PTE.[35] So, this relationship approx.1/4 invigorates the problem.

5.3.3. Caminhos de Ferro Portugueses, EP (CP) - Portuguese Rail

Since REFER are responsible for the management of the network, CP are responsible for the operation and provision of the rail services. The managerial model of the company is based on the operation of Business Units.

It is divided in two operational activities, the Passenger Transport and the Freight Transport which are divided into 2 and 5 business areas respectively, which are also divided in business units as follows.

5.3.3.1. Operational Activity – Passenger Transport

So, regarding Passenger Services Operating Activities, they are divided in:

- the Suburban Services and
- the Intercity & Regional Services.

[33] Rede Ferroviaria Nacional REFER EP: Relatorio e Contas 2000 p:44
[34] Rede Ferroviaria Nacional REFER EP: Relatorio e Contas 1999 p:45
[35] Ibid.

5.3.3.1.1 Suburban Services

The Suburban Activity is also divided in two Units, the Greater Lisbon Suburban Unit, and the Greater Oporto Suburban Unit:

1) The Greater Lisbon Suburban Unit

The Greater Lisbon Suburban Unit results from the integration of the Sintra, Cascais, Azambuja and Sado lines. Even though CP have invested a lot and have worked very hard on the improvement of the quality of services of this activity, its market share did not increase.

2) The Greater Oporto Suburban Unit

The Greater Oporto Suburban Unit, operated fully in 2000. The Unit is an integration of the Aveiro, Marco, Braga and Guimaraes lines.

5.3.3.1.2 Intercity & Regional Services

This Unit provides the following services: Alfa Pendular, Intercity, International, Inter-regional and Regional. It also operates the Coimbra Suburban Network.

The year 2000 was characterized by the consolidation of the activity of the Intercity and Regional Services Unit (UVIR) and by the reorganization of its supply in accordance with the objective of satisfying the needs of the different passenger market segments.

The Unit reduced its operational dependency on third parties, taking on some functions that are considered important in the eyes of the client. In this regard the Unit took over:

- control-of cleaning of all rolling stock;
- ticket sales in the stations of Silves, Sabugo, Ovar, Estarreia, Pocinho and Tua, that have previously been handled by REFER;

Implemented Traffic Monitoring Centres (CAT's) are providing more efficient monitoring of the trains and better information to passengers.

Supply was virtually decreased in all services with the exception of the Alfa Pendular and Intercity services where there were increases due to the conversion of the Intercity services to Alfa Pendular services on the Lisbon / Oporto route and the conversion of the Inter-regional services to Intercity services on the Barreiro Beia route.

In terms of numbers of passengers transported on all services there was a reduction of 9,6% in comparison with the previous year. The reduction occurred solely in the "Regional" service.[36]

There was a favourable upward trend in revenues compared to the previous year. The overall increase of 9.8% was especially due to the impact of the Alfa Pendular service.

With regard to distribution channels, Multibanco sales (ATM's) grew in importance, registering more than PTE 185 million. Sales through Travel Agencies grew by more than 27% compared to the previous year.[37]

In more details:

1) Alfa Pendular

The Alfa Pendular service is in the development stage and is considered to be the Unit's "top of the range" service. Significant efforts and investment have been put into this service. In 2000, a total of 650 000 passengers were transported providing sales of PTE 1,8 billion.[38] The supply of this service has grown strongly, filling the needs of the target markets by increasing supply and converting Intrercity trains to Alfa Pendular trains.[39]

2) Intercity

The number of passengers transported on this service, in 2000, was 1,85 million with sales reaching PTE 2,8 billion.[40]

3) International passenger transport

In 2000, 336 000 passengers were carried: 53% on the Sud, 30% on the Lusitania and the remaining 17% on the Oporto - Vigo route. Sales were PTE 1,5 billion. An analysis by routes shows that the Sud - Expresso and the Lusitania Comboio Hotel (the night sleeper from Lisbon to Madrid) had significantly more passengers than the previous year while there was a significant drop in the number 'Carried on the Oporto - Vigo route. The main reason for this decrease was the elimination of two trains from this route in 1999.

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[36] Ibid.
[37] Ibid.p:41-42
[38] Ibid.
[39] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:42
[40] Ibid.

4) Inter-regional

The number of passengers carried on the inter-regional service was 4 million (15% more than in 1999) while sales were PTE 2,7 billion (the same as in 1999).

5) Regional

During year 2000, 12,7 million passengers were carried and sales were PTE 2,7 billion. Compared to 1999, these figures represented decreases of 20% in passenger number and 12% in sales.

Although it is not possible to analyze regional traffic by lines, increases have been noted on some lines but these were not large enough to offset the decreases in others.

6) Coimbra Suburban Network

The number of passengers transported on this service in 2000 was 1,2 million (7% less than in 1999) and sales were PTE 152 million, 8% below the previous year's figure.

There was also a strong, 12% reduction in the Coimbra suburban service supply.[41]

So concluding, for the Passenger Services Activity and in terms of Numbers of Passengers Transported, the overall change with regard to the previous year was negative. This occurred mainly in Medium and Long Distance (Regional service) since the number of Suburban traffic passengers was stabilized. This can be seen after the 2000 statistical criteria are applied to the 1999 data.

In terms of Statistical Revenues there was an overall increase of about 6% compared to the previous year. This was mainly due to Medium and Long Distance travels, where there was a structural alteration with the promotion of the Alfa Pendular service. The increase in Suburban service revenues was directly linked to the increase in fare tariffs.

The changes in the main traffic variables for the Suburban services are shown in the following table:

[41] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:44

Table 7

Changes in the main traffic variables for the Suburban Services

Suburban Traffic	1999	2000	Change
Passengers carried (millions)	129,5	128,9	-0,5%
Passenger Kilometers (millions)	2201	1950	-11,4%
Statistical Revenue (million PTE)	13173	13572	+3,0%

Source:Caminhos de Ferro Portugueses, EP Report & Accounts 1999
Caminhos de Ferro Portugueses, EP Report & Accounts 2000
(developed by the author)

Table 8

Changes in the main traffic variables for the Medium and Long Distance Passenger transport services

Medium and Long Distance Traffic	1999	2000	Change
Passengers carried (millions)	21,8	19,7	-9,6%
Passenger Kilometers (millions)	1761	1721	-2,3%
Statistical Revenue (million PTE)	10475	11503	+9,8%

Source:Caminhos de Ferro Portugueses, EP Report & Accounts 1999
Caminhos de Ferro Portugueses, EP Report & Accounts 2000
(developed by the author)

5.3.3.2. Operational Activity – Freight Transport

Freight transport decreased slightly in comparison with the previous year as can be seen in the following table:

Table 9

Freight Transport Decrease between 1999-2000

Freight Traffic	1999	2000	Change
Freight Tones Carried (thousands)	9260	9028	-2,5%
Tone Kilometers (millions)	2159	2204	+2,1%
Statistical Revenue (million PTE)	13880	13820	-0,4%

Source:Caminhos de Ferro Portugueses, EP Report & Accounts 1999
Caminhos de Ferro Portugueses, EP Report & Accounts 2000
(developed by the author)

In comparison with 1999 the UTML - Freight Transport and Logistics Unit - showed decreases of 0,5% in revenues and 2,5% in volume. Revenues and volume were 6,3% and 8,6%. respectively, below forecast. The main reasons for these figures are the poor performance in the month of December, when there were strikes, and bad weather conditions. Company activity grew by 2% when expressed in tones/kilometer terms.[42]

The decrease, which in value terms was very small, shows that there is great stability in the structure of products transported, with the exception of row materials and wood, where there were significant decreases during the year. In addition, this year sugar beet ceased to be included as a product transported by the UTML.

These losses were nearly made up by increases in coal and fuel transport.

The freight traffic structure in 2000 was very similar to the previous ones. The percentages of the transported products are as follows :

[42]Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:50

wood and pulp 7% - ores 4% - sand 14% - grain and animal feed 4% - containers 7% - stone 5% - chemicals 1% - cement 26% - iron and steel 2% - fuels 3% - coal and coal-ash 21% - fertilizer 1% - car and spare parts 3% - diverse 2%.[43]

Activity was well below that forecasted for 2000. The variation was due to decreases in the transport of important products, namely, sand, wood, ores, fertilizer, animal feed, automobiles and sleepers. These decreases were offset to a degree by increases in cement, coal and coal ash. Contrary to what had been planned, the dependence on several very important products actually increased.

Regarding supply, there were 52666 freight trains, 3% less than in the previous year. In contrast, there was an increase in train/kilometer production due to the development of activity on longer routes.[44]

The freight Services Operational Activities are divided in 5 business units:

1) Construction Materials Business Area

2) Specialized Traffic Business Area

3) Agro-industrial Traffic Business Area

4) Combined Business Area

5) Automobile and Iron and Steel Area

5.3.3. Conclusion

As mentioned in the beginning of this chapter, Portugal is one of the first E.U. Member-States, after Sweden (1985) and Great Britain (1993) which introduced the liberalization model of the rail market.

Even from the times of the application of Directive 91/440, Portugal got as far as setting an independent railway company and a rail regulator well before the proposal of the first infrastructure package from E.U.

So, since 1998, REFER E.P. is managing the Portuguese rail infrastructure and the operation of the rail services remains to the CP, therefore, the

[43] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:51
[44] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:52

available data and information is very limited, since the current system is in use only for two years.

Thus, REFER remains very close related to state, since the government is setting its general objectives and gets involved in almost all of its activities, resulting to certain inefficiencies in the operation of the system due to these heavy bureaucratic procedures, and consequently to certain difficulties in exploiting the infrastructure. These limitations are reflected both into the railway market by blocking any interest of new entrants and on the performance of REFER E.P. and C.P.

However, from this analysis is concluded that the provisions for the transitional period were not properly arranged resulting to certain obstacles in transferring assets, preparing financial statements, applying the agreements for public service obligations and managing staff.

Also, some observations can be made, starting with the negative value of the Company's Equity, that makes the Company dependent on any financial support that the State decides to provide, and on alternative sources of finance, with high financial costs.

Additionally, should be noted that, of the amount of Statutory Capital attributed in 1998 of PTE120 billion, was expected that CP would receive PTE90 billion in 2000, and finally were received only PTE70 billion.[45]

During 2000 it was not possible to develop a formula for calculating the infrastructure usage rate. These hindered efforts, to arrive at an understanding of the real costs, were associated with the operating procedure of railway transport in Portugal.

The financial costs of approximately PTE 15 billion[46] were due to a variety of reasons, namely: the operating loss, the need to finance the capital spending program, the Company's unbalanced financial structure, the increase in loan interest rates, particularly in the 2nd half of the year, and the delays in receiving Company's Statutory Capital.

The Net Loss for the year 2000 was 9,8% reduced compared to losses of 1999, (from PTE -52 215 million in 1999 to PTE - 47121 million in 2000). The Operating Revenues for year 2000 were PTE43238 million, 4,8% higher than

[45] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:11

the 1999 figure of PTE41240 million. The variation was mainly the result of a 4,7% increase in Provision of Services.

Supplies and services from third parties decreased by 5%, mainly due to cost reductions of PTE 792 million for rolling stock repairs, PTE 103 million for representation costs, and PTE 376 million for electricity.

The total Financial Losses in 2000 were PTE15 269 million, that is to say PTE 2 926 worse than in 1999.[47]

This was the result of the continued refinancing and increase of debt to cover financing requirements for operations and capital spending as well as the increase of national and international financial market interest rates.

The PTE3 027 million income is basically associated to the reduction of provisions of PTE2 259 million and the contractual penalty benefits of PTE2 312 million due to delays in delivery of rolling stock and weakening of circulation.

Extraordinary costs are generated mainly due to early retirement pensions, totaling PTE 2 523 million.

On 31 December 2000, the value of the Total Net Assets of CP was 13,4% less than on the same date in 1999 (PTE399586 million in 1999 and PTE346164 million in 2000).[48]

This decrease is mainly the result of:

a) receipt of PTE70 billion from the State as payment of the Statutory Capital allocation decided on at the end of 1 998;
b) receipt in January of PTE 1 750 million for compensation benefits relating to 1999.[49]

In Accruals and Deferrals, the increase of PTE 4 200 million was justified of credits of State compensating transport services for the army in the period between 1996 and 2000, totaling PTE A 697 million (amount net of VAT due at legal rate of 5%).[50]

Equity in 2000 was negative (-PTE 38219 million) in consequence of the following:

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[46] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:82
[47] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:83
[48] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:83
[49] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:83
[50] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:83

- reduction in Revaluation Reserves by PTE 2 766 million;
- reduction in Other Reserves by PTE 1 25 million;
- positive correction of Profits/Losses Carried Forward by PTE3 793 million as the result of compensation for transport of military personnel and armed forces between 1996 and 1999;
- the Net Profit/Loss for the year being negative, to the value of PET 47 1 21 million.

Medium and Long Term Debts are about PTE 9 691 million.[51]

Hence, the organizational model of C.P., based on the operation of Business Units, aiming to a flexible and effective administration of railway activities, at least in principle, is considered very positive. Quit positive are and the efforts made for monitoring the market demand reflected to changes on schedules and timetables, but still there is urgent need for a more aggressive marketing policy in order to attract more users. This can be achieved with extensive analysis of customer needs for each target group and improved investment plans to lines and services that present reductions to sales, either due to inefficiencies of services offered or eliminated supply.

As far as freight transport, it seems that there is a regular flow to Spain (the only one railway connection for international transport) and it can not be much improved. But C.P. has to focus its policy in developing intermodal freight transport through the ports of the country, with railway connections, and building strong commercial relationships with shipping companies, covering certain losses of trade reductions from other sectors of the industry (e.g. end of sugar beet traffic, closure of fertilizers production in Barreiro, etc).

Nevertheless, the application of the "business units/area" policy, accelerates the procedures of reorganization and management flexibility, when it is adopted the right moment. The E.U. oriented policy adopted by the Portuguese Government and the Railway Management complying fully with the demands of the organizational separation, under a very liberal perspective for the Portuguese reality, seems very innovative for the current situation, since the network needs further improvement and development for sustaining such an independent status and avoiding cooperation problems between

[51] Caminhos de Ferro Portugueses, EP Report & Accounts 2000, p:84

Infrastructure Manager and Operations Company, for example, irregularities to train circulation due to badly organized schedules for infrastructure works and maintenance.

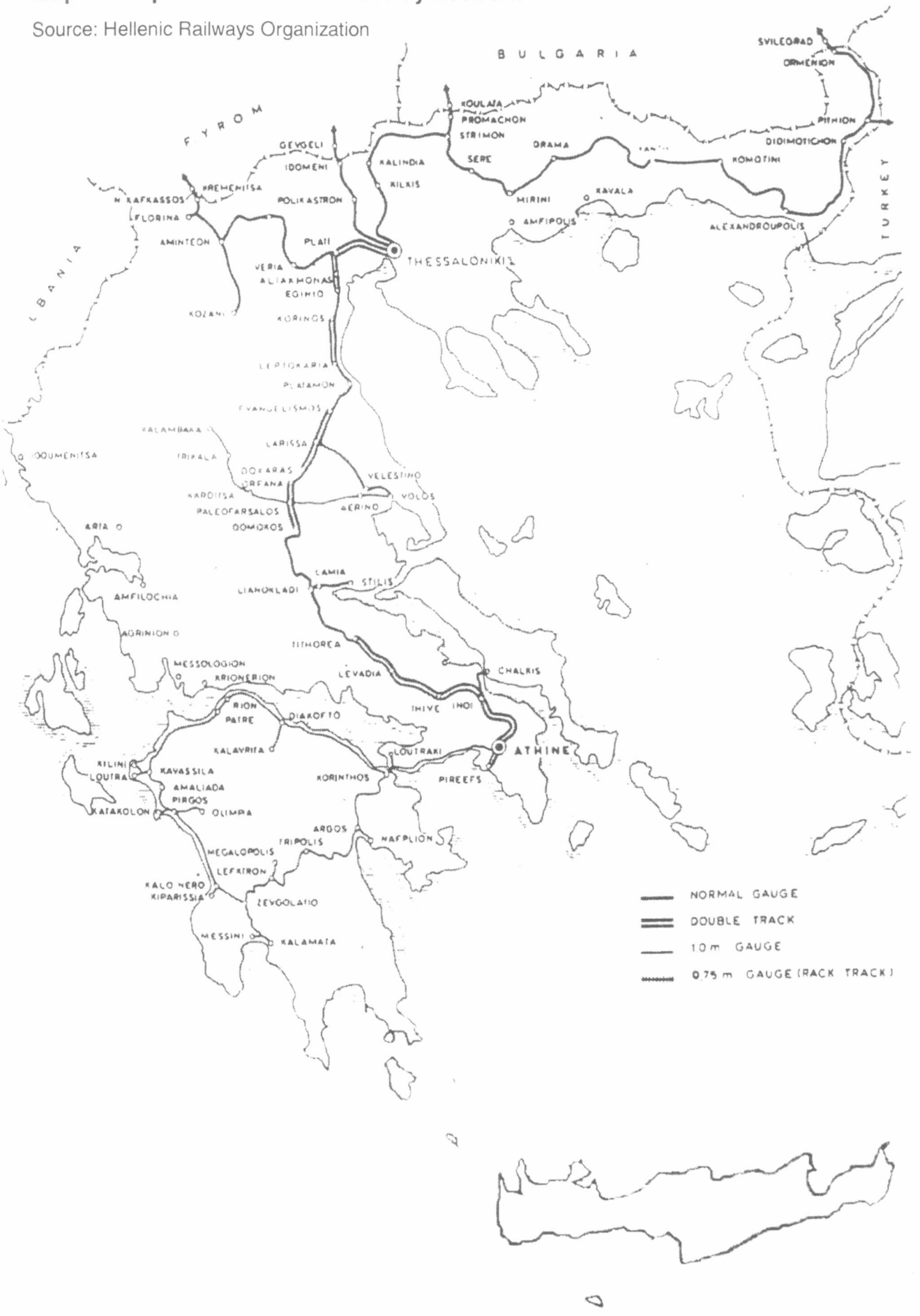
This is a good notice for the Hellenic Government, since also the Hellenic transport market is not ready for such radical changes; and a meaningful message for the management of the Hellenic Railways for being prepared appropriately in adopting the right administrative model when railways are ready for it, simultaneously with the establishment of the right mechanism for responding fast and effectively to similar problems that might occur at any moment of the transitional period required for the conversion process, as well. The time frame for the transitional period has also to be very carefully considered and organized. Proposals and alternatives should be properly evaluated and tested. Operational and coordination difficulties between new companies might occur and the authority for managing conflicts should be established in parallel to the separation of railway activities. The legal obligations of the state and the procedures safeguarding their proper execution should be also defined on time.

5.4 Hellas

5.4.1 Introduction

Map 4: Map of the Hellenic Railway network

Source: Hellenic Railways Organization



As far as the Hellenic network, most elements of its organization and operation, useful for having a thorough view of its strong and weak points, related to the needs of this study, for building up its modernization plan, have already been presented in the Diagnostic Report.

In this chapter, and for the needs of this comparative study, will be presented and analyzed additional key points of the Hellenic Railways policies regarding its administrative regime, its relations with the State, its commercial operations and investments, and in general, elements comparable to the operation and the policies followed by the Irish and the Portuguese networks, in order to test spherically the hypothesis of this research and to meet its objectives.

5.4.2. The legislative regime

The European Directive 91/440/EEC was transposed to the Hellenic Law, with the Presidential Decree 324/1996. Since then, the Hellenic Railways Organization (OSE) is responsible for the provision of the railways services in the Greek territory. Additionally, OSE is responsible for the operation, management and maintenance of the railway network, while the owner is the state, and it is its responsibility to cover all the infrastructure costs. With Law 1529/1650/1997 for the arrangement of the economic and financial relations between the State and OSE, are arranged all the above and the system that the State compensates OSE for the management and operation of the network. Moreover, with the same law are arranged all the public service obligations by the State, to OSE, as well as all the tariffs being part of the State's social policy, but this system has not been activated yet.

Regarding the separation between operation and infrastructure, demanded by Directive 91/440/EEC, it was adopted to the accounts only and just in year 2001.

Directive 95/18/EEC on the access to the infrastructure and the respective charges was adopted by the Hellenic Law with the Presidential Decree 76/1998 and Directive 95/19/EEC on the railway licensing was adopted by the Hellenic Law by the Presidential Decree 180/1998, even though Hellas is excepted from the adoption of those directives, since there is no demand for

access to the infrastructure, but with the existence of the first applicant, the exception is erased.

Finally Law 2671/1998 is further regulating the operation of OSE, allowing it to be more autonomous, in order to survive in the strongly competitive transport market.

Again is underlined that nothing has been entered into force yet and even the accounting separation has been with an approximate quotation of expenses and revenues and without any scientific calculation and estimation.

5.4.3. Passenger transport

As mentioned in Diagnosis Report, the performance of the passenger transport services of the Hellenic Railways, as shown in Tables 14 were organized as follows:

5.4.3.1. National passenger transport

During year 2000 the number of passenger was increased by 3.2% compared to year 1999 and the kilometer passengers were increased by 2.8%.[52]

This increase could be higher if there were not out of operation large parts of network due to maintenance and renovation works.

Moreover there was a lack of passenger cars, effecting negatively any possible increase of passenger transport, since there was no possibility to increase capacity during the pick seasons.

The generated increase was due to a new commercial, aggressive policy adopted for attracting new customers with very competitive holiday offers.

5.4.3.2. International passenger transport

The passenger transport during the year 2000 was increased about 12% compared to year 1999 and the kilometer passengers were increased about 12.9% respectively. That increase was due to the increased sales of international periodic cards as well as to the increase of sales of international

[52] Hellenic Railways Organisation: Annual Report 1999 p:8
Hellenic Railways Organisation: Annual Report 2000 p:9

tickets (about 69%).That increase was based on the improved stability and safety at Balkan Peninsula , regaining the lost customers.

Table 10

PASSENGER TRANSPORT PERFORMANCE 1999-2000			
	1999	2000	CHANGES 2000/1999
Passengers (thousands) - National	12.160	12.549	+ 3,2%
- International	108	121	+ 12,0%
TOTAL	12.268	12.580	+ 2,5%
(km /passengers) in thousands - National	1.564.833	1.608.343	+ 2,8%
- International	18.260	20.612	+ 12,9%
TOTAL	1.583.093	1.628.955	+ 2,9%
Average km /passengers (km)	129,04	129,49	+ 0,35%
Revenues Passengers (million drs)	12.537	13.578	+ 8,3%
Average revenue / km passengers (in drs)	7,919	8,335	+ 5,2%

Source: Hellenic Railways Organisation: Annual Report 1999
Hellenic Railways Organisation: Annual Report 2000
(developed by the author)

5.4.3.4. Passenger road transport

In year 2000 the increase at passenger road transport operated by OSE, was very low, about 2.4% and the passenger kilometers about 2.6% compared to year 1999[53] (see Table 15), but it was covering almost 99% of the capacity of road services offered.

[53] Hellenic Railways Organisation: Annual Report 2000 p:15

Table 11

PASSENGER ROAD TRANSPORT PERFORMANCE 1999-2000			
	1999	2000	CHANGES 2000/1999
Number of passenger (thousands)	453	464	+ 2.4%
Kilometer passengers (thousands)	266.325	273.195	+ 2.6%
Average Km/passenger	588	589	+ 0.2%
Revenues			
From passengers (million drs)	2.292	2.361	+ 3.0%
Average revenue per Km passengers (drs)	8,606	8,642	+ 0.4%

Source: Hellenic Railways Organisation: Annual Report 1999
Hellenic Railways Organisation: Annual Report 2000
(developed by the author)

5.4.4. Freight transport
5.4.4.1. National freight transport

Also summarizing from Diagnostic Report, for the national freight transport for year 2000 we observe an increase of 43512 tones (increase of 11.9%) compared to year 1999 and 12936524 kilometer tones, that is an increase of 12.6%[54] (see Table 16).

That increase was due to the increased quantity of sugar beets transported to the Hellenic sugar industry, and the signed contract between the Company and the Hellenic Steel for the transportation of iron ore and steel. The agreement with the National Electricity Company for the transportation of liquefied fuel, was reconciled, with the Hellenic National Refineries for the transportation of fuel, with the Hellenic National Chemicals Company for the transportation of chemical products etc.

5.4.4.2. International freight transport

Regarding the international freight transport for year 2000 we had an increase of 32% or 36.105.000 kilometer tones (increase 31.8%).The transportation of container was decreased about 10.4% compared to year 1999 (32754 tones

[54] Hellenic Railways Organization: Annual Report 2000 p:17

transported to year 2000 and 36541 transported in year 1999),[55] as shown in Table 16.

That decrease was due to:

-the unpleasant events at Kosovo and the general Civil War at the former Yugoslavia

-the low quality of service, to the limited capacity and to the infrequency of trains between Sopron and Thessaloniki and the strong competition with the road transport .

Table 12

FREIGHT TRANSPORT PERFORMANCE 1999-2000			
	1999	2000	CHANGES 2000/1999
Tones (thousands) - National	362	405	+ 11,9%
- International	2.081	2.787	+ 33,9%
TOTAL	2.443	3.192	+ 30,7%
Km tones (thousands) - National	1022.888	115.825	12,6%
- International	244.405	310.177	+ 26,9%
TOTAL	347.293	426.002	+ 22,7%
Average km tones (Kms)	142	133	- 6,4%
Revenues Freight (million drs)	6.038	7.833	+29,7%
Average revenue per km tones (drs)	17,386	18,387	+ 5,8%

Source: Hellenic Railways Organization: Annual Report 1999
Hellenic Railways Organization: Annual Report 2000
(developed by the author)

5.4.5. Economic relations with the state

The obligations of the Hellenic State according to the Presidential Decree 324/96 for the application of Directive 91/440/EEC and the L.2671/98 for the arrangement of the reorganization, operation and finance of the investment plans for the network, is covering all the maintenance cost and all the loses of

[55] Hellenic Railways Organization: Annual Report 2000 p:17

the organization due to the state social policy, is compensating the organization when it has to offer social fares, and pays to the organization all the public services offered. So in year 2000 for covering the above mentioned expenses and obligations the Hellenic State had to offer (still owes) to the organization 143 million drs (103 million drs for financing the infrastructure and 40000 million drs for the other needs of the organization). However it guaranteed loans of 220.000million drs. [56]

5.4.6. Reorganization

In the framework established by the European Union Legislation, where the organization adapts Directives 91/440/EEC, 95/18/EEC, 96/18/EEC by the National Law 2671/98, as mentioned before, the State is responsible for the network and the Organization is responsible for its administration and management and of course remains a company offering transport services.
Additionally the company has the right to found new subsidiaries so it introduced the operation of the following companies:
-"Teleose" – for telecommunication services
-"Geaose" – for the administration of the property of OSE and the provision of tourism services
-"Otose" - for the provision of general transport services.

5.4.7. Conclusion

During year 2000, the general administration tried very hard for the reorganization, the reorientation, the financial recovery, the development and the modernization of the company.
Management and personnel tried hard for the improvement of the organization's activities, such as:

- for the passenger transport, for year 2000 we can see an increase in the number of passengers of 2.5% and an increase of 2.9% in the

[56] Hellenic Railways Organization: Annual Report 2000 p:72

kilometerpassengers, compared to year 1999 (see table...14 Par. 6.4.3.4.). This increase could have been higher if lines were not periodically closed due to renovations of the network at several parts. However, has to be underlined the contribution of the policy of special offers and the introduction of new products, as well as the improved punctuality and quality of the services offered.

- For the freight transport, for year 2000 we can see an increase of 11.9% tones transported compared to year 1999 and another increase of 12.6% kilometertones for the national transport and an increase of 33.9% tons and 26.9% kilometertons, compared to year 1999 for the international transport, which is the highest increase ever achieved. This is due to the higher flexibility adopted dealing directly with customers and offering high discounts. Additionally Hellenic Railways decided this year to have stronger cooperation with the national ports and industries, aiming to the development of combined transport and door-to-door services. This increase could have been higher if there were not the civil war problems at Yugoslavia, if were completed the works for the line improvements and if the procedures for the purchase of new rolling stock were accelerated.
- In year 2000 finally the Hellenic Railways managed to assure funds for the full construction of the Patras-Athens-Thesaloniki-Idomeni Railway axle, and the modernization of the peripheral lines of the network.

  The new program for the railway investments, financed by the 3rd Community Support Framework was approved, and 1,3 trillion drs are expected to be invested for the years 2000-2006. The regulations for the maintenance and the restructuring of the network changed, and now new works are offered to construction undertakers after an integrated tendering procedure. New standards were set for the full use of the staff working for the maintenance of the line, and training was organized for all the staff, for the proper use of the heavy machinery used for the maintenance of the line.

  Moreover, in year 2000 was taken the final decision for the construction of the Suburban railway.
- Regarding the rolling stock, serious decisions were taken for its gradual renewal, for the improvement of the services offered from the

Organization, and the parallel minimization of its operating cost. Also there is considerable improvement on the reliability of the rolling stock. The exceptional checks of the locomotives due to damages were decreased about 47% leading to the minimization of the delays of the trains and contributed to the increase of the passenger transport.

5.5. Characteristics & Reports of the Networks

5.5.1. The Characteristics of the Networks

Table 13
The Characteristics of the Networks

	HELLAS Infrastructure & Operation OSE		IRELAND Infrastructure & Operation IR		PORTUGAL Infrastructure REFER		Operation CP	
	1999	**2000**	**1999**	**2000**	**1999**	**2000**	**1999**	**2000**
Length of network	2299	2385	2800	2800	2991	3043	2991	3043
Operating network	2511	2590	1944	1944	2991	3043	2991	3043
Staff	10523	10101	5234	5358	2504	2528	6629	6418
Passengers	12268 thousnds	12580 thousnds	29908 thousnds	30722 thousnds			151.3 millions	148.6 millions
Passenger kilometres	1583 millions	1628 millions	1457 billions	1389 billions			3962 billions	3671 billions
Revenue millions Euros	36,796	39,851	106,472	105,723			117,562	125,074
Freight (tones)	2443 thousnds	3192 thousnds	2901 million	2707 million			9260 million	9028 million
ToneKilometres (millions)	347	426	526	491			2159	2204
Revenue millions Euros	17,722	22,990	21,483	20,176			69,233	68,934
Bus Passengers (thousands)	453	464						
Bus Passenger Kilometres (thousands)	266325	273195						
Revenue million Euros	6,744	6,965						

Source: Developed by the author

For the needs of this study, it is preferable to be concentrated on the operation and the performance of the networks, the most recent years, since

these years are incorporating the adoption of the European Union Railway Policy and therefore are important for this study.

As we can see, all three networks are very small, about 3000 km. The length of the Irish and Portuguese network are about the same, while the Hellenic is, comparatively, quite smaller (2299km with an 2590km operating network-including the deviations to some factories and refineries). But the Greek network occupies almost two times more staff than the others even though it has less capacity and even less services offered. This is due to the strong State intervention on the "State Owned" companies in following its social policy. Unfortunately the railways management, instead of dealing with serious administrative problems, very often has to search for new resources in order to pay the staff salaries, since the state does not contribute financially to the case.

The number of passengers using railways seems quite satisfactory for the Portuguese network, and very satisfactory for the Irish network, and this is due to the extensive network and the variety of services offered on Portugal and Ireland. On the contrary, the Hellenic numbers are very disappointing, giving the impression that Hellines do not approve the way railways operate, and the quality of services offered. Moreover, we have to say that Hellines do not have the attitude to use public transport and especially train, and they prefer to use for their transportation their own private car. (see Chapter 2, par. 2.3.5.2.1.)

Regarding freight transport, it seems that the Portuguese network has a high performance, mainly due to its direct connection with the continental European Union, and a standard traffic to Spain, even if there was a decrease for year 2000, mainly due to strikes. Ireland, as being an island, can not develop a very wide freight transport policy with the Continent and consequently, the network management is more concentrated on the provision of passenger transport.

The performance of the Greek network, is rather disappointing, but we have to take into account the geographical position of Hellas, the political situation of its neighbourhood and the individual problems faced by the network (very old without any investment, construction stops and delays, very wide road network, etc), as they are analyzed in details in Chapter 2.

5.5.2. The Performance Reports of the Networks

Table14

Networks Financial Reports

	HELLAS (OSE)		IRELAND (IR)		PORTUGAL CP		REFER	
Million Euros	2000	1999	2000	1999	2000	1999	1998	1997
Total Turnover	156,405	106,821	100,113	99,598	206,2	216,19	70,02	6,13
Medium & Long Distance Traffic/ Main Line rail division	39,851	36,796	64,359	65,691	9,561	1,087384		
Suburban rail division			18,690	18,233	58,384	57,556		
Road freight division			15,738	14,721				
Road passenger division	6,930	6,745						
Rosslaire Harbour division			6,222	5,761				
Catering service division			7,572	7,610				
Other revenues	75,724	76,102						
Infrastructure	23,430	11,267						
Total Expenditure	553,209	520,393	260,260	210,957	194,152	185,463	133,503	16,376
Operation	310,652	288,701						
Infrastructure	242,028	231,691	114,852	79,029	194,152	185,463		

Main Line Rail division	74,634 pas/ger 42,900 freight	74,478 pas/ger 35,049 freight	93,977	84,709	12,555 pas/ger 127,279 freight	115,312 pas/ger 61,352 freight		
Suburban Rail division			25,172	22,816				
Road freight division			14,501	13,682				
Road Passenger division	8,051	7,481						
Rosslare Harbour division			1,168	3,477				
Catering Service division			7,954	7,242				
Investment Program	302,105		46,466	216,580	107,187	25,433	53,605	
Public Service Payment			120,087	86,442				
Loss	400,193		22,808	24,512	260,448	235,039	63,651	10,260

Source: Developed by the author using the Annual Reports of the networks for years 1997,98,99,2000

It is quite clear that we have to deal with quite similar networks, ever though the Portuguese and Irish railways have the advantage to be linked, at least from the one side of their network, with EU member-states of a quite high quality extensive rail network, the Spanish and the British, respectively, but Hellas, not only has not any direct railway link to the EU territory, but also has to face all the difficulties faced by its neighbouring countries, i.e. civil war, poverty, unstable political situation, criminality, etc.

Regarding the basic change in the European railway environment, the separation between operation and infrastructure, we can see that it has been fully adopted by Portugal, where REFER and CP operate separately the infrastructure and the services respectively, and CP has to compensate REFER for the infrastructure use. On the contrary, the Hellenic and the Irish railways are responsible for the infrastructure use and maintenance, being appointed by the State, the only and one owner of the infrastructure. So, in reality nothing has changed, and things will remain the same, unless modernization programs succeed and then railways become attractive to private investors and at those countries.

However, up to the moment, the feedback from the privatization examples from other EU member states, are not so optimistic, as discussed in Chapter 4.

From the analysis of the operation of the three networks, we can see that all of them have:

- Manage very difficult with considerable losses,
- Have high operating costs,
- All 3 states owe money to the railways,
- The productivity is not very satisfactory,
- There are problems with capacity,
- Huge investment programs are on the way,
- The personnel numbers are still a problem.

The Irish network seems that has the most well organized plan for its modernization and development. It has divided its customers into small segments, and has formulated a marketing plan to shape its strategy. As it has been mentioned previously, IR have been concentrated mainly on the provision of the passenger transport. So, the company's passenger types are broken down into the following segments:

- commuter,
- business,
- student,
- leisure.

A further subdivision is made by route with every line having its own profile in terms of passenger type and reasoning for travel frequencies.

IR have focused on the improvement of the products offered by upgrading stations, improving track and signaling, buying new locomotives, increasing timetables the peak hours, provide car-hire and parking facilities at stations, etc. Additionally, they have organized an extensive advertising plan including delivery and reinforcing a corporate message on T.V., promoting special and holiday offers on press, etc.

The Portuguese railways have not overcome yet their organizational problems. With the full adoption of the European Directive 91/440/EEC and the National Law in Principal for the Land Transport System were laid down the guidelines for the vital and urgent restructuring of the national rail system,

by emphasizing the need to separate rail infrastructure management from transport operation.

The Government hence defined the general lines for the reorganization, based on three bodies:

- *Railway Governing Company*, with main objective to regulate the activities of rail operators and infrastructure managers and promote safety, quality and environment conservation, and which is consequently a State Central Administration Body,
- *Infrastructure Management Body*, which is responsible for ensuring rail infrastructure control functions, following publication of National Decree Law 104/97 of 29/4, which created REFER. The responsibilities previously allocated to CP and Lisbon and Oporto Rail Link Offices, have been gradually transmitted to REFER,
- *Transport Operator*, responsible for passenger and freight services, reorganizing them to make CP a company based on the client culture market.

After this restructuring, CP is freed from infrastructure management. CP can base its activities on passenger and goods transport and assume a new culture revolving heavily around the market and service quality, and thus adapt its services to give clients the desired quality. So CP have established the following strategic action lines:

1. to be reorganized on a business management philosophy in order to be able to respond to the challenges of the transport market, and form Business Units based on the different market segments and to posses all means necessary for its activities, with greater autonomy of management;
2. to develop partnerships with other transport operators on an intermodal perspective, involving vital articulation with individual transport, in order to improve client mobility;
3. to reinforce its market share in the goods transport market, to become a dynamic operator capable of asserting itself as a vital active partner in the logistics sector;

In parallel with the operation of the Business Units, efforts are being made to retrain human resources for CP. The following Business Units have been formed:

- Goods and Logistics Transport Unit – UTML
- Greater Lisbon Suburban Unit – USGL
- Greater Oporto Suburban Unit – USGP
- Intercity and Regional Travel Unit _ UVIR
- Rolling Stock and Traction Unit – UMAT

Under this new organization, the Suburban Units are especially important, as suburban transport represents around 82% of the company's total passengers.

On the other hand, high growth potential is expected in the freight market, and UTML is rapidly asserting itself as a highly dynamic operator, capable of gaining the confidence of the market and the clients.

Finally, the Hellenic Railway Network seems to look for finding its way to modernization. As for the personnel 140 training programs were realized in year 2001, dealing mainly with very serious matters, such as health and security at the working places. The main target of the management is the widening of the organization, the development of the dialogue and the arrangement of a strategic plan and a vision to be followed by the railwaymen. Moreover, some strategic decisions are to be implemented, as the rationalization of the economic and financial situation of the organization, improving its image to third parties, such as banks, for achieving better financial agreements.

The future of OSE, also depends on the recent managerial decisions for approaching the customers, instead of the up to date policy, expecting the customers to approach the company. This policy, comprises decisions such as:

- railway connections with big national ports,
- railway connections with industrial zones,
- railway connections with big factories, etc.

However, these plans can flourish some decades later, since the existence of funding for the constructions is a prerequisite and there is not any political will, to this direction, expressed yet.

5.6. General Considerations

By analyzing these three similar cases, with a first sight we see that there is a different format, meaning many differences in practice in terms of organization, operation, strategic policies, etc.

Each approach has been examined on two counts: its practical application and its results.

So, all three networks, recent years, have made notable progress on accounts, economics and finance. Much effort was dedicated searching for solutions that would enable the companies' operating accounts to be balanced.

In the context of the competitive environment in which railways operate, it is clear that, in spite of the efforts made, the companies were less competitive than road transport both in the freight and passenger market segments, operating with very high costs, with limited exceptions e.g. the operation of the Inter City line between Athens-Thessaloniki.

The situation is aggravated by the low, controlled prices - the consequence of successive updating at rates below inflation - for a large number of services.

Since it can be possible (and in some cases it has become) to determine operating accounts for individual Business Units, we can have a deep understanding of the contribution of the different activities to the overall company results. As a consequence, it is possible to take management actions regarding changes in supply and installed capacity based on relevant information. However, such actions are limited due to the fact that the transport offered by the railways, is mostly considered as public service and this limitation is aggravated by the unclear definition of the companies' obligations in this area, e.g. the operation of the Peloponnesse metric gauge network.

It was sought to improve the competitiveness of the services by changing timetables, carefully monitoring traffic and by paying close attention to factors perceived by clients as important, such as comfort, safety and hygiene.

The financial compensation policy that has been practiced to date has not taken the operating results into account and, consequently, companies have

incurred extremely large losses. Therefore, to strengthen financial discipline in relations with the States, proposals for more detailed public service contracts have to be prepared and signed. The States' financial contribution has to be defined accordingly and the proposals should include relevant adjustment mechanisms. The proposed financial contributions should include the regularization of the many reduced tariffs and free transport situations in which the benefiting organizations have not, to date, made the respective payments. The proposed procedures have to be in line with the current European Union regulations on public service obligations.

The problem of lack of competitiveness in the freight transport sector, has to be examined in line with the cases of other European Union Member-States and the solutions that are adopted. The most relevant of these solutions, calculated on the base of the external cost differential between rail and road - the most direct competitor - establishes an environmental compensation payment collected directly from business rail users.

Another measure, for the reduction of railway operating costs, entails the provision of investment subsidies for freight loading and unloading facilities and equipment in the private installations and terminals of industrial and logistic companies; quicker freight movement rates and easier handling conditions would result.

The operating conditions of the companies after the accounting separation of the infrastructure and the operation, are not yet clear. However, in the case of Portugal, the lack of a formal contract is felt in some areas, such as infrastructure use, and this leads to an unequal relationship, with CP having, to pay at REFER an unreasonable rate without any performance guarantee nor any compensation for delays.

There is also a lack of joint planning practices that would address the needs felt by CP for the construction and modernization of infrastructure aimed at serving high traffic generating centers and at significantly reducing operating costs.

Recent years were also marked by several labour disputes, especially on social security and pension matters. The consequences of these disputes were very negative, partly because of the lost revenue, but mainly due to the

blow caused to the confidence of rail clients' - both freight and passengers (e.g. the case of Ireland).

Such a situation can possibly occur and in Hellas, since social opinion and unionism are very sensitive with the operation of "public enterprises". The consolidation with all interested parties, before the adoption of any new railway policy is a useful alternative to the Irish practice.

In spite of the difficulties and limitations described, companies are actively seeking to improve competitiveness, quality and the image of their services. Also companies are trying to direct their services towards increasing value, offered to clients while rationalizing operations and thus improving results.

The proposed new railway environment seems to have been well understood by the three networks, introduced with different ways, but being clear that the closer a system is to the unity of the railway system, the more effective its operation is (as it was also concluded from chapter 4).

For all three networks, performing at poor states, with lack of political will for serious investments in infrastructure and for administrative improvement, resulting to the inadequate organization of the system and moreover for Hellas, with an unstable economic environment and with unreliable railways, Infrastructure Managers and Operations Undertakings should have as close as possible and clearly defined terms of cooperation for the effective operation of the system and the expected customer satisfaction.

Alternatively, delays and low quality of services offered, due to bad coordination between Infrastructure Managers and Operations Undertakings can only have negative results on customers.

Finally, this comparative analysis, turned to a valuable tool at this stage of the research, by showing how the same situation is being tackled by alternative approaches.

So, at next chapter will be further analyzed the alternative views of the stakeholders of the E.U. railway system, gathering additional information for the new structure of the European railway market and the reactions of E.U. Member-States and competent authorities. Their observations, beliefs and expectations will be incorporated in the design of the reorganization model for the Hellenic Railway System.

Chapter 6

Views of the Stakeholders

6.1. Introduction

From previous Chapters was evident that E.U. directives leave a wide freedom to the Member-States for the ways they will be adopted, and this is the reason for the existence of a wide variety of models.
This chapter was designed for discussing exactly how railway decision makers and Member-States assess the way the E.U. policies have been adopted and their results, along with their national views for railway development; linked with chapters 4 and 5, by expanding the theme of the application of E.U. railway directives.
This chapter aims to give an overview on the observations of the actors, expressed mainly by their organizations at European Level concerning the reform of rail market and in particular the implementation of the first railway package.

At this point, the hypothesis of this research will be investigated as far as the effectiveness of E.U. railway policies on a "beliefs" and "views" basis, expressed through a set of 12 open and closed questions.

Comments and observations from members of the Community of European Railways and Infrastructure Companies (CER), members of the European Transport Workers' Federation (ETF), Managerial Staff from the European Railways, and Management Staff from Hellenic Railways are included.
These organizations and persons contacted, represent different actors of the rail market with diverging and sometimes conflicting interests and they foster different expectations from the rail market opening process.

In order to gather information on their views, a questionnaire (see Appendix 9) was designed on the railway reform process and the rail market developments, focusing to elements important for the needs of this study, mainly for the institutional reorganization of the rail market and the expected outcome of this process.

6.2. Methodology

Up to now, desk based research has taken place reviewing the existing industry knowledge and other studies, published material and discussions with a range of industry contacts.
At this stage, will be used a questionnaire survey of industry stakeholders and the face-to-face interviews with a more limited number of stakeholders, again on the basis of the same questionnaire (see appendix 9), in order to have a more thorough view of the way the reorganization of railways is interpreted by the stakeholders of the railway market and what they are expecting from it, in order to summarize the most important parameters that have to be taken into account at the following stages of this research; the design of the appropriate reorganization model of the Hellenic Railway System.

Most stakeholders see the market opening and integration process as necessary and positive. However, most also see the market opening process as far from complete, requiring the preparation and adoption of legislation aimed at strengthening transparency and fairness to enable new entrants to compete with incumbents. Opinions vary widely from state to state and the lack of clarity in the future direction and extent of change leads to uncertainty.
So, for gathering the information needed and for assessing the levels of rail market opening were contacted decision makers, actively involved in the rail industry, including:

- Ministries of Transport
- Railway undertakings
- Infrastructure Managers

- Labour Unions
- Pan-European Institutions

The questionnaire was designed to collect information specific to each stakeholder category and to allow comparison of the responses of different stakeholder groups.

Initially, each stakeholder was contacted in order to explain the objectives of this research and to ask if is willing to take part in this research. The expressed interest was more wide than the final answers received. By the end 25 questionnaires were filled in, while some other stakeholders were just face-to-face interviewed, basically on the questionnaires' structure.
On the basis of the responses gathered, was developed a number of conclusions and recommendations, useful to the aims of this research.

6.3. Questionnaire Analysis

The first section of the questionnaire contained a number of general questions on the type of institution and position held by the interviewee and followed questions on developments in the rail industry, illustrating the stakeholders perception of current and future developments in the sector.

Table 15

Views on market opening

Opinions on Railway Reforms	Approximate Proportion %
They will bring great benefits to the railway industry and to the European economy	20
Much needs to be done to ensure that the spirit as well as the letter of the law is implemented	65
Will not have an impact on market opening of the railways	5
May have a negative impact on the railways	3
They are harmful to the development of the railways and should not be put into place or strengthened	2
No response	5

Starting with the general views of the stakeholders on railway market reforms, (see Table 19) the majority of them tended to believe that the process can not be yet evaluated, since they are waiting for more to be done.
The most positive answers came from stakeholders not directly involved in railway transport operations. Neutral answers came from stakeholders in states where the Directives have already been transposed into national legislative systems, but have not apply yet, and most negative answers came from stakeholders based in states where the Directives have been recently or are being currently transposed, believing that there are too many barriers for the new entrants and too much protection for existing national railways.
However, most of them suggested that the open market is far from complete due to the existing barriers such as interoperability and technical harmonization, while the complete structural separation is considered as a threat to non-discriminatory access to tracks and market function.

More specifically, the views of the infrastructure and incumbent managers, on the success of the market opening process (see Table 20) were quite neutral, while private or public/private institutions, new entrants and ministries mainly responded that the market opening and integration process had been successful to date.

Table 16

Views on the Successes of the Market Opening

How would you rate the successes to date of the market opening and integration process?	Approximate Proportion %
Very successful/successful	40%
Neutral	42%
Not successful	16%
Harmful	2%

So, their views on the expected outcome of the free competition in the market (see Table 21) were quite optimistic in terms of quality improvement and market growth, but stakeholders were quite concerned with the already witnessed and expected operating costs increase.

Table 17

Views on the Expected Outcome of the Free Competition in the Market

What is your view of competition in the rail market?	Strongly agree	Agree
Has brought or will bring higher quality to the market	27%	56%
Has led or will lead to cost reductions	18%	67%
Has led or will lead to more participants in the industry	17%	67%
Has led or will lead to growth in the industry	16%	55%

Again, for the needs of this study, had to be identified the observed and the expected difficulties of the realization of the reorganization process, in order to predict and avoid pitfalls for the reorganization of the Hellenic Railways. A question was dedicated to the views of the stakeholders, regarding the barriers inhibiting free access to the market (see Table 22).

Table 18

Views on Barriers Inhibiting Access to the Market

What do you see as the most important barrier that inhibits access to the freight market?	Approximate Proportion %
Industry structure	25%
Technical standards	24%
Lack of staff or equipment limiting the number of competitors	18%
Lack of support from the government	16%
Other or no response	17%

In more details, the barriers identified included:

- international harmonization of infrastructure charging system
- lack of information and transparency of the incumbents/infrastructure managers
- poor quality of national regulation, making possible the obstructive behaviour of the incumbent
- capacity intensity, low margins due to international competition
- congestion of railway infrastructures
- lack of locomotives

- lack of train drivers

But above all, the most serious barrier was considered the size of the company, since small companies have weak capacity to offer a wide range of services and the market is dominated by a few very big railway undertakings which obstructs the entrance of new undertakings and products and in advance limits the possibilities of the small ones to compete in the market, with the generation of very high level of start-up costs, high level of perceived opportunity cost for investments, scarcity of primary and secondary markets for crucial production factors, together with inadequate circulation of information and low accessibility to special technical competences.

The monopoly of the state railways has not ceased and the private railway undertakings have not yet been prepared for the competition to the necessary extent, resulting to high "unattractiveness" of the industry for potential new investors.

Apart from the difficulties of the application of the reform, stakeholders were interviewed and on the expected benefits of the market opening (see Table 23), with dominating view, the achievement of better quality of services.

Table 19

Views on the Most Important Benefits of Market Opening

What do you see as the most important benefit of market opening	Approximate proportion %
Better quality of service	62%
Increased growth	11%
Increased revenue	8%
Increased punctuality	7%
Other or no response	12%

Other benefits identified included:

- Increased transparency of the responsibility of each actor in the railway sector
- Increased competition between railway undertakings
- Increased transparency of state financing
- Increased awareness for EU regulation
- Increased competition will lead to lower prices and high quality of services
- Provision of more choice for consumers

Going further, in assessing the legislative progress towards the achievement of E.U. policy aims (see Table 24), was evident that many stakeholders(45%) are expecting more liberal legislation (mainly the big railway networks).
The small networks believe tat legislation has gone far enough and now railways need some time for evaluating and improving their systems in order to be adopted to the new structures of the railway market.

Table 20

Views on Whether Legislation Has Gone Far Enough

Which of the following best explains your view	**Approximate proportion %**
Not gone far enough and needs to open up the market a lot more to competition	45%
Gone far enough	34%
Not had any effect on my activities	7%
Other or not response	14%

Even though most stakeholders see the market opening and integration process as necessary and positive, they also see the market opening process as far from complete, requiring the preparation and adoption of legislation aimed at strengthening transparency and fairness to enable small railway companies and new entrants to survive in competition.
But, as the amount of the effects are not yet completely apparent it is hard to suggest how to proceed and in which direction.

Regarding separation, stakeholders identified that three levels of separation are required:

- accounting separation between the infrastructure manager and railway undertakings
- separation of the essential functions from railway operations
- separation of PSO funding from all other forms of funding,

and they expressed concerns about the structure of the industry in all the networks, since they believe that the separation between the allocation body

and the incumbent railway undertaking is still incomplete, apart from the introduction of an independent regulator.

Stakeholders did not identify separation of freight and passenger and passenger PSO and non-PSO services as a major issue, focusing instead on connections between the infrastructure manager and railway undertakings.

So, at the question of independence of essential functions within their network (see Table 25), 64% of the interviewees reported that the incumbent railway undertaking and capacity allocator, or their holding companies, have common board members, 32% reported that the incumbent railway undertaking and capacity allocator are located in the same building, 20% reported that the incumbent operator undertakes some of the tasks of the infrastructure manager on the main network and 40% reported that the incumbent railway undertaking controls capacity of infrastructure manager assets such as depots and terminals.

Table 21

Indicators of Lack of Independent Capacity Allocation

Measure	Approximate Proportion %
Do the incumbent railway undertaking and capacity allocator, or their holding companies, have common board members?	64%
Are the incumbent railway undertaking and capacity allocator located in the same building?	32%
Does the incumbent operator undertakes some of the tasks of the infrastructure manager on the main network?	20%
Does the incumbent railway undertaking controls capacity of infrastructure manager assets such as depots and terminals?	40%

At this point, stakeholders generally stressed the importance of a Competition Authority, but many also stated that the most appropriate institution to safeguard their interests would be an industry-specific regulatory authority with competition powers.

As far as licensing, decision makers referred to difficulties with licensing, often because states have not yet defined licensing processes. Some stakeholders

called for centralized licensing by an pan-European body, but the majority advocated a harmonization of licensing documentation, timescales and fees.
Stakeholders made no specific reference to the dispute resolution system and appeared to place greater reliance on the right to appeal to a Regulatory Body.
Also, serious concerns are raised about national procedures for licensing and safety certification as being sometimes non-transparent, arbitrary, too complex, lengthy and expensive, which constitute a serious barrier to market entry. In addition, due to difficult implementation of the directives of the first railway package, these procedures are not harmonized between the Member-States resulting to complicated and difficult cross-border railway activities. Moreover, the traditional State Railway had the chance to conclude agreements on acceptance of rolling stock for cross-border traffic, which do not include the new operations. Consequently, the later are faced with an additional administrative burden that raises their costs.

In gathering opinions on the charging structure, with the aim of assessing its transparency and the incentive effects of the charges on the operators, stakeholders had a generally positive view on the national charging structure.
Thus, some incumbent operators were unhappy about the charging structure, while some mentioned that they were awaiting national legislation to define the requirements and as a result were using earlier charging systems which did not allow efficient cost recovery.
Major problem is the huge variance in methods used to calculate these charges, varying significantly between Member-States. These result in a major disadvantage for rail transport competing with other transport modes.
Also, may new operators feel that this is a discriminatory and unclear charging policy, favoured by integrated rail companies that can influence the actual allocation and charging procedure.

The overwhelming majority of stakeholders focused again on the importance of having an independent Regulatory Body to ensure that the best interests of the industry are pursued and to ensure that there is no discrimination in the provision of services.

Some of the stakeholders stated a preference for the Regulatory Body to be independent of the Ministry of Transport to ensure that it would have no link with incumbent railway undertakings.

Apart from the quantitative analysis of the fixed questions in the questionnaire, a qualitative approach of the views of the stakeholders was necessary, for a free expression of their views, by having enough room under of each question to comment freely and to state their views, as mentioned at the beginning of this chapter.

So, regarding the barriers to the benefits of market opening, stakeholders mentioned a range of actual or perceived barriers to effective market opening, which can be summarized in:

- (1) Technical, as borders or gauge, traction, signaling, rolling stock homologation, safety certification, minimum efficient size, arising from fundamental technical differences between different railway networks, which can only be addressed as the railway assets are gradually replaced with interoperable equipment
- (2) Minimum efficient size. The existence of economies of scale, scope and density in railway operations, would imply that a small network might, all other things being equal, have higher costs than a larger incumbent or established operator. This might relate, for example, to recovering high fixed and administrative costs over a low volume of activity, or lack of sufficient workload to keep some assets and staff productive. Also was expressed the fear that Directives might impose administrative costs or constrain methods of working in a way that made it more difficult for a small railway undertaking to operate efficiently, stating that a solution might be to apply Directives initially in a more limited extend in order to gain time to overpass the above mentioned problems.
- (3) Legislative, arising from different approaches to the ownership, control, management, funding and accounting of railways, which are being addressed through the various Railway Packages of Directives. Stakeholders mentioned that the most common are linked between the infrastructure manager and railway undertakings, suggesting that, in some networks, the accounting separation required by Directive 2001/12/EC and the independence of

capacity allocation required by Directive 2001/14/EC, even if they exist in principle, are not perceived to exist in practice.

- (4) Behavioural, arising from a range of industry players' behaviours occurring within the legislative framework as transposed and implemented in each state.

Stakeholders raised a number of concerns about aspects of the bahaviour of governments or public sector bodies. The principal issue is the tension between the legitimate requirements of the Community to implement Community policy and the inherent flexibility in the way that Directives are implemented by the states. This flexibility means that the outcomes of the same Directives in different states may reflect different national circumstances and policies. These outcomes may not always be those envisaged in the original legislation. Stakeholders in a number of states raised the issue of government behaviour, for example "lack of enthusiasm for liberalization" or "lack of independence". The principal area in which government behaviour was thought to be detracting from the spirit of the Directives was where neither governments nor national regulatory and competition authorities were able to support the railway reorganization.

6.4. Conclusion

By concluding, a consensus on the objectives of the railway reform emerges in so far as all stakeholders agree on the necessity of maintaining and increasing the market share of rail transport in Europe. However, this consensus is hard to identify when it comes to the means to achieve this objective. Stakeholders expressed the view that in general the reforms initiated by the first railway package are far reaching, positive and necessary to achieve the aims of the E.U. Railway Policy.

There is a long-running debate in railway circles between the integrated railway undertaking model (often taking the form of a holding company in the Member-States which advocate this model) and vertical separation (entailing total separation between infrastructure management and transport activities).

Independence is not guaranteed by means of institutional separation into two separate legal entities which do not belong to the same holding company, clear and transparent criteria such as organizational separation and the independence of the management bodies must be ensured.

However, it has also been emphasized by the stakeholders that the process is far from complete and much needs to be done in the future to achieve the objectives set out by the directives of the infrastructure package and the Commission's policy papers. It concerns also about public funding, especially about the separation of funding for public service contracts and ensuring obligations (PSO funding) from all other forms of funding, as well as the prohibition of cross-subsidy between different rail business.

The separation of accounts requires railway undertakings to have a clear and precise system to illustrate revenues and provide efficient and appropriate services at the lowest possible cost for the quality of service required in the railway market.

Regarding market access to essential facilities (e.g. marshalling yards, fuelling and terminals) for new entering rail operators it might be discriminatory, due to the fact that the traditional, state railways may use their influential position as facility owners or operators to decide upon the parties and the conditions of the access. This might cause a serious market entry barrier and might prevent new operators from providing a high quality service to their customers. The traditional state owned railway companies, still have a strong control of the market, which is aimed at keeping a large market share. Also, may public authorities are not willing to provide appropriate assistance to the new operators since many incumbents are still publicly owned. So, the role of a strong market regulator, independent of the state is very important.

As far as national procedures for licensing and safety certification, due to different implementation of the directives of the first railway package, they are not harmonized between the Member-States thus making cross-border activities complicated and difficult. Infrastructure charging has been a

common concern to all stakeholders, since there is a huge variance in the methods used to calculate these charges, resulting in a major disadvantage for rail transport competing with other transport modes. Furthermore, CER has highlighted that track access charges do not cover the costs of access replacement, despite the high level of charges in CEEC.
The main concern of new operators is a discriminatory and unclear charging policy, favoured by integrated rail companies that can influence the actual allocation and charging procedures.

In general, small railway undertakings stated that they need more time and further support for approaching the E.U. Railway Policy targets and a smooth transitional process for their separation, since it was reported that in most cases, separation exists in principle, but not in practice. Also, new entrants reported that they face severe difficulties in entering and operating in the market because incumbents still have a strong control of the market, aiming at keeping a large market share. New operators have the impression that the public authorities in some countries were not able or willing to provide appropriate assistance to the new operators since many incumbents are still public owned. Within this context, the important role of a strong market regulator independent from the state was stressed by the new operators.

Finally, the views of the stakeholders for the operation of Regulatory Bodies and their contribution to the proper operation of the Railway Systems, were rather negative, believing that:

- they do not monitor the market and tend to turn to the incumbent for advice,
- are not given clear guidelines and lack the appropriate and required competence to carry out their assignments,
- are often short of resources and can therefore not fulfill their tasks,
- they have no, or an insufficient, information policy – they are "invisible" and hence not possible to contact,
- the division of tasks of the Regulatory Body between several institutional entities complicates rather than facilitates their functioning:

parts of the regulatory functions can be found in a Ministry, whereas other parts can be found in an authority that is not part of the Ministry,

- procedures are lengthy and time-consuming: it requires a long time before decisions and rulings are made,
- decisions and rulings given by the Regulatory Bodies should be made public.

So, the existing structural imbalances between railway networks and the extreme differences in the organization of railway transport markets in E.U. Member-States together with the differences in their financial status form a new status of European Railways, at different levels.

An open, commercially oriented market will mean lower costs, better quality, increase in demand, increased market share and more sales. This in turn would make it possible for rail companies to make new investments.

The big networks, well developed and satisfactory financed are quite ready to enter in the free transport market and are well set in this free competition, while the small networks can not follow the rapid developments, and also transport markets in small countries can not afford strong competition.

Of course, the accomplishment of the needed changes, especially for Hellas will take time and will require a partnership approach between governmental authorities, shippers, operators and infrastructure owners.

Therefore, through this questionnaire survey, the whole subject gained in richness, the consequences of the alternative actions were evaluated and conclusions along with the familiarity gained from the previous chapters and the principles of the managerial theory presented at the following chapter, will facilitate the rationalistic examination of the hypothesis of this research.

Moreover, the reorganization of the companies has to be well designed in terms of allocation of responsibility, staff motivation, effectiveness, adaptability for changes and administrative flexibility.

The existing managerial theory offer to this research the necessary managerial tools, available, for designing properly the new administrative model of the Hellenic Railway System, together with the experience and knowledge gained from the results of this research up to now.

Chapter 7

Railway Operations & Management

7.1. Introduction

The previous chapters provided a comprehensive analysis of European Railway Policy and the various strategies adopted by E.U. Railways, both in theory and practice. It now remains to extend the scope of the analysis to selected managerial and organizational theory, in order to obtain the theoretical context implicit in the design of a new organizational model, one fitting the demands now facing OSE. The objective of this chapter, therefore, is to link the organizational needs of restructured OSE management to the new competitive ethos inherent in the European railway regime.

The basic principles of marketing and management will be discussed within the context of the re-structuring of the OSE organizational model. In particular, the chapter will be focused on railway transport as a public good, open to all. In order to manage effectively, the provision of such a transport service, organizational characteristics have to be clearly defined as well as the strategic objectives of service providers.
For this reason, the possible organization models, types of ownership, managerial functions and marketing tools will be studied.

So, the thorough insight to the transport marketing and management theory is valuable, by identifying the particularities of the market and testing not only the proposals of the E.U. for the development of the railways, regarding their successful implementation, through them, but also testing the hypothesis of this research regarding the results of the adoption of the E.U. proposals on the organizational effectiveness of the Hellenic Railway System.

7.2. Railway Characteristics (strengths-weaknesses)

The main difficulty of railway operation is that it has to operate in a stable way which has to be exclusive to rail operations. This means that railways need access to infrastructure, but also it is their responsibility to maintain it along with the rolling stock and to manage the whole of the operation. However, many large companies own their own wagon fleet and rely on a rail company to provide the management of their wagons when they are on rails, while the maintenance and the management of the infrastructure is responsibility of another company, the Infrastructure Manager, as discussed in previous chapters.

A great problem rail managers have to face is the use of the same line by trains running at different speeds.

7.2.1. Railway Strengths and Weaknesses

The operational strengths and weaknesses of railways in relation to the tasks that are trying to perform, give a view of modal characteristics and their affection to the railway operating environment.

Strengths

1. High average speeds for journeys between 150-350 km/h, which is especially important for passengers.
2. Rail in the majority of cases runs city centre to city centre which can cut the overall journey time to a minimum.
3. The railways effectively utilize land space. Over any strip of land of a given width, the railway can carry more passengers and freight than any other land-based system.
4. The railways are more environmental friendly than other forms of transport.
5. The railways are more cost effective when handling bulk materials in coupled train loads than using the road system of large numbers of heavy lorries.

6. The railways are energy flexible and energy efficient, especially with the use of electric traction.
7. The safety record of the railways is excellent with both passengers and freight, especially with the carriage of dangerous goods.
8. It is possible to provide an extensive range of services for passengers during transit, including catering, on board telephones, internet connections, etc.
9. The railways are least affected by bad weather, of all the land-based modes.[1]

Weaknesses

1. As realized from the analysis of the Hellenic Railways diagnosis report, the railways are extremely sensitive to the fluctuations of the industrial activity especially with regard to the major primary products such as coal, iron ore and petroleum products. When there is an economic recession, traffic on the railways falls but because of the nature of the fixed cost element, i.e. track signaling and infrastructure, it is very difficult for the railway management to shed these costs quickly. Much of the railway infrastructure is shared jointly by different types of service and the allocation of these joint costs between different services causes problems when accounting for the true costs of operating each service and service viability. This problem is compounded during a recession when failing traffic levels mean that the allocation of joint costs between services has to change, making once viable services marginal.
2. The railways operation is quite inflexible. If not impossible, it is very difficult for railways to adopt their infrastructure to the rapidly changing patterns of the economic and social activities. So, they have to concentrate on satisfying customer needs fitted into their pattern of operation rather than rebuilding their network to meet the changing customer needs.
3. Transshipment (especially freight) from train to other modes and vise-versa is extremely difficult. So railways are more efficient over long

[1] "Managing transport operations" by Edmund J. Gubbins, Kogan Page Ltd, London 1988, p:35

journeys when the costs of transshipment can more easily be absorbed and the time element is not so significant

4. The railways suffer from political interference and governmental social policies
5. The railways historically had the image of an inefficient and unreliable transport mode and have to try hard in order to change this image
6. The railways are a labour intensive and heavy unionized industry, making them sometimes unreliable

7.3. Organization of transport companies

The study of the existing theory about the organization of companies - legal entities, is considered necessary as contributes to the aim of this research, by developing an effective organizational model for the Hellenic railways both in theory and practice.

Organization means two things: one, the entity itself and two, the process followed.

The organizations as entities are composed of people, have a distinct purpose and have a particular structure. They are groups of people bound together in a formal relationship to achieve certain goals.[2]

Organization as a process is the structure of work, systems and people. Organization is the form of every human association for the attainment of a common purpose.[3]

7.3.1. Theories of organization

There are three basic theories of organization as a process, which are discussed here in order to identify the most fit to the Hellenic Railway System[4]:

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[2] "Management & Organisation" by Sisk and Williams, Southwestern publishing Co. Cincinnati 1981, p:28

[3] "Modern Management Methods" by Dale and Michelon, Pelican, London 1989, p:35

[4] "Managing transport operations" by Edmund J. Gubbins, Kogan Page Ltd, London 1988, p:72-73

- *The classical theory* states that the activities set by the company in order to meet its objectives must be determined, and after must be arranged in groups which can be managed by one individual. After that, the groups must be joined in a hierarchy of importance and people have to be fitted into the structure according to their skills and abilities.

The general principles of the classical organization are:

1. *Specialization* of managers, who perform a single function because this enables persons to have a much greater chance of becoming settled at a particular job.
2. *Definition (Clear)* of the line of authority from the very top of the organization to the bottom.
3. *Delegation* means taking decisions as close to the activity as possible. It does not mean shedding accountability but creating new accountability.
4. *Span of Control.* Arranging properly, according to the needs and the size of each task and the skills of supervisors the number of persons one can control or supervise.
5. *Chain of command.* The chain of command is defined as the number of layers in an organization from the top to the bottom.
6. *Unity of command. E*ach employee can have only one supervisor giving instructions.

The behavioural theory tries to manage an organisation by achieving its objectives while at the same time is satisfying the people who make up the organisation. It encourages high productivity and low absenteeism because people are stimulated by the work they do, and it enhances co-operation between managers and the workforce because everybody is pulling in the same direction. Everybody has a clear idea of the company's goals and their own importance to the attainment of those goals.

This approach considers that an organization cannot be a rigid structure but a system of inter-dependent human beings who affect its aims, functioning, principles and management.

The systems theory concentrates on decisions that need to be made to achieve the organization's objectives. Decision-making, rather than activity, is

chosen for study because it is through this process that policies are laid down and actions taken that result in the future success or failure of the company.
According to the systems theory for any investigation there is an appropriate system to be studied and the purpose of the investigation decides both the boundaries of the system and the appropriate sub-systems.
The systems approach to organization consists of the following steps:

- *Specify Objectives*
- *List the subsystems or decision*
- *Analyze the decision areas*
- *Design the communications channels*
- *Group decision areas to minimize communications*

The classical approach attempts to analyze the activities, the behavioural looks at the people, and the system provides a descriptive model based on the requirements of the information network. All three approaches have a different authoritarian view of organization, and they attempt to see organization through a different view, but each has important insights into what is fundamental about organization.
However, in practice we can see companies following mixed models, adopted to their needs, and they have to do so. Moreover they have to be very flexible in their organization, in order to meet effectively their objectives.
As far as Hellenic Railways, they are not following any particular theory. The way they are organized could be close to the classical theory but unfortunately, there is no clear definition and delegation of authority, leading to serious conflicts, with a big number of layers in the organization from top to the bottom, losing control and being removed from the targets of the organization. These limitations are going to be considered in the organization of the new administrative model, which will be based on the classical theory due to the size of the Hellenic Railways, influenced by the principles of the behavioural theory (paying special attention to the human factor) and being concentrated on the decisions and actions to be made for the achievement of the new objectives (systems theory) set by the new model.

7.3.2. Organization structure of a transport company

Now we can see how can be designed the organization structure of a transport company.

It is clear that the primary objective of a transport company is to take people and/or goods from one place to another.

A transport company buys capital equipment (rolling stock, infrastructure, buildings) in order to set up an operating system, using them to fulfill its major objectives, and then sells the safe and punctual arrival, which is the product of the operating system.

In order to achieve that, a transport company must be based on a proper:

- finance,
- operating, and
- marketing system.

In most companies overall responsibility for co-ordination of the business activities is achieved by a board of directors, and the management board, members as the heads of the various sections.

7.4. The management function

In any business it is the management that has to work within the policy directives of its governing body and to comply with the requirements of the statutes. Top management is responsible to its governors, to the legislature, to its customers and to its staff.

In transport sector, many undertakings have been established by governments, which usually have their own political transport policies and this reflects in the types of organizations that they have either created themselves or have allowed to come into being. So, management has to produce its own policies in order to meet its obligations.

Its responsibilities are:

- to owners or governing bodies who require either maximum return on their capital or a satisfactory provision of facilities at minimum cost according to the terms of the constitution and within any legal constraints
- to the customers who require adequate and satisfactory facilities at the cheapest fares or charges
- to the staff who require congenial working conditions with maximum remuneration.

Mixing all the above we can come to the conclusion that: 'Management is the coordination of all resources through the process of planning, organizing. leading/staffing and controlling in order to attain the stated objectives.

7.4.1. The Functions of Management

Considering management as a process, the above mentioned processes can be as the assimilated to the basic functions of management: planning – organizing – leading/staffing – controlling.

7.4.1.1. Planning

Planning is decision making. It is deciding in advance what to be done, how will be done, when it will be done and who is to do it. It can be highlighted by four principles:

- contribution to purpose and objectives (every plan and all derivative plans are to facilitate the accomplishment of enterprise purpose and objectives)
- primacy of planning (although all functions contribute to the fulfillment of the enterprises' objectives, planning is essential because it sets the objectives necessary for the other functions)
- pervasiveness of planning (all managers –at any level- plan)
- efficiency of plans (it is measured by the amount it contributes to the purpose and the enterprise objectives.

However, the planning process is following some steps:

1	BEING AWARE OF OPPORTUNITIES	In light of : The market Competition What customers want Our strengths Our weaknesses
2	OBJECTIVES OR GOALS	Where we want to be What we want to accomplish When we want to accomplish
3	CONSIDER PLANNING PREMISES	In what environment – internal or external – Will our plans operate?
4	IDENTIFY ALTERNATIVES	What are the most promising alternatives to accomplishing our objectives?
5	COMPARE ALTERNATIVES IN LIGHT OF GOALS SOUGHT	Which alternative will give us the best chance of meeting our goals at the lowest cost and higher profit?
6	CHOOSE AN ALTERNATIVE	Selecting the course of action we will pursue
7	FORMULATE SUPPORTING PLANS	Such as plans to: Buy equipment Buy materials Hire &train workers Develop a new product
8	NUMERIZE PLANS BY MAKING BUDGETS	Develop such budgets as: Volume, price, cost of sales Operating expenses necessary for plan Expenditures for capital equipment

Source:"Management" by H.Koontz, C.O'Donnell, H.Weihrich, 8th Ed. McGraw Hill 1986 p:114

Planning in transport organizations must be based on satisfying customer needs. It is people who sit on seats in trains, buses and aircraft. Other people make decisions as to which mode or company will carry and care for their goods. The demand for transport is derived, and the transport manager is in business to provide the means for people to satisfy their overall requirements by the use of transport services. A paramount part of the process is for the company to ascertain the needs of consumers in any market sector within which the company wishes to operate services.

Consumer needs are vital and unfortunately there are no certain methods of calculating these future requirements, but there are many indicators of long term trends that can be used by the planner in drawing up his strategy.

In our case, through the realistic diagnosis of the Hellenic Railways operation and the analysis of the E.U. environment and the European transport trends, identifying the current railway policy demands, the new objectives for the company can be stated. Also the analysis of the planning process along with the examination of the considerable railway European environment and the alternative models adopted will support the design of the new model of Hellenic Railways, primarily incorporating the railway needs of the country and planning its basic objectives.

7.4.1.2. Organizing

It is the second function of management. Following the determination of company's objectives at first stage, now have to be determined the specific activities necessary to accomplish the objectives of the organization, grouping the activities according to a defined pattern and then assigning the responsibility of the activities to a person in the organization.
In the organizing process we are following the steps below:

Functions of management	
PLANNING	1.Define enterprise objectives 2.Support objectives, policies and plans
ORGANISING	3.Identify and classify required activities 4.Group activities in light of resources and situations 5.Delegation of authority 6.Horizontal and vertical coordination of authority and information relationships
STAFFING/LEADING	
CONTROLLING	

In the first step must be identified and classified the required activities for meeting the objectives, after that, activities have to be grouped, and job descriptions have to be prepared. The company has to be divided in groups (departments, directions, units, etc) where each one will have clear goals, and

the adequate staff to meet the goals. Staff has to know who is responsible for what, who has the authority for what and who is directing or supervising whom. One should always identify one person who is giving orders and to whom responds. Also, responsibility and authority should be interrelated.

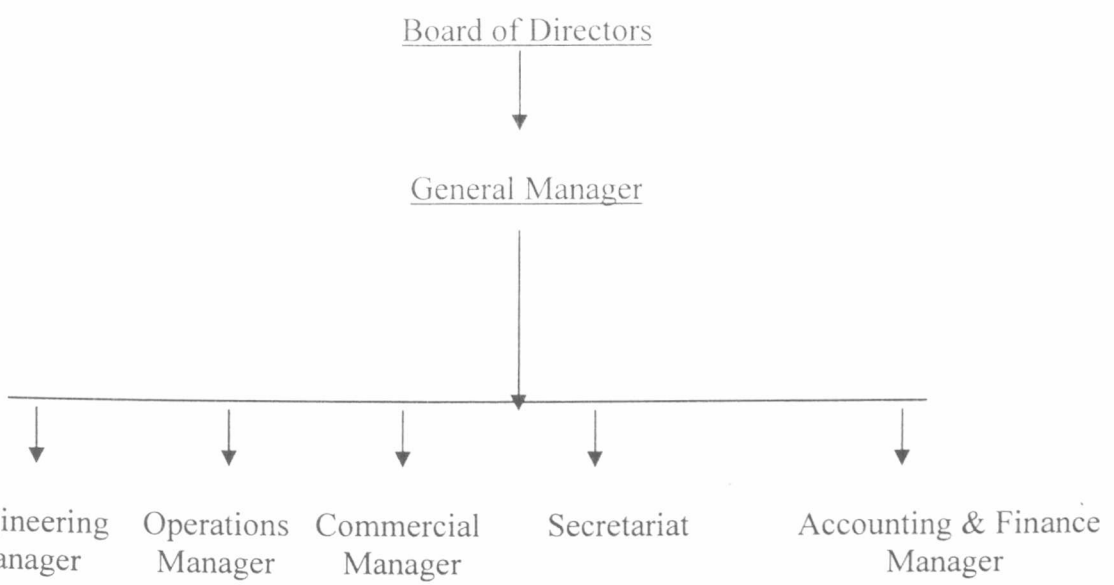
At this point we have to underline that successful organization must utilize the resources of the undertaking to produce maximum efficiency and economy. Different levels of responsibility must be defined and understood.

The main concerns of transport business fall into four groups:

- buy and maintain (engineering)
- make (operating)
- sell (commercial)
- viability (finance)

which conduct the day-to-day running of the system. There must also be provision for general administration. Activities must be organized into a proper relationship.

A simple, flexible and effective organizational chart must be established by:



This chart has to be developed into a departmental, functional system. Departments have to cooperate between them and with top management, in order to fulfill the company's tasks.

Likewise, in a basic organization chart for the Hellenic Railways, the engineering manager could be the technical manager for the infrastructure,

including maintenance and new works, and the operations and commercial manager could be the manager for passenger and freight operations.

7.4.1.3. Staffing/leading

The positions highlighted in the organization structure must be filled with people with the required skill and qualifications to tackle the tasks.

Training is also an on-going part of the staffing function allowing junior management to develop and giving everybody the chance to anticipate changing technologies and working methods, especially for transport companies, where staff is communicating directly with customers and there is need for continuous staff development, also dealing with new technologies and of course, the most important issue, safety.

Transport staffing has two additional problems which many other industries do not have and which can restrain staffing decisions. Transport operates 24 hours a day or at very 'unsocial' hours. A lot of people see the industry as very unattractive as a career and there is a high incidence of people leaving to find other work. High labour turnover can lead to low morale and difficulties with recruitment. Licenses and certificates have to be held by people filling certain posts at all levels and this licensing is controlled by international, national and state bodies. It is part of the staffing function in transport for operating managers to make sure that all personnel who require them have up-to-date and valid licenses.

Regarding the "change process" that Hellenic Railways are entering, the staffing function is of particular importance, since job descriptions have to be updated and the work force has to be motivated to the new tasks of the company.

This motivation can only be accomplished if subordinates are instructed on the new tasks to be carried out, there is allowed time to complete the tasks without interference and then held accountable to their superiors for the results.

For the management of Hellenic Railways this involves delegation and can only work if the subordinates have the necessary information, ability and authority to carry out the allotted tasks.[5]

Finally, particular attention has to be given to the collective agreements signed with trade unions, to the labour legislation of the country and to the organization of training courses for adopting personnel to the new business environment and acquiring the necessary skills for managing changes in the organization, as will be analyzed in detail in chapter 9.

7.4.1.4. Controlling

The control function is the measurement and correction of the performance of subordinates in order to make sure that all levels of objectives and the plans devised to attain them are being accomplished. The major prerequisites for the controlling process is the existence of clear, complete and integrated plans and the existence of clear organization structure.

The basic control process, involves three steps:

1. establishing standards
2. measuring performance against these standards
3. correcting deviations from standards and plans

The control function calls for a continuous feedback of information on what is happening in the group. One task of the manager is to make sure that all the information gathered is relevant and useful.

No matter what the control mechanism is measuring, what is important is that control should be tailored to plans and positions, to individual managers and their personalities, should point out exceptions at critical points, should be objective and flexible, should fit to the organizational climate, should be economical and should lead to corrective actions.

Especially, when fundamental changes occur in an organization, and performance has to be monitored frequently, the control function is very important for identifying deviations from plans, immediately, and proceed to the respective corrective actions, as has to be the case with the Hellenic railways as soon as they put in effect their modernization model.

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[5] "Managing transport operations" by Edmund J. Gubbins, Kogan Page Ltd, London 1988, p:94

7.5. Transport Marketing

Further to the management function dealing with the processes of planning and producing services, Hellenic Railways have to sell these at a profit by covering the costs of production in the price.

The market-oriented companies, whilst obviously sharing the same finance goals of making a profit, systematically seek out customer needs and desires and gear the production process to satisfy those needs.

This is achieved with the contribution of the marketing process.

Marketing process brings into the company the needs of the customers and indicates to the company the way it will produce products/services and will offer them to the customers in order to achieve maximum customers satisfaction and maximum profits.

In the case of transport this means that there must be communication between the carrier and the potential users of any service the carrier is likely to provide.

It is important for management, when considering the role of marketing in transport, to have the knowledge of where the market lies and who the customers and potential customers are in that market place. Market research is required in order to be identified the customer needs, and after that, with the use of advertising and publicity potential customers will be informed of the service the company is offering. That is to say that management has to identify the right place.

But apart from the right place has to be offered at the right time. The right time is part of a company's efficiency equation. It is vital to ensure that any proposed service runs as advertised, that delays are kept to a minimum and that the scheduled or contract timing is that required by the customer. Managers should always have in mind that the customer is really interested in the safe arrival so that other desires can be fulfilled. Of paramount importance in the safe arrival is the time of that arrival. Marketing practice must ensure that the timings of services are such that are meeting the consumers' needs.

However, proper scheduling is not enough. Capacity is also a serious concern. The right quantity is concerned with matching the space available on

the service to the demands for space at that time. This is a very complex transportation problem that can be solved by a compromise between what would ideally suit the customer and a service which is prudent for the economic operation of the company. Clearly, the provision of transport services stems from people's desire to move their goods or themselves from one place to another.

Finally managers should be concerned for the right price the service is offered. Customers want to feel that the pricing system used is fair and that they pay for what they get.

The price charged for any transport service is the result of a number of factors dependent on the service mix that the consumer requires. Of major importance is an understanding of how much the consumer would be willing to pay for any rise of service quality.

7.5.1. The marketing mix

The marketing mix is based on the idea that consumer satisfaction is the underlying purpose of the function and can only be achieved through the integration of a number of variables. The mixing of these variables determines the success of the service but the mix may have to change during a service's lifetime to cope with the dynamic environmental situation.

The basic variables of marketing mix are:

-product/service,

price

place/ distribution channels

promotion and selling.

In relation to the first variable, when we talk about transport business we have to make a distinction between the physical and the less physical characteristics of the product/service, between the visible and the less visible facilities on durability, reliability and convenience. What is more important for a train passenger is not the train itself, but the frequency, the punctuality and the security of the service.

In general, each product/service offers 3 major utilities:

- the utility of time;
- the utility of place;
- the utility of convenience;

while, the transport service has no shape and no utility of form.

Every marketer in the transport and distribution sector must therefore define his product objectives with great clarity and they must be consistent with the marketing goals underlying the firm's activities. This must be always done for satisfying customer needs rather than meeting operational and production demands. The services that a transport company offers are far greater than its physical facilities indicate.

Price is the instrument through which the firm seeks to obtain its profit objectives. Selecting the right price for a given service, means that the ultimate profit may be attained. In choosing the most appropriate pricing policy, the transport operator or/and marketing manager must take into account the following:

- the company's marketing strategy
- the level of competition, the value the customer place on the transport service
- the cost of the service (fixed and variable)
- the market segment for which the service is intended
- the consumer's sensitivity to price
- the elasticity of demand for the service.

But for the railways in general and the Hellenic Railways in particular, marketers should always take into account the state intervention in the formulation of their commercial and pricing policy, since transport is a public good and often governments are using railways for applying their social and economic policies.

As for the third variable, the place, marketing generally refers to all those activities needed to move a product from the seller to the buyer. It, therefore refers to the structure or network through which transactions can be made so that the product is made available and accessible to the consumer, that is, the channels of distribution.

Traditionally, many passenger transport operators, such as those providing stage bus services or local rail services, have made little use of intermediaries

in selling their services. Instead they have sold their services at the point of access or during the course of the journey. On the other hand, some passenger services, usually the longer haul ones have been sold largely through intermediaries, for example, airline services. Providers of freight transport services, depending on the nature of their business, sell their services either predominately directly or indirectly. Railways go through their own distribution channel (e.g. stations), but Hellenic Railways possess their own travel agencies, selling exclusively railway tickets, in the four major cities of the country, while they are doing personal sales and long term contracts with major freight customers and/or curriers.

However, there is much room for developing their distribution channel nationally and internationally.

The final ingredient of the marketing mix is the promotion. Promotion in the broadest sense means "to move forward", but in business it is the means that makes people aware of the existence of the specific product/service. Awareness and knowledge are expected to increase the demand.

The most important promotional objectives for a transport company are:

1. To create awareness of a company's services among potential users.
2. To generate detailed knowledge of the company's products and services.
3. To improve the company's image among existing and potential users so as to improve the customers' attitude towards the company.
4. To eliminate perceived misconceptions.
5. To advise existing and potential customers of special offers or modifications to the services.
6. To advise the market place of new sales channels.

There are two factors involved in informing the potential customer:

- company image and
- advertising.

Dealing with the company's image, we can see that a great many of the potential customers' impressions of any transport company are based on the sight of the company's vehicles and operating staff, or its long existence in the

market. And Hellenic Railways can take the advantage of their long existence in the Hellenic transport market and their offer to the public, underlying that their modernization program will enhance their traditional objective to serve customers and that are aiming to the improvement of services offered.

The nature of transport, the image in the public mind and the inconvenience of some modes, have far-reaching effects on the community. It is important for any operator to make every effort to keep inconvenience to the public to a minimum by ensuring that vehicles, plant and equipment is well maintained and that all regulations are adhered to (e.g. adverse results achieved in Ireland, due to customers' inconvenience caused by strikes, as mentioned in chapter 6).

Going ahead with advertising we can say that we should always remember that advertising alone does not sell a product, especially a transport service. At best, its function is to stimulate interest amongst potential customers. It is therefore important that advertising is fully linked with other elements of the marketing mix in trying to achieve customer satisfaction.

In contrast to passenger transport advertising, freight transport advertising needs are different because the market is more segmented. Although there are broad categories of need and service qualities that every transport user requires, it is the appropriate mix of service qualities that are difficult to identify.

However, from the moment a service is in existence – i.e. the route planned, the vehicles or wagons purchased - it can be modified by improving the quality of the service variables but any generated sales must fit into the operation which is already running. The quality of the transport company's service, such as better reliability, less damage, etc, can only be improved by staff training, better and planned maintenance and operationally efficient decision-making by management. The role of marketing is to channel customer requirements so that efficiency can be achieved. In many cases, the impetus to change the operational methods comes from increased competition or the changing needs of the consumer.

For Hellenic Railways, an extensive advertising campaign is absolutely important, first of all for increasing the customer awareness about its organizational changes, its changes in strategy and aims and secondly to

increase awareness about the existence of the company's services, offers, new services, etc.

Closely allied to the subject of marketing is the provision of information to help users successfully complete their journey.

7.5.2. Marketing strategy

The overall market strategy must be the use of all the resources of the company to identify the needs of the consumers in the chosen market sector and then bring customers' satisfaction from the services offered. One important aspect is to identify the company's strengths and weaknesses for the task it has set itself. The strengths must then be utilized to promote better services, whilst the weaknesses must be recognized and overcome.

In essence, what the marketing manager has to do when devising a market strategy is decide on the transport needs of the chosen market sector, ascertain the price/quality criteria for that market sector and arrange the information requirements..

Information is required on the type of consumer, the size of the market and the relative standing of competing companies. It is also essential to gain an insight into the market potential, i.e. the size of the talent demand for services which could be activated by careful mixtures of price and quality.

So, the Diagnostic Report in chapter 2 can also support the management of OSE and its experts, in developing the appropriate marketing strategy for communicating the new philosophy of OSE and the provision of services under new perspectives and aims.

7.6. Market Research

Market Research is defined as the function that links the consumer, customer and public to the marketer through information – information used to identify and define marketing opportunities and problems; to generate, refine and evaluate marketing actions; to monitor marketing performance; and to improve

understanding of the marketing process.[6] Marketing research specifies the information needed to address marketing issues, designs and methods for collecting information, manages and implements the data-collection process, analyzes the results, and communicates the findings and their implications.

The marketing process must be a continuous one, with each cycle starting and finishing with an analysis of the potential market and the company's position with regard to other companies competing in that market. The reason why the process must be repeated regularly is that any market is not static but dynamic.

The marketing approach is to first know the operation inside out, keep accurate data on what competition can offer and gather information that can give you knowledge of the potential users of the service you have to offer.

The marketing research process consists of four steps:

defining the problem
& research objectives
|

developing the research plan
for collecting information
|

implementing the research plan
collecting & analyzing the data
|
interpreting & reporting
the findings

[6] The American Marketing Association officially adopted this definition in 1987

The marketing manager and the researcher must work together in order to define the problem carefully and agree on the research objectives, which should be explanatory, descriptive and causal.

At the second step of the process, the information needed is determined and the research plan is developed.

The researcher next puts the marketing research plan into action. This involves collecting, processing and analyzing information, in order to isolate the most important information and findings.

After that, the researcher must interpret the findings, draw conclusions and report them to the management.

However, marketing information has no value if managers do not use it to make better marketing decisions.[7]

Market research must however, be seen as part of the total business effort. The findings and conclusions must be presented in such a way that they can easily be interpreted by operating management. Only if the decisions based on market research are seen to be part of the company's objectives achieving process will any changes envisaged be accepted by the operating management.

Unlike to the theory, Hellenic Railways only lately realized the need of market research, but still there are serious doubts whether managers used them or not.

However, after the application of the modernization model, the market research for any product is absolutely necessary for designing the new business plan of the company and identifying which services and to what extend should be implemented, can be profitable, subsidized, etc.

[7] "Principles of marketing" P.Kotler, G.Armstrong, 5th edition, Prentice-Hall 1980 p: 96-111

7.7. Conclusions

Having given attention to the basic principles of organizing and managing effectively a transport company, the next step is the development of the most appropriate strategy for Hellenic Railways.

Transport companies should have clear aims and objectives for their operation, both for achieving their goals and satisfying their customers.

They have to identify their strengths and weaknesses and to define the market needs, in order to adopt their policies and services to those needs or to find some degree of market opening in order to match between what is needed and what the company can do well.[8]

Customers prefer transport companies that are reliable, excellent in interactive service, prepared to recover if the service fails, and eminently fair.

But above all, transport companies should have the right organizational structure and the proper management. The formation of responsibilities, the problem solving process, the coordination, the proper use of resources, etc are some of the elements that should be very well organized for the effective management of a transport organization, taking always into account that the regulatory framework and the governmental policies should be favourable.

Railway Companies, since they recognize their strengths and weaknesses, have to have set their new objectives (by their policy groups) and then to apply the proper type of organization, by mixing the most advantageous characteristics of the existing theories for defining clear, authorities and command, that will support their aims and objectives.

Further, should set the planning, action and control groups in terms of administrative levels. That is Board of Directors, Managers, Directors, etc.

Then the field of responsibility and the respective objectives of each Direction should be defined clearly, along with the job description of personnel in Directions.

Controlling procedures should also be well defined, especially during the transitional period, from the former to the newly introduced status of the

[8] "On great service: A framework for action" Leonard.L.Berry, The Free Press, 1995, p:77

railway system through a continuous evaluation procedure and fast responding organization to problems occurred.

After that, the commercial policy followed by the company should be organized according to transport marketing principles, taking into account the nature of the market (facing strong competition by road transport) and analyzing competitors, in order to identify customer needs and to provide the right sort of transport, the right quantity, quality and price of product.

Mixing variables the right way and approaching customers' needs is achieved by developing the right promotion and communication mix.

Hellenic Railways should not forget that transport is concerned as public service and consequently, providers and states have to adopt their policies respectively, as ensuring the government expenditures on infrastructure either by public or private funds or a combination of both.

Since OSE is an entity that offers many products there is the possibility to cross-subsidize services in order to ensure the provision of public services and to survive competition.

Finally, planning has to be coordinated with other transport means, promoting cooperation instead of competition between modes, since the combination of the advantages of the existing alternative modes should be used for customers' benefits.

In the case of the Hellenic Railways, the current organizational structure has been appraised, needs for changes have been identified and with the contribution of the knowledge gained of this chapter along with the E.U. railway policy demands, the new organizational model will be developed.

This is a difficult task, since, up to now Hellenic Railways never considered any theory of transport management and marketing for their day-to-day operations, not even for their long term strategy, generating low performance rates, and high customers dissatisfaction.

Chapter 8

Towards the New Organization Model of the Hellenic Railway System

8.1. Introduction

So far this study has been focused on the organizational demands OSE is facing. Building on the diagnostic report, and the perceived shortcomings of the existing organisational model, next is proposed the exploration of the link between management structure and railway reforms within the context of European regulation. It has been shown that organizational reform is integral to the new regulations on open-access and business sectorisation. The case studies provided on the Irish and Portuguese networks provided for comparative analysis with OSE. It was made clear that there is considerable scope for the national interpretation of the regulations throughout the European Community. Chapter 7 concentrated on the basic principles of management and marketing. The detailed examination of those principles contributed to the identification of the elements needed for the design of an academically rigorous, practically effective organisational model fitted to the Hellenic Railway System.

8.2. The Strategic Plan of OSE

By evaluating hypothesis regarding the effectiveness of a new organizational model of OSE with the use of the managerial theory referred in Chapter 7 was identified that first of all had to be designed a suitable to the situation, strategic plan for the development of the Hellenic Railways.

Hellenic Railways are challenged by the new developments in the transport industry with the opening up of the railway market, the rebuilding of the

railway networks and the E.U. policy demands for flexible and independent management, for liberalization of rail transport services.
So, by looking at the theoretical possibilities and the way E.U. regulations have been adopted up to date, the appropriate strategic plan for OSE should set general objectives which are likely to remain constant over time; should consider the economic and political context within OSE has to operate; and should examine alternative strategies for OSE in order to select the superior one, which also will support the proper positioning of OSE in the national and international railway market.

8.2.1. The present situation of OSE

At diagnostic report were discussed the historical developments of OSE and its current situation as far as its commercial activities and its position in the Hellenic transport market.

8.2.1.1 Internal Factors influencing the future of OSE

There was detected that OSE suffers from some important weaknesses in technical, commercial and organizational fields.

The most important technical weaknesses were the existence of two different gauges, and of single track on a big part of the network; the numerous level crossings, most of them being not automatic, jeopardizing safety and slowing down the traffic; the lack of modern equipment, mainly for freight transport; and the poor maintenance and inefficient procurement procedure leading to an unreliable rolling stock.

In commercial terms, passenger and freight services are often considered as non competitive in speed and reliability, due to the absence of a market oriented policy; of staff insufficient trained to commercial techniques; and with complicated tariffs, not adapted to the clients requirements.

But also, in terms of organization, OSE decision making process is too centralized and even decisions of minor significance, reach at the level of the Board of Directors.

Moreover, it was understood that OSE is fragmented, geographically and functionally in several entities, which dilute the responsibilities; while communication, internal and external, is insufficient. Management tools such as cost accounting, financial computerized systems, property policy, etc, are at an infantile level.

Finally, was also clear that OSE depends too much on the State. OSE is not free to decide its tariffs, investments and staff policies. This means that OSE has no clear objectives nor motivation to act as a market oriented company, leading to its low staff productivity.

Over all, these weaknesses result to a low market share and to a poor financial situation, mainly due to its increasing debt, as the State does not fully support rail infrastructure (as it does for road network) and rail operating deficit justified by an oversized staff, underemployed or in other cases redundant equipment and rolling stock and a low transport volume.

8.2.1.2 External Factors influencing the future of OSE

The negative position at which OSE is at the moment, can change if some of the most important parameters which will influence the transport sector in the next 25 years are taken into account. That is to say, the general development of the Greek and European economies such as population, employment, economic growth; the political evolution in the former Yugoslavia and in the Central and Eastern countries with the extremely accelerated developments in their markets; the structural changes such as the distribution of population, concentration of industry, mobility of people, changes in living standards and the balance between work and leisure, extension of transport infrastructure and changes in the nature and pattern of distribution of goods being transported; the concern about atmospheric pollution and other environmental impacts on transport, leading to tighter controls on emission and congestion in cities, being beneficial to the use of railways; and development of regulation of all transport modes to reduce accidents and damage to physical infrastructure

e.g. enforcement of laws on driving hours, vehicle safety and overloading, increase in road axle load, also supporting the development of rail transport.

These factors combined with an expanded transport infrastructure, and improved quality of services, will boost personal rail travel for business or private purposes and rail freight transport.

8.2.2. The future structure of OSE

In this new socio-economic environment, with extended transport needs, OSE has to progress into an independent company, autonomous and responsible (especially financially); with definite new role, with clear obligations; with its own identity; compliant with E.U. regulations; financially healthy; but fully owned by the State, in charge both of management of infrastructure and provision of services, at least for the moment, in order to be strengthened for surviving in competition at a next step. These two activities being autonomous and separate in the accounts, under the same management, according to the options offered by Directive 91/440/EE, will offer to OSE the so much needed flexibility for responding to the transport market needs.

However, OSE should try to become commercially profitable, after the implementation of its investment program and other reforms; and socially efficient for services that cannot be profitable in the long run (public service obligation).

Thus, the objectives of this strategic plan can flourish only if the State accepts to play its role as a regulator of the railway market and as a regulator of all transport activities, ensuring fair competition and the financial stabilization of OSE.

8.2.3. The future policy of OSE

For achieving these objectives, first of all, OSE has to undertake a reform of the management structures, financial controls, management information systems and marketing policy; to plan program of short term action to improve cash flow (this financial objective can be reached only through a partial

funding, during a limited period, of some investments or costs by the State, or other funding bodies). This objective also calls for closing or subsidizing (by state) services which are loss making.

Additionally, OSE should try to build strong partnerships with other railways and the private sector in order to exploit its assets, such as telecommunication network, retail activities in stations, real estate business and to develop transport related activities, such as, bus transport enabling OSE to transfer non profitable railway services on road and to feed the main railway lines; freight logistics (warehousing, etc.), container trains and terminals (with shipping lines and logistic companies, to create an international network with ports and the shipping industry).

Finally should consider the opportunity to develop affiliated companies mainly for activities different from the core railway business.

8.2.4. The Organization and Management of OSE

The reform of the institutional and regulatory framework, as analyzed in Chapters 4, 5 and 6 focuses the legislative and regulatory acts, to the following elements:

- railway activity is a commercial activity;
- OSE, is in charge of the railway activity, benefits of management autonomy. State control will be reduced and limited to an (ex-post control, in order that OSE management autonomy can be fully efficient without too much bureaucracy);
- OSE is managed under the same principles and rules which apply to the commercial private companies, one of these being to balance its own accounts on the basis of commercial contracts (a public service activity contract signed with the State must be considered as a commercial contract);
- OSE is in active competition with other modes and other transport companies;
- public service activities are limited to some services, implemented on request of the State, or other public bodies.

With the above assumptions, OSE will have to adopt the following measures in its re-organizational structure:

1. The Board of Directors of OSE should be able, without any intervention from the State to suggest investment for the improvement and the development of the network; to define the non infrastructure operating and investment budget; to define the human resources policy; to approve the nomination of the main executives; to approve any participation in the capital of other companies; to approve the loans subscribed by OSE, allowing the demanded independence and flexibility to its decisions in order to respond urgently to the market needs.

The Board should be composed of representatives of the shareholders- State, of the personnel, but will have also to include members representing its users, in order to ensure a commercial orientation.

2. In order to comply with the EU directives, to manage the previous contracts, and to facilitate the management of the new structure:

- OSE will have to establish independent business units, having a budget of revenues, each one of them being responsible for one transport or related activity (passenger, freight, other activities);
- OSE will have to establish independent technical units, having a budget of expenses, (rolling stock, personnel, general expenses, taxes etc.)
- OSE will have to establish an independent unit, the Infrastructure Manager, authorized by state to manage infrastructure.

3. In an increasingly competitive context, OSE will have to implement a clear marketing strategy focusing on market research, commercial policy and financial control, in order to recognize for each category of traffic the characteristics of services provided by OSE and its competitors; to identify the needs of the customers; to define which services could be implemented and assess their financial and technical feasibility; and to develop the adequate tariff system for the services offered.

4. Regarding its personnel policy, OSE should be free to manage its personnel by setting initiatives for the improvement of the productivity of the

workers and the responsibility of the executives, offering competitive salaries, opening new careers paths and a promotion system based on efficiency, responsibility and incentive and related with professional qualifications, promoting the technical and management training, promoting the mobility (geographical and functional) and hiring staff from the market with competencies not existed in the organization.

By adopting an ambitious and fair personnel policy, OSE assures the workers contribution to the achievement of its aims and objectives, since it is also labour intensive company and at public sector the cooperation of personnel is fundamental for achieving difficult goals.

8.2.5. Target Markets

As identified in Chapter 7, the railway business activity is only justified by the existence of customers. The new strategy of OSE must give priority to the market and to the customer needs. So, through the proper market segmentation, there are distinguished 3 broad categories of customers for railway services:

- Passenger and freight customers who care for being transported, (themselves or their commodities) and meet the full cost of the services provided.
- Public authorities requesting the provision of services under contract for social reasons.
- Railway operating companies asking for the use of infrastructure or other staff or services of OSE to run their own trains in return for the payment of a fee.

OSE should have to adopt an individual policy for each one of them, by analyzing separately their needs and matching them to its needs for development. Of course adopted policies should be on line with E.U. regulations, e.g. the use of infrastructure, payment of fee, etc.

8.2.6. Network Development

The above mentioned strategy, has to be supported by the appropriate network. Experience has proved that when a route has new rolling stock, new signaling and infrastructure, modernized stations and a new marketing policy at the same time, the financial benefit is significantly greater than when these elements are implemented separately. So, special attention must be paid to the integration of the existing Hellenic Network into the European system (combined transport, telecommunications, information technology, booking and reservation systems, etc.); to the future development and terms of use of the Peloponnese network, which might be operated only by OSE, by OSE and State, by OSE and private operators, or only by private operators (the decision will be related to the way that the project will be financed); to the new works and upgrading of lines which have been already planned, or that might be proposed, to see how these fit within the strategic plan and within the financial resources likely to be available.

8.2.7. Possible markets

From a commercial point of view, OSE appears to be competitive and there is room for improvement as follows:

For passenger traffic:

- Inter City passenger traffic, provided that this activity can achieve a sufficient quality of service, related with a combination of frequencies, comfort and speed;
- Athens-Thessaloniki, Thessaloniki-Alexandroupolis, Athens-Patra represent the main axis of this network. Connection of Thessaloniki with the Capitals of other Balkan States might be developed, attracting businessmen, workers and holiday travelers to these neighbouring countries, especially by operating night trains from Thessaloniki, arriving early in the morning to their destinations.

- Some regional lines, especially the ones feeding the trunk lines (Larissa-Volos, Kalambaka-Paleofarsalos and may be the metric gauge lines to Kalamata and Olympia).
- socially necessary services which OSE can provide at a price acceptable for the State (or any other local authority), which will be supported under a public service obligations contract.

For freight traffic:

- freight bulk traffic carried in train loads, where customers may be persuaded to own their own rolling stock (even locomotives) will only be profitable. This traffic will most probably continue to be concentrated on the Athens- Thessaloniki line.
- potential intermodal traffic which may be developed between the Greek ports and the hinterland of Central or Eastern Europe, where shipping and logistics companies may become partners. This is the case especially in Piraeus, Thessalonik, Alexandroupolis, Kavala and Volos ports.
- large investment is made in freight terminals, on the North and Eastern border, for transport to the Balkan area. OSE could benefit of this development and operate train loads from the ports to these terminals.
- parcels services, even if marginal nowadays, carried on passenger trains at premium rates, may tend profitable.

8.2.8. The New works (on going & proposed)

1. Electrification on the axis Thessaloniki-Promachonas
2. Improvements on the railway track between Thessaloniki-Idomeni
3. Improvements on the railway track between Thessaloniki-Alexandropolis
4. Railway connection with the new railway station at the port of Alexandropolis
5. Railway connection with the 6th dock of the port of Thessaloniki
6. Integration of the line electrification and modern signaling system on the axis Piraeus-Athens-Thessaloniki

7. Integration of the new high speed double line between Evangelismos-Leptokaria
8. Construction of new high speed line between Lianokladi-Domokos
9. Integration of the new high speed double line between Tithorea-Lianokladi
10. Improvements on the track and electrification on the line Inoi-Chalkida
11. Construction of Transport Center at Acharnes (SKA)
12. Construction of freight terminal at Thriasio Pedio
13. Railway connection with the new airport between SKA-Spata
14. Improvements on the axis Piraeus-Athens-SKA
15. Construction of New Passenger Terminal-Station at Athens
16. Construction of New Passenger Terminal-Station at Piraeus
17. Railway connection between Thriasio Pedio and N.Ikonio (port of Piraeus)
18. Construction of new high speed line between SKA-Korinthos
19. Construction of new high speed line between Korinthos-Patras
20. Construction of new railway track between Patras-Kalamatas

Again, is clear that almost all new works are oriented to the development of the foreseeing increased travel demand to northern Hellas and to the Balkans, as well as to Patras, for serving transportation to the rest western E.U. Member-States through Italy.

The completion of these works along with the new organization model of OSE, can support the fast changing and demanding customer needs and focus also at the above mentioned markets.

(Look at the following Map, as numbers marked):

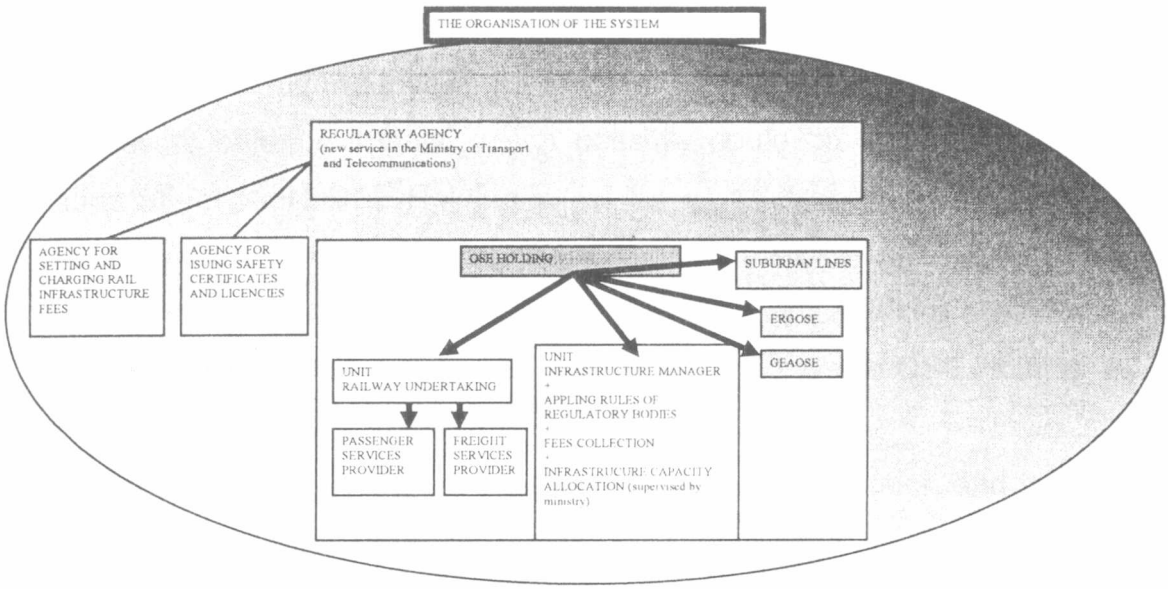
Map 5: Map of New Works of the Hellenic Railway Infrastructure

Source: Developed by the author

8.3. The Proposed Organizational Model of the Hellenic Railway System

Taking into account these, most representing separated and integrated models, the E.U. guidelines of the E. U. railway policy and the stakeholders' views, was concluded that an integrated model would fit to the Hellenic Railway system, since it is not ready yet to enter into free competition with well organized and developed railway networks taking also into account that the Greek Railways market is rather small and isolated compared to the western and central European. So, the Hellenic Railway System could be organized in a group of companies, where the existing Hellenic Railways Organization could be the 'Holding' Company (OSE Holding), with the support of an independent Business Unit as the Infrastructure Manager and another one Business Unit as the Railway Undertaking (divided into two sub-units – one for the provision of railway passenger services and one for the provision of railway freight services). In this group will be incorporated the already existing subsidiaries of OSE, the ERGOSE (for new constructions), the GEAOSE (for the management of the company's property) and the PROASTIAKOS (providing some suburban services).

This model is serving both the political will of the E.U. Directives and the will of the Hellenic Ministry of Transport and Telecommunications and the Management of the Hellenic Railways Organization, for the modernization, expansion and development of the Hellenic Railway System. (see figure below)



For the needs of this new system, a Regulatory Agency (Directive 14/2001, ar.30) mainly responsible for the control of the market operation and for the management of disputes has to be founded, operating with the support of other two agencies: (a) for issuing the railway licenses (Directive13/2001,ar.3) where the railway undertakings shall comply with the European standards and the safety certificates (Directive 14/2001, art.32 par3), where the railway undertakings shall comply with the regulations under national law, compatible with Community law, laying down the technical and operational requirements specific to rail services and the safety requirements applying to staff, rolling stock and the undertaking's internal organization (which possibly can be founded as an independent body of the Ministry of Transport and Telecommunications, or can operate as an independent service of the Regulatory Agency), (b) for setting and charging the railway infrastructure charges - the so called charging body (directive 14/2001,ar.4 par2) - (which possibly can be founded as an independent body of the Ministry of Transport and Telecommunications, or can operate as an independent service of the Regulatory Agency).

The OSE Holding will be the owner of the railway infrastructure, installations and buildings in Greece.

The Business Unit: "Infrastructure Manager" and the Business Unit: "Railway Undertaking", will be independent units with different profit and loss accounts and different balance sheets, which possibly could be summed up in the Balance Sheet of the OSE Holding.

The Railway Undertaking will be charged fees for the use of the infrastructure and installations by the responsible body/authority, which will be collected by the Infrastructure manager and then will be allocated to the OSE Holding, by the last one.

The Regulatory agency will be responsible for the supervision and control of the proper operation of the system and the safety matters.

8.3.2. The relations between the State and the OSE Holding

The relations between the State and the OSE Holding are going to be relations of supervision and encouragement of the creation of a competitive market. That is to say, the state takes all the necessary measures to ensure the administrative autonomy of the railway activities as they are formed in the model in independent companies and units (Directive 12/2001, art.4,par.1)

- there is no transfer of state aids from the infrastructure to the operation and vise-versa (Directive 12/2001, art.4,par.3)
- the state takes the necessary measures for the fair access and without any discrimination to the infrastructure. The state has to provide the standards and the security regulations for the rolling stock of the railway companies
- the state has to provide the certificates for the rolling stock of the railway companies
- very important is the responsibility of the state for the operation of the regulatory agency, which monitors the competition in the rail services markets (Directive 12/2001, art.10,par.7)
- the state has to ensure that the accounts of the railway undertaker is well balanced. The Infrastructure undertaker can get state aids (Directive 14/2001, art.6,par.1)

- it is state responsibility the organization of the competent authority for issuing railway licenses (Directive 13/2001, art.3).

See appendixes 5,6 & 7.

8.3.3. The Railway Infrastructure and the Infrastructure Manager

As discussed in Chapter 4, the European legislation is defining the Infrastructure Manager (directive 12/2001, art1, par 4.a) as any body or undertaking responsible in particular for establishing and maintaining railway infrastructure. The functions of the Infrastructure Manager on a network or part of a network may be allocated to different bodies or undertakings. Member states may exclude (a) stand-alone local and regional networks for passenger services on railway infrastructure, (b) networks intended only for the operation of urban or suburban passenger services, (c) regional networks which are used for regional freight services solely by a railway undertaking that is not covered by the scope of Directive 91/440/EEC and (d) privately owned railway infrastructure that exists solely for use by the infrastructure owner for its own freight operations (Directive 14/2001, ar.1par3). The Infrastructure Manager (I.M.) has to publish the network statement (Directive 14/2001, ar.3) and it can receive state aid.
So, the Railway Infrastructure (RI) of the Hellenic Network shall embody the following components of the railway system:

- railway superstructure (rail, flippers, ballast)
- railway substructure
- technical works (bridges, tunnels)
- signaling
- security installations
- level crossings
- electrification installations
- telecommunication installations
- combined transport installations,

- buildings, platforms, gauges
- electrical supply equipment, electricity, heating, etc for the railway stations installations

In general, could be said that any type of installation that is not a subject of commercial operations will be part of the railway infrastructure.

Beyond these basic services of access to the railway infrastructure, the (IM) will have to offer and some additional services such as the supply of fuel and the pre-heating of the passenger trains.
Moreover, the IM will have to organize an independent service (operated by the IM and supervised by the Hellenic Ministry of Transport & Telecommunications) for marketing and making optimum effective use of the available infrastructure capacity, according to (Directive 14/2001, ar.1) and for meeting the requests for infrastructure capacity including requests for train paths crossing more than one network, according to (Directive 14/2001, ar.20, par.1).

Finally, the IM will have to collect the charges applied by the charging body (Directive 14/2001, ar.4,par2) since the (IM) is not independent, in its legal form from the railway undertaking and can not be responsible for the establishment and determining of the infrastructure charges.

The income of IM will be generated from the charges collected by the use of the infrastructure, by the use of additional to the railway system operation services and from state aids.

However, has to be considered again, that there is a derogation from Directives 12/2001, 13/2001 & 14/2001 for Hellas, until the moment that the first application for operation on the Hellenic Railway Network will be submitted, meaning that still there is a lot of work that has to be done, for attracting new entrants in the Hellenic Railway market.

So, the reorganization system has to be, for the moment, quite integrated in order to possess the desired flexibility and adaptability to market needs and

also for being easily tested and controlled for achieving fast changes to non effective operations.

8.3.4. The infrastructure ownership

According to the existing Hellenic Legislation, Presidential Decree 324/1996, art.2 par.3, OSE is the owner of the existing railway infrastructure. The ownership of the new works for the railway infrastructure (which are financed from the state or the EE and executed by ERGOSE) is transferred from the State to OSE. So, the ownership of the new works which are managed by ERGOSE, when they are integrated, is transferred to OSE.

By applying this model, the owner of the RI, will be the OSE Holding, where all the infrastructure owned by OSE will be transferred to it, as well as all the railway property. The OSE Holding designates to the IM the management of the RI.

8.3.5. The OSE Holding Group

The most important Companies of the OSE Holding Group are the ERGOSE, the GEAOSE and the SUBURBAN LINES A.E.

The ERGOSE, as it has been defined at its constitution, has to study, to auction, to supervise, to provide and to install the equipment and the materials used for the new railway works which are realized by the investment programs of OSE which are financed by the E.U. and the state and have to be delivered to OSE.

The operation of the ERGOSE is restricted to the new works financed by the E.U and can operate for 10 years (1996-2006).

Under the new organizational model, some changes have to be incorporated in the ERGOSE constitution:

-the OSE shares have to be transferred to the OSE Holding

-the works will be delivered to OSE Holding, instead of the OSE, which will be their owner

-its operation has to be prolonged for another 4 years, till the integration of the railway investment plan

The GEAOSE, is a company with a basic aim: to do the maximum possible utilization of the assets of OSE which are not used for the provision of railway transport services. It also undertakes to manage and maintain the real estate and any other assets that do not belong or are managed by any business unit.

More or less it is operating as a real estate agent for the management of the OSE property, and it also has to transfer its shares to the OSE Holding.

The SUBURBAN LINES A.E. is a new company, with basic mission the development and offer of passenger rail services at a suburban level at the wide Athens area, starting with the operation of the new line between Athens and the new El.Venizelos airport (by year 2005).

8.3.6. The Railway Undertaking – provision of a license

The Directives (12/2001,art.1, par4 and 13/2001 art.1,par2) are giving a very clear definition of the railway undertaking, as "any public or private undertaking the principal business of which is to provide services for the transport of goods and/or passengers by rail with a requirement that the undertaking must ensure traction; this also includes undertakings which provide traction only".

So, in order to define an undertaking as a railway undertaking, it has to:

- provide the traction for the railway service that is offering
- provide services for the transport of goods and/or passengers as its principal business
- have the right license.

The task of issuing licenses in Hellas, shall be carried out by a body which does not provide rail transport services itself and is independent of bodies or undertakings that do so.

According to the current national law, the body responsible for issuing licensees is the Hellenic Ministry of Transport & Telecommunications, but it

has not exercise its responsibility yet (since Greece was exempted from the Community Legislation). So, OSE has not a license and probably it will not have till the year 2008 (that the country is exempted) unless there is an application for the use of the Hellenic Railway Infrastructure from another railway undertaking.

However, when a railway undertaking applies for a license, it must be able to demonstrate to the licensing authority, before the start of its activities that it will at any time be able to meet the requirements related to good repute, financial fitness, professional competence, and covering its civil liability (Directive 18/1995 art5-9).

Applying for a license, a railway undertaking shall comply with national law and regulatory provisions which are compatible with Community law (Directive 13/2001 art.12, par1) and in particular:

- specific technical and operational requirements for rail services
- safety requirements applying to staff, rolling stock and the internal organization of the undertaking
- provisions on health, safety, social conditions and the rights of workers and consumers
- requirements applying to all undertakings in the relevant railway sector designed to offer benefits or protection to consumers

A license shall be valid as long as the railway undertaking fulfils the above mentioned obligations. A license authority may make provisions for a regular review at least every five years. (Directive 18/1995, art.10)

In Hellas, and according to the Hellenic Law about the foundation of Hellenic or European Companies, operating in Hellas domestic or international services, there is a number of additional prerequisites as financial and legal obligations which are razing and are making the licensing procedure even more difficult. However, there has not been clear stated yet, the governmental

will, but for sure has to be taken into account that there is not any intention to impose any extra barriers for entering in the Hellenic Railway market.

8.3.7. The Operation of the System

For the proper operation of the new system, has to be clearly defined what is considered as infrastructure and how assets and property will be allocated to the different railway companies and/or business units.

Also the definition of the infrastructure is extremely important for the allocation of the costs and expenses to the separate accounts. So, the Government along with the national railway company (OSE) have to define very clear the components of the railway infrastructure.

However, from the experience of the other EU Member-States, we can see that opinions vary on the allocation of the railway stations, the installations of the energy supply (especially electric supply), the marshalling yards freight terminals, and the installations of combined transport.

Regarding railway stations, only the platforms and the corridors, bridges, etc leading to them were initially considered as part of the infrastructure, while the main buildings and installations of the railway stations were not considered as part of the railway infrastructure. However, they should have to be part of the infrastructure, in terms of ensuring fair competition between the railway companies that operate at the same railway station. This is the case of the use of the airports for the airway companies.

Similarly, the marshalling yards and the combined transport marshalling yards should belong to the infrastructure. The infrastructure undertaker has to offer the use of the marshalling yards to the railway operators, without any discrimination and by charging the prearranged fees. In France the French Railway Network RFF (the infrastructure manager) is the owner of the terminals.

As far as the permanent electric supply installations, in some countries they were not the property of the railways (Netherlands) and with the new status they remain out of the railway business. In the most European Member-States, railways were the owners, so now they belong to the Railway Companies and they are:

- either allocated to the infrastructure managers (G. Britain & Italy) who charges its use to the railway operators under the terms of signed agreements between them
- either allocated to the infrastructure manager, but the Railway Company is signing the supply agreements with the railway operators and the infrastructure manager is executing the terms of the signed agreements between them. Buys the electric supply from the provider (arranged by the Railway Company) and sells to the railway operators (France)
- or there is founded a new subsidiary company which owns and manages the electric supply and of course sells its services to the railway operators (Germany).

In Hellas, for the effective application of the suggested model for the operation of the Railway System, the components of the Hellenic Railway Infrastructure should be:

- main lines and service line (land, technical works, superstructure, signaling, security & safety installations, level crossings, electric supply installations
- telecommunication installations (overhead telecommunication lines, equipment, installations, cables)
- buildings and installations: out of the railway stations (buildings and installations of the maintenance teams, the security installations, the electric supply stations), in the railway stations (platforms, level crossings, transport control, electrification), general office equipment (necessary for the infrastructure operation) and land not used by the railway operators.

8.4. Organizational Analysis

It is obvious that the implementation of the new Organisation model will be gradually completed and will require time and effort. The complete development of the essential Organisation Structures and the creation of each business unit must be planned based on the targets of the business plan and the general strategic directions of OSE.

As identified in Chapter 7, by studying the basic principles of organising and managing transport companies, the following points had to be considered, in particular:

- the strategic objectives for each market sector and service
- the size of activities that enables organisational division into separate units
- the diversity of activities that imposes organisational distinction into separate units
- the possibility of division of means [resources]
- the personnel training needs
- the need to introduce modern operating and information systems.

8.4.1. The Business Units

For achieving a smooth and effective transition from the previous to the proposed organisation system, the model of "services" is going to be transffered to the new model of "business units", since staff is familiar to this kind of division of operations and activities.

However, all reorganisational decisions about separation between operations and infrastructure have to be ruled from the E.U. legislation and also have to be on line with the new organisation model of the Hellenic Railway system, proposed in this Chapter.

Also, at this point has become clear, that the basis of the new organisational plan of OSE is the introduction of business units. The selection of Business Units ensures its orientation towards the market and the effective implementation of its strategic aims.

Business Units Organisation possesses the following characteristics:

a. A business unit corresponds to and specializes in a particular section of the market and is responsible for its exploitation and development. The Business Unit is capable of, and responsible for the close following-up the market (demand, competition etc.) and the immediate responding to its requirements and changes.

Any other organizational unit that offers its services to another, based on a special internal agreement (quasi contract), that determines the relationship between them as a (customer - supplier) relationship, is also a business unit.

b. A Business Unit has administrative autonomy in the management of its resources and is responsible for its actions and results. The Business Unit acquires financial, material and human resources that it controls and manages and is responsible for their effective utilization. The administrative autonomy of each Business Unit is understood within the framework of the OSE strategies and policies and does not *mean* a separate business.

c. A Business Unit controls the services or resources, purchases and has the means to achieve its objectives. Whether supply is made by internal (other OSE units) or external suppliers, the Business Unit controls and negotiates quantity, quality, prices, delivery terms, etc.

d. A Business Unit has targets, a plan of action and a budget. The basic function and essential component of the business unit is the function of planning for annual and medium term (three-year, five-year) periods. This planning permits, among other things, control of results and is an essential prerequisite for the administrative autonomy of the business unit. Therefore, the business unit:

- sets specific and measurable objectives and is committed for their achievement,
- formulates an action plan that includes the actions and the means connected to the realization of the objectives
- formulates a budget according to its objectives and action plan

The Business Units have in general their own services such as marketing, sales, quality assurance, administration (human resources, finance, supplies, information) and development. However, the extent of the development of these services depends on the size and requirements of each Business Unit.

Although the Business Units enjoy considerable autonomy, they are not fully independent entities, as they are subject to the general strategy, policies and procedures of the Organization.

8.4.2. The General Directorates of the New OSE Holding

On top of the Business Units, in order to ensure the effective operation and integration of the Organization is required the existence of a general supervisory authority; "The General Directorates". The purpose of their existence is the integration of the system and its operation as a single whole - the OSE Holding - in order to achieve economies and to ensure its efficient operation.

In particular the "General Directorates" are responsible for:

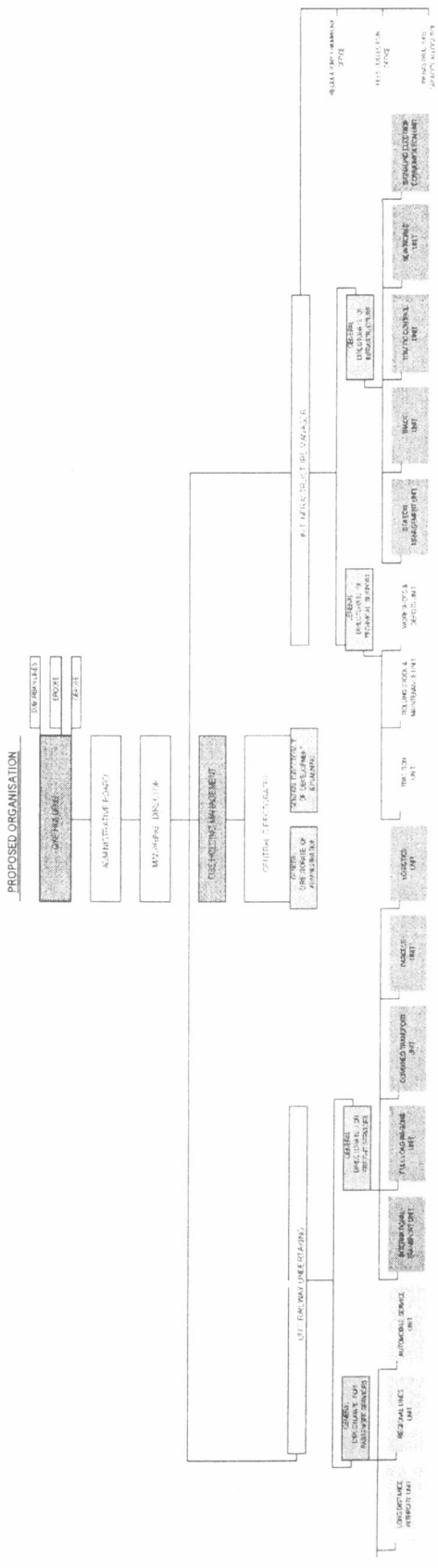
- the design and realisation of projects and actions on behalf of the Organisation as a whole, aimed at the achievement of economies, uniformity and co-ordination of activities,
- advisory and technical support to the other units of the Organisation on matters of their specialisation,
- the offering of services to the other units.

The "General Directorates" operate based on specific objectives and are controlled for their results. Their relationship with the Business Units of OSE Holding must be clear.

This certainly requires:

- the clear and detailed description of the work and responsibilities of the General Directorates the respective services operating within their framework,
- the design and description of procedures and rules of co-operation and coordination between them and the respective services operating within the framework of Business Units,
- the development of a "staff mentality" an environment of open communication and team work between the members of the staff of the General Directorates and that of the Business Units.

8.5 The new organisation chart



8.5.1. Basic organisational structure

The basic organisational structure of the New OSE Holding consists of General Directorates and Business Units (see figure). In particular, the organisational structure consists of:

6 General Directorates (2 of them are Central) and 16 Business Units.

The 16 Business Units could be divided into the following categories:

a) The units offering transport services such as Business Units,

For the passenger market:

- Long distance and InterCities
- Regional lines
- Automobile services

For the freight market:

- International transport
- Block trains / Full Load Wagons
- Combined transport
- Parcels
- Logistics

b) The Technical support units such as Business Units for:

- Traction,
- Rolling stock & maintenance
- Workshops & depots

c) The Infrastructure management units, such as Business Units for:

- station management
- track
- traffic control
- new works
- signaling, electrification & communication

These groups of Business Units should belong from an administrative point of view to 4 General Directorates:

- DG of Passengers
- DG of Freight
- DG of Technical Support
- DG of Infrastructure

Apart from the above mentioned "Business Units" and supervisory "General Directorates", the basic organisational structure of the new OSE Holding includes and two Central Directorates, the "General Directorate of Administration" and the "General Directorate of Development, Planning & Training", for the coordination of all managerial activities.

They are reporting directly to the Managing Director of the Organisation and they are organised as follows:

The "General Directorate of Administration" should include the Directorates and Services that are directly supervised by the Managing Director:

- The Directorate of Legal Services
- The Directorate of Human Resources
- The Directorate of Financial Administration & Management
- The Directorate of the Internal Affairs Audit
- The Service of Transport Quality
- The Service of International Affairs
- The Service of Public Relations

The "General Directorate of Development and Planning" should include:

- the Directorate of Strategic Planning, Development & Training,
- the Directorate of Informatics,
- the Service of Procurement

as well as the Civil Emergencies Management Planning that used to cooperate directly with the Managing Director and is an office cooperating with the Ministry of Defense and the Ministry of Internal Affairs, for cases of civil emergencies.

"The new organisational structure is based on the concept of business units".

For all the reasons already mentioned, this form of organizational structure takes into consideration the weaknesses of the past, responds better to the requirements of the future and ensures:

- the possibility of formulating and implementing developmental strategies
- the orientation towards the market and the more immediate response to it
- planning and control based on results

As regards the specific business units proposed, the following remarks must be made:

- The business units are going to "implement" the strategy of the Organisation, and contribute to its formulation through their suggestions, proposals and plans prepared and submitted through their General Directorates to the Strategic Planning Unit. Some of the activities of the new OSE Holding may be very small to justify the existence of a separate business unit today. However, its appearance in its Organisation chart is necessary in order to take into consideration the possibility of development of this activity in the immediate or further future.

- The complete implementation of the structure and the complete operation of business units will be accomplished within a specific time period. The transition period from the existing to the new Organization model must be determined from the requirements of the new OSE Holding business targets and the measures imposed by the attempt to achieve them, which might be also a governmental decision. Thus, in any case, must be taken into consideration, the specialisation of the strategy for the specific business unit, the existence or creation of conditions for its effective operation and the strategical targets it will have to achieve within the framework of the medium-term planning of OSE.

8.5.2. Hierarchical Levels

The basic principles for the determination of the hierarchical levels of the organization, as identified in Chapter 7, for organizing transport companies, should be:

- decentralisation of responsibility
- flexibility and efficiency in Organisation
- saving of resources.

According to these principles, the Organization seeks to create the minimum possible number of hierarchical levels and advanced operating and information systems, in order to ensure the co-ordination and control of its global activity.

The company is currently operating under the 41342/4616/27-12-1996 state law,[1] and is managed by:

- the Board of Management
- the Managing Director, &
- the Board of Directors

But by implementing its new organizational structure, OSE must start with a logic of four hierarchical levels or responsibility levels under the General Manager:

1. General Directorate - General Directors
2. Directorate - Director
3. Business Unit - Business Unit Manager
4. Service - Head of Service

The final number of hierarchical levels will be determined during the implementation of the new Organisation chart, depending on the volume of work and the different nature of the object to be assigned to each organisation unit. However, an effort should be made to keep this number at the lowest possible level.

The Managers of Business Units will have a key role in the new organizational structure of OSE Holding.

They will be responsible for the business development and for the achievement of the business targets of their Units. Apart from exercising administration in their Units, they will also be responsible for the formulation and realisation of the strategies, the annual action plans and the targets of their Units. They will also have to formulate and negotiate the program

agreements with the other business units, to propose the investment plan and negotiate it within the framework of the internal agreements.

They will be entirely responsible for the achievement of the targets they undertake for their Business Unit, managing the necessary resources with the independence and power that must be delegated to them by the Administration of the Organization.
They will report their activities to their superior General Director.

The Council of General Directors will be composed by:

- the Chairman
- the Managing Director
- the General Directors

The Council of General Directors will elaborate, co-ordinate and prepare the strategic and other important decisions concerning the general policies or other serious matters of the Organization. It will act as an advisory body to the Chairman and Managing Director on matters related to:

- the final formulation of the Organisation's strategies and general policies
- the formulation of the management contracts and other program agreements with the State
- the definition of the general guidelines of the annual action plan and the budget
- the preparation of proposals to the Administrative Board for important decisions
- the information on the efficiency of the general co-ordination of the operation of the Organisation.

Finally, the Management Council will consist of:

- The Managing Director
- The General Directors
- The Managers of Business Units

[1]41342/4616/27-12-1996 state law, amending the organization of the Hellenic

In reality it will constitute a basic link between the management Board that sets targets and the Operating Mechanism that is called to achieve them.
Its mission will be to ensures the unity of the administration of OSE and the information of all management staff on the general targets and the final purpose pursued by the Organisation, but the main mission of the Management Council will be the systematic communication, mutual information and collective co-operation between the members of the staff forming the Top and Superior Management of the Organisation. So, it will act as a consulting body to the Managing Director on matters related to:

- the co-ordination of the Organisation's activities
- the control of results and budgets
- the elaboration of strategic proposals
- the formulation of Proposals for the action plans and budgets
- the follow-up and evaluation of the quality of the services offered by the Organisation to its customers and to society as a whole.

So, the Administrative Board and its chairman, the Managing Director, the Council of General Directors and the Management Council are safeguarding and reasuring the effectiveness of the system as far as the consistency to the aims and objectives of the organisation, the proper implementation of strategic plans and the continious flow of information from the units to the top management and vice-versa. Also, they can identify the market needs and can decide upon quick responsiveness to these needs with the fast intorduction of new products or by changing nature and characteristics of existing ones, when needed.

8.5.3. Motivation of manpower – productivity

The business and administrative reorganization of OSE must ensure the motivation and reinforcement of manpower. This means that the structures, procedures and systems will ensure:

- the qualitative and quantitative adequacy of human resources,

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Railways Organization, p:12365-66

- the continuous development of professional and administrative skills of the employees,
- the motivation and satisfaction of the personnel
- the responsibility, creative participation and reinforcement of the free initiative of employees.

In order to achieve the above mentioned aims, that are necessary for the realization of the strategic objectives and for the survival of OSE, it is necessary for the new Organization structure:

- to provide for the liberation of OSE from State intervention and bureaucratic State control as to the management of human resources,
- to be thrifty and flexible
- to recognise the management of human resources as an important function for the future of the Organisation
- to ensure the appropriate distribution of power on matters of human resources
- to reinforce internal communication in the Organisation
- to support the effective operation of the systems of human resources management, such as:
  * system of hiring and promotion
  * system for the planning of human resources,
  * system of continuous training
  * system of objective evaluation of efficiency and productivity
  * system of awards and incentives that ensures the connection of awards to efficiency and results.

8.5.4. Development of internal communication

The co-ordination, flexibility and effective decision making presuppose the development of the Organisation's internal communication. This must be ensured in its everyday operation by the whole administrative mechanism of OSE Holding that should include:

- the organisational structure,

- the action plans and budgets
- the procedures, functional and information systems

As to the organizational structure, the facilitation and reinforcement of internal communication presuppose:

- the existence of a small number of hierarchical levels,
- the integration and clarification of functions by business and staff units
- the integration and clarification of competencies and duties for each job
- the proposal of a specific organisational unit that will undertake the development of the organisation's internal communication (Human Resources Unit) in co-operation, whenever necessary, with the Public- International Relations and Communication Unit.
- the specification of the main information flows between organisational units, that must be taken into consideration in all the new operating and information systems of the Organisation.

8.6. The organisational structure

Taking into account all the above mentioned principles and with the knowledge gathered from Chapter 7, followingly, will be developed the proposed organisational structure of OSE, by analysing the division and the responsibilities of the suggested General Directorates and the respective Business Units.

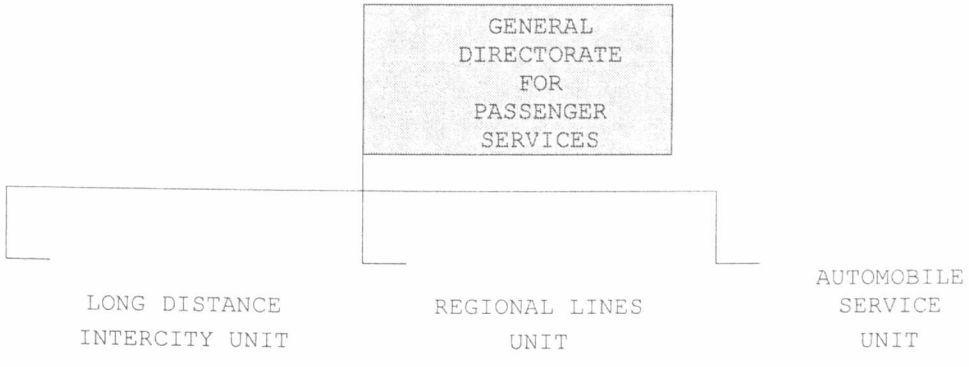
8.6.1. General Directorate of Passengers

The General Directorate of Passengers includes all the activities related to the development and offer of passenger transport services and possible associated services.

The main mission of this General Directorate will be the effective development and offer of passenger transport services within the competitive environment of the free market and the effective offer of "public passenger transport services" based on special contracts with the State or other organisations of the wider public sector and local government. Therefore the main responsibility of the G.D. of Passengers will be to render the railway services for passenger transport modern and competitive through the high level of satisfaction of the needs of passengers and the achievement of the lowest possible cost. In this manner it should maintain and increase the market share of passenger services, increasing its profitability and reinforcing the Organisation's credibility and efficiency.

The main organizational structure of the proposed General Directorate of passengers is presented in the scheme:

G.D OF PASSENGERS



The G.D. of Passengers will include 3 Business Units:

- Long distance
- Regional lines
- Automobile Service

The full development of the proposed organizational structure will be gradually realized by OSE Holding on the criteria of the requirements of the market, its strategic aims and the economic targets that it must achieve.

The following functions will be developed within each passenger business unit:

- *Marketing*
  Design and development of products/services, market research, Formulation of commercial strategy, invoicing policy for services offered, promotion policy, advertising and publicity, customers service policy and systems, marketing plan.
- *Sales*
  Design / Planning / Control of sales, realisation of sales, development/service of clientele.
- *Scheduling of timetables*
- *Management of Human Resources*
  Planning of manpower, evaluation of personnel, incentives systems, training, personnel administration matters, communication - labour relations
- *Financial management*
  Accounting, costing of services, budget-budgeting control.
- *Planning and support of supplies*
- *Informatics*
  Informatics support, use of information systems.
- *Quality Assurance*
  Quality Control, use of quality systems and procedures.

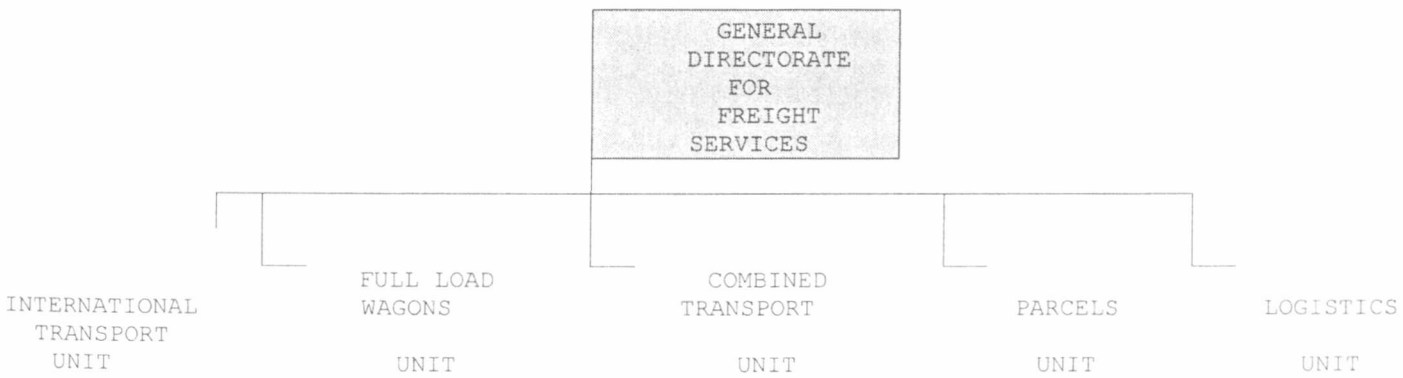
8.6.2. General Directorate of Freight

The G.D. of Freight will include all the activities related to the development and offer of freight transport services. This G.D. will have to ensure the competitiveness of OSE Holding in the field of freight transport and the profitable exploitation of the largest

possible share in this market under free economy and competition rules.

The essential organizational structure of the proposed G.D. of freight is presented in the following scheme:

G.D. OF FREIGHT



It will include five business units:

- International transport
- Block Trains / Full Wagons Loads
- Combined transport
- Parcel
- Logistics

This structure certainly presupposes a minimum level of development of the different business activities. A remark concerning the - first transitional stage in the implementation of the new OSE Holding organisational model relates to the international transport and the logistics units. The activities of these business units in the first phase may be distributed without any problem among the other three business units, due to their limited activities.

In this case, apart from the responsibility of the heads of the three business units to develop international transport and logistics, there will be a special responsibility of the General Manager for the co-ordination and development of International Transport and Logistics and the co-operation with foreign networks, transport organizations, forwarders, third parties, etc.

The functions developed in Passenger Business Units, will also be developed here.

The main functions of each passenger and freight transport Business Units, are the same, because each one of them in reality represents an element of the marketing mix, which has always to cooperate and to be mixed the right way, at the right time. Also by following this structure, control of functions and responsiveness to the market needs is secured and finally the internal busines control and planning is much easier and more efficient when Business Units have the same type of organisation, since delegation of authority is very clear, easy and similar to Business Units, servind day-to-day operations.

8.6.3. General Directorate of Technical Support

The mission of the G.D. of Technical Support will be to develop and offer support services to the providers of passenger and freight transport services. When applying the basic railway system, the technical support unit will have a relationship of "supplier-customer" with the business units of the OSE Holding which will be offering transport services, as well as with the possible, future transport services operators.

The main responsibilities of this G.D. will be:

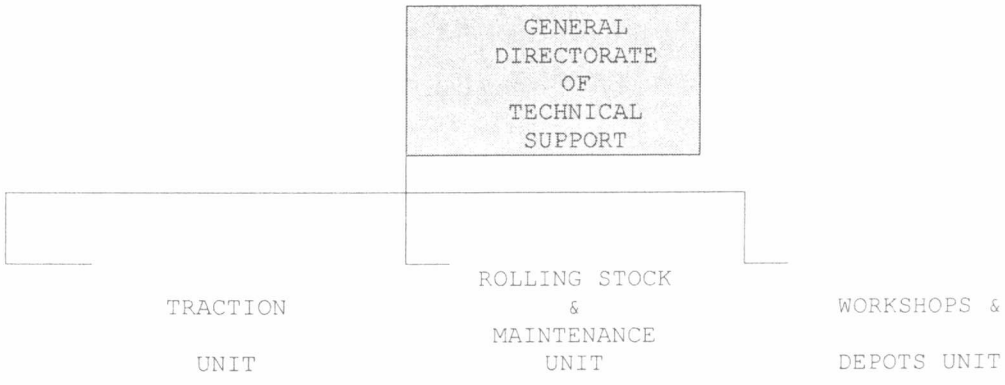
- the management and maintenance of the installations of the infrastructure of OSE, offered to railway undertakers for the provision of rail transport services
- the offer of traction services
- the care, through maintenance and repairs, to always keep the rolling

stock in the best possible condition

- the management of workshops and depots

The basic organizational structure of the future G.D. of Technical Support is presented in the scheme:

G.D. OF TECHNICAL SUPPORT



The business units included in the G.D. of Technical Support will be:

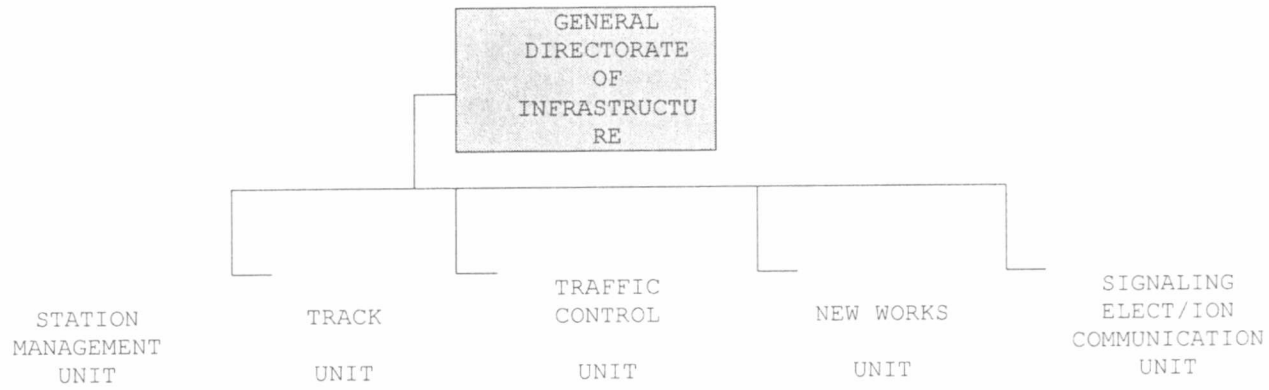
- Traction
- Rolling stock maintenance
- Workshops & Depots

8.6.4. General Directorate of Infrastructure

The mission of the G.D. of Infrastructure will be to develop, manage and ensure the proper operation of the railway infrastructure so that it fully responds to the needs of the other business units of the organisation and to the requirements of railway undertakings making use of the network in general.

The basic organisational structure of the proposed G.D. of Infrastructure is:

G.D. OF INFRASTRUCTURE



The units of the G.D. of Infrastructure will be:

- station management
- track
- traffic control
- new works
- signaling, electrification & communication

8.6.5. Central-General Directorate of Administration

The main mission of the G.D. of Administration will be to provide support to the implementation of the decisions of the administration of OSE Holding, to offer guidance and support services to all business, staff and other organisational units of OSE Holding and to ensure the global quality in the operation and the services offered by OSE.

Moreover, it should be pesponsible for the publicity of the image and activity of the Organisation to potential customers and to national and international organisations directly or indirectly related to its work.

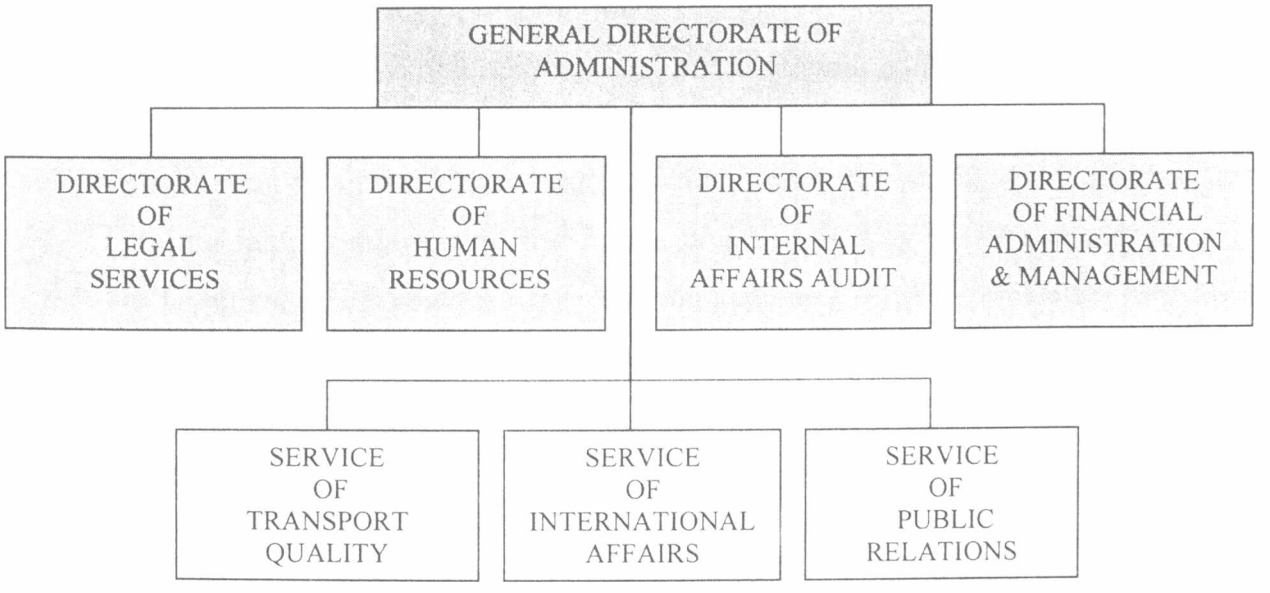
So, on the one hand it will contribute to the achievement of the aims of the organisation and on the other hand it will ensure the efficiency and uniformity of operation of the whole mechanism of the Organisation.

The responsibilities of the G.D. of Administration will be related to:

- the provision of legal services to the whole system

- the management of human resources
- the financial planning and control of the whole system
- the internal audits
- the control of the health and safety standards of the whole systems
- the international affairs of OSE
- the communication policy of OSE

CENTRAL – G.D. OF ADMINISTRATION



The basic organizational structure of the Central G.D. of Administration will include the following units:

- Directorate of Legal Services
- Directorate of Human resources
- Directorate of Financial Administration and Management
- Directorate of Internal Affairs Audit
- Service of Transport Quality
- Service of International Affairs
- Service of Public Relations

8.7. Conclusion

At this chapter was delivered the new organizational model for Hellenic Railways, based on the knowledge gained from previous chapters regarding the points of the existed organisation of OSE that urgent action was needed, the demands of E.U. policy, the existing examples and the support of the managerial theory.

All the presumptions extracted from this analysis were carefully examined and used for the synthesis of this model.

In the beginning were designed the basic guideliness for the new strategic plan of OSE as a means of internal consultation and also external communication of the Organisation. Initially were summarized the internal and external factors influencing the future of OSE as they had been identified in the Diagnistic Report and then were also pointed out the potentials for future development and expantion of railway activities in the transport market.

Then the information gathered from Chapter 4,5 & 6 about the E.U. legislative railway reform and the way E.U. Member-States and European Railway Networks respond to that, made clear the framework in which the new organisational model of OSE should be developed also being quite influenced by practices of similar european networks.

Also considerable was the knowledge extracted from managerial theory, at any stage of this design, starting with the formulation of the management structure and going further with personnel policies and identification of target markets.

Then, the actual reorganisation model was delivered, firstly by designing the new structure of the system by the foundation of a new railway company, the "OSE Holding", being supported by the operation of two independent Business Units the "Infrastructure Manager" and the "Railway Undertaking" (which will be also divided to two sub-units for the provision of railway services and freight services). The future needs for the operation of the railway system, demanded from Directive 12/2001, 13/2001 & 14/2001 will be covered by a Regulatory Agency founded by the Hellenic Ministry of Transport

and Telecommunications, supported by two other, also independent bodies responsible for issuing railway licenses and for setting and charging the railway infrastructure charges.

Was also clearly underlined that the role of State has to be very concrete and trasparent and all services offered from OSE to the State should have to be compensated.

Thus, going further to the organisational analysis of the system, was again noted the significance of the application of the B.Us management model in order to achieve the so much wanted efficient operation of Hellenic Railways.

The analysis of the organisational plan is giving the first evidence of achievement of the new model, since it is released from heavy bureaucratic procedures and complicated organisational inefficiencies, giving some promises that can deliver the demanded flexibility and adaptability to the market needs. The separation of the accounts and the planned autonomy of the organisation will be based on the proper quality management, staff development, financial management, marketing mix and planning of resources, which will be the basic functions at all the BUS, plus the functions which are exclusevly related to the mission of each B.U.

The existed complex organization of Directions and Services which often could not coordinate activities and monitor market needs, is replaced by the new model which will operate with 6 General Directorates and 16 B.U.s, being supervised and managed by a powerfull and independent (from State) Administrative Board and a Managing Director responsible for the realisation of the plans of the Administrative Board and the effective operation of OSE, supported by the General Directora and the B.U.s Managers.

Valuable will be the support of the Council of General Directors and the Management Council which even if they have an advisory role, will be the bodies which will interpret the top management decisions to the different B.U. targets and to day-to-day activities, by co-ordinating activities, controlling results and proposing to the top management actions needed for further development and improvement of operations.

So, in this Chapter was developed the model and the targets that is aimed to satisfy, while in next chapter will be proposed the procedures that have to be applied for achieving these aims.

Chapter 9

An Appraisal of the New Business Unit Model

9.1. Introduction

This chapter delivers the ultimate objective of this research programme. The hypothesis set out to examin the feasibility of a new organisational structure for OSE. By clarifing the mission and main objectives of the organisational units comprising the new structure it has been made possible to achieve this examination. This chapter, therefore, makes a critical appraisal of the new business model within the framework of European rail reforms.

9.2. Implementation Plan of the New Organisation Model

The implementation of the proposed new Organization model is related to the basic organizational structure and is therefore connected to the Organization's global philosophy and Organization culture, the administrative systems and methods, the procedures and behaviours. Therefore the realization of this reorganization constitutes a major change that will have important consequences. This means that its success depends not only on the model itself but also on the development of the proficient environment, on the adequate preparation of the staff and on the methodology followed.

The definition of these conditions and of the essential elements in the planning of the implementation of the organizational change is a necessary and critical factor for the success of the proposed new Organization model.

9.2.1. Essential conditions for the success of the organizational change of OSE

The most essential condition of success is the determination, continuous involvement and commitment of the Top Management for the realization of the change.

A general precondition for the success of an organizational change is the global or integrated approach to it. In particular, the change of the basic organizational structure of OSE cannot be successfully realized without simultaneous adaptation:

- of the systems (microstructures, administration, management and operation systems, methods and procedures)
- of the skills of manpower and in particular of the members of the staff
- of the organisational culture - mentality of the people working for OSE.

9.2.2. Development of Structures / systems adaptation

The implementation of the new Organization model requires the development and adaptation of a series of systems. These require a special planning and implementation study. The most important systems are:

Development of the new Organization model

This study deals with matters of crucial strategic importance for the Organization of OSE Holding and their implementation requires the detailed analysis and planning of the microstructures of each Organization unit. In particular the implementation study of the new Organization model must include:

- the internal structure of each business and central unit included in the new Organisation model
- the detailed description of the mission, functions and activities of each organisational subdivision into which each business unit will be divided

- the detailed definition of the levels of decisions each particular unit will take
- the detailed job description and specification of jobs with administrative responsibility (qualifications necessary for each job)
- the clear definition of responsibility - accountability and power for each specific job
- the detailed determination and planning of the mechanisms for the integration and co-ordination of units, such as:
    * procedures
    * communications
    * interdepartmental teams or committees
    * action plans
    * internal agreements and internal invoicing system

Planning and control system

The main elements of the new organisational and management philosophy of OSE are the setting of targets, the responsibility and control of the achievement of the expected results, the evaluation and rewarding based on results. It should be mentioned here that the achievement of the targets of business units requires the proper and continuous follow-up and analysis of the market. Accordingly, it is obvious that the proposed new Organisation model requires a developed planning and control function. It is therefore necessary to study and plan in detail the following systems:

a. *Five-year business planning system* that will include the policies, procedures, methods, techniques and responsibilities of the long-term strategic planning of OSE for the particular five-year period.
b. *Annual action planning system* that will include the procedures, methods, techniques and responsibilities for the formulation of annual targets, action plans and budgets for each organisational unit and for the Organisation as a whole. Another element of the system will be the manner of control and the responsibility of following up the realisation of the annual plans, through special techniques and procedures, and the possibility of corrective interventions whenever they are considered necessary.

Development of financial administration and management systems

The new organisational and management philosophy of OSE and the planning and control systems mentioned above require support by suitable financial administration and management systems, such as:

- general and management accounting system adapted to the new organisation structure and requirements of the business plan
- services costing and pricing system
- system of internal auditing
- cash flow management system
- warehouses management system (materials, spares, fuel etc.)
- budget and budgetary control system
- cash flow planning system
- supplies system

Development of Information Systems

Information Technology (IT) has an important role in the modernization of organizations.

In order to support the new structure and operation of OSE with the widest possible exploitation of Informatics applications, apart from the installation of modern Information Systems, it is necessary:

a. To formulate an Information Technology Strategy that will cover:
   - The definition of the requirements of all the organisational units of OSE
   - The definition of the required information systems based on which the above-mentioned requirements will be met
   - The definition of the technological architecture and infrastructure of the Informatics System (Hardware, System Software, Development Tools, Telecommunications)

b. Restructuring of Informatics activities that will include:
   - Hierarchical positioning
   - Definition of the role of users
   - Definition of procedures for decision-making on the realisation and followup of different projects

- Co-ordination of information systems
- Quality Control System
- Security Systems

Development of Human Resources Management Systems

The way Human Resources are currently managed is completely inappropriate for the adaptation of such big changes in OSE. Both the strategies and the new organisational and administrative philosophy of the Organisation require adaptation of the Human Resources Management Systems to modern standards. The necessary organisational climate and culture required by the organisational changes described below, are determined to a significant extent by these systems. In particular, it is absolutely necessary to adapt or develop from the beginning at least the following systems:

a. System of human resources planning

This system will include:

- a new framework of specialisations and grades adapted to the actual situation
- procedures and methods of forecasting of the requirements in manpower by speciality and hierarchical level, by unit and for the Organisation as a whole,
- the methods and procedures for forecasting the requirements in number of jobs and promotions
- the career paths of the staff

Naturally, this system and the others that follow, presuppose that a decision will be made for the preparation of new regulations, grading system, payroll etc.

b. Personnel evaluation system

This system must include:

- methods and procedures of evaluation based on results
- procedures for connecting evaluation to training, remuneration and movement (promotion, transfer) of the personnel.

The new evaluation system must:

- be objective
- be developmental
- detect the training needs of the personnel
- facilitate the exercise of administration from superiors to subordinates
- ensure good relations between subordinates and superiors
- motivate the persons evaluated towards development and better performance.

c. Rewards and incentives system

The operation of the new Organization model of OSE and the realization of its strategic objectives in general require the mobilization of the man power and the attraction of new skilled staff. This also requires a modern rewards and incentives system. The study and design of such a system must include:

- job evaluation
- scaling of pay based on the value of jobs
- connection of remuneration evaluation with performance
- application of financial incentives (premiums, bonuses) based on the achievement of targets or results.

d. Hiring system

Since the new organisational framework provides for the administrative autonomy of OSE Holding, it is obvious that personnel will be hired under the organisation's responsibility. Therefore, the Organisation needs an effective hiring system.

Such a system must include:

- methods and procedures of determination of the qualifications and personality features required for each particular vacant place
- methods and procedures for the attraction of candidates
- procedures, methods and tools for the evaluation of candidates
- methods and procedures of introduction of newcomers into the Organisation.

e. Internal communication system

The creation of the proper Organisation climate and the understanding of the organisation's strategies and policies by the personnel, require an internal communication system. The study and design of such a system must include:

- the communication strategy and policies
- the communication means (e.g. journals, special meetings, information by electronic means etc.)
- the procedures and methods of internal communication.

9.2.3. Skills

The new Organisation scheme of OSE involves new roles, responsibilities and functions, that require new knowledge and skills from the personnel and especially from the management personnel.

As regards in particular the operation of business units, their heads must have:

- business spirit and experiences
- leader skills
- knowledge and skills in business administration (business planning, marketing and sales, human resource management, financial administration etc.).

However, beyond all this, the new Organisation framework introduces or places emphasis upon roles, systems and functions that require specialised knowledge and ,skills that are limited today in the Organisation.

The main fields of such skills are:

- strategic design and planning
- marketing
- sales
- management of human resources
- communication - Public Relations
- quality management - customer service
- financial administration and management

and special issues such as:

- international transport

- combined transport
- exploitation of property etc.

The above mentioned knowledge and skills may be acquired in two ways:

1. by the selection of a team of staff members that will go through a special long-term training (6-10 months), in Greece and abroad, and mainly through practical training in European railways,
2. by hiring a number of adequate qualified staff from the free market.

The detailed determination of the organisation's requirements in new skills and of the ways of acquisition of such skills will require a special study that may be combined with the study for the development of the organisational structure.

9.2.4. Organisation culture and climate

The effective implementation of the new Organisation model of OSE requires a suitable Organisation culture (mentality). The new Organisation model and the systems it involves will certainly have a significant impact on the Organisation's culture. However, there is the risk of the existing culture creating problems in the realisation of the proposed organisational changes or even preventing them. Therefore it is necessary, within the framework of the implementation of the new Organisation model, to take specific action for adapting the new Organisation culture. The main lines of such an adaptation are related to common values and beliefs of the people in the Organisation with regard to the following:

- the survival of OSE depends on its competitiveness in the market
- the quality of services, their price and the service of customers are essential variables for the competitiveness of OSE and consequently for its development and survival
- any reward (financial, professional) given to the employees of OSE must be proportionate to their contribution in the achievement of the organisation's aims
- the responsibility of each employee is not only his/her consistency with the observance of working hours and regulations, but essentially with the achievement of measurable results

- OSE must always be at the peak of technologies and methods of Organisation and administration of modern businesses
- the undertaking of initiatives, the entrepreneurial spirit and innovativeness constitute important criteria for the evaluation of staff.

In order to develop the above-mentioned elements of the new organisational culture, the following action must be taken immediately, along with the adaptation of the systems and structures:

a. organising a campaign aiming at channelling into the internal environment of OSE the strategic redefinition and the attempted changes
b. communicating orally and written by the management to all employees, in the most appropriate (persuading) way:
   - the vision statement
   - the mission statement
   - the values statement
c. systematic information-training of the personnel on the new strategies and the attempted organisational changes
d. formulation of slogans and taking place of symbolic acts by the management and of special ceremonies.

9.3. Realisation Strategy for the New Organisation Structure

9.3.1. Basic issues

The effective realisation of the new Organisation model of OSE Holding requires a specific organisational change strategy. Such a strategy must ensure:

- the conditions for the realisation of the new Organisation model that have already been mentioned
- the diagnosis of resistance to changes and the methods for their treatment
- the support of power centres
- the definition of the entities that will realise the changes

- the determination of the stages of transition from the existing to the new Organisation model, definition and planning of actions or activities necessary for the realisation of changes
- the follow-up and evaluation of the course of changes

9.3.2. Resistance to changes

Whenever drastic changes occur in the operation of a company, aims and objectives of the company change, job definitions change and administrative organization change.

Administrators, are going about their own job, as it involves the introduction of change. However, they have to deal with staff people in much the same way they want them to deal with the operators. But what is important, is the way the administrators conceive of their jobs in coordinating the different staff in line groups involved in the change.

The role of the staff is essential for the realization of the change and its contribution is fundamental. Real contribution is based on respect, and respect is not acquired by just trying, it is acquired when supervisors are facing the reality that they need the contributions of the operating people.[1]

Supervisors should also define their jobs as not just generating ideas but also getting those ideas into practical operation, recognizing their real dependence on the contributions of the operating people, asking them for ideas and suggestions in order to avoid unnecessary mistakes, in other words treating staff in such a way that their own behaviour will not be perceived as a threat to their customary work relationships.

The most popular solution to the resistance to change is to get the people involved in making the change, but prior to that is to understand what the true nature of the change is.

Practically, we can see two aspects of change:

- Technical change: The technical aspect of the change is the making of a measurable modification in the physical routines of the job.

[1] "How to deal with resistance to change" by Paul R.Lawrence, Harvard Business Review Classic, January-February 1969, Coryright 2001, p:174

- Social change: The social aspect of the change refers to the way those affected by it think it will alter their established relationships in the organization

Workers do not resist the technical change as such but rather the accompanying change in their human relationships.

What is needed is a real understanding in depth and detail of the specific social arrangements that will be sustained or threatened by the change or by the way in which it is introduced.

But most of management in industry do not have the intimate contact with operating groups that allows them to acquire an intuitive understanding of the complex social arrangements which their ideas may affect.

The social aspect is what determines the presence or absence of resistance. Without a network of established social relationships a company would be populated with a collection of people who had no idea of how to work with one another in an organized fashion.

When resistance appears, it is time for careful exploitation of the difficulty and careful listening to find out what the trouble is.

Usually, when employees resist is not technical change, but social change. It is the change in their human relationships that generally accompanies technical change. Management can make concrete steps to deal constructively with the staff attitudes and top executives can make their efforts mere effective at meetings of staff and operating groups where change is being discussed.

There have been identified six common causes of resistance to change:

- people believe that their needs are already being met. They have no incentive or motivation to change because they are content with the way things are now.
- people believe the change will make it harder for them to meet their needs. They see the change as a threat, instead of a potential advantage.
- people believe that the risk of change outweigh the benefits fear of change and try to defend themselves against it.

- people believe it is unnecessary to avoid or escape a harmful situation
- people believe that the organization is mishandling the change process. They can resist not only change itself, but also the method used to bring it out.
- people believe that the change will fail. They tend to resist change if they lack confidence in its effectiveness or in the availability of the necessary resources for a successful implementation.[2]

In order to overcome resistance, people believes should be challenged and discussed, so that their feelings are acknowledged and then, change is related to their values.

Subsequently, management should tailor an approach for each one of the causes of resistance:

- "needs are already being met": indicate how the change will allow them to meet their needs better and discover if they are holding back due to fear of losing something.
- "the change will make it harder for them to meet their needs": determine if their beliefs are based on accurate information and provide additional information to correct mistaken or inaccurate beliefs, show them the benefits of the change by asking them what positive results they think can come out of it, ask for alternatives to the change that might be more effective.
- "the risk of change outweigh the benefits": discuss the risks they see, determine whether the perceived risks are based on accurate information and provide additional information as needed to correct inaccurate or mistaken beliefs.
- "change is unnecessary to avoid harm": provide facts about the current condition of the organization and its competition, explain how the change will help organization to survive and grow, listen carefully and be sure to ask for their support in making the change work.

[2] "Training 101" – Scalling the wall of resistance – by Kenneth E.Hultman, "Training & Development", October 1995, p:15,16

- "the organization is mishandling the change process": strong belief that management mishandled the change process, people should be asked for and listen to their concerns, apologize for mistakes, or the issue will never go away, if needed provide additional information.
- "the change will fail": provide additional information to correct the misperception, offer more viable interpretations of the facts and ask for suggestions and help to implement suggestions. [3]

The resistance to the organisational changes that will be attempted by OSE Holding, will probably be both technical and social and will be mainly due to:

- fear, to the uncertainty caused by the new Organisation model to staff
  and employees
- the different views and concepts as to the strategic redefinition and the new organisational model of OSE
- the sense of loss of power or devaluation of persons, groups or organisational units
- possible impact on individual or group interests.

In order to face this possible resistance OSE Holding must:

- fully inform employees through labour unions and through the hierarchy and also through a special information campaign with the participation of the Top Management
- train and create change agents in crucial sectors for facilitating discussions, provision of information and adoptation of staff proposals
- seek participation and involvement of those concerned in the planning and realisation of changes in their field
- negotiate wherever necessary

[3] "Training 101" – Scalling the wall of resistance – by Kenneth E.Hultman, "Training & Development", October 1995, p:17,18

Nevertheless, workers resist change, while managers foster and implement change. So, more managerial effort should be applied, in person and through impersonal systems, to bridge the gap in understanding, and the resistance to organization and administration changes can be overcome by getting the people actively involved in the change, to participate in making it.

9.3.3. Support of power centres

The large scale changes that will be attempted by OSE require not only tolerance but active support of power centres.

Such centres are:

- the Government,
- the Labour Unions,
- the Management Staff of the Organisation,
- the Media,
- the European Union &
- the political parties.

In designing the proposed model, was also taken into account the social and political sensitivity on such issues, of all power centers, trying to satisfy their will, in order to insure the needed support for the effective adaptation of the new system.

So, government and E.U. will be satisfied since the model satisfies E.U. demands and Unions will be condescending since railways and employees surviveness are among the top priorities of the new organization. By insuring the Unions commitment is also assured the positive position of the political parties. The top management of the organization, having the authority and the power to manage and control the system, also to push forward changes whenever needed, are definitely going to support the reorganization process.

Finally, the media will support this effort, since all power centers want to see Hellenic Railways reorganized and effective.

9.3.4. Creation of change agents

The realisation of the organisational changes planned by OSE requires active support by staff who believe in it and have the knowledge, experience and credibility necessary in order to support it at all the levels of the Organisation. Besides, the coordination and follow-up of changes requires specific responsibility and roles. For these reasons OSE must create specific change gents.

Such change agents may be:

a. The central co-ordinating committee consisted of top and specialised staff being responsible for the global planning, co-ordination and follow-up of the realisation of changes. The Chairman of the Committee should be the Managing Director of OSE.

b. The project teams consisted of staff that, due to their place or due to their specialisation, can contribute to the realisation of organisational changes. All Organisation units concerned must be represented in these teams. The mission of the teams is to facilitate and support the realisation of the individual Projects. These teams should report to the Managing Director. The heads and the members of these Teams should be also appointed by the Managing Director of OSE.

The members of these teams must go through a special training on managing organisational changes.

9.4. Transition Stages

As redards the implementation of the new organisational model of OSE Holding, the stages that should be followed are:

STAGE 1. CREATION OF GENERAL DIRECTORATES

In the first stage of implementation of the new organisational model the proposed General Directorates are created

STAGE 2. CREATION OF MANAGEMENT BODIES

In the second stage the new management bodies are created with the possible composition, at the creation time.

STAGE 3 - CREATION OF DIRECTORATES OF THE CENTRAL DIRECTORATES

In this stage the proposed new Directorates and Services of the Central Directorates are created.

STAGE 4 - CREATION OF BUSINESS UNITS

In the fourth stage the business units are created in their initial form, i.e. some of their functions may be placed at General Directorate level and not at the level of each separate business unit.

Such functions may be marketing, the management of human resources, financial administration and informatics support.

STAGE 5 - INTEGRATION OF BUSINESS UNITS

In this stage the business units acquire their final form by incorporating all the necessary functions and means.

9.4.1. Planning of actions for the realization of the new Organization model

According to what has been mentioned above, the actions for the realization of the new organizational model of OSE Holding could be classified into four categories:

a. Design and planning actions. These include the assignment and realization of the implementation plans that have already been described such as:
   - detailed design of the planning and control system
   - detailed design for the development of financial administration and management systems
   - design of new information systems, covering its expected needs
   - detailed design of a new human resource management plan
   - detailed description of the new organisational culture

b. Actions supporting organizational changes. These actions are mainly related to:

- support of power centres
- promotion of organisational changes and information of personnel and environment
- development and organisation of change agents

c. Application actions. These actions include the decisions, the issue of internal regulations, instructions, manuals etc. necessary for the realization of organizational changes

d. Follow up and corrective actions. These actions concern the follow-up of the realization of organizational changes and the possible necessary corrective interventions. Both the hierarchy and the agents of realization of the organizational changes will be responsible for these actions. The latter will prepare periodic reports on the course of organizational changes.

9.5. Concluding Remarks

9.5.1. General comments

The necessity to adapt the organizational structure of OSE to the new data arising from its strategic redefinition and the pressure of the changes to the railway environment has been described in previous chapters.

Here is presented a proposal for the reorganization of OSE in order to comply with the E.U. legislation, to follow the current changes in the European Railway Market, to be competitive and to survive in the very demanding transport environment.

This proposal is detailed and clear with regard to:

- the new organizational strategy of OSE;
- the new organizational structures of OSE;
- the conditions, requirements and essential elements for the realization of the proposed organizational changes;

- the new organizational model proposed for OSE which is based on the philosophy and use of Business Units, that are supported by Central Directorates

The principal strengths of the new organizational model are:

- Orientation to the market and to the customer, since the Business Units correspond to specific sections of the market. In this manner it is possible to systematically follow-up the market, to respond immediately to the market and to formulate effective development and competition strategies

Planning and control based on the results becomes feasible and the relation "authority - responsibility – accountability" becomes clear

- The flexibility of the Organization is reinforced through the Business Units and the decentralization of authority
- The modern function of OSE in sectors as: Marketing – Sales - Quality Assurance - Customer Service –Communication - Management of Human Resources, are reinforced
- The introduction of internal agreements and internal invoicing between the units, that contributes to the effective utilization of resources.

9.5.2. The actual situation of the organizational structure

According to the diagnostic study presented, the basic organizational structure of OSE is traditional and adapted to the social and political character of the Organization. Its main characteristics are:

- lack of vision, long-term strategy, clearly defined targets and effective control, orientation towards production and not towards the market;
- excessive concentration of responsibilities, decision-making and wide administration range at the top;
- lack of critical functions such as marketing, sales, communication, strategy formulation;

- bureaucratic state control on strategic, financial, commercial matters, in supplies, investments and human resources that make OSE entirely dependent on the State;
- poor co-ordination mechanism of the global activity and integration of the targets of the Organization;
- lack of "market" and "profit" culture and low motivation of the personnel;
- insufficient management systems such as management of human resources, business planning, internal audit, MIS etc.;
- lack of internal preparation for the implementation of Community Directives

OSE must respond to the actual environmental pressures (competition, customers' requirements, market structures etc.) with new strategic orientations and aims. However, the existing Organization of OSE cannot respond today to the high requirements of the market and the changes of environment, since its characteristics, as described above, entail:

- inability to formulate and realize development and competition strategies;
- passive mentalities and attitudes that may be characteristic of organizations of exclusively public character, but under no circumstances of companies of the private or public sector that aim at the production of an economically positive and/or socially equitable result;
- lack of orientation and low response to the market and inability to adapt to developments and exploit opportunities created by the changes in the international transport market;
- inflexibility in decision-making;
- low rentability of human, material and financial resources;
- weakening of the faith of the staff and of the Greek society in the need to develop the railways;
- low quality of services;
- negative financial results leading to shrinkage and "marasmus".

9.5.3. The strategic orientation of OSE

OSE has to make its strategic orientation for the future clear. So, it has to become:

An independent Transport company:

- independent and responsible (especially from the financial point of view)
- closely involved in the definition of its new role, with clear obligations and with the capabilities to fulfil these obligations
- with its own identity, that will comply to the regulations governing safety and the environment
- economically sound, but belonging fully to the State.

Responsible for:

- the management of infrastructure,
- the rendering of railway services and supplementary services outside the work of the railway that reinforce the business targets, while these two activities will be separate, according to the directive 91/440.

For these two missions, the management of infrastructure and the offer of services, OSE wishes to become:

socially efficient for the services that cannot be profitable in the long term (public service obligation)

commercially profitable for the other services, after the implementation of a plan of investments and other reforms.

These strategic aims of OSE presuppose its administrative autonomy in relation to the state, its orientation to the market, the efficient use of available resources and the improvement of its competitiveness at a national and international level.

According to the above, OSE has to stop being a deficient Public Company and to be converted into a financially sound and competitive company that will be the property of the state, but will operate based on private economy criteria

and will serve its social role with a cost and effectiveness that will justify its financial support by society as a whole. In order to achieve this it must:

- ensure its administrative autonomy from the State through the reform of the relevant legislation;
- realise its administrative and organizational modernization in order to ensure efficient use of resources, effective exploitation of business opportunities and adaptation to environmental pressures;
- develop essential business functions such as strategic planning, business planning, marketing, communication, internal audit, management of human resources, use of advanced information systems, continuous and systematic control of the quality of the services offered and of the internal operation of the Organization.

9.5.4. Evaluation criteria for the new organizational model of OSE

Planning and effective realization of strategies

The new organizational model of OSE is adapted to the developmental requirements of its strategy, so as to contribute to the effective realization of the Organization's long-term targets.

And vice versa, the organizational structure and its global operation is facilitating the formulation of the Organization's strategy.

Efficiency

Organizational structures are not an objective in themselves but are a means for the efficient utilization of the available resources. The new organizational model is ensuring the efficient use of the human, material and financial resources of the

Organization, through the use of independent business units and their support of the central directorates.

Flexibility/ Response to the market

The survival of OSE and its effective operation depends among other things on its ability to anticipate the evolution of its environment and on its ability to immediately respond to the pressures (opportunities, threats) of the market. These skills are ensured by its new organizational model, since each

business unit can identify its own needs and can be flexible in responding rapidly to the market demands.

Quality of service to customers and to society as a whole

The competitiveness of the services offered by OSE depends to a considerable extent on the quality of service and the global satisfaction of the customers. The new organizational structure of the Organization is oriented towards the customer and the society as a whole in the sense of offering to them high quality services.

Co-ordination of activities / Integration of objectives

OSE is a single entity from a functional and financial point of view. Therefore its organizational structure, with the introduction of the central directorates, is ensuring the essential co-ordination and integration of the different activities, decisions and functions, so as to fulfil the essential purpose of its existence.

Control

Finally, the new organizational model of OSE is facilitating control and the operation of the (authority - responsibility - accountability)) relationship. This is based on the control of results rather than on behaviour control.

9.5.5. Orientation towards the market

The orientation of OSE towards the market constitutes an important and global change of philosophy, that is a prerequisite for modernization, competitiveness, survival and development. This necessity is imposed by the changes that have occurred in recent years in the market and in the wider environment of the Organization. The new data requiring orientation towards the market are:

- pressures for the efficient operation of public companies and the removal of financial deficits become ever stronger;
- the market of transport services becomes ever more competitive;
- the requirements for quality in services and customer service continuously increase;
- demand becomes more "individualized and diversified" resulting in the existence of distinct market sections with specialized needs and particular structural characteristics;

- demand for new products or services is increasing;
- transport stops being an independent service and tends to form part of a wider service package;
- the developments deriving from the European integration and the imposition of Community rules, create opportunities and threats, uncertainties and complexity in the market;
- the rapid evolution of technology entails new classifications and radical changes in the production and distribution of the products and services.

Within the framework of these new facts the necessity to orient OSE towards the market and the customer is an essential strategic direction. This means that the Organization must ensure as soon as possible:

a. the formulation and implementation of a marketing strategy that will focus on the customer, so that the Organization may:
   - know the needs of the customers;
   - know the actual characteristics of the services offered by OSE and its competitors;
   - adapt its services to the requirements of each sector of the market and estimate whether they are feasible from a financial and technical point of view;
   - define a competitive invoicing policy;
   - formulate and implement a specific plan of promotional actions and a sales plan for each particular section of the market.

b. the development of culture, operation and skill of sales;

c. the upgrading of the quality of services and satisfactory service to customers, and continuous follow-up of their satisfaction;

d. the ability to respond rapidly to the requirements of the market.

The orientation of OSE towards the market and the customers involves specific Organization requirements which are satisfied by the new organizational model. Such essential requirements are:

I. the administrative autonomy of OSE from the state so that decisions will be based on business criteria and flexibility has to be ensured

II. the creation of structures that will ensure the development of commercial functions such as:

- marketing
- sales
- communication
- customers' service

These functions are designed and implemented through specific organizational units.

III. the development of business units that will be capable of effectively exploiting particular markets through competitive services or products, having full responsibility of all principal functions and resources related to them;

IV. the formulation of structures with the minimum possible number of hierarchical levels and decentralization of authority in order to ensure flexibility and speed in the response to the requirements of the market;

V. the development of systems of information, quality assurance and management by objectives, in order to ensure the quality of services and customers' servicing and the efficiency of actions.

9.5.6. Decentralization of power

The new organizational model of OSE ensures sufficient decentralization of decision making so as to achieve:

- speed and correctness in decision making and effective implementation of decisions;
- flexibility, adaptability and immediate response to the pressures of the market;
- specialization and quality of service for each particular section of the market;
- initiative, a search for innovation and the development of new services.

The decisions made in the Organization could be divided into two wide categories:

- strategic decisions
- functional decisions

Strategic decisions are those related to the distribution of resources at Organizational level, their long-term engagement, the competition methods, the course of development, the strategic alliances and the general policies.

Functional decisions refer to the implementation of strategic decisions.

It is obvious that strategic decisions cannot be decentralized. They will remain with the Top Management of OSE that includes the Administration of Business Units. However, the procedure of making these decisions must ensure the widest possible participation of the staff at lower hierarchical levels.

Decisions related to the approval of the basic parameters of the annual and long-term action plans of the different business units must also remain at Top Management Level.

Functional decisions must be decentralized to the lowest possible hierarchical levels.

The realization of the Organization's decentralization certainly requires the formulation of policies, action plans and budgets, for all concerned.

The basic philosophy of the Organization's decentralization must consist of:

- the weakening of the existing bureaucratic controls and reinforcement of the use of a system of result controls;
- the reinforcement of the power and responsibility of professional staff members and in particular of the persons responsible for business units

It is evident that the question of decentralization for OSE is the transfer of essential power and authority from the State to the Organization. There is no possibility of successful operation of the proposed organizational structure or of achievement of the strategic and business targets of OSE without prior approval of the new legislative framework that will ensure the Organization's independence.

9.5.7. Authority – Responsibility - Accountability

The effective operation of the Organization according to its strategic directions requires the operation of the essential organizational relationship between (authority - responsibility- accountability).

This means in practice, that every responsible member of the organization's staff

a) will have specific responsibilities for the realization of specific results,

b) will have the necessary decision-making power and

c) will be controlled and will be accountable as to the achievement of the expected results.

The application of the above-mentioned essential principle presupposes:

I. The existence of organizational units for which it will be possible to define targets, action plans and budgets.

II. The existence of a mechanism of control of results and granting of positive or negative rewards depending on the degree of targets achievement.

The (authority - responsibility - accountability) relationship in OSE must ensure the quality of services, the satisfaction of the customers and the efficient exploitation of each section of the market. This means that there should be correspondence between Organization units and market sections. The people responsible for' these business Units will:

- be responsible for:
  - . the offer of high quality services and their continuous improvement,
  - . the development of new services or products for the needs of the particular market,
  - . the organization's competitiveness in the particular sector of the market,
  - . the economic efficiency of the units,
  - . the operation of the units that have as mission to serve the other organizational units of the Organization, within the budget and the fixed limits.

- have the power to:
  - . acquire and manage necessary resources and administer their units;
- be obliged to account for:
  - . financial results,
  - . the satisfaction of customers,
  - . the development of their units,
  - . their efficient operation within the financial and other limits of their action.

Another dimension of the authority-responsibility-accountability relationship is the clarity that must govern it. This means in practice that for every job, the job from which it derives its power and to which it is accountable, is clear. The specific responsibility and the expected result for every job must also be clear.

9.6. Conclusion

Following the provision of the systematic design of the new organizational model in Chapter 8 and the detailed analysis of the methodology applied for the new Business Units organization of OSE, this chapter has appraised the new organization structure of OSE, according to the basic pillars of the E.U. railway policy.

The new organizational structure is valuable and beneficial to the future aims for development of the Hellenic Railways. First of all because it possesses an integrated approach of operational reorganization system, along with internal reorganization and staff development and secondly because it combines them with a market analysis approach, derived from the internal organization of the Business Units which have the appropriate mechanism for monitoring market changes and demands and transferring them effectively to the decision making bodies.

So, the so much needed flexibility and effectiveness can be insured by the systematic cooperation of B.U.s management and top management.

Also, the existing business plans can effectively be controlled with the adaptation of the dual system of control through the annual action plan system and the business strategic plan basis for every five years, with the support of the appropriate financial and managerial systems (costing, pricing, internal auditing, warehouse management, budgetary control).

The area of human resource management is another very sensitive and definite element for the success of the reorganization, since the previous way of management was completely inappropriate. The existing staff has to be informed about changes and to be motivated to cooperate in the transitional period. Also a clear and fair personnel evaluation system together with an equitable reward and incentives system, will bring staff closer to the OSE aims.

Resistance to change is predictable when such changes occur. So the proposal to develop a strong organizational culture (based on the already existing pride of employees working for OSE) simultaneously with the development of the appropriate organization climate can facilitate the needs of fast adaptation of the human resources demands of the new system. What is important for human resources is to achieve clear lines that perfectly communicate the new mission, value and vision of OSE and how these can contribute to enhanced performance. It is also very important to communicate to employees that they are at the center of changes.

The new vision and mission of OSE will also be supported by the power centers, since their commitment has been assured. Additionally, this process will be supported and coordinated by the creation of change agents, at all levels of the hierarchy, who will monitor the follow up of the change process and will act urgently when deviations are observed (prepare periodic reports). Finally, the planning of actions is of great importance since it sets the schedule of the reorganization. It includes the necessary initiatives that will be taken for the effective application of all four functions of management - interpreted to day-to-day activities, such as the development of management infrastructure of the company, studies for its financial administration and of

course its positioning in the market, by defining the appropriate mix, at any stage of the products offered.

So, by applying this reorganization model, OSE can become an independent transport company and then Government has to respect its own identity, supporting its aims and undertaking its responsibilities derived from Directive 12/2001, 13/2001 & 14/2001 regarding the operation of Infrastructure Managers, Regulatory Bodies, licensing and railway capacity management.

Also the State will retain the ability to subsidize non-profitable services which OSE will continue to operate for social reasons and to sign the respective Public Service obligations contracts. Moreover, with the effective management and control of each railway activity, through the Business Unit's organization, services are very closely monitored. Also the respective markets and effective market policies can be immediately adopted whenever needed. By introducing marketing services in each unit the regular monitoring of the market needs is assured. Also the existence of human resource services at each Business Unit guarantees the close cooperation between Business Units and Management and the proper interpretation of the mission of OSE to employees.

Moreover, the efficiency of the new model is guaranteed by an appropriate planning procedure; by an efficient internal organization through the adaptation of independent Business Units, flexible in responding rapidly to market challenges and customer needs; by an equally flexible managerial mechanism with an independent Administrative Board, General Directors and Heads of Groups of Business Units, responsible for each railway activity – separately, strongly supported and advised by the council of General Directors and the management council aiming to the full coordination of OSE activities, controlling regularly results and budgets and elaborating strategic proposals.

In practice, the proposed reorganization is increasing the attractiveness and the reliability of the Hellenic Railways by combining the development of new works for the improvement of network, rolling stock and schedules with the offer of improved services related to the reorganization plan. By separating the activities, on the one hand each activity can be easily studied and

monitored and needs can be easily identifies and satisfied and on the other hand the different Business Units can be easier coordinated, since everything in their organization and operation is clearly defined.

So, the result delivered to Hellenic Railways and railway users, will mean improvement in travel times, in travel comfort, in customer services and also in increased staff content and willingness to offer more to the company, fundamental elements for an improved economic performance.

For example, by improving the travel times of the axis Athens-Thessaloniki (Traction B.U., Rolling Stock B.U., & New Works B.U.) , and studying the progress of the line (Long Distance Intercity B.U., International Transport B.U. & Full Load Wagons B.U.), developing a particular marketing program for each service offered, by each Business Unit, the performance of passenger and freight services is going to increase considerably by attracting more trade to and from the Balkans and also more passengers from new customer groups (i.e. Businessmen doing one day trip to Thessaloniki with a late evening return to Athens, or a late night trip from Athens to Sofia, with arrival at Sofia in the morning and return next morning in Athens).

This means that all new measures have to be supported by the OSE orientation to the market, firstly by developing a very clear marketing strategy focusing on customers and by identifying current customer needs and foreseeing expected ones and particular characteristics of services offered, and secondly trying to match them and to communicate to the market, with the appropriate promotional actions and sales plans, the changes occurred.

The problem of the centralized management system is cured by decentralizing the decision making process. Decisions are divided in strategic ones for top management, and functional ones for the lower hierarchical levels, achieving the restriction of the past heavy bureaucratic system and the strengthening of the responsibilities of professional staff, achieving clear delegation of authority and flexibility of OSE operations. By these means control is made much easier and effective, communicating at any moment and at any level of the hierarchy, the existence of problem and solutions.

As a concluding comment, it is believed, that the new organizational model possesses all the necessary ingredients for supporting OSE to overcome the

current inefficiency problem of its operation, being also in line with the current European Railway Policy aims, forcing the liberalization of the railway market, but allowing states to use their own models, according to the characteristics of their national markets and their relationship with the international/European railway market.

The Hellenic Railway system is moving cautiously towards liberalization. However it is still overprotected by State. The proposed changes are adopting the European philosophy, are in line with the European tendencies but also they are trying to avoid the disadvantages witnessed in other states which adopted more liberal models. The reforms are promising a new fruitful period for OSE in combination with the realization of the promising investment plan on infrastructure from the E.U. and the State.

Chapter 10

Summary & Conclusion

10.1. Summary of the Organizational Changes

The stagnation of OSE, over the last decades, is commonly accepted. It seems that the reasons for this decline are shortcomings in both railway management and political will. The weak support of the state has continuously exacerbated the problems of OSE, limiting the opportunities for development. Railway management has been moribund, without attempting any initiatives for the improvement of their services and diminishing the cost of their operations.

But currently, operating in a free transport market and in a global economy, railways cannot retain their inefficient operational practice. They have to respond to the challenges of the world economy and to be adapted to the new demands of the transport market.
The particularity of railways being companies offering transport services and simultaneously managing the infrastructure, on the one hand leads to the economic and financial transparency and on the other hand prevents any type of competition with the entrance of new companies offering railway services.

So, the first measure that had to be taken was the separation into the accounts between Infrastructure and Operations, giving a clear view of the expenses of the infrastructure (that has to be state responsibility as it is the case with the majority of the infrastructure) and of the operation.
For many years railways were operating lines and services non profitable increasing losses and deficits which had to be covered by states. But the fair competition policies, attempting to be introduced in the railway activities oblige the railway operations companies to operate as all the other companies

offering transport services, that is to say without any state aid. However, states have the possibility to define the areas/regions where railways have the obligation to offer public services (operating service non-profitable) and the states are going to cover losses. Such services could be for the Hellenic Railways the operation of the Peloponnese network and some isolated lines of Macedonia and Thrace. The new railway organizations demanded by the European rail reforms should lead to effective, customer oriented services, offering high quality with lower costs thus satisfying users.

These new railways can be either the state owned railways that will be transformed, or new railway companies that will enter the market. The previous decades railways did not manage to compete successfully the private car in parallel with the rapid industrial changes, resulting to considerable losses. Moreover their schedules were unreliable with long delays, inflexible and inadaptable to the needs of the users. States and railways are suffering from their accumulated deficits and there is desperate need for their reduction.

The above mentioned facts were the basis for the new European railway policy. Railway policies have to be reoriented from the inflexible organization to a flexible way of management adopting and responding fast to the needs of the users and the market. To eliminate their operational costs and to offer competitive tariffs. The means for the achievement of their goals is the introduction of the fair competition, the elimination of the monopolistic practices, the transparency in the operations and the rationalistic use of state aids as well as the administrative independence of railways. The response of the EU to the above mentioned needs was a number of directives and regulations detailed examined in the previous chapters, introducing mainly a new administrative model based on three pillars:

- The Infrastructure Manager: Any body or company that is responsible for the construction, installation and maintenance of the railway infrastructure, exempting suburban and regional lines. It is operating independently signing contracts with the railway operators (generally

for five years). If the Infrastructure Manager is different from the railway company, can be also responsible for the infrastructure charges. It is proposing the schedules and when there are a lot of applications for the use of a line to characterize it as congested line. It is cooperating with the other infrastructure managers from the other member-states for the use and operation of the international corridors. It is fully separated from the railway company and can also be responsible for the allocation of the capacity of the network and the calculation of the fees. It can have state aid (in contrast to the railway company that it can not). It can be a public authority or a commercial company with the majority of public shares.

- The Railway Company offering railway passenger or freight transport services and owning the traction. It has to have a license according to Directive 13/2001/EC. The authority that is issuing railway companies' licenses in Hellas is the Ministry of Transport (not in practice yet). Licenses issued in one Member-State of the E.U. are valid in all the Member-States, but each country has the right to demand for the Security Certificate. The Regulatory Body solves disputes between Railway Companies and Infrastructure Manager. The Railway Company might have to run public services under certain agreement with the State. The Railway Company when providing passenger and freight transport services has to have at least separate accounts.
- The Regulatory Body is regulating and controlling the operation of the railway system and consequently has to be fully separated from the commercial operations, operating under the supervision of the Ministry of Transport. Its decisions are subject to judicial control. The Regulatory Body is solving conflicts between Bodies responsible for the allocation of capacity and Railway Companies. Moreover it is accepting complaints from any company or body operating in the railway system. It is also guaranteeing the fairness of the infrastructure charges.

The systematic analysis of the current models adapted gives a thorough view of the interrelation of the sub-systems which derived from the fragmentation of the single railway activity. The changes to the organizational structure of the Hellenic Railways are outlined in the organisation of the Hellenic Railway

System in a group of companies, where the existing Hellenic Railways Organization (OSE) is the 'Holding' Company (OSE Holding), with the support of two independent Business Units; the Infrastructure Manager and the Railway Undertaking (divided into two sub-units – one for the provision of railway passenger services and one for the provision of railway freight services). The Regulatory Agency, mainly responsible for the control of the market operation and for the management of disputes, will be founded, operating with the support of one agency mainly responsible for issuing the railway licenses, and another one agency, responsible for setting and charging the railway infrastructure charges - the so called charging body. All agencies will be founded as independent bodies of the Ministry of Transport and Telecommunications.

So, the OSE Holding will be the owner of the railway infrastructure, installations and buildings in Greece.
The Business Unit "Infrastructure Manager" and the Business Unit "Railway Undertaking" will be independent units with different profit and loss accounts and different balance sheets, which might be sum in the Balance Sheet of the OSE Holding.
The Railway Undertaking will be charged fees for the use of the infrastructure and installations by the responsible body/authority, which will be collected by the Infrastructure manager and then will be allocated to the OSE Holding, by the last one.

The Regulatory agency will be responsible for the supervision and control of the proper operation of the system and the safety matters and also will be responsible for the Calculation of infrastructure charges and the allocation of capacity, in cooperation with the Infrastructure Manager.
Regarding the internal organization of OSE, the new organizational structure is based on the concept of business units, ensuring the formulation and implementation of developmental strategies, the orientation towards the market, and planning and controlling based on results.

10.2. Evaluating the Hypothesis

This study had examined the possibility to effectively apply European railway policy in order to achieve gains in the management and operation of Hellenic Railways. Therefore, the basic aim was the optimization of the operation of the Hellenic Railway System, through the development of a new organizational model which will incorporate the Hellenic and the E.U. political will. So, the methodology developed here stated the objectives of this research and the techniques used for meeting them. Primarily employed, were the documentary and the historic insights attained in the diagnostic report and the framework of E.U. rail reform policy. The analysis of the policies followed by Member-States was based on an observation and experimental procedure. Also interviews and questionnaires addressed to railway policy experts and managers were used for extracting general information about railway policies in E.U.

The research approaches used were mostly qualitative. Where quantitative methods were used this involved reference to statistics and data regarding annual performance and operational results of the OSE network. The existing forms of organization were also studied in order to investigate which ones could be applied seamlessly to the Hellenic Railways case. Matrix organization was the closest one since it couples the functional and the product departmentation. It was identified that the four dimension matrix organizational model was more fit to OSE, since it is based on a strategic Business Units management. By the end was presumed that the combination of available methods called "triangulation" was the most preferable one for the needs of this study. In order to make comparative analysis, visits to selected European railway networks were considered necessary and contributed considerably to this research by getting an accurate picture of questions and information having an integrated illustration of the European railways view.

The stages of this research were analytically determined and interrelated in supporting its hypothesis, while the literature review of existing bibliography

and similar research studies supported considerably this work, by offering fundamental knowledge and guidelines both from the methodological point of view, from the transport and the railway industry.
The analysis of the railway industry was initiated with a diagnostic report of the Hellenic Railway System, starting with (1) examination of past information stating the ground of the current situation; (2) assessing the experience gained and leading to a third stage (3) identification of needs for future action. By making clear the strong and the weak points of OSE, the existing problems were distinguished and proposals for solutions were easily recognized.

So, beginning with the analysis of the specific position of Hellas in Europe, and the Hellenic Railways historical evolution, familiarity with OSE and the Hellenic transport market was achieved. Then, follows the analysis of the passenger and freight transport in Hellas and the identification of the competitors in the market; providing a clear view of the market. A deeper insight of OSE by examining the network itself, its technical characteristics, infrastructure, procurement procedure, property and operations, gave the sensation that new works could improve the quality of services offered, but the current investments are limited to particular areas of network, which together with the insufficient co-operation between operational units, will again lead to a poor quality of services offered. However, it was evident that the axis Athens-Thessaloniki is quite competitive and probably this axis together with the renovated Athens – Patras axis, will be the backbone for the future development of the Hellenic Railway Network.

From the analysis of passenger and freight transport was observed that dominant problems are caused from the neighbouring countries (e.g. the political instability in former Yugoslavia) and the isolation of the country (no direct connection with E.U. Member-States), being two very important boundaries to the development of the network. But these boundaries can also turn to advantages if OSE focuses on the development of traffic with neighbouring countries (the Balkans) by providing services specially developed for the Balkan needs, and with the appropriate adoption of the new E.U. policy can develop strategic alliances with maritime and logistic partners

for the development of combined transport with E.U.Member-States through Italy.

Regarding the internal organization of OSE, even if it possesses some strong points such as a quite clear delegation of authority, a control system that at least typically guarantees the operation of the system, but not the effective one since it is very bureaucratic, its weaknesses were clearly identified, particularly where the organization operates without a clear mission, and clearly stated objectives. The relationship with the state is very close resulting to permanent state interventions and restrictions on the strategic management of the company which together with the poor Management Information System (MIS), the lack of marketing policy, and the plethora of functional and regional organizational units, lead to an inefficient operation with high cost and non effective performance. But again, there is a good basis for development. It was made evident that the core staff is well motivated and loyal to the rail industry. This manifests in the willingness to work for improvement, and even if the management of the company is insufficient, there is some also good basis for reorganization, since the company already exists in the market for more than 150 years and the European Environment is very favourable for the development of European Railways.

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So, in order to propose a new organizational model for Hellenic Railways, the new E.U. policy orientation was studied. This detailed study, in Chapter 4, started with the basic targets of E.U., being extremely concentrated on the completion of the internal market, leading to the decision to boost the common transport policy, giving particular emphasis to railways. The harmonization of E.U. networks and infrastructure would accelerate this aim. But then the offered services would have to improve and the huge deficits would have to be eliminated, and only then could be considered the efficient operation of the E.U. railway system. The first attempt for improvement was Directive 91/440/EEC aiming to an accounting separation between railway operation and infrastructure for a more clear allocation of costs, a better organization and a more clear identification of the market needs.

This attempt was later supported by the introduction of Directives 95/18/EEC and 95/19./EEC dealing more with the organization of the efficient use of the infrastructure by laying down useful principles for the implementation of a licensing system for the access to infrastructure and the capacity allocation, safeguarding also railway safety. But again, with these measures there were not considerable results observed. So, in 2001 E.U. proposed 3 new pieces of legislation aiming to a more efficient use of the railway infrastructure and a more competitive presence of railways in the transport market. With Directive 2001/12/EC, appropriate mechanisms have to be established for ensuring that railways have separate profit and loss accounts and balance sheets for operations and infrastructure but also for passenger and freight activities. This attempt again was supported by Directive 2001/13/EC, amending Directive 95/18/EC on the licensing of railway undertakings by introducing new means for safeguarding the more rational operation of the system by introducing designated bodies responsible for issuing licenses and carrying out obligations originated from this Directive.
Directive 2001/14/EC was further assisting this aim by setting Member-States responsible for ensuring the operation of charging system and capacity allocation schemes for railway infrastructure.

With this system, E.U. wants the role of the Infrastructure Manager and Transport Undertakings distinguished. E.U. wants a clear, independent operation between Infrastructure Manager and Transport Undertaking and does not really care about the ownership status of those two activities, that is to say whether they are operating as different entities or under the umbrella of the same entity. If this independence is not guaranteed by means of institutional separation into two separate legal entities which do not belong to the same Holding Company, clear and transparent criteria such as organizational separation and the independence of the management bodies must be ensured. In assessing the independence requirements for essential infrastructure management functions, Infrastructure Managers should be:

- 1. a legally, organizationally and institutionally independent rail infrastructure manager;

- 2. an integrated rail infrastructure manager working along side an independent capacity allocation and charging body; &
- 3. a legal and organizationally independent infrastructure manager which is part of the railway holding structure of any other structure controlled by a railway undertaking.

A fourth variant is where the infrastructure manager is in charge of allocation capacity and a railway undertaking are still integrated. This variant is not compatible with Community legislation. Some Member-States such as Ireland, the UK for Northern Ireland and Greece have derogated in this respect.

As mentioned before, the EU legislation does not explicitly require splitting infrastructure and operations into separate business entities. Emphasizes solely the necessity for separate accounting of infrastructure and operations and then at the 2nd stage between passenger and freight services. Also demands, include the independence of the Infrastructure Manager from any railway undertaking, the non-discriminatory access to the infrastructure for the operators, and the obligation of infrastructure managers to publish network statements with concise information on their networks and its technical characteristics. There were identified two methods for achieving required minimum separation set by the Directives on rail infrastructure unbundling: ownership separation and organizational separation. In the first case the infrastructure manager and the railway operator are autonomous entities with separate ownership, balance sheet and staff. This method was implemented in the U.K. In the case of organizational unbundling, separate business units were created with a large degree of operational freedom either operating as a part of the railway operator (like e.g. in Belgium or Italy) or organized within a holding company framework (e.g. Germany).

The most important advantages of vertical separation, are noticed in increasing transparency, in cost efficiency, in neutrality, in the competition levels and in reliability as well as better possibilities to privatize commercial activities.

Transparency enables the comparison of infrastructure costs across different modes of transport, improves the informational position of the Regulator, enabling him to set tariffs and incentives more appropriately and decreases

the risk of cross-subsidization and the problems of asymmetric information, and allows the determination of true costs of running railway business. In terms of cost efficiency, the separation allows specialization on core activities and a better customization of goods and services offered. The costs of allowing a new operator to use an existing line are far lower than the costs of building its own infrastructure by the operator. Neutrality is achievable only when a non-discriminatory third-party access to networks can be realized, when there is a true separation between the companies operating on the network and those responsible for charging for access to the network infrastructure. If the charging body is an integrated railway company, as they may be able to give preferential treatment to their internal train operations, neutrality can not be safeguarded. Also, by clear and separate responsibilities of infrastructure managers and transport operators is increased the level of competition in rail transport, and by increased independence of network management and financing is ensured that decisions are taken in the best interests of the network, resulting to a more reliable separation system.
Finally, unbundling encourages the privatization of commercial activities, since ownership unbundling separates network and commercial activities paving the way for privatization of commercial parts of the industry. Privatization of the competitive segments of the sector, in turn, generally increases their efficiency.

But from the vertical separation of the railways, derive also certain disadvantages. The negative effects include the existence of transitional costs, the risk of double marginalisation, coordinating problems, as well as the possible negative effects on the quality, safety and reliability of rail services and on the level of competition. Changes in the existing industry structure involve transitional costs of restructuring companies' offices, renegotiating the existing contracts of integrated companies with other parties and introducing changes in personnel and housing. Vertical integration diminishes incentives for double marginalization. Settlement of conflicts may prove to be relatively more complicated in a separation environment. A large number of complex interfaces exist in the railway sector. As decisions often require mutual involvement and have to be taken rapidly, vertical separation

of entities operating infrastructure and train services increases the transaction costs of decision making. In the context of several railway undertakings with separate contractual arrangements with the infrastructure manager, solving problems may involve identifying the contractual terms of operation; this may resulting time delays.

In this system, the quality and safety of rail services depend heavily on close coordination of infrastructure and train operations. Separation and the resulting increased level of competition lead a large number of actors involved in the sector and thus to a large number of interfaces where mistakes may occur. In some cases this separation may also have a negative impact on the level of competition in network industries. Unbundled commercial firms can become less strong financially and, as a consequence, more prone to the risk of mergers and takeovers which may reduce the number of rivals and thus the level of competition. Furthermore, if the scale of operation and market demand are not large enough so as to allow for cost recovery and profitable operations, competition may lead to inefficient entries. In this case, both traditional railways and new entrant will safer from the establishment of a new firm. Such a situation is most likely to occur in regional, suburban and urban services which are usually better served by a single operator under a concession regime or public service obligations. Finally, in some cases, reliability of rail services may be negatively affected by the increased risk of the opportunistic behaviour of actors involved in the sector and by insufficient investments in the infrastructure.

However, Member-States interpreted the aim of E.U. railway policy in different ways, according to the status of their railways and their market needs. So, for having a more integrated view of the new face of E.U. railway system, and for getting closer to the identification of the actual needs of the so much discussed "effectiveness" being the most fundamental element of the hypothesis of this research, the analysis of the E.U, Member-States practices, responding to this E.U. railway policy demands, was considered absolutely necessary. So, the various separation models were evaluated, identifying two broad categories of institutional separation and organizational separation. Well-developed railway networks as France and Sweden, which introduced

two separate entities, the Infrastructure Manager, and the Railway Operator mostly adopted the institutional separation. Another alternative to institutional separation was the case of "more than two different entities" divided into several units or entities as is the Dutch Model, where Infrastructure Manager is divided in three activities and the Railway Operations are divided into four independent subsidiaries. The overview of advantages and disadvantages of the separation models, is of highly qualitative nature mainly based on theoretical reasoning, expert judgements and political aims. As evidence from Member-States is insufficient, it is hard to quantify the extent of the potential benefits and costs arising from the extensive regulatory reforms. Moreover, this kind of changes have strong differing effects across a short – and a long-term time horizon. Aiming in a fully functioning and competitive market, the challenge being faced is about how to get from the current various national situations to a mature European market. It is the task of the policy maker to make the appropriate regulatory provisions and to monitor their implementation at a national level in order to ensure progress is being made towards open and functioning markets.

Hence, up to this point, this study was a synthesis of the E.U. railway organizational picture reflecting the E.U. tendencies and policies. It was evident that the policies adopted by Member-States could be grouped according to their geographical characteristics, their market position, their development and their financial status. Then was identified the need for a further, more focused comparative study to operations and policies of E.U. railway networks being at the same distinct block, as Hellas, Ireland, Portugal, offering more practical information and analysis of the mechanisms used for the efficient adaptation of E.U. railway policy. For example, In Portugal, has been fully adopted the E.U. legislation where REFER and CP operate separately the infrastructure and the railway services respectively, and CP has to compensate REFER for the infrastructure use. Hellenic and Irish railways are responsible for the infrastructure use and maintenance being appointed by the State, the only and one owner of the infrastructure. However, the three networks had the same difficulties in management, generating considerable losses, with high operating costs and states owing

money to them for social services offered. Also, productivity was low, with high personnel numbers, huge needs for investments on the network and capacity problems.

Irish railways have very clear targets and a concrete marketing plan especially for its passenger services, since freight transport operations are quite satisfactory for the moment, mainly because there is a permanent flow of cargo between Ireland and England. The important point of the Irish policy is that passenger transport is broken down into segments, and the company follows a different policy for each segment, as it was a different Business Unit to be managed. Simultaneously the Irish Network is trying hard to improve infrastructure to the extent this improvement contributes to the improvement of the quality of services offered. This is of particular importance for the Hellenic Railways, since if it is organizationally divided to the respective identified markets of customers, can be divided also to respective organizational units and to be organized and managed effectively, responding directly to the market needs. Also, since it is a small network, by maintaining all activities under the same umbrella is achieving easily independence between activities, on the one hand and on the other hand is also easily achieving the strong co-operation between activities centers or business units or departments (no matter how they are called).
The two ingredients, independence and at the same time strong co-operation are guaranteeing the so much needed flexibility. However, in practice this system faced a serious problem due to labour disputes, meaning that is very important when Hellenic Railways decide to adopt their reorganization model, to consolidate in advance all the stakeholders in order to take into account their demands, and to know what shall have to expect after all and to be properly prepared for that.

As mentioned before, the Portuguese Railway Network was fully adopting the E.U. legislation by creating REFER and CP. CP was divided in Business Units since this type of organization offers company independence, flexibility and effective management. Also, by this type of organization, top management can easily identify if there is urgent need for separate action for one of the

Business Units and can react immediately and effectively. Even though both companies started their operation with very ambitious plans, the results of their performance were not the expected ones, due to the wrong handling of the State, since it had not reimbursed yet its financial obligations to the companies. That is to say that again the new Hellenic Railway System has to be organized in such a way that the proper operational system will be guaranteed from both sides, railways and state. Policy needs to be consistent with its obligations both to Infrastructure Manager and to Operations offering public services or adopting social policies demanded from it.

So, these practical alternative approaches, by similar railway networks, for the same aim, "the application of the E.U. policy for the effective operation of their railways" were bringing this study much closer to its target.

The detailed analysis of the E.U. railway environment was fulfilled by the views of the stakeholders on the current situation and on their beliefs and expectations for the future in Chapter 6. Railway decision makers of Ministries of Transport from E.U. Member-States, Railway undertakings, Infrastructure Managers, Labour Unions and Pan-European Institutions were contacted. The face-to-face interviews and the respective questionnaires were designed in order to collect information specific to each stakeholder category and to allow comparison of their responses. All stakeholders agreed on the urgent need of maintaining and increasing the market share of rail transport in Europe and expressed the view that in general the reforms initiated by the first railway package are necessary in order to achieve the aims of the E.U. Railway Policy. Here again was reflected the long-running debate in railway circles between the integrated railway undertaking model and vertical separation; the public funding, especially about the separation of funding for public service contracts and ensuring obligations (PSO funding) from all other forms of funding, as well as the prohibition of cross-subsidy between different rail business.

Stakeholders also emphasized the fact that the process is far from complete and much needs to be done in the future to achieve the objectives set out by the directives of the infrastructure package and the Commission's policy papers.

Thus, before designing the desired model for the effective operation of Hellenic Railways, the contribution of the theoretical study of the managerial theory for railways was extremely valuable, since the alternative theoretical models were studied and the ones which fit mostly to the needs of this study were extracted and matched to the Hellenic Railways' characteristics and needs but also to the E.U. demands.

So, in Chapter 7 the specific characteristics of the transport product/service were identified and also the particular characteristics of the railway service, matched to the transport objectives and railways (as a transport means) advantages and disadvantages leading to the analysis of the types of organization (classical – behavioural – systems) for identifying that a combination of the three is the most appropriate for Hellenic Railways new model. Then, the thorough study of each one of the basic functions of management was also of great importance since the study of the planning process offered the necessary guidelines for the formulation of new objectives and strategies of Hellenic Railways as well as the way that these strategies will be adopted by the railway decision makers and will then be transferred to daily operations through the development of the proper organizational process which again demands through knowledge of the organizational principles, since a whole reorganization process is discussed. Then staffing and leading principles had to be studied when considering for changing the organizational model of almost 9000 employees, and finally the control function which is so much needed not only for measuring the current performance of Hellenic Railways but also for measuring and correcting all those changes that are going to be adopted and have to be well tested, flexible in needed alterations and easily identifiable deviations for accomplishing the target of "effectiveness". But when discussing effectiveness of transport business operations, it is important to note that in transport industry, transport companies often might change their operation if the marketing research indicates that something different is needed. So, at this point of the research was important to study the role and contribution of marketing in transport in order to provide the right short of transport services to the new model of Hellenic Railways.

So, finally, after considering, examining, analyzing, testing and extracting all valuable information that theory and practice can provide, in Chapters 8 and 9 was derived the new organizational model of Hellenic Railway System. Initially, in Chapter 8 the new strategic plan for Hellenic Railways is designed by underlying the urgent need for independence, autonomy, strong identity, financial health and clear relations with the state.

The separation between Infrastructure Managers and Railway Operations is going to be managed by two new companies under the umbrella of one, the "Holding OSE" and by creating Business Units having separate budgets, being responsible for different railway activities and monitoring market needs. The possible future markets are identified both for passenger and freight traffic and actions are planned for entering into them.

The new organizational model was drawn up, reflecting all knowledge gathered from previous chapters. Infrastructure Management becomes an independent unit and Railway Undertaking another independent unit (divided into two sub-units, Passenger Services and Freight Services). Under the umbrella of the Holding Company will also be the existing and the future subsidiaries of OSE. The demanded "Regulatory Agency" responsible for licensing and resolving disputes, supervising and controlling the proper operation of the system, will be independent within the competencies of the Ministry of Transport & Telecommunications and a "Charging Body" for setting and charging the railway infrastructure charges will also be operating as an independent body of the Ministry of Transport & Telecommunications or can operate as an independent service of the Regulatory Agency.
Then the subsystems of the system are clearly defined in order to allocate properly services and activities to the Infrastructure Manager and to the Railway Undertaking.

In order to deliver the spirit of the EU Rail Directives the new organizational model for Hellenic Railways is formed with 6 General Directorates and 16 Business Units, which are detailed, presented. After that, the hierarchical

levels are stated by determining their responsibilities, having on top the Administrative Board for the policy of the "OSE Holding", the managing Director for the operation of OSE and the advisory bodies, as the Council of General Directors and the Management Council which will assure the proper and effective operation of the system. Issues as motivation of manpower, improvement of productivity, development of the internal communication system are some of the essential means for the achievement of the model. This can be achieved by: developing the new planning and control system based on a five-year business planning system and an annual action planning system together with the development of adequate financial administration and management system being supported by the right information technology system.

Human resources management will also require a new plan with a new personnel evaluation rewarding system, by also hiring competencies not available at the moment, but necessary for realizing future plans and also developing an effective internal communication system together with the development of the appropriate organization culture being easily recognizable by the internal and the external environment trying also to outrun as smooth as possible the resistance to change problems. The positive handling of restructuring from labour unions, political parties and general stakeholders is in favour of the effectiveness of the new model. Also, the clear definition of the transition stages and the creation of change agents are further guaranteeing the success of the implementation of the model. Finally, by setting the evaluation criteria of the new organization model of OSE, is established a mechanism of continuos evaluation of results and fast responsiveness to problems, deviations of targets, changes in market needs, and needs for regulatory changes that might be demanded by the E.U. or the government at a next stage of the European Railway Policy.

10.3. Ending remarks

Rail market in Europe is undergoing a process of fundamental reform, directed initially by some Member-States, but later by European Legislation. Reforms have largely concerned reorganizing the rail sector in order to allow for competition. Transforming theory to practice, two standard models have emerged: "integrated" and "separated", striking how different railways are organized across Europe.

The responsibilities and incentives facing infrastructure managers, railway undertakings, regulators and Ministries remain widely different across Member-States.

The fully separate case forbids Infrastructure Managers from providing services directly and contracts with individual Railway Undertaking Operators separately. The "integrated company" case refers to a railway undertaking and infrastructure manager as legally separate entities working together within a common holding structure. Other Railway Undertakings can enter into the market, competing, with standard contracts with the Infrastructure Manager of the integrated company, but on a non-discriminatory access basis, coordinated and supervised by a regulatory body and/or a competition authority. It is argued that a single management structure at a company or holding level gives a strong degree of coordination between Infrastructure Manager and Railway Operators that any type of contracts can provide and ensures the long term development of the rail system as a whole. It is also cost saving and less bureaucratic (e.g. Germany, Italy, Switzerland).

A model that can be considered as lying between the two extremes is the organizational model developed in France. At the operational level, the railway system remains integrated. The railway operator remains the network, as well as managing and operating the network traffic. The maintenance and management functions are performed, however, under contract from an entirely separate Infrastructure Manager, which is the owner of the infrastructure and responsible for the development of the network.

The move to liberalize the railway market aims to the improvement of the ability of railway companies to respond to changing market demands. The general trend is to give management greater entrepreneurial freedom. In

many cases a first step was taken to reorganize a state-owned company around "Business Units".

Hellenic Railways have the opportunity with this B.U. organization to focus on the particular needs for improvement and development of each one of its business units, achieving, for the passenger transport, increased capacity and well organized schedules. Also, through the thorough market research on all the customer groups and the potential target groups, with the publication and delivery of promotional material informing users about the reorganization of the railways, are putting users on the top of their priorities, and are increasing awareness on what to expect from them. As far as international transport, all new works will lead to an increased demand for international transport, which has to be accompanied by special policies for special target groups (e.g. youth summer travelers, groups, families) who will be attracted for international travel supported also by the establishment of new connections with European countries and taking advantage of the dominant position of Hellas, in the Balkan Peninsula.

The situation for freight transport tends to be even more beneficial, since there is more room for development and railways are more cost effective for long distance travels, meaning more competitive as well. Hellas is starting to export iron products to Bulgaria and aluminum to Hungary and also a lot of containers to Germany, Also, there is particular interest for importing sugar from Serbia, corn from Russia, etc, underlining once more, its beneficial position in the region. By focusing on the particular needs of this transport, can negotiate the development of long term agreements with the railway networks and companies of the region, achieving long term contracts for the operation of block trains. So, the predictability of performance is getting higher, railways can better plan and cover their running costs and consequently can be ensured its future development. Also the geographical position of Hellas is very beneficial for the development of combined transportation with shipping through the main Hellenic ports, towards northern Mediterranean countries, etc. The business units organization and the planned change management, will allow Hellenic Railways to pass smoothly from an isolated period of its live to a very social and busy one, promoting OSE to a competitive position in the Hellenic and Balkan Transport Market.

Concluding, it seems that the reorganization of the railway system in Europe has changed matters and some improvements have been noted, also mistakes have been made along way, and further improvements can be made.

The interdependency of the railway system as a whole remains an important aspect.

Nevertheless, reforms bringing benefits or difficulties, form an important step towards rebalancing the transport modes in Europe.

Hellenic Railways are called to survive in this competitive environment, both in the railway market and in the transport market.

The proposed model is possessing all the required competitive ingredients for supporting Hellenic Railways in meeting, with confidence, current and future needs of the market, being on line with E.U. railway policy demands.

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Appendix 1

Treaty of Rome

Part two

Foundation of the Community

Title IV

Transport

Article 74

The objectives of this Treaty shall, in matters governed by this Title, be pursued of Member-States within the framework of a common transport policy.

Article 75

1. For the purpose of implementing Article 74, and taking into account the distinctive features of transport, the Council shall, acting unanimously until the end of the second stage and by a qualified majority thereafter, lay down, on a proposal from the Commission and after consulting the Economic and Social Committee and the European Parliament:
    (a) common rules applicable to international transport to or from the territory of a Member-State or passing across the territory of one or more Member-States;
    (b) the conditions under which non-resident carriers may operate transport services within a Member-State;
    (c) any other appropriate provisions
2. The provisions referred to in (a) and (b) of paragraph 1 shall be laid down during the transitional period.
3. By way of derogation from the procedure provided for in paragraph 1, where the application of provisions concerning the principles of the regulatory system for transport would be liable to have a serious effect on the standard of leaving and on employment in certain areas and on the operation of transport facilities, they shall be laid down by the Council acting unanimously. In so doing, the Council shall take into

account the need for adaptation to the economic development which will result from establishing the common market.

Article 76

Until the provisions referred to in Article 75 (1) HAVE BEEN LAID DOWN, NO member-state may, without the unanimous approval of the Council, make the various provisions governing the subject when this Treaty enters into force less favourable in their direct or indirect effect on carriers of other Member-States as compared with carries who are nationals of that State.

Article 77

Aids shall be compatible with this Treaty if they meet the needs of coordination of transport or if they present reimbursement for the discharge of certain obligations inherent in the concept of a public service.

Article 78

Any measures taken within the framework of this Treaty in respect of transport rates and conditions shall take account of the economic circumstances of carriers.

Article 79

1. in the case of transport within the Community, discrimination which takes the form of carriers charging different rates and imposing different conditions for the carriage of the same goods over the same transport links on grounds of the country of origin or of destination of the goods in question, shall be abolished, at the latest, before the end of the second stage.
2. Paragraph 1 shall not prevent the Council from adopting other measures in pursuance of Article 75(1).
3. within two years of the entry into force of this Treaty, the Council shall, acting by a qualified majority on a proposal from the Commission and after consulting the Economic and social Committee, lay down rules for implementing the provisions of paragraph 1.

The Council may in particular lay down the provisions needed to enable the institutions of the Community to secure compliance with the rule laid down in paragraph 1 and to ensure that users benefit from it to the full.

4. The Commission shall, acting on its own initiative or on application by a member-State, investigate any cases of discrimination falling within paragraph 1 and, after consulting any member-State concerned, shall take the necessary decisions within the framework of the rules laid down in accordance with the provisions of paragraph 3.

Article 80

1. The imposition by a Member-state, in respect of transport operations carried out within the Community, of rates and conditions involving any element of support or protection in the interest of one or more particular undertakings or industries shall be prohibited as from the beginning of the second stage, unless authorized by the Commission.
2. The Commission shall, acting on its own initiative or on application by a member-state, examine the rates and conditions referred to in paragraph 1, taking account in particular of the requirements of an appropriate regional economic policy, the needs of underdeveloped areas and the problems of areas seriously affected by political circumstances on the one hand, and of the effects of such rates and conditions on competition between the different modes of transport on the other.

After consulting each Member-State concerned, the Commission shall take the necessary decisions.

3. The prohibition provided for in paragraph 1 shall not apply to tariffs fixed to meet competition.

Article 81

Charges or dues in respect of the crossing of frontiers which are charged by a carrier in addition to the transport rates shall not exceed a reasonable level after taking the costs actually incurred thereby into account.

Member-States shall endeavour to reduce these costs progressively.

The Commission may take recommendations to Member-States for the application of the Article.

Article 82

The provisions of this Treaty shall not form an obstacle to the application of measures taken in the Federal Republic of Germany to the extent that such measures are required in order to compensate for the economic

disadvantages caused by the division of Germany to the economy of certain areas of the Federal Republic affected by that division.

Article 83

An Advisory Committee consisting of experts designated by the Governments of Member-States shall be attached to the Commission. The Commission, whenever it considers it desirable, shall consult the Committee on transport matters without prejudice to the power of the transport section of the Economic and Social Committee.

Article 84

1. The provisions of this Title shall apply to transport by rail, road and inland waterways.
2. The Council may, acting by a qualified majority, decide whether, to what extent and by what procedure appropriate provisions may be laid down for sea and air transport.
3. The procedural provisions of Article 75(1) and (3) shall apply.

Appendix 2

31991L0440

Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways

Official Journal L 237 , 24/08/1991 P. 0025 - 0028
Finnish special edition: Chapter 7 Volume 4 P. 0045
Swedish special edition: Chapter 7 Volume 4 P. 0045

COUNCIL DIRECTIVE of 29 July 1991 on the development of the Community's railways (91/440/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the Europaen Economic Community, and in particular Article 75 thereof,

Having regard to the proposal from the Commission(1),

Having regard to the opinion of the European Parliament(2),

Having regard to the opinion of the Economic and Social Committee(3),

Whereas greater integration of the Community transport sector is an essential element of the internal market, and whereas the railways are a vital part of the Community transport sector;

Whereas the efficiency of the railway system should be improved, in order to integrate it into a competitive market, whilst taking account of the special features of the railways;

Whereas, in order to render railway transport efficient and competitive as compared with other modes of transport, Member States must guarantee that railway undertakings are afforded a status of independent operators behaving in a commercial manner and adapting to market needs;

Whereas the future development and efficient operation of the railway system may be made easier if a distinction is made between the provision of transport services and the operation of infrastructure; whereas given this situation, it is necessary for these two activities to be separately managed and have separate accounts;

Whereas, in order to boost competition in railway service management in terms of improved comfort and the services provided to users, it is appropriate for Member States to retain general responsibility for the development of the appropriate railway infrastructure;

Whereas, in the absence of common rules on allocation of infrastructure costs, Member States shall, after consulting the infrastructure management, lay down rules providing for the payment by railway undertakings and their groupings for the use of railway infrastructure; whereas such payments must comply with the principle of non-discrimination between railway undertakings;

Whereas Member States should ensure in particular that existing publically owned or controlled railway transport undertakings are given a sound financial structure, whilst taking care that any financial rearrangement as may be necessary shall be made in accordance with the relevant rules laid down in the Treaty;

Whereas, in order to facilitate transport between Member States, railway undertakings should be free to form groupings with railway undertakings established in other Member States;

Whereas, such international groupings should be granted rights of access and transit in the Member States of establishment of their constituent undertakings, as well as transit rights in other Member States as required for the international service concerned;

Whereas, with a view to encouraging combined transport, it is appropriate that access to the railway infrastructure of the other Member States should be granted to railway undertakings engaged in the international combined transport of goods;

Whereas it is necessary to establish an advisory committee to monitor and assist the

Commission with the implementation of this Directive;

Whereas, as a result, Council Directive 75/327/EEC of 20 May 1975 on the improvement of the situation of railway undertakings and the harmonization of rules governing financial relations between such undertakings and States(4) should be repealed,

HAS ADOPTED THIS DIRECTIVE:

SECTION I Objective and scope

Article 1

The aim of this Directive is to facilitate the adoption of the Community railways to the needs of the Single Market and to increase their efficiency;

-by ensuring the management independance of railway undertakings;

-by separating the management of railway operation and infrastructure from the provision of railway transport services, separation of accounts being compulsory and organizational or institutional separation being optional,

-by improving the financial structure of undertakings,

-by ensuring access to the networks of Member states for international groupings of railway undertakings and for railway undertakings engaged in the international combined transport of goods.

Article 2

1. This Directive shall apply to the management of railway infrastructure and to rail transport activities of the railway undertakings established or to be established in a Member State.

2. Member States may exclude from the scope of this Directive railway undertakings whose activity is limited to the provision of solely urban, suburban or regional services.

Article 3

For the purpose of this Directive:

'railway undertaking` shall mean any private or public undertaking whose main business is to provide tail transport services for goods and/or passengers with a requirement that the undertaking should ensure traction,

'infrastructure manager` shall mean any public body or undertaking responsible in particular for establishing and maintaining railway infrastructure, as well as for operating the control and safety systems,

-'railway infrastructure` shall mean all the items listed in Annex I.A to Commission Regulation (EEC) N° 2598/70 of 18 December 1970 specifying the items to be included under the various headings in the forms of accounts shown in Annex I to Regulation (EEC) N° 1108/70(1), with the exception of the final indent which, for the purposes of this Directive only, shall read as follows: 'Buildings used by the infrastructure department`,

-'international grouping` shall mean any association of at least two railway undertakings established in different Member States for the purpose of providing international transport services between Member States;

-'urban and suburban services` shall mean transport services operated to meet the transport needs of an urban centre or conurbation, as well as the transport needs bewtween such centre or conurbation and surrounding areas;

-'regional services` shall mean transport services operated to meet the transport needs of a region.

SECTION II Management independence of railway undertakings

Article 4

Member States shall take the measures necessary to ensure that as regards management, administration and internal control over administrative, economic and accounting matters railway undertakings have independent status in accordance with which they will hold, in particular, assets, budgets and accounts which are separate from those of the State.

Article 5

1. Member States shall take the measure necessary to enable railway undertakings to adjust their activities to the market and to manage those activities under the responsibility of their management bodies, in the interests of providing efficient and appropriate services at the lowest possible cost for the quality of service required.

Railway undertakings shall be managed according to the principles which apply to commercial companies; this shall also apply to their public services obligations imposed by the State and to public services contracts which they conclude with the competent authorities of the Member State.

2. Railway undertakings shall determine their business plans, including their investment and financing programmes. Such plans shall be designed to achieve the undertakings' financial equilibrium and the other technical, commercial and financial management objectives; they shall also lay down the method of implementation.

3. In the context of the general policy guidelines determined by the State and taking into account national plans and contracts (which may be multiannual) including investment and financing plans, railway undertakings shall, in particular, be free to:

-establish with one or more other railway undertakings an international grouping;

-establish their internal organization, without prejudice to the provisions of Section III;

-control the supply and marketing of services and fix the pricing thereof, without prejudice to Council Regulation (EEC) N° 1191/69 of 26 June 1969 on action by Member States concerning the obligation inherent in the concept of a public service in transport by rail, road and inland waterway(1),

-take decisions on staff, assets and own procurement,

-expand their market share, develop new technologies and new services and adopt any innovative management techniques;

-establish new activities in fields associated with railway business.

SECTION III Separation between infrastructure management and transport operations

Article 6

1. Member States shall take the measures necessary to ensure that the accounts for business relating to the provision of transport services and those for business relating to the management of railway infrastructure are kept separate. Aid paid to one of these two areas of activity may not be transferred to the other.

The accounts for the two areas of activity shall be kept in a way which reflects this prohibition.

2. Member States may also provide that this separation shall require the organization of distinct divisions within a single undertaking or that the infrastructure shall be managed by a separate entity.

Article 7

1. Member States shall take the necessary measures for the development of their national railway infrastructure taking into account, where necessary, the general needs of the Community.

They shall ensure that safety standards and rules are laid down and that their application is monitored.

2. Member States may assign to railway undertakings or any other manager the responsibility for managing the railway infrastructure and in particular for the investment, maintenance and funding required by the technical, commercial and financial aspects of that management.

3. Member States may also accord the infrastructure manager, having due regard to Articles 77, 92 and 93 of the Treaty, financing consistent with the tasks, size and financial requirements, in particular in order to cover new investments.

Article 8

The manager of the infrastructure shall charge a fee for the use of the railway infrastructure for which he is responsible, payable by railway undertakings and international groupings using that infrastructure. After consulting the manager, Member States shall lay down the rules for determining this fee.

The user fee, which shall be calculated in such a way as to avoid any discrimination between railway undertakings, may in particular take into account the mileage, the composition of the train and any specific requirements in terms of such factors as speed, axle load and the degree or period of utilization of the infrastructure.

SECTION IV Improvement of the financial situation

Article 9

1. In conjunction with the existing publicity owned or controlled railway undertakings, Member States shall set up appropriate mechanisms to help reduce the indebtedness of such undertakings to a level which does not impede sound financial management and to improve their financial situation.

2. To that end, Member States may take the necessary measures requiring a separate debt amortization unit to be set up within the accounting departments of such undertakings.

The balance sheet of the unit may be charged, until they are extinguished, with all the loans raised by the undertaking both to finance investment and to cover excess operating expenditure resulting from the business of rail transport or from railway infrastructure management. Debts arising from subsidiaries' operations may not be taken into account.

3. Aid accorded by Member States to cancel the debts referred to in this Article shall be granded in accordance with Articles 77, 92 and 93 of the EEC Treaty.

SECTION V Access to railway infrastructure

Article 10

1. International groupings shall be granted access and transit rights in the Member States of establishment of their constituent railway undertakings, as well as transit rights in other Member States, for international services between the Member States where the undertakings constituting the said groupings are established.

2. Railway undertakings within the scope of Article 2 shall be granted acces on equitable conditions to the infrastructure in the other Member States for the purpose of operating international combined transport goods services.

3. Railway undertakinks engaged in international combined transport of goods and international groupings shall conclude the necessary administrative, technical and financial agreements with the managers of the railway infrastructure used with a view to regulating traffic control and safety issues concerning the international transport services referred to in paragraphs 1 and 2. The conditions governing such agreements shall be non-discriminatory.

SECTION VI Final provisions

Article 11

1. Member States may bring any question concerning the implementation of this Directive to the attention of the Commission. After consulting the committee provided for in paragraph 2 on these questions, the Commission shall take the appropriate decisions.

2. The Commission shall be assisted by an advisory committee composed of the representatives of the Member States and chaired by the representative of the Commission.

The representative of the Commission shall submit to the committee a draft of the measures to be taken. The committee shall deliver its opinion on the draft, within a time limit which the chairman may lay down according to the urgency of the matter, if necessary by taking a vote.

The opinion shall be recorded in the minutes; in addition, each Member State shall have the right to ask to have its position recorded in the minutes.

The Commission shall take the utmost account of the opinion delivered by the committee. It shall inform the committee of the manner in which its opinion has been taken into account.

Article 12

The provisions of this Directive shall be without prejudice to Council Directive 90/531/EEC of 17 September 1990 on the procurment procedure of entities operating in the water, energy, transport and telecommunications sectors(1).

Article 13

Decision 75/327/EEC is hereby repealed as from 1 January 1993.

Reference to the repealed Decision shall be understood to refer to this Directive.

Article 14

Before 1 January 1995, the Commission shall submit to the Council a report on the implementation of this Directive accompanied, if necessary, by suitable proposals on continuing Community action to develop railways, in particular in the field of the international transport of goods.

Article 15

Member States shall, after consultation with the Commission, adopt the laws, regulations and administrative provisions necessary to comply with this Directive not later than 1 January 1993. They shall forthwith inform the Commission thereof.

When Member States adopt these provisions, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

Article 16

This Directive is addressed to the Member States.

Done at Brussels, 29 July 1991.

For the council The president H. VAN DEN BROEK

(1)OJ N° C 34, 14.2.1990, p. 8 and OJ N° C 87, 4.4.1991, p. 7.

(2)OJ N° C 19, 28.1.1991, p. 254.

(3)OJ N° C 225, 10.9.1990, p. 27.

(4)OJ N° L 152, 12.6.1975, p. 3.

(1)OJ N° L 278, 23.12.1970, p. 1, Regulation amended by Regulation (EEC) N° 2116/78 (OJ N° L 246, 8.9.1978, p. 7).

(1)OJ N° L 156, 28.6.1969, p. 1; Regulation last amended by Regulation (EEC) N° 1893/91 (OJ N° L 169, 29.6.1991, p. 1).

(1)OJ N° L 297, 29.10.1990, p. 1.

Appendix 3

31995L0018

Council Directive 95/18/EC of 19 June 1995 on the licensing of railway undertakings

Official Journal L 143 , 27/06/1995 P. 0070 - 0074

COUNCIL DIRECTIVE 95/18/EC of 19 June 1995 on the licensing of railway undertakings

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 75 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the Economic and Social Committee (2),

Acting in accordance with the procedure laid down in Article 189c of the Treaty (3),

Whereas the single market shall comprise an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured;

Whereas the principle of the freedom to provide services should be applied to the railway sector, taking into account that sector's specific characteristics;

Whereas Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways (4) provides for certain access rights in international rail transport for railway undertakings and international groupings of railway undertakings,

Whereas, in order to ensure that access rights to railway infrastructure are applied throughout the Community on a uniform and non-discriminatory basis, it is appropriate to introduce a licence for railway undertakings providing the services referred to in Article 10 of Directive 91/440/EEC;

Whereas it is appropriate to maintain the scope of Directive 91/440/EEC, including the exceptions made in it for regional, urban and suburban services and whereas it should be specified that transport activities in the form of shuttle services through the Channel Tunnel are also excluded from the scope of that Directive;

Whereas a licence issued by a Member State should accordingly be recognized as valid throughout the Community;

Whereas Community conditions for access to or transit via railway infrastructure will be regulated by other provisions of Community law;

Whereas, having regard to the principle of subsidiarity and in order to ensure the requisite uniformity and transparency, it is appropriate that the Community lay down the broad principles of such a licensing system, leaving to Member States the responsibility for the granting and the administration of licences;

Whereas, in order to ensure dependable and adequate services, it is necessary to ensure that railway undertakings meet at any time certain requirements in relation to good repute, financial fitness and professional competence;

Whereas for the protection of customers and third parties concerned it is important to ensure that railway undertakings are sufficiently insured or have made equivalent arrangements in respect of liability risks;

Whereas the suspension and revocation of licences and the granting of temporary licences should also be dealt with in this context;

Whereas a railway undertaking will also be required to comply with national and Community rules on the provision of railway services, applied in a non-discriminatory manner, which are intended to ensure that it can carry on its activity in complete safety on specific stretches of track;

Whereas, in order to ensure the efficient operation of international rail transport, it is

necessary that railway undertakings respect the agreements in force in this field;

Whereas, finally, the procedures for the granting, maintenance and amendment of operating licences to railway undertakings should reflect a general desire for transparency and non-discrimination,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

Objective and Scope

Article 1

1. This Directive concerns the criteria applicable to the issue, renewal or amendment of licences by a Member State intended for railway undertakings which are or will be established in the Community when they provide the services referred to in Article 10 of Directive 91/440/EEC under the conditions laid down in that Article.

2. Railway undertakings the activities of which are limited to the operation of urban, suburban or regional services shall be excluded from the scope of this Directive.

Railway undertakings and international groupings the activity of which is limited to the provision of shuttle services transporting road vehicles through the Channel Tunnel shall also be excluded from the scope of this Directive.

3. A licence shall be valid throughout the territory of the Community.

Article 2

For the purposes of this Directive:

(a) 'railway undertaking` shall mean any private or public undertaking the main business of which is to provide rail transport services for goods and/or passengers, with a requirement that the undertaking must ensure traction;

(b) 'licence` shall mean an authorization issued by a Member State to an undertaking, by which its capacity as a railway undertaking is recognized. That capacity may be limited to the provision of specific types of services;

(c) 'licensing authority` shall mean the body charged by a Member State with the issue of licences.

(d) - 'urban and suburban services` shall mean transport services operated to meet the transport needs of an urban centre or conurbation, as well as the transport needs between such centre or conurbation and surrounding areas;

- 'regional services` shall mean transport services operated to meet the transport needs of a region.

Article 3

Each Member State shall designate the body responsible for issuing licences and for carrying out the obligations imposed by this Directive.

SECTION II

Licences

Article 4

1. A railway undertaking shall be entitled to apply for a licence in the Member State in which it is established.

2. Member States shall not issue licences or extend their validity where the requirements of this Directive are not complied with.

3. A railway undertaking which fulfils the requirements imposed in this Directive shall be authorized to receive a licence.

4. No railway undertaking shall be permitted to provide the rail transport services covered by this Directive unless it has been granted the appropriate licence for the services to be provided.

However, such a licence shall not itself entitle the holder to access to the railway infrastructure.

Article 5

1. A railway undertaking must be able to demonstrate to the licensing authorities of the Member State concerned before the start of its activities that it will at any time be able to

meet the requirements relating to good repute, financial fitness, professional competence and cover for its civil liability listed in Articles 6 to 9.

2. For the purposes of paragraph 1, each applicant shall provide all relevant information.

Article 6

Member States shall define the conditions under which the requirement of good repute is met to ensure that an applicant railway undertaking or the persons in charge of its management:

- has/have not been convicted of serious criminal offences, including offences of a commercial nature,

- has/have not been declared bankrupt,

- has/have not been convicted of serious offences against specific legislation applicable to transport,

- has/have not been convicted of serious or repeated failure to fulfil social- or labour-law obligations, including obligations under occupational safety and health legislation.

Article 7

1. The requirements relating to financial fitness shall be met when an applicant railway undertaking can demonstrate that it will be able to meet its actual and potential obligations, established under realistic assumptions, for a period of twelve months.

2. For the purposes of paragraph 1, each applicant shall give at least the particulars listed in section I of the Annex.

Article 8

1. The requirements relating to professional competence shall be met when:

(a) an applicant railway undertaking has or will have a management organization which possesses the knowledge and/or experience necessary to exercise safe and reliable operational control and supervision of the type of operations specified in the licence,

(b) its personnel responsible for safety, in particular drivers, are fully qualified for their field of activity and

(c) its personnel, rolling stock and organization can ensure a high level of safety for the services to be provided.

2. For the purposes of paragraph 1, each applicant shall give at least the particulars listed in section II of the Annex.

3. Appropriate written proof of compliance with qualification requirements shall be produced.

Article 9

A railway undertaking shall be adequately insured or make equivalent arrangements for cover, in accordance with national and international law, of its liabilities in the event of accidents, in particular in respect of passengers, luggage, freight, mail and third parties.

SECTION III

Validity of the licence

Article 10

1. A licence shall be valid as long as the railway undertaking fulfils the obligations laid down in this Directive. A licensing authority may, however, make provision for a regular review at least every five years.

2. Specific provisions governing the suspension or revocation of a licence may be incorporated in the licence itself.

Article 11

1. If there is serious doubt that a railway undertaking which it has licensed complies with the requirements of this Directive, and in particular Article 5 thereof, the licensing authority may, at any time, check whether that railway undertaking does in fact comply with those requirements.

Where a licensing authority is satisfied that a railway undertaking can no longer meet the requirements of the Directive, and in particular Article 5 thereof, it shall suspend or revoke the licence.

2. Where the licensing authority of a Member State is satisfied that there is serious doubt regarding compliance with the requirements laid down in this Directive on the part of a

railway undertaking to which a licence has been issued by the licensing authority of another Member State, it shall inform the latter authority without delay.

3. Notwithstanding paragraph 1, where a licence is suspended or revoked on grounds of non-compliance with the requirement for financial fitness, the licensing authority may grant a temporary licence pending the re-organization of the railway undertaking, provided that safety is not jeopardized. A temporary licence shall not, however, be valid for more than six months after its date of issue.

4. When a railway undertaking has ceased operations for six months or has not started operations six months after the grant of a licence, the licensing authority may decide that the licence shall be submitted for approval or be suspended.

As regards the start of activities, the railway undertaking may ask for a longer period to be fixed, taking account of the specific nature of the services to be provided.

5. In the event of a change affecting the legal situation of an undertaking and, in particular, in the event of a merger or takeover, the licensing authority may decide that the licence shall be resubmitted for approval. The railway undertaking in question may continue operations, unless the licensing authority decides that safety is jeopardized; in that event, the grounds for such a decision shall be given.

6. Where a railway undertaking intends significantly to change or extend its activities, its licence shall be resubmitted to the licensing authority for review.

7. A licensing authority shall not permit a railway undertaking against which bankruptcy or similar proceedings are commenced to retain its licence if that authority is convinced that there is no realistic prospect of satisfactory financial restructuring within a reasonable period of time.

8. When a licensing authority suspends, revokes or amends a licence, the Member State concerned shall immediately inform the Commission accordingly. The Commission shall inform the other Member States forthwith.

Article 12

In addition to the requirements of this Directive, a railway undertaking shall also comply with those provisions of national law which are compatible with Community law and are applied in a non-discriminatory manner, in particular:

- specific technical and operational requirements for rail services,

- safety requirements applying to staff, rolling stock and the internal organization of the undertaking,

- provisions on health, safety, social conditions and the rights of workers and consumers.

Article 13

Railway undertakings shall respect the agreements applicable to international rail transport in force in the Member States in which they operate.

SECTION IV

Transitional provision

Article 14

Railway undertakings operating rail services shall be granted a transitional period of twelve months as at the final date of transposition referred to in Article 16 (2) in order to comply with the provisions of this Directive. That transitional period shall not cover any provision which might affect the safety of railway operations.

SECTION V

Final provisions

Article 15

1. The procedures for the granting of licences shall be made public by the Member State concerned, which shall inform the Commission thereof.

2. The licensing authority shall take a decision on an application as soon as possible, but not more than three months after all relevant information, notably the particulars referred to in the Annex, has been submitted, taking into account all the available information. The decision shall be communicated to the applicant railway undertaking. A refusal shall state the grounds therefore.

3. Member States shall take the measures necessary to ensure that the licensing authority's decisions are subject to judicial review.

Article 16

1. The Commission shall, two years after the application of this Directive, submit to the Council a report on such application accompanied, if necessary, by proposals concerning continued Community action, with particular regard to the possibility of enlarging the scope of the Directive.

2. Member States shall adopt the laws, regulations and administrative provisions necessary to comply with this Directive within two years of the date of its entry into force. They shall forthwith inform the Commission thereof.

3. When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such reference at the time of their official publication. The methods of making such a reference shall be laid down by the Member States.

Article 17

This Directive shall enter into force on the date of its publication in the Official Journal of the European Communities.

Article 18

This Directive is addressed to the Member States.

Done at Luxembourg, 19 June 1995.

For the Council

The President

B. PONS

(1) OJ No C 24, 28. 1. 1994, p. 2 and OJ No C 225, 13. 8. 1994, p. 9.

(2) Opinion delivered on 14 September 1994 (OJ No C 393, 31. 12. 1994, p. 56).

(3) Opinion of the European Parliament of 3 May 1994 (OJ No C 205, 25. 7. 1994, p. 38), Council Common Position of 21 November 1994 (OJ No C 354 of 13. 12. 1994, p. 11) and Decision of the European Parliament of 14 March 1995 (OJ No C 89, 10. 4. 1995, p. 30).

(4) OJ No L 237, 24. 8. 1991, p. 25.

ANNEX

I. Particulars referred to in Article 7 (2)

1. Financial fitness will be verified by means of an undertaking's annual accounts or, in the case of applicant undertakings unable to present annual accounts, a balance sheet. Detailed particulars must be provided, in particular on the following aspects:

(a) available funds, including the bank balance, pledged overdraft provisions and loans;

(b) funds and assets available as security;

(c) working capital;

(d) relevant costs, including purchase costs of payments to account for vehicles, land, buildings, installations and rolling stock;

(e) charges on an undertaking's assets.

2. In particular, an applicant is not financially fit if considerable arrears of taxes or social security are owed as a result of the undertaking's activity.

3. The authority may in particular require the submission of an audit report and suitable documents from a bank, public savings bank, accountant or auditor. These documents must include information concerning the matters referred to in paragraph 1.

II. Particulars referred to in Article 8 (2)

1. Particulars of the nature and maintenance of rolling stock, in particular as regards safety standards.

2. Particulars of the qualifications of personnel responsible for safety and details of personnel training.

Appendix 4

31995L0019

Council Directive 95/19/EC of 19 June 1995 on the allocation of railway infrastructure capacity and the charging of infrastructure fees

Official Journal L 143 , 27/06/1995 P. 0075 - 0078

COUNCIL DIRECTIVE 95/19/EC of 19 June 1995 on the allocation of railway infrastructure capacity and the charging of infrastructure fees

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 75 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the Economic and Social Committee (2),

Acting in accordance with the procedure laid down in Article 189c of the Treaty (3),

Whereas greater integration of the Community transport sector is an essential element of the internal market and whereas the railways are a vital part of the Community transport sector;

Whereas the principle of the freedom to provide services needs to be applied in the railway sector, taking account of the specific characteristics of that sector;

Whereas Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways (4) provides for certain access rights in international rail transport for railway undertakings and international groupings of railway undertakings;

Whereas it is important to ensure that, where railway undertakings and the international groupings which they constitute provide the services referred to in Article 10 of Directive 91/440/EEC, they benefit fully from the new access rights and whereas, to this end, it is appropriate to establish a system for the allocation of railway infrastructure and the charging of infrastructure fees which is non-discriminatory and uniform throughout the Community;

Whereas the scope of Directive 91/440/EEC should be maintained, including the exceptions laid down therein for regional, urban and suburban services, and whereas it should be specified that transport operations in the form of shuttle services through the Channel Tunnel are also excluded from the scope of that Directive;

Where, pursuant to the principle of subsidiarity, it is appropriate that the Community lay down the broad principles of such a system, leaving it to the Member States to put in place the detailed rules for the relevant practical implementation;

Whereas the Member States should ensure sufficient flexibility as regards the allocation of infrastructure capacity to allow efficient and optional use of the infrastructure;

Whereas, however, it is necessary to grant certain priority rights with regard to the allocation of infrastructure capacity, notably for public services and services provided on a specific railway infrastructure;

Whereas it is also necessary to provide for the possibility of granting special rights in allocating infrastructure capacity if those rights are essential to ensure adequate transport services or to allow the financing of new infrastructure;

Whereas the accounts of the infrastructure manager should be in balance so that infrastructure expenditure can be covered;

Whereas, furthermore, it is necessary to define non-discriminatory rules as regards the charging of infrastructure fees in the same market;

Whereas efficient use of infrastructure capacity requires that fees be fixed according to a common set of general criteria;

Whereas, out of a general concern for transparency and non-discrimination, common rules

should be adopted concerning the procedures for the allocation of infrastructure capacity and the charging of infrastructure fees;

Whereas, in the interests of traffic safety, railway undertakings must, in order to have access to a particular infrastructure, hold a certificate of safety based on certain common criteria and on national provisions, issued by the body competent for the infrastructure used; whereas they must also conclude with the infrastructure manager the requisite technical, administrative and financial agreements;

Whereas it is necessary to guarantee possibilities for making an appeal before an independent body against decisions taken by the authorities and bodies competent as regards the allocation of infrastructure capacity and the charging of infrastructure fees; whereas this possibility for making an appeal is required in particular to resolve any conflicts of interest in cases where an infrastructure manager is at the same time a transport services operator and is responsible for allocating train paths and/or collecting infrastructure fees,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

Objective and scope

Article 1

1. The purpose of this Directive is to define the principles and procedures to be applied with regard to the allocation of railway infrastructure capacity and the charging of infrastructure fees for railway undertakings which are or will be established in the Community and the international groupings which they form, where such undertakings and groupings carry out services referred to in Article 10 of Directive 91/440/EEC under the conditions laid down in that Article.

2. Railway undertakings the activities of which are limited to the operation of urban, suburban and regional services shall be excluded from the scope of this Directive.

Railway undertakings and international groupings the business of which is limited to providing shuttle services for road vehicles through the Channel Tunnel are also excluded from the scope of this Directive.

3. Railway infrastructure capacity shall be granted in the form of the allocation of train paths in accordance with Community and national law.

Article 2

For the purpose of this Directive:

(a) 'railway undertaking` means any public or private undertaking the main business of which is to provide rail transport services for goods and/or passengers, with a requirement that the undertaking must ensure traction;

(b) 'international grouping` means any association of at least two railway undertakings established in different Member States for the purpose of providing international transport services between Member States;

(c) 'infrastructure manager` means any public body or undertaking responsible in particular for establishing and maintaining railway infrastructure, as well as for operating the control and safety systems;

(d) 'train path` means the infrastructure capacity needed to run a train between two places at a given time;

(e) 'allocation` means the allocation of railway infrastructure capacity by an allocation body;

(f) 'allocation body` means the authority and/or infrastructure manager designated by the Member States for the allocation of infrastructure capacity.

SECTION II

Allocation of railway infrastructure capacity

Article 3

Each Member State shall designate the allocation body in accordance with the requirements of this Directive. In particular, the allocation body, which shall be informed of all train paths available, shall ensure that:

- railway infrastructure capacity is allocated on a fair and non-discriminatory basis and that,

- subject to Articles 4 and 5, the allocation procedure allows optimum effective use the

infrastructure.

Article 4

1. Member States may take the necessary measures to ensure that priority is given to the following rail services in the allocation of railway infrastructure capacity:

(a) services provided in the interest of the public, as defined in Council Regulation (EEC) No 1191/69 of 26 June 1969 on action by Member States concerning the obligations inherent in the concept of a public service in transport by rail, road and inland waterway (5);

(b) services wholly or partly operated on infrastructure constructed or developed for certain specific services (specialized high-speed or freight lines), without prejudice to Articles 85, 86 and 90 of the Treaty.

This provision shall apply without discrimination to all services within the scope of Article 1 having comparable characteristics and providing similar services.

2. With regard to services provided under paragraph 1 (a), Member States may compensate the infrastructure manager for any financial losses incurred due to the imposition of a certain infrastructure capacity allocation in the interests of public service.

Article 5

Member States may grant special rights as regards infrastructure capacity allocation on a non-discriminatory basis to railway undertakings operating certain types of services or in certain areas if such rights are indispensable to ensure adequate public services or efficient use of infrastructure capacity or to allow the financing of new infrastructures, without prejudice to Articles 85, 86 and 90 of the Treaty.

SECTION III

Charging of infrastructure fees

Article 6

1. The accounts of an infrastructure manager shall, under normal business conditions over a reasonable time period, at least balance income from infrastructure fees plus State contributions on the one hand and infrastructure expenditure on the other.

2. The infrastructure manager may finance infrastructure development including provision or renewal of capital assets, and may make a return on capital employed.

Article 7

There shall be no discrimination in the charging for services of an equivalent nature in the same market.

After consulting the infrastructure manager, Member States shall lay down the rules for determining the infrastructure fees. These rules shall provide the infrastructure manager with the facility to market the available infrastructure capacity efficiently.

Article 8

1. The fees charged by the infrastructure manager shall be fixed according to the nature of the service, the time of the service, the market situation and the type and degree of wear and tear of the infrastructure.

2. As regards the procedures for the payment of fees, Member States may provide for the possibility that a global agreement be concluded with the infrastructure manager as regards public services, in accordance with Regulation (EEC) No 1191/69.

Article 9

1. The fees shall be paid to the infrastructure manager(s).

2. Member States may require the infrastructure manager to provide all the information on the fees necessary to satisfy them that they are charged on a non-discriminatory basis.

3. The infrastructure manager shall inform railway undertakings using its infrastructure to provide services referred to in Article 10 of Directive 91/440/EEC in good time of any major changes in the quality or capacity of the infrastructure concerned.

SECTION IV

General provisions

Article 10

1. Member States shall lay down the procedures for the allocation of railway infrastructure capacity referred to in Article 1 (3). They shall publish their procedural rules and inform the

Commission thereof.

2. An application for infrastructure capacity shall be submitted to the allocation body of the Member State on the territory of which the departure point of the service concerned is situated.

3. The allocation body to which an application has been submitted shall immediately inform the other allocation bodies concerned of this request. The latter shall take a decision as soon as possible but no later than one month after all relevant information has been submitted; each allocation body shall have the right to refuse an application. They shall immediately inform the allocation body to which the request has been submitted.

The allocation body to which an application has been submitted shall, together with the other allocation bodies concerned, take a decision on the application as soon as possible, but no later than two months after all relevant information has been submitted.

An application which has been refused on the grounds of insufficient capacity shall be reconsidered at the next time-table adjustment for the routes concerned if the applicant undertaking so requests. The dates for such adjustments and other administrative arrangements shall be available to interested parties.

The decision shall be communicated to the applicant undertaking. A refusal shall indicate the reason therefore.

4. An applicant undertaking may directly contact the other allocation bodies concerned with this request on condition that the allocation body to which the application has been submitted is informed.

5. The railway undertakings to which railway infrastructure capacity is allocated shall conclude the necessary administrative, technical and financial agreements with the infrastructure managers.

Article 11

1. The Member States shall provide that in addition a safety certificate in which the railway undertakings' safety requirements are set out be submitted in order to ensure safe service on the routes concerned.

2. In order to obtain the safety certificate, the railway undertaking must comply with the regulations under national law, compatible with Community law and applied in a non-discriminatory manner, laying down the technical and operational requirements specific to rail services and the safety requirements applying to staff, rolling stock and the undertaking's internal organization.

In particular, it must provide proof that the staff whom it employs to operate and accompany the trains providing services referred to in Article 10 of Directive 91/440/EEC has the necessary training to comply with the traffic rules applied by the infrastructure manager and to meet the safety requirements imposed on it in the interests of train movement.

The railway undertaking must also prove that the rolling stock comprising these trains has been approved by the public authority or by the infrastructure manager and checked in accordance with the operating rules applicable to the infrastructure used. The safety certificate shall be issued by the authority designated for the purpose by the Member State in which the infrastructure used is situated.

Article 12

Member States may provide for the possibility that applications for infrastructure access are accompanied by a deposit or similar security.

If an applicant does not make use of an allocated train path, an amount may be deducted from the deposit which represents the cost incurred in processing the application and any subsequent loss of earnings due to the non-use of the infrastructure capacity concerned. In the other cases, the deposit/security shall be returned in its entirety.

SECTION V

Final provisions

Article 13

1. Member States shall take the measures necessary to ensure that decisions on the allocation of infrastructure capacity or the charging of fees shall be open to appeal before an independent body when so requested in writing by a railway undertaking. This body shall take its decision within two months of the submission of all relevant information.

2. Member States shall take the measures necessary to ensure that decisions taken in accordance with paragraph 1 are subject to judicial review.

Article 14

1. The Commission shall, two years after the application of this Directive, submit to the Council a report, accompanied - if necessary - by proposals regarding continued Community action, with particular regard to the possibility of enlarging the scope of the Directive.

2. Member States shall adopt the laws, regulations and administrative provisions necessary to comply with this Directive not later than two years following the date of the entry into force of this Directive. They shall forthwith inform the Commission thereof.

3. When Member States adopt the provisions referred to in paragraph 2, they shall contain a reference to this Directive or be accompanied by such reference at the time of their official publication. The methods of making such reference shall be laid down by the Member States.

Article 15

This Directive shall enter into force on the date of its publication in the Official Journal of the European Communities.

Article 16

This Directive is addressed to the Member States.

Done at Luxembourg, 19 June 1995.

For the Council

The President

B. PONS

(1) OJ No C 24, 28. 1. 1994, p. 2 and OJ No C 225, 13. 8. 1994, p. 11.

(2) Opinion delivered on 14 September 1994 (OJ No C 393, 31. 12. 1994, p. 56).

(3) Opinion of the European Parliament of 3 May 1994 (OJ No C 205, 25. 7. 1994, p. 38), Council Common Position of 21 November 1994 (OJ No C 354, 13. 12. 1994, p. 19) and Decision of the European Parliament of 14 March 1995 (OJ No C 89, 10. 4. 1995, p. 31).

(4) OJ No L 237, 24. 8. 1991, p. 25.

(5) OJ No L 156, 28. 6. 1969, p. 1. Regulation as last amended by Regulation (EEC) No 1893/91 (OJ No L 169, 29. 6. 1991, p. 1).

Appendix 5

32001L0012

Directive 2001/12/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 91/440/EEC on the development of the Community's railways

Official Journal L 075 , 15/03/2001 P. 0001 - 0025

Directive 2001/12/EC of the European Parliament and of the Council

of 26 February 2001

amending Council Directive 91/440/EEC on the development of the Community's railways

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 71 thereof,

Having regard to the proposal of the Commission(1),

Having regard to the opinion of the Economic and Social Committee(2),

Having regard to the opinion of the Committee of the Regions(3),

Acting in accordance with the procedure laid down in Article 251(4) of the Treaty in the light of the joint text approved on 22 November 2000 by the Conciliation Committee,

Whereas:

(1) Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways(5) should be amended to take account of experience with its implementation and of developments in the railway sector since its adoption, in order to ensure that its objectives are achieved.

(2) Fair and non discriminatory access to the infastructure needs to be guaranteed through the separation of certain essential functions and/or the creation of a rail regulator fulfilling the control and implementation functions as well as through the separation of profit and loss accounts and the balance sheets.

(3) Fair and non-discriminatory access to the infrastructure needs to be guaranteed also through the separation of safety related functions and/or the creation of a rail regulator fulfilling the control and implementation functions. In any case railway undertakings may be involved in a non-discriminatory way in enforcement and monitoring of safety standards.

(4) Extension of access rights should, as with other modes of transport, proceed in conjunction with the parallel implementation of the necessary accompanying harmonisation measures.

(5) In accordance with the objective of completing the internal market, which will include the possibility for all licensed railway undertakings meeting the safety conditions to provide services, access rights should, for a transitional period of up to seven years, be extended to licensed railway undertakings for the international transport of goods on a defined network, called the Trans European Rail Freight Network, including access to, and supply of, services in major terminals and ports. After this transitional period, the Trans-European Rail Freight Network should cover the entire European rail network and the railway undertakings should be granted rights of access thereto for international freight transport.

(6) Access right is guaranteed to the licensed railway undertaking meeting the safety conditions and seeking access, whatever the mode of operation.

(7) Member States remain free to grant access rights that are more extensive than access for railway undertakings operating international combined transport to international groupings operating international services and to railway undertakings operating international freight services within the Trans-European Rail Freight Network. The use of these more extensive access rights may be limited to railway undertakings licensed in Member States where access

rights of a similar nature are granted, provided that this limitation is compatible with the Treaty.

(8) To promote efficient management of infrastructure in the public interest, infrastructure managers should be given a status independent of the State, and freedom to manage their internal affairs, while Member States should take the necessary measures for the development and the safe use of railway infrastructure.

(9) To promote the efficient operation of passenger and freight transport services and to ensure transparency in their finances, including all financial compensation or aid paid by the State, it is necessary to separate the accounts of passenger and of freight transport services.

(10) It is necessary to implement a number of measures in order better to monitor the development of the railway sector and the evolution of the market, assess the effect of the measures adopted and analyse the impact of the measures envisaged by the Commission.

(11) Bodies should be established with a sufficient degree of independence to regulate competition on the rail services market where there are no entities performing that function.

(12) The Commission should report on the implementation of this Directive and make appropriate proposals.

(13) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission(6).

(14) Specific measures are required to take account of the specific geopolitical and geographical situations of certain Member States as well as a specific organisation of the railway sector in various Member States while ensuring the integrity of the internal market.

(15) In accordance with the principles of subsidiarity and proportionality as set out in Article 5 of the Treaty, the objectives of this Directive, namely to develop the Community's railways, cannot be sufficiently achieved by the Member States in view of the need to ensure fair and non-discriminatory terms for access to the infrastructure as well as to take account of the manifestly international dimensions involved in the operation of significant elements of the railway networks, and can therefore, by reason of the need for coordinated trans-national action, be better achieved by the Community. This Directive does not go beyond what is necessary to achieve those objectives.

(16) Directive 91/440/EEC should be amended accordingly,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Directive 91/440/EEC is hereby amended as follows:

1) the title of Section I shall be replaced by the following: "Scope and Definitions";

2) Article 1 shall be repealed;

3) the following paragraph shall be added to Article 2:

"3. Undertakings the train operations of which are limited to providing solely shuttle services for road vehicles through the Channel Tunnel are excluded from the scope of this Directive except Articles 6(1), 10 and 10a.";

4) Article 3 shall be amended as follows:

a) the first and second indents shall be replaced by the following:

"- 'railway undertaking' shall mean any public or private undertaking licensed according to applicable Community legislation, the principal business of which is to provide services for the transport of goods and/or passengers by rail with a requirement that the undertaking must ensure traction; this also includes undertakings which provide traction only;

- 'infrastructure manager' shall mean any body or undertaking responsible in particular for establishing and maintaining railway infrastructure. This may also include the management of infrastructure control and safety systems. The functions of the infrastructure manager on a network or part of a network may be allocated to different bodies or undertakings";

b) the following indent shall be inserted after the fourth indent:

"- 'international freight service' shall mean transport services where the train crosses at least one border of a Member State; the train may be joined and/or split and the different sections may have different origins and destinations, provided that all wagons cross at least one border";

5) the title of Section II shall be replaced by the following: "Management independence";

6) Article 4 shall be replaced by the following:

"Article 4

1. Member States shall take the measures necessary to ensure that as regards management, administration and internal control over administrative, economic and accounting matters railway undertakings have independent status in accordance with which they will hold, in particular, assets, budgets and accounts which are separate from those of the State.

2. While respecting the framework and specific charging and allocation rules established by the Member States, the infrastructure manager shall have responsibilities for its own management, administration and internal control";

7) Article 6 shall be replaced by the following:

"Article 6

1. Member States shall take the measures necessary to ensure that separate profit and loss accounts and balance sheets are kept and published, on the one hand, for business relating to the provision of transport services by railway undertakings and, on the other, for business relating to the management of railway infrastructure. Public funds paid to one of these two areas of activity may not be transferred to the other.

The accounts for the two areas of activity shall be kept in a way that reflects this prohibition.

2. Member States may also provide that this separation shall require the organisation of distinct divisions within a single undertaking or that the infrastructure shall be managed by a separate entity.

3. Member States shall take the measures necessary to ensure that the functions determining equitable and non-discriminatory access to infrastructure, listed in Annex II, are entrusted to bodies or firms that do not themselves provide any rail transport services. Regardless of the organisational structures, this objective must be shown to have been achieved.

Member States may, however, assign to railway undertakings or any other body the collecting of the charges and the responsibility for managing the railway infrastructure, such as investment, maintenance and funding.

4. The application of paragraph 3 shall be subject to a report by the Commission in accordance with Article 10b, to be submitted by 15 March 2006.";

8) Article 7 shall be replaced by the following:

"Article 7

1. Member States shall take the necessary measures for the development of their national railway infrastructure taking into account, where necessary, the general needs of the Community.

2. Member States shall ensure that safety standards and rules are laid down, rolling stock and railway undertakings are certified accordingly and accidents investigated. These tasks shall be accomplished by bodies or undertakings that do not provide rail transport services themselves and are independent of bodies or undertakings that do so, in such a way as to guarantee equitable and non-discriminatory access to infrastructure.

Railway undertakings shall apply these safety standards and rules. Unless Member States mandate independent bodies with enforcement and monitoring, they may require or allow railway undertakings to be involved in ensuring the enforcement and monitoring of the safety standards and rules while guaranteeing the neutral and non-discriminatory execution of these functions.

3. Member States may also accord the infrastructure manager, having due regard to Articles 73, 87 and 88 of the Treaty, financing consistent with the tasks, size and financial requirements, in particular in order to cover new investments.

4. Within the framework of general policy determined by the State, the infrastructure manager shall draw up a business plan including investment and financial programmes. The plan shall be designed to ensure optimal and efficient use and development of the infrastructure while ensuring financial balance and providing means for these objectives to be achieved.";

9) Article 9(3) shall be replaced by the following:

"3. Aid accorded by Member States to cancel the debts referred to in this Article shall be

granted in accordance with Articles 73, 87 and 88 of the Treaty.";

10) the following paragraph shall be added to Article 9:

"4. In the case of railway undertakings profit and loss accounts and either balance sheets or annual statement of assets and liabilities shall be kept and published for business relating to the provision of rail freight-transport services. Funds paid for activities relating to the provision of passenger-transport services as public-service remits must be shown separately in the relevant accounts and may not be transferred to activities relating to the provision of other transport services or any other business.";

11) Article 10 shall be replaced by the following:

"Article 10

1. International groupings shall be granted access and transit rights in the Member States of establishment of their constituent railway undertakings, as well as transit rights in other Member States, for international services between the Member States where the undertakings constituting the said groupings are established.

2. Railway undertakings within the scope of Article 2 shall be granted, on equitable conditions, access to the infrastructure in other Member States for the purpose of operating international combined transport goods services.

3. Whatever the mode of operation, railway undertakings within the scope of Article 2 shall be granted, on equitable conditions, the access that they are seeking to the Trans-European Rail Freight Network defined in Article 10(a) and in Annex I after 15 March 2008, to the entire rail network, for the purpose of operating international freight services.

4. At the request of a Member State or on its own initiative the Commission shall, in a specific case, examine the application and enforcement of this Article, and within two months of receipt of such a request and after consulting the Committee referred to in Article 11a(2), decide whether the related measure may continue to be applied. The Commission shall communicate its decision to the European Parliament, the Council and to the Member States.

Without prejudice to Article 226 of the Treaty, any Member State may refer the Commission's decision to the Council within a time limit of one month. The Council, acting by a qualified majority, may in exceptional circumstances take a different decision within a period of one month.

5. Any railway undertaking engaged in rail transport services under paragraphs 1, 2 and 3 shall conclude the necessary administrative, technical and financial agreements on the basis of public or private law with the infrastructure managers of the railway infrastructure used with a view to regulating traffic control and safety issues concerning that transport. The conditions governing such agreements shall be non-discriminatory and, if applicable, in conformity with the provisions of Directive 2000/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification(7).

6. Track access to, and supply of, services in the terminals and ports linked to rail activities referred to in paragraphs 1, 2 and 3, serving or potentially serving more than one final customer, shall be provided to all railway undertakings in a non-discriminatory manner, and requests by railway undertakings may be subject to restrictions only if viable alternatives under market conditions exist.

7. Without prejudice to Community and national regulations concerning competition policy and the institutions with responsibility in that area, the regulatory body established pursuant to Article 30 of Directive 2000/14/EC, or any other body enjoying the same degree of independence shall monitor the competition in the rail services markets, including the rail freight transport market.

That body shall be set up in accordance with the rules in Article 30(1) of the said Directive. Any applicant or interested party may lodge a complaint with this body if it feels that it has been treated unjustly, has been the subject of discrimination or has been injured in any other way. On the basis of the complaint and, where appropriate, on its own initiative, the regulatory body shall decide at the earliest opportunity on appropriate measures to correct undesirable developments in these markets. In order to ensure the necessary possibility of judicial control and the requisite cooperation between national regulatory bodies, Article 30(6) and Article 31 of the said Directive shall apply in this context.

8. In accordance with Article 14 which provides for a report on the implementation of this Directive, accompanied by suitable proposals on continuing Community action to develop the

railway market and the legal framework governing it, and in any case seven years after 15 March 2008, the Trans-European Rail Freight Network defined in Article 10a and Annex I, granting access for the international transport of goods to the railway undertakings defined in Article 3, shall be extended to cover the entire European rail network. The railway undertakings shall be granted, over that entire network and on fair conditions, guaranteed access and transit for the international transport of goods.";

12) in Section V "Access to railway infrastructure" the following Article shall be added:

"Article 10a

1. The Trans-European Rail Freight Network consists of the following elements:

a) Railway lines as indicated in the maps in Annex I.

b) Diversionary routes, where appropriate, particularly around congested infrastructure within the meaning of Directive 2000/14/EC. When these routes are offered, overall journey times shall be safeguarded as far as this is feasible.

c) Track access to terminals serving or potentially serving more than one final customer and to other sites and facilities, including feeder lines to and from these.

d) Track access to and from ports as listed in Annex I, including feeder lines.

2. The feeder lines mentioned in paragraph 1(c) and (d) cover at either end of the journey 50 km or 20 % of the length of the journey on the railway lines referred to in paragraph 1(a), whichever is greater.

Belgium and Luxembourg, as Member States with a relatively small or concentrated network, may limit the length of the feeder lines in the first year after 15 March 2003 to at least 20 km and until the end of the second year to at least 40 km.";

13) after Section V "Access to railway infrastructure", the following section shall be added:

"SECTION Va

Monitoring tasks of the Commission

Article 10b

1. Not later than 15 September 2001 the Commission shall make the necessary arrangements to monitor technical and economic conditions and market developments of European rail transport. The Commission shall ensure that adequate resources are made available to enable the effective monitoring of this sector.

2. In this context, the Commission shall closely involve representatives of the Member States and of the sectors concerned in its work, including users, so that they are able better to monitor the development of the railway sector and the evolution of the market, assess the effect of the measures adopted and analyse the impact of the measures planned by the Commission.

3. The Commission shall monitor the use of the networks and the evolution of the framework conditions in the rail sector, in particular infrastructure charging, capacity allocation, safety regulation and licensing and the degree of harmonisation that evolves. It shall ensure an active cooperation between the appropriate regulatory bodies in the Member States.

4. The Commission shall report to the European Parliament and the Council on:

a) the evolution of the internal market in rail services

b) the framework conditions

c) the state of the Trans-European Rail Freight Network

d) the utilisation of access rights

e) barriers to more effective rail services

f) infrastructure limitations, and

g) the need for legislation."

14) Article 11 shall be replaced by the following:

"Article 11

1. Member States may bring any question concerning the implementation of this Directive to the attention of the Commission. Appropriate decisions shall be adopted by use of the advisory procedure referred to in Article 11a(2).

2. The amendments necessary to adapt the Annexes shall be adopted by use of the

regulatory procedure referred to in Article 11a(3).";

15) the following Article shall be inserted:

"Article 11a

1. The Commission shall be assisted by a Committee.

2. Where reference is made to this paragraph, Articles 3 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

3. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

4. The Committee shall adopt its rules of procedure.";

16) Article 14 shall be replaced by the following:

"Article 14

By 15 March 2005 the Commission shall submit to the European Parliament, the Economic and Social Committee, the Committee of the Regions and the Council a report on the implementation of this Directive accompanied by suitable proposals on continuing Community action to develop the railway market and the legal framework governing it.";

17) the following Article shall be inserted:

"Article 14a

1. For a period of five years from 15 March 2003, the following Member States:

- Ireland, as a Member State located on an island with a rail link to only one other Member State

- the United Kingdom, in respect of Northern Ireland, on the same basis, and

- Greece, as a Member State that does not have any direct rail link to any other Member State,

do not need to apply the requirement to entrust to an independent body the functions determining equitable and non discriminatory access to infrastructure, as provided for in Article 6(3), first subparagraph and the tasks set out in Article 7(2), first subparagraph, in so far as those Articles oblige Member States to establish independent bodies performing the tasks referred to in the said Articles.

2. However, where:

a) more than one railway undertaking licensed in accordance with Article 4 of Directive 95/18/EC, or, in the case of Ireland and of Northern Ireland, a railway company so licensed elsewhere, submits an official application to operate competing railway services in, to or from Ireland, Northern Ireland or Greece, the continued applicability of this derogation will be decided upon in accordance with the advisory procedure referred to out in Article 11a(2); or

b) a railway undertaking operating railway services in Ireland, Northern Ireland or Greece submits an official application to operate railway services on, to or from the territory of another Member State (in the case of Ireland, or the United Kingdom, in respect of Northern Ireland, or both, another Member State outside their territories), the derogation referred to in paragraph 1 shall not apply.

Within one year from the receipt of either the decision referred to in point (a) adopted in accordance with the advisory procedure referred to in Article 11a(2), or notification of the official application referred to in point (b), the Member State or States concerned (Ireland, the United Kingdom with respect to Northern Ireland, or Greece) shall put in place legislation to implement the Articles referred to in paragraph 1.

3. A derogation referred to in paragraph 1, may be renewed for periods not longer than five years. Not later than 12 months before the expiry date of the derogation a Member State availing itself of such derogation may address a request to the Commission for a renewed derogation. Any such request must be substantiated. The Commission shall examine such a request and adopt a decision in accordance with the advisory procedure referred to in Article 11a (2). The said advisory procedure shall apply to any decision related to the request.

When adopting its decision the Commission shall take into account any development in the geopolitical situation and the development of the rail market in, from and to the Member State having requested the renewed derogation.

4. Luxembourg as a Member State with a relatively small rail network does not need to apply until 31 August 2004 the requirement to award to an independent body the functions determining equitable and non-discriminatory access to infrastructure, as provided for in Article 6(3), first subparagraph, in so far as it obliges Member States to establish independent bodies performing the tasks referred to in that Article."

Article 2

Member States shall adopt the laws, regulations and administrative provisions necessary to comply with this Directive by 15 March 2003. They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

Article 3

This Directive shall enter into force on the date of its publication in the Official Journal of the European Communities.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 26 February 2001.

For the European Parliament

The President

N. Fontaine

For the Council

The President

A. Lindh

(1) OJ C 321, 20.10.1998, p. 6, and

OJ C 116 E, 26.4.2000, p. 21.

(2) OJ C 209, 22.7.1999, p. 22.

(3) OJ C 57, 29.2.2000, p. 40.

(4) Opinion of the European Parliament of 10 March 1999 (OJ C 175, 21.6.1999, p. 115), confirmed on 16 September 1999 (OJ C 54, 25.2.2000, p. 56), Council Common Position of 28 March 2000 (OJ C 288, 11.10.2000, p. 1) and Decision of the European Parliament of 5 July 2000 (not yet published in the Official Journal). Decision of the European Parliament of 1 February 2001 and Council Decision of 20 December 2000.

(5) OJ L 237, 24.8.1991, p. 25.

(6) OJ L 184, 17.7.1999, p. 23.

(7) See page 29 of this Official Journal.

ANNEX I

PORTS

BELGIE/BELGIQUE

Antwerpen/Anvers

Gent/Gand

Zeebrugge/Zeebruges

DANMARK

Ålborg

Århus

Esbjerg

Fredericia

København

Nyborg

Odense

DEUTSCHLAND
Brake
Bremen/Bremerhaven
Brunsbüttel
Cuxhaven
Emden
Hamburg
Kiel
Lübeck
Nordenham
Puttgarden
Rostock
Sassnitz
Wilhelmshaven
Wismar
ΕΛΛΑΣ
Αλεξανδρούπολις
Ελευσίνα
Πάτρα
Πειραιάς
Θεσσαλονίκη
Βόλος
ESPAÑA
Algeciras
Almería
Barcelona
Bilbao
Cartagena-Escombreras
Gijón
Huelva
Tarragona
Valencia
Vigo
FRANCE
Bayonne
Bordeaux
Boulogne
Calais
Cherbourg
Dunkerque
Fos-Marseille
La Rochelle
Le Havre
Nantes
Port-la-Nouvelle
Rouen
Sète

St-Nazaire
IRELAND
Cork
Dublin
ITALIA
Ancona
Bari
Brindisi
C. Vecchia
Genova
Gioia Tauro
La Spezia
Livorno
Napoli
Piombino
Ravenna
Salerno
Savona
Taranto
Trieste
Venezia
LUXEMBOURG
NEDERLAND
Amsterdam Zeehaven
Delfzijl/Eemshaven
Vlissingen
Rotterdam Zeehaven
Terneuzen
ÖSTERREICH
PORTUGAL
Leixões
Lisboa
Setúbal
Sines
SUOMI/FINLAND
Hamina
Hanko
Helsinki
Kemi
Kokkola
Kotka
Oulu
Pori
Rauma
Tornio
Turku
SVERIGE

Göteborg-Varberg

Helsingborg

Luleå

Malmö

Norrköping

Oxelösund

Stockholm

Trelleborg-Ystad

Umeå

UNITED KINGDOM

All rail-connected ports

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ANNEX II

List of essential functions referred to in Article 6(3):

- preparation and decision making related to the licensing of railway undertakings including granting of individual licenses,

- decision making related to the path allocation including both the definition and the assessment of availability and the allocation of individual train paths,

- decision making related to infrastructure charging,

- monitoring observance of public service obligations required in the provision of certain services.

Appendix 6

32001L0013

Directive 2001/13/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 95/18/EC on the licensing of railway undertakings

Official Journal L 075 , 15/03/2001 P. 0026 - 0028

Directive 2001/13/EC of the European Parliament and of the Council

of 26 February 2001

amending Council Directive 95/18/EC on the licensing of railway undertakings

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 71 thereof,

Having regard to the proposal from the Commission(1),

Having regard to the opinion of the Economic and Social Committee(2),

Having regard to the opinion of the Committee of the Regions(3),

Acting in accordance with the procedure laid down in Article 251 of the Treaty(4), in the light of the joint text approved on 22 November 2000 by the Conciliation Committee,

Whereas:

(1) Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways(5) provides for certain access rights in international rail transport for railway undertakings and international groupings of railway undertakings.

(2) To ensure dependable and adequate services, a common licensing scheme is necessary to ensure that all railway undertakings meet at any time certain requirements in relation to good repute, financial fitness and professional competence in order to protect customers and third parties and offer services observing a high standard of safety.

(3) In order to ensure that access rights to railway infrastructure are applied throughout the Community on a uniform and non-discriminatory basis, Council Directive 95/18/EC(6) introduced a licence for railway undertakings providing the services referred to in Article 10 of Directive 91/440/EEC, this licence being obligatory for the operation of such services and valid throughout the Community.

(4) Since some Member States have extended access rights going beyond Directive 91/440/EEC, it seems necessary to ensure fair, transparent and non-discriminatory treatment of all railway undertakings that may operate in this market by extending the licensing principles laid down by Directive 95/18/EC to all companies active in the sector.

(5) In order better to fulfil the information obligations, Member States and the Commission should ensure better information for all Member States and the Commission. Following common practice and a logical interpretation of Directive 95/18/EC, the information to be given by Member States and the Commission should also cover licenses issued.

(6) It is desirable to ensure that licensed railway undertakings that operate international goods transport respect the relevant customs and tax provisions applicable, in particular regarding customs transit.

(7) In accordance with the principles of subsidiarity and proportionality as set out in Article 5 of the Treaty, the objectives of this Directive, namely to set out broad principles for the licensing of railway undertakings and the mutual recognition of such licences throughout the Community, cannot be sufficiently achieved by the Member States on account of the manifestly international dimension of issuing such licences and can therefore, by reason of its trans-national implications, be better achieved by the Community. This Directive does not go beyond what is necessary to achieve those objectives.

(8) Directive 95/18/EC should be amended accordingly,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Directive 95/18/EC is hereby amended as follows:

1) Article 1 shall be replaced by the following:

"Article 1

1. This Directive concerns the criteria applicable to the issue, renewal or amendment of licences by a Member State intended for railway undertakings which are or will be established in the Community.

2. Member States may exclude from the scope of this Directive:

a) undertakings which only operate rail passenger services on local and regional stand-alone railway infrastructure;

b) railway undertakings which only operate urban or suburban rail passenger services;

c) railway undertakings whose activity is limited to the provision of regional rail freight services that are not covered by the scope of Directive 91/440/EEC;

d) undertakings which only carry out freight operations on privately owned railway infrastructure that exists solely for use by the infrastructure owner for its own freight operations.

3. Undertakings the business of which is limited to providing shuttle services for road vehicles through the Channel Tunnel are excluded from the scope of this Directive."

2) Article 2(a) shall be replaced by the following:

"a) 'railway undertaking' shall mean any public or private undertaking the principal business of which is to provide services for the transport of goods and/or passengers by rail with a requirement that the undertaking must ensure traction; this also includes undertakings which provide traction only";

3. Article 3 shall be replaced by the following:

"Article 3

Each Member State shall designate the body responsible for issuing licences and for carrying out the obligations imposed by this Directive. The task of issuing licences shall be carried out by a body which does not provide rail transport services itself and is independent of bodies or undertakings that do so."

4) The following paragraph shall be added to Article 4:

"5. A licence shall be valid throughout the territory of the Community."

5) Article 6, fourth indent shall be replaced by the following:

"- has/have not been convicted of serious or repeated failure to fulfil social- or labour-law obligations, including obligations under occupational safety and health legislation, and customs-law obligations in case of a company seeking to operate cross-border goods transport subject to customs procedures";

6) Article 11(8) shall be replaced by the following:

"8. When a licensing authority issues, suspends, revokes or amends a licence, the Member State concerned shall immediately inform the Commission accordingly. The Commission shall inform the other Member States forthwith".

7) Articles 12 and 13 shall be replaced by the following:

"Article 12

1. In addition to the requirements of this Directive, a railway undertaking shall also comply with national law and regulatory provisions which are compatible with Community law and are applied in a non-discriminatory manner, in particular:

a) specific technical and operational requirements for rail services;

b) safety requirements applying to staff, rolling stock and the internal organisation of the undertaking;

c) provisions on health, safety, social conditions and the rights of workers and consumers;

d) requirements applying to all undertakings in the relevant railway sector designed to offer

benefits or protection to consumers.

2. A railway undertaking may at any time refer to the Commission the question of the compatibility of the requirements of national law with Community law and also the question of whether such requirements are applied in a non-discriminatory manner. If the Commission considers that the provisions of this Directive have not been fulfilled, it shall deliver an opinion on the correct interpretation of the Directive without prejudice to Article 226 of the Treaty.

Article 13

Railway undertakings shall respect the agreements applicable to international rail transport in force in the Member States in which they operate. They also shall observe the relevant customs and tax provisions."

Article 2

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 15 March 2003. They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

Article 3

This Directive shall enter into force on the day of its publication in the Official Journal of the European Communities.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 26 February 2001.

For the European Parliament

The President

N. Fontaine

For the Council

The President

A. Lindh

(1) OJ C 321, 20.10.1998, p. 8, and

OJ C 116 E, 26.4.2000, p. 38.

(2) OJ C 209, 22.7.1999, p. 22.

(3) OJ C 57, 29.2.2000, p. 40.

(4) Opinion of the European Parliament of 10 March 1999 (OJ C 175, 21.6.1999, p. 119), confirmed on 16 September 1999 (OJ C 54, 25.2.2000, p. 56), Council Common Position of 28 March 2000 (OJ C 178, 27.6.2000, p. 23) and Decision of the European Parliament of 5 July 2000 (not yet published in the Official Journal). Decision of the European Parliament of 1 February 2001 and Council Decision of 20 December 2000.

(5) OJ L 237, 24.8.1991, p. 25. Directive as amended by Directive 2001/12/EC of the European Parliament and of the Council (see page 1 of this Official Journal).

(6) OJ L 143, 27.6.1995, p. 70.

Appendix 7

32001L0014

Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification

Official Journal L 075 , 15/03/2001 P. 0029 - 0046

Directive 2001/14/EC of the European Parliament and of the Council

of 26 February 2001

on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 71 thereof,

Having regard to the proposal from the Commission(1),

Having regard to the opinion of the Economic and Social Committee(2),

Having regard to the opinion of the Committee of the Regions(3),

Acting in accordance with the procedure laid down in Article 251 of the Treaty(4) in the light of the joint text approved on 22 November 2000 by the Conciliation Committee,

Whereas:

(1) Greater integration of the Community railway sector is an essential element of the completion of the internal market and moving towards achieving sustainable mobility.

(2) Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways(5) provides for certain access rights in international rail transport for railway undertakings, and international groupings of railway undertakings; these rights mean that railway infrastructure can be used by multiple users.

(3) Council Directive 95/19/EC of 19 June 1995 on the allocation of railway infrastructure capacity and the charging of infrastructure fees(6) set out a broad framework for the allocation of railway infrastructure capacity.

(4) Those Directives have not prevented a considerable variation in the structure and level of railway infrastructure charges and the form and duration of capacity allocation processes.

(5) To ensure transparency and non-discriminatory access to rail infrastructure for all railway undertakings all the necessary information required to use access rights are to be published in a network statement.

(6) Appropriate capacity-allocation schemes for rail infrastructure coupled with competitive operators will result in a better balance of transport between modes.

(7) Encouraging optimal use of the railway infrastructure will lead to a reduction in the cost of transport to society.

(8) An efficient freight sector, especially across borders, requires action for the opening up of the market.

(9) It should be possible for Member States to allow purchasers of railway services to enter directly the capacity-allocation process.

(10) The revitalisation of European railways by means of extended access for international freight on the Trans-European Rail Freight Network requires fair intermodal competition between rail and road, particularly by taking appropriate account of the different external effects; appropriate charging schemes for rail infrastructure coupled with appropriate charging schemes for other transport infrastructures and competitive operators will result in an optimal balance of different transport modes.

(11) The charging and capacity allocation schemes should permit equal and non-discriminatory access for all undertakings and attempt as far as possible to meet the needs of all users and traffic types in a fair and non-discriminatory manner.

(12) Within the framework set out by Member States charging and capacity-allocation schemes should encourage railway infrastructure managers to optimise use of their infrastructure.

(13) Railway undertakings should receive clear and consistent signals from capacity allocation schemes which lead them to make rational decisions.

(14) In order to take into account the needs of users, or potential users, of railway infrastructure capacity to plan their business, and to the needs of customers and funders, it is important that the infrastructure manager ensures that infrastructure capacity is allocated in a way which reflects the need to maintain and improve service reliability levels.

(15) It is desirable for railway undertakings and the infrastructure manager to be provided with incentives to minimise disruption and improve performance of the network.

(16) Charging and capacity allocation schemes should allow for fair competition in the provision of railway services.

(17) It is important to have regard to the business requirements of both applicants and the infrastructure manager.

(18) It is important to maximise the flexibility available to the infrastructure managers with regard to the allocation of infrastructure capacity, but this must be consistent with satisfaction of the applicant's reasonable requirements.

(19) The capacity allocation process must prevent the imposition of undue constraints on the wishes of other undertakings holding, or intending to hold, rights to use the infrastructure to develop their business.

(20) It is desirable to grant some degree of flexibility to infrastructure managers to enable a more efficient use to be made of the infrastructure network.

(21) Capacity allocation and charging schemes may need to take account of the fact that different components of the rail infrastructure network may have been designed with different principal users in mind.

(22) The requirements for passenger services may often conflict with the requirements for freight; the requirements for passenger services may result in a network which is more costly to build and maintain than one designed solely for freight; the increasing speed differential between freight and passenger rolling stock can lead to an exacerbation of the conflict between these two types of traffic.

(23) Different users and types of users will frequently have a different impact on infrastructure capacity and the needs of different services need to be properly balanced.

(24) Services operated under contract to a public authority may require special rules to safeguard their attractiveness to users.

(25) The charging and capacity allocation schemes must take account of the effects of increasing saturation of infrastructure capacity and ultimately the scarcity of capacity.

(26) The different time-frames for planning traffic types mean that it is desirable to ensure that requests for infrastructure capacity which are made after the completion of the timetabling process can be satisfied.

(27) The use of information technology can enhance the speed and responsiveness of the timetabling process and improve the ability of applicants to bid for infrastructure capacity, as well as improving the ability to establish train paths which cross more than one infrastructure manager's network.

(28) To ensure the optimum outcome for railway undertakings, it is desirable to require an examination of the use of infrastructure capacity when the coordination of requests for capacity is required to meet the needs of users.

(29) In view of the monopolistic position of the infrastructure managers it is desirable to require an examination of the available infrastructure capacity, and methods of enhancing it when the capacity allocation process is unable to meet the requirements of users.

(30) A lack of information about other railway undertakings' requests as well as about the constraints within the system may make it difficult for railway undertakings to seek to optimise their infrastructure capacity requests.

(31) It is important to ensure the better coordination of allocation schemes so as to ensure the improved attractiveness of rail for traffic which uses the network of more than one infrastructure manager, in particular for international traffic.

(32) It is important to minimise the distortions of competition which may arise, either between railway infrastructures or between transport modes, from significant differences in charging principles.

(33) It is desirable to define those components of the infrastructure service which are essential to enable an operator to provide a service and which should be provided in return for minimum access charges.

(34) Investment in railway infrastructure is desirable and infrastructure charging schemes should provide incentives for infrastructure managers to make appropriate investments where they are economically attractive.

(35) Any charging scheme will send economic signals to users. It is important that those signals to railway undertakings should be consistent and lead them to make rational decisions.

(36) To enable the establishment of appropriate and fair levels of infrastructure charges, infrastructure managers need to record and establish the valuation of their assets and develop a clear understanding of cost factors in the operation of the infrastructure.

(37) It is desirable to ensure that account is taken of external costs when making transport decisions.

(38) It is important to ensure that charges for international traffic are such as to permit rail to meet the needs of the market; consequently infrastructure charging should be set at the cost that is directly incurred as a result of operating the train service.

(39) The overall level of cost recovery through infrastructure charges affects the necessary level of government contribution; Member States may require different levels of overall cost recovery through charges including mark-ups or a rate of return which the market can bear while balancing cost recovery with intermodal competitiveness of rail freight. However, it is desirable for any infrastructure charging scheme to enable traffic to use the rail network which can at least pay for the additional cost which it imposes.

(40) A railway infrastructure is a natural monopoly. It is therefore necessary to provide infrastructure managers with incentives to reduce costs and manage their infrastructure efficiently.

(41) Account should be taken of the fact that for a great many years the level of investment in infrastructure and technology has not made it possible to create the conditions for any real development of railway transport. It is therefore advisable, against this background, for appropriate upgrading to be carried out, in particular in the context of setting up the Trans-European Rail Freight Network, by using inter alia the Community instruments available, without prejudice to priorities already established.

(42) Discounts which are allowed to railway undertakings must relate to actual administrative cost savings experienced; discounts may also be used to promote the efficient use of infrastructure.

(43) It is desirable for railway undertakings and the infrastructure manager to be provided with incentives to minimise disruption of the network.

(44) The allocation of capacity is associated with a cost to the infrastructure manager, payment for which should be required.

(45) Measures are needed to ensure that all railway undertakings licensed under Community law are required to hold an appropriate safety certificate before operating on the territory of a Member State; the granting of safety certificates must comply with Community law.

(46) The efficient management and fair and non-discriminatory use of rail infrastructure require the establishment of a regulatory body that oversees the application of these Community rules and acts as an appeal body, notwithstanding the possibility of judicial review.

(47) Specific measures are required to take account of the specific geopolitical and geographical situation of certain Member States as well as a specific organisation of the railway sector in various Member States while ensuring the integrity of the internal market.

(48) The measures necessary for the implementation of this Directive should be adopted in

accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission(7).

(49) In accordance with the principles of subsidiarity and proportionality as set out in Article 5 of the Treaty, the objectives of this Directive, namely to coordinate arrangements in the Member States governing the allocation of railway infrastructure capacity and the charges made for the use thereof as well as safety certification, cannot be sufficiently achieved by the Member States in view of the need to ensure fair and non-discriminatory terms for access to the infrastructure as well as to take account of the manifestly international dimensions involved in the operation of significant elements of the railway networks, and can therefore, by reason of the need for coordinated trans-national action, be better achieved by the Community. This Directive does not go beyond what is necessary to achieve those objectives.

(50) Council Regulation (EEC) No 2830/77 of 12 December 1977 on the measures necessary to achieve comparability between the accounting systems and annual accounts of railway undertakings(8), Council Regulation (EEC) No 2183/78 of 19 September 1978 laying down uniform costing principles for railway undertakings(9), Council Decision 82/529/EEC of 19 July 1982 on the fixing of rates for the international carriage of goods by rail(10), Council Decision 83/418/EEC of 25 July 1983 on the commercial independence of the railways in the management of their international passenger and luggage traffic(11), and Directive 95/19/EC are superseded by this Directive and should therefore be repealed,

HAVE ADOPTED THIS DIRECTIVE:

CHAPTER I

INTRODUCTORY PROVISIONS

Article 1

Scope

1. This Directive concerns the principles and procedures to be applied with regard to the setting and charging of railway infrastructure charges and the allocation of railway infrastructure capacity.

Member States shall ensure that charging and capacity allocation schemes for railway infrastructure follow the principles set down in this Directive and thus allow the infrastructure manager to market and make optimum effective use of the available infrastructure capacity.

2. This Directive applies to the use of railway infrastructure for domestic and international rail services.

3. Member States may exclude from the scope of this Directive:

a) stand-alone local and regional networks for passenger services on railway infrastructure;

b) networks intended only for the operation of urban or suburban passenger services;

c) regional networks which are used for regional freight services solely by a railway undertaking that is not covered by the scope of Directive 91/440/EEC until capacity on that network is requested by another applicant;

d) privately owned railway infrastructure that exists solely for use by the infrastructure owner for its own freight operations.

4. Transport operations in the form of shuttle services for road vehicles through the Channel Tunnel are excluded from the scope of this Directive.

Article 2

Definitions

For the purpose of this Directive:

a) "allocation" means the allocation of railway infrastructure capacity by an infrastructure manager;

b) "applicant" means a licensed railway undertaking and/or an international grouping of railway undertakings, and, in Member States which provide for such a possibility, other persons and/or legal entities with public service or commercial interest in procuring infrastructure capacity, such as public authorities under Regulation (EEC) No 1191/69(12) and shippers, freight forwarders and combined transport operators, for the operation of railway service on their respective territories;

c) "congested infrastructure" means a section of infrastructure for which demand for infrastructure capacity cannot be fully satisfied during certain periods even after coordination

of the different requests for capacity;

d) "capacity enhancement plan" means a measure or series of measures with a calendar for their implementation which are proposed to alleviate the capacity constraints leading to the declaration of a section of infrastructure as "congested infrastructure";

e) "coordination" means the process through which the allocation body and applicants will attempt to resolve situations in which there are conflicting applications for infrastructure capacity;

f) "framework agreement" means a legally binding general agreement on the basis of public or private law, setting out the rights and obligations of an applicant and the infrastructure manager or the allocation body in relation to the infrastructure capacity to be allocated and the charges to be levied over a period longer than one working timetable period;

g) "infrastructure capacity" means the potential to schedule train paths requested for an element of infrastructure for a certain period;

h) "infrastructure manager" means any body or undertaking that is responsible in particular for establishing and maintaining railway infrastructure. This may also include the management of infrastructure control and safety systems. The functions of the infrastructure manager on a network or part of a network may be allocated to different bodies or undertakings;

i) "network" means the entire railway infrastructure owned and/or managed by an infrastructure manager;

j) "network statement" means the statement which sets out in detail the general rules, deadlines, procedures and criteria concerning the charging and capacity allocation schemes. It shall also contain such other information as is required to enable application for infrastructure capacity;

k) "railway undertaking" means any public or private undertaking, licensed according to applicable Community legislation, the principal business of which is to provide services for the transport of goods and/or passengers by rail with a requirement that the undertaking must ensure traction; this also includes undertakings which provide traction only;

l) "train path" means the infrastructure capacity needed to run a train between two places over a given time-period;

m) "working timetable" means the data defining all planned train and rolling-stock movements which will take place on the relevant infrastructure during the period for which it is in force.

Article 3

Network statement

1. The infrastructure manager shall, after consultation with the interested parties, develop and publish a network statement obtainable against payment of a duty which may not exceed the cost of publishing that statement.

2. The network statement shall set out the nature of the infrastructure which is available to railway undertakings. It shall contain information setting out the conditions for access to the relevant railway infrastructure. The content of the network statement is laid down in Annex I.

3. The network statement shall be kept up to date and modified as necessary.

4. The network statement shall be published no less than four months in advance of the deadline for requests for infrastructure capacity.

CHAPTER II

INFRASTRUCTURE CHARGES

Article 4

Establishing, determining and collecting charges

1. Member States shall establish a charging framework while respecting the management independence laid down in Article 4 of Directive 91/440/EEC.

Subject to the said condition of management independence, Member States shall also establish specific charging rules or delegate such powers to the infrastructure manager. The determination of the charge for the use of infrastructure and the collection of this charge shall be performed by the infrastructure manager.

2. Where the infrastructure manager, in its legal form, organisation or decision-making

functions, is not independent of any railway undertaking, the functions, described in this chapter, other than collecting the charges shall be performed by a charging body that is independent in its legal form, organisation and decision-making from any railway undertaking.

3. Infrastructure managers shall cooperate to achieve the efficient operation of train services which cross more than one infrastructure network. They shall in particular aim to guarantee the optimum competitiveness of international rail freight and ensure the efficient utilisation of the Trans-European Rail Freight Network. They may establish such joint organisations as are appropriate to enable this to take place. Any cooperation or joint organisation shall be bound by the rules set out in this Directive.

4. Except where specific arrangements are made under Article 8(2), infrastructure managers shall ensure that the charging scheme in use is based on the same principles over the whole of their network.

5. Infrastructure managers shall ensure that the application of the charging scheme results in equivalent and non-discriminatory charges for different railway undertakings that perform services of equivalent nature in a similar part of the market and that the charges actually applied comply with the rules laid down in the network statement.

6. An infrastructure manager or charging body shall respect the commercial confidentiality of information provided to it by applicants.

Article 5

Services

1. Railway undertakings shall, on a non-discriminatory basis, be entitled to the minimum access package and track access to service facilities that are described in Annex II. The supply of services referred to in Annex II, point 2 shall be provided in a non-discriminatory manner and requests by railway undertakings may only be rejected if viable alternatives under market conditions exist. If the services are not offered by one infrastructure manager, the provider of the "main infrastructure" shall use all reasonable endeavours to facilitate the provision of these services.

2. Where the infrastructure manager offers any of the range of services described in Annex II, point 3 as additional services he shall supply them upon request to a railway undertaking.

3. Railway undertakings may request a further range of ancillary services, listed in Annex II, point 4 from the infrastructure manager or from other suppliers. The infrastructure manager is not obliged to supply these services.

Article 6

Infrastructure cost and accounts

1. Member States shall lay down conditions, including where appropriate advance payments, to ensure that, under normal business conditions and over a reasonable time period, the accounts of an infrastructure manager shall at least balance income from infrastructure charges, surpluses from other commercial activities and State funding on the one hand, and infrastructure expenditure on the other.

Without prejudice to the possible long-term aim of user cover of infrastructure costs for all modes of transport on the basis of fair, non-discriminatory competition between the various modes, where rail transport is able to compete with other modes of transport, within the charging framework of Articles 7 and 8, a Member State may require the infrastructure manager to balance his accounts without State funding.

2. Infrastructure managers shall, with due regard to safety and to maintaining and improving the quality of the infrastructure service, be provided with incentives to reduce the costs of provision of infrastructure and the level of access charges.

3. Member States shall ensure that the provision set out in paragraph 2 is implemented, either through a contractual agreement between the competent authority and infrastructure manager covering a period of not less than three years which provides for State funding or through the establishment of appropriate regulatory measures with adequate powers.

4. Where a contractual agreement exists, the terms of the contract and the structure of the payments agreed to provide funding to the infrastructure manager shall be agreed in advance to cover the whole of the contract period.

5. A method for apportioning costs shall be established. Member States may require prior approval. This method should be updated from time to time to the best international practice.

Article 7

Principles of charging

1. Charges for the use of railway infrastructure shall be paid to the infrastructure manager and used to fund his business.

2. Member States may require the infrastructure manager to provide all necessary information on the charges imposed. The infrastructure manager must, in this regard, be able to justify that infrastructure charges actually invoiced to each operator, pursuant to Articles 4 to 12, comply with the methodology, rules, and where applicable, scales laid down in the network statement.

3. Without prejudice to paragraphs 4 or 5 or to Article 8, the charges for the minimum access package and track access to service facilities shall be set at the cost that is directly incurred as a result of operating the train service.

4. The infrastructure charge may include a charge which reflects the scarcity of capacity of the identifiable segment of the infrastructure during periods of congestion.

5. The infrastructure charge may be modified to take account of the cost of the environmental effects caused by the operation of the train. Such a modification shall be differentiated according to the magnitude of the effect caused.

Charging of environmental costs which results in an increase in the overall revenue accruing to the infrastructure manager shall however be allowed only if such charging is applied at a comparable level to competing modes of transport.

In the absence of any comparable level of charging of environmental costs in other competing modes of transport, such modification shall not result in any overall change in revenue to the infrastructure manager. If a comparable level of charging of environmental costs has been introduced for rail and competing modes of transport and that generates additional revenue, it shall be for Member States to decide how the revenue shall be used.

6. To avoid undesirable disproportionate fluctuations, the charges referred to in paragraphs 3, 4 and 5 may be averaged over a reasonable spread of train services and times. Nevertheless, the relative magnitudes of the infrastructure charges shall be related to the costs attributable to the services.

7. The supply of services referred to in Annex II, point 2, shall not be covered by this Article. Without prejudice to the foregoing, account shall be taken, in setting the prices for the services set out in Annex II, point 2, of the competitive situation of rail transport.

8. Where services listed in Annex II, points 3 and 4 as additional and ancillary services are offered only by one supplier the charge imposed for such a service shall relate to the cost of providing it, calculated on the basis of the actual level of use.

9. Charges may be levied for capacity used for the purpose of infrastructure maintenance. Such charges shall not exceed the net revenue loss to the infrastructure manager caused by the maintenance.

Article 8

Exceptions to charging principles

1. In order to obtain full recovery of the costs incurred by the infrastructure manager a Member State may, if the market can bear this, levy mark-ups on the basis of efficient, transparent and non-discriminatory principles, while guaranteeing optimum competitiveness in particular of international rail freight. The charging system shall respect the productivity increases achieved by railway undertakings.

The level of charges must not, however, exclude the use of infrastructure by market segments which can pay at least the cost that is directly incurred as a result of operating the railway service, plus a rate of return which the market can bear.

2. For specific investment projects, in the future, or that have been completed not more than 15 years before the entry into force of this Directive, the infrastructure manager may set or continue to set higher charges on the basis of the long-term costs of such projects if they increase efficiency and/or cost-effectiveness and could not otherwise be or have been undertaken. Such a charging arrangement may also incorporate agreements on the sharing of the risk associated with new investments.

3. To prevent discrimination, it shall be ensured that any given infrastructure manager's average and marginal charges for equivalent uses of his infrastructure are comparable and

that comparable services in the same market segment are subject to the same charges. The infrastructure manager shall show in the network statement that the charging system meets these requirements in so far as this can be done without disclosing confidential business information.

4. If an infrastructure manager intends to modify the essential elements of the charging system referred to in paragraph 1, it shall make them public at least three months in advance.

Article 9

Discounts

1. Without prejudice to Articles 81, 82, 86 and 87 of the Treaty and notwithstanding Article 7 (3) of this Directive, any discount on the charges levied on a railway undertaking by the infrastructure manager, for any service, shall comply with the criteria set out in this Article.

2. With the exception of paragraph 3, discounts shall be limited to the actual saving of the administrative cost to the infrastructure manager. In determining the level of discount, no account may be taken of cost savings already internalised in the charge levied.

3. Infrastructure managers may introduce schemes available to all users of the infrastructure, for specified traffic flows, granting time limited discounts to encourage the development of new rail services, or discounts encouraging the use of considerably underutilised lines.

4. Discounts may relate only to charges levied for a specified infrastructure section.

5. Similar discount schemes shall apply for similar services.

Article 10

Compensation schemes for unpaid environmental, accident and infrastructure costs

1. Member States may put in place a time limited compensation scheme for the use of railway infrastructure for the demonstrably unpaid environmental, accident and infrastructure costs of competing transport modes in so far as these costs exceed the equivalent costs of rail.

2. Where an operator receiving compensation enjoys an exclusive right, the compensation must be accompanied by comparable benefits to users.

3. The methodology used and calculations performed must be publicly available. It shall in particular be possible to demonstrate the specific uncharged costs of the competing transport infrastructure that are avoided and to ensure that the scheme is granted on non-discriminatory terms to undertakings.

4. Member States shall ensure that such a scheme is compatible with Articles 73, 87 and 88 of the Treaty.

Article 11

Performance scheme

1. Infrastructure charging schemes shall through a performance scheme encourage railway undertakings and the infrastructure manager to minimise disruption and improve the performance of the railway network. This may include penalties for actions which disrupt the operation of the network, compensation for undertakings which suffer from disruption and bonuses that reward better than planned performance.

2. The basic principles of the performance scheme shall apply throughout the network.

Article 12

Reservation charges

Infrastructure managers may levy an appropriate charge for capacity that is requested but not used. This charge shall provide incentives for efficient use of capacity.

The infrastructure manager shall always be able to inform any interested party of the infrastructure capacity which has been allocated to user railway undertakings.

CHAPTER III

ALLOCATION OF INFRASTRUCTURE CAPACITY

Article 13

Capacity rights

1. Infrastructure capacity shall be allocated by an infrastructure manager, and once allocated to an applicant may not be transferred by the recipient to another undertaking or service.

Any trading in infrastructure capacity shall be prohibited and shall lead to exclusion from the

further allocation of capacity.

The use of capacity by a railway undertaking when carrying out the business of an applicant who is not a railway undertaking shall not be considered a transfer.

2. The right to use specific infrastructure capacity in the form of a train path may be granted to applicants for a maximum duration of one working timetable period.

An infrastructure manager and an applicant may enter into a framework agreement as laid down in Article 17 for the use of capacity on the relevant railway infrastructure for a longer term than one working timetable period.

3. The definition of respective rights and obligations between infrastructure managers and applicants in respect of any allocation of capacity shall be laid down in contracts or legislation.

Article 14

Capacity allocation

1. Member States may establish a framework for the allocation of infrastructure capacity while respecting the management independence laid down in Article 4 of Directive 91/440/EEC. Specific capacity allocation rules shall be established. The infrastructure manager shall perform the capacity allocation processes. In particular, the infrastructure manager shall ensure that infrastructure capacity is allocated on a fair and non-discriminatory basis and in accordance with Community law.

2. Where the infrastructure manager, in its legal form, organisation or decision-making functions is not independent of any railway undertaking, the functions referred to in paragraph 1 and described in this chapter shall be performed by an allocation body that is independent in its legal form, organisation and decision making from any railway undertaking.

3. Infrastructure managers and allocation bodies shall respect the commercial confidentiality of information provided to them

Article 15

Cooperation in the allocation of infrastructure capacity on more than one network

1. Infrastructure managers shall cooperate to enable the efficient creation and allocation of infrastructure capacity which crosses more than one network. They shall organise international train paths, in particular within the framework of the Trans-European Rail Freight Network. They shall establish such procedures as are appropriate to enable this to take place. These procedures shall be bound by the rules set out in this Directive.

The procedure established in order to coordinate the allocation of infrastructure capacity at an international level shall associate representatives of infrastructure managers for all railway infrastructures whose allocation decisions have an impact on more than one other infrastructure manager. Appropriate representatives of infrastructure managers from outside the Community may be associated with these procedures. The Commission shall be informed and invited to attend as an observer.

2. At any meeting or other activity undertaken to permit the allocation of infrastructure capacity for trans-network train services, decisions shall only be taken by representatives of infrastructure managers.

3. The participants in the cooperation referred to paragraph 1 shall ensure that its membership, methods of operation and all relevant criteria which are used for assessing and allocating infrastructure capacity be made publicly available.

4. Working in cooperation as referred to in paragraph 1, infrastructure managers shall assess the need for, and may where necessary propose and organise international train paths to facilitate the operation of freight trains which are subject to an ad hoc request as referred to in Article 23.

Such prearranged international train paths shall be made available to applicants via any of the participating infrastructure managers.

Article 16

Applicants

1. Applications for infrastructure capacity may be made by railway undertakings and their international groupings and, in the territories of those Member States which so allow, by other applicants complying with the definition in Article 2(b). Member States may also allow other applicants to apply for infrastructure capacity on their territories.

2. The infrastructure manager may set requirements with regard to applicants to ensure that its legitimate expectations about future revenues and utilisation of the infrastructure are safeguarded. Such requirements shall be appropriate, transparent and non-discriminatory. The requirements shall be published as part of the allocation principles in the network statement, and the Commission shall be informed.

3. The requirements in paragraph 2 may only include the provision of a financial guarantee that must not exceed an appropriate level which shall be proportional to the contemplated level of activity of the applicant, and assurance of the capability to prepare compliant bids for infrastructure capacity.

Article 17

Framework agreements

1. Without prejudice to Articles 81, 82 and 86 of the Treaty, a framework agreement may be concluded with an applicant. Such a framework agreement specifies the characteristics of the infrastructure capacity required by and offered to the applicant over a period of time exceeding one working timetable period. The framework agreement shall not specify a train path in detail, but should be such as to seek to meet the legitimate commercial needs of the applicant. A Member State may require prior approval of such a framework agreement by the regulatory body referred to in Article 30 of this Directive.

2. Framework agreements shall not be such as to preclude the use of the relevant infrastructure by other applicants or services.

3. A framework agreement shall allow for the amendment or limitation of its terms to enable better use to be made of the railway infrastructure.

4. The framework agreement may contain penalties should it be necessary to modify or terminate the agreement.

5. Framework agreements shall in principle be for a period of five years. The infrastructure manager may agree to a shorter or longer period in specific cases. Any period longer than five years shall be justified by the existence of commercial contracts, specialised investments or risks.

Any period longer than 10 years shall be possible only in exceptional cases, in particular, where there is large-scale, long-term investment, and particularly where such investment is covered by contractual commitments.

6. While respecting commercial confidentiality, the general nature of each framework agreement shall be made available to any interested party.

Article 18

Schedule for the allocation process

1. The infrastructure manager shall adhere to the schedule for capacity allocation set out in Annex III.

2. Infrastructure managers shall agree with the other relevant infrastructure managers concerned which international train paths are to be included in the working timetable, before commencing consultation on the draft working timetable. Adjustments shall only be made if absolutely necessary.

Article 19

Application

1. Applicants may apply on the basis of public or private law to the infrastructure manager to request an agreement granting rights to use railway infrastructure against a charge as provided for in chapter II.

2. Requests relating to the regular working timetable must adhere to the deadlines set out in Annex III.

3. An applicant who is a party to a framework agreement shall apply in accordance with that agreement.

4. Applicants may request infrastructure capacity crossing more than one network by applying to one infrastructure manager. That infrastructure manager shall then be permitted to act on behalf of the applicant to seek capacity with the other relevant infrastructure managers.

5. Infrastructure managers shall ensure that, for infrastructure capacity crossing more than one network, applicants may apply direct to any joint body which the infrastructure managers

may establish.

Article 20

Scheduling

1. The infrastructure manager shall as far as is possible meet all requests for infrastructure capacity including requests for train paths crossing more than one network, and shall as far as possible take account of all constraints on applicants, including the economic effect on their business.

2. The infrastructure manager may give priority to specific services within the scheduling and coordination process but only as set out in Articles 22 and 24.

3. The infrastructure manager shall consult interested parties about the draft working timetable and allow them at least one month to present their views. Interested parties shall include all those who have requested infrastructure capacity as well as other parties who wish to have the opportunity to comment on how the working timetable may affect their ability to procure rail services during the working timetable period.

4. The infrastructure manager shall take appropriate measures to deal with any concerns that are expressed.

Article 21

Coordination process

1. During the scheduling process referred to in Article 20, when the infrastructure manager encounters conflicts between different requests he shall attempt, through coordination of the requests, to ensure the best possible matching of all requirements.

2. When a situation requiring coordination arises, the infrastructure manager shall have the right, within reasonable limits, to propose infrastructure capacity that differs from that which was requested.

3. The infrastructure manager shall attempt, through consultation with the appropriate applicants, to achieve a resolution of any conflicts.

4. The principles governing the coordination process shall be defined in the network statement. These shall in particular reflect the difficulty of arranging international train paths and the effect that modification may have on other infrastructure managers.

5. When requests for infrastructure capacity cannot be satisfied without coordination, the infrastructure manager shall attempt to accommodate all requests through coordination.

6. Without prejudice to the existing appeal procedures and to the provisions of Article 30, in case of disputes relating to the allocation of infrastructure capacity, a dispute resolution system shall be made available in order to resolve such disputes promptly. If this system is applied, a decision shall be reached within a time limit of 10 working days.

Article 22

Congested infrastructure

1. Where after coordination of the requested paths and consultation with applicants it is not possible to satisfy requests for infrastructure capacity adequately then the infrastructure manager must immediately declare that element of infrastructure on which this has occurred to be congested. This shall also be done for infrastructure which it can be foreseen will suffer from insufficient capacity in the near future.

2. When infrastructure has been declared to be congested, the infrastructure manager shall carry out a capacity analysis as described in Article 25, unless a capacity enhancement plan as described in Article 26 is already being implemented.

3. When charges in accordance with Article 7(4) have not been levied or have not achieved a satisfactory result and the infrastructure has been declared to be congested, the infrastructure manager may in addition employ priority criteria to allocate infrastructure capacity.

4. The priority criteria shall take account of the importance of a service to society, relative to any other service which will consequently be excluded.

In order to guarantee within this framework the development of adequate transport services, in particular to comply with public-service requirements or promote the development of rail freight, Member States may take any measures necessary, under non-discriminatory conditions, to ensure that such services are given priority when infrastructure capacity is

allocated.

Member States may, where appropriate, grant the infrastructure manager compensation corresponding to any loss of revenue related to the need to allocate a given capacity to certain services pursuant to the previous subparagraph.

This shall include taking account of the effect of this exclusion in other Member States.

5. The importance of freight services and in particular international freight services shall be given adequate consideration in determining priority criteria.

6. The procedures which shall be followed and criteria used where infrastructure is congested shall be set out in the network statement.

Article 23

Ad hoc requests

1. The infrastructure manager shall respond to ad hoc requests for individual train paths as quickly as possible, and in any event, within five working days. Information supplied on available spare capacity shall be made available to all applicants who may wish to use this capacity.

2. Infrastructure managers shall where necessary undertake an evaluation of the need for reserve capacity to be kept available within the final scheduled working timetable to enable them to respond rapidly to foreseeable ad hoc requests for capacity. This shall also apply in cases of congested infrastructure.

Article 24

Specialised infrastructure

1. Without prejudice to paragraph 2, infrastructure capacity shall be considered to be available for the use of all types of service which conform to the characteristics necessary for operation on the train path.

2. Where there are suitable alternative routes, the infrastructure manager may, after consultation with interested parties, designate particular infrastructure for use by specified types of traffic. Without prejudice to Articles 81, 82 and 86 of the Treaty, when such designation has occurred, the infrastructure manager may give priority to this type of traffic when allocating infrastructure capacity.

Such designation shall not prevent the use of such infrastructure by other types of traffic when capacity is available and when the rolling stock conforms to the technical characteristics necessary for operation on the line.

3. When infrastructure has been designated pursuant to paragraph 2, this shall be described in the network statement.

Article 25

Capacity analysis

1. The objective of capacity analysis is to determine the restrictions on infrastructure capacity which prevent requests for capacity from being adequately met, and to propose methods of enabling additional requests to be satisfied. This analysis shall identify the reasons for the congestion and what measures might be taken in the short and medium term to ease the congestion.

2. The analysis shall consider the infrastructure, the operating procedures, the nature of the different services operating and the effect of all these factors on infrastructure capacity. Measures to be considered shall include in particular re-routing of services, re-timing services, speed alterations and infrastructure improvements.

3. A capacity analysis shall be completed within six months of the identification of infrastructure as congested.

Article 26

Capacity enhancement plan

1. Within six months of the completion of a capacity analysis, the infrastructure manager shall produce a capacity enhancement plan.

2. A capacity enhancement plan shall be developed after consultation with users of the relevant congested infrastructure.

It shall identify:

a) the reasons for the congestion;

b) the likely future development of traffic;

c) the constraints on infrastructure development;

d) the options and costs for capacity enhancement, including likely changes to access charges.

It shall also, on the basis of a cost benefit analysis of the possible measures identified, determine what action shall be taken to enhance infrastructure capacity, including a calendar for implementation of the measures.

The plan may be subject to prior approval by the Member State.

3. The infrastructure manager shall cease to levy any fees which are levied for the relevant infrastructure under Article 7(4) in cases where:

a) he does not produce a capacity enhancement plan; or

b) he does not make progress with the action plan identified in the capacity enhancement plan.

However, the infrastructure manager may, subject to the approval of the regulatory body referred to in Article 30 continue to levy those fees if:

a) the capacity enhancement plan cannot be realised for reasons beyond his control; or

b) the options available are not economically or financially viable.

Article 27

Use of train paths

1. In particular for congested infrastructure the infrastructure manager shall require the surrender of a train path which, over a period of at least one month, has been used less than a threshold quota to be laid down in the network statement, unless this was due to non-economic reasons beyond the operator's control.

2. An infrastructure manager may specify in the network statement conditions whereby it will take account of previous levels of utilisation of train paths in determining priorities for the allocation process.

Article 28

Infrastructure capacity for scheduled maintenance

1. Requests for infrastructure capacity to enable maintenance to be performed shall be submitted during the scheduling process.

2. Adequate account shall be taken by the infrastructure manager of the effect of infrastructure capacity reserved for scheduled track maintenance on applicants.

Article 29

Special measures to be taken in the event of disturbance

1. In the event of disturbance to train movements caused by technical failure or accident the infrastructure manager must take all necessary steps to restore the normal situation. To that end he shall draw up a contingency plan listing the various public bodies to be informed in the event of serious incidents or serious disturbance to train movements.

2. In an emergency and where absolutely necessary on account of a breakdown making the infrastructure temporarily unusable, the paths allocated may be withdrawn without warning for as long as is necessary to repair the system.

The infrastructure manager may, if he deems it necessary, require railway undertakings to make available to him the resources which he feels are the most appropriate to restore the normal situation as soon as possible.

3. Member States may require railway undertakings to be involved in assuring the enforcement and monitoring of their own compliance of the safety standards and rules.

CHAPTER IV

GENERAL MEASURES

Article 30

Regulatory body

1. Without prejudice to Article 21(6), Member States shall establish a regulatory body. This

body, which can be the Ministry responsible for transport matters or any other body, shall be independent in its organisation, funding decisions, legal structure and decision-making from any infrastructure manager, charging body, allocation body or applicant. The body shall function according to the principles outlined in this Article whereby appeal and regulatory functions may be attributed to separate bodies.

2. An applicant shall have a right to appeal to the regulatory body if it believes that it has been unfairly treated, discriminated against or is in any other way aggrieved, and in particular against decisions adopted by the infrastructure manager or where appropriate the railway undertaking concerning:

a) the network statement;

b) criteria contained within it;

c) the allocation process and its result;

d) the charging scheme;

e) level or structure of infrastructure fees which it is, or may be, required to pay;

f) safety certificate, enforcement and monitoring of the safety standards and rules.

3. The regulatory body shall ensure that charges set by the infrastructure manager comply with chapter II and are non-discriminatory. Negotiation between applicants and an infrastructure manager concerning the level of infrastructure charges shall only be permitted if these are carried out under the supervision of the regulatory body. The regulatory body shall intervene if negotiations are likely to contravene the requirements of this Directive.

4. The regulatory body shall have the power to request relevant information from the infrastructure manager, applicants and any third party involved within the Member State concerned, which must be supplied without undue delay.

5. The regulatory body shall be required to decide on any complaints and take action to remedy the situation within a maximum period of two months from receipt of all information.

Notwithstanding paragraph 6, a decision of the regulatory body shall be binding on all parties covered by that decision.

In the event of an appeal against a refusal to grant infrastructure capacity, or against the terms of an offer of capacity, the regulatory body shall either confirm that no modification of the infrastructure manager's decision is required, or it shall require modification of that decision in accordance with directions specified by the regulatory body.

6. Member States shall take the measures necessary to ensure that decisions taken by the regulatory body are subject to judicial review.

Article 31

Cooperation of regulatory bodies

The national regulatory bodies shall exchange information about their work and decision-making principles and practice for the purpose of coordinating their decision-making principles across the Community. The Commission shall support them in this task.

Article 32

Safety certification

1. The arrangements for safety certification for railway undertakings which are or will be established in the Community and the international groupings which they form shall be in accordance with this Article.

2. The Member States shall provide for their respective territories that a safety certificate in which the railway undertakings' safety requirements are set out be submitted in order to ensure safe service on the routes concerned.

3. In order to obtain the safety certificate, the railway undertaking shall comply with the regulations under national law, compatible with Community law and applied in a non-discriminatory manner, laying down the technical and operational requirements specific to rail services and the safety requirements applying to staff, rolling stock and the undertaking's internal organisation.

In particular, it shall provide proof that the staff whom it employs to operate and accompany the trains has the necessary training to comply with the traffic rules applied by the infrastructure manager and to meet the safety requirements imposed on it in the interests of train movement.

The railway undertaking shall also prove that the rolling stock making up the trains has been approved by the public authority or by the infrastructure manager and checked in accordance with the operating rules applicable to the infrastructure used. The safety certificate shall be issued by whichever body is designated for the purpose by the Member State in which the infrastructure used is situated.

Article 33

Derogations

1. For a period of five years from 15 March 2003, the following Member States:

- Ireland, as a Member State located on an island, with a rail link to only one other Member State,

- the United Kingdom, in respect of Northern Ireland, on the same basis, and

- Greece, as a Member State that does not have any direct rail link to any other Member State,

do not need to apply the requirements set out in:

a) Articles 3, 4(2), 13, 14, 17, 21(4), 21(6), 22, 24(3), 25 to 28 and 30 on the condition that decisions on the allocation of infrastructure capacity or the charging of fees are open to appeal, when so requested in writing by a railway undertaking, before an independent body which shall take its decision within two months of the submission of all relevant information and whose decision shall be subject to judicial review, and

b) Article 32 in so far as rail transport services falling outside the scope of Article 10 of Directive 91/440/EEC are concerned.

2. However, where:

a) more than one railway undertaking licensed in accordance with Article 4 of Directive 95/18/EC, or, in the case of Ireland and Northern Ireland, a railway company so licensed elsewhere submits an official application to operate competing railway services in, to or from Ireland, Northern Ireland or Greece, the continued applicability of this derogation will be decided upon in accordance with the advisory procedure referred to in Article 35(2); or

b) a railway undertaking operating railway services in Ireland, Northern Ireland or Greece submits an official application to operate railway services on, to or from the territory of another Member State (in the case of Ireland, or the United Kingdom, in respect of Northern Ireland, or both, another Member State outside their territories), the derogations referred to in paragraph 1 shall not apply.

Within one year from the receipt of either the decision referred to in point (a) adopted in accordance with the advisory procedure referred to in Article 35(2), or notification of the official application referred to in point (b), the Member State or States concerned (Ireland, the United Kingdom with respect to Northern Ireland, or Greece) shall put in place legislation to implement the Articles referred to in paragraph 1.

3. A derogation referred to in paragraph 1 may be renewed for periods not longer than five years. Not later than 12 months before the expiry date of the derogation a Member State availing itself of such derogation may address a request to the Commission for a renewed derogation. Any such request must be substantiated. The Commission shall examine such a request and adopt a decision in accordance with the advisory procedure referred to in Article 35(2). The said advisory procedure shall apply to any decision related to the request.

When adopting its decision the Commission shall take into account any development in the geopolitical situation and the development of the rail market in, from and to the Member State having requested the renewed derogation.

4. Luxembourg as a Member State with a relatively small rail network does not need to apply until 31 August 2004 the requirement to award to an independent body the functions determining equitable and non-discriminatory access to infrastructure, as provided for in Articles 4 and 14 in so far as they oblige Member States to establish independent bodies performing the tasks referred to in those Articles.

CHAPTER V

FINAL PROVISIONS

Article 34

Implementing measures

1. Member States may bring any question concerning the implementation of this Directive to the attention of the Commission. Appropriate decisions shall be adopted in accordance with the advisory procedure referred to in Article 35(2).

2. At the request of a Member State or on its own initiative the Commission shall, in a specific case, examine the application and enforcement of provisions concerning charging, capacity allocation and safety certification, and within two months of receipt of such a request decide in accordance with the advisory procedure referred to in Article 35(2) whether the related measure may continue to be applied. The Commission shall communicate its decision to the European Parliament, the Council and to the Member States.

Without prejudice to Article 226 of the Treaty, any Member State may refer the Commission's decision to the Council within a time limit of one month. The Council, acting by a qualified majority, may in exceptional circumstances take a different decision within a period of one month.

3. The amendments necessary to adapt the Annexes shall be adopted in accordance with the regulatory procedure referred to in Article 35(3).

Article 35

Committee procedures

1. The Commission shall be assisted by a Committee.

2. Where reference is made to this paragraph, Articles 3 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

3. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

4. The Committee shall adopt its rules of procedure.

Article 36

Report

The Commission shall by 15 March 2005 submit to the European Parliament and to the Council a report on the implementation of this Directive, accompanied if necessary by proposals for further Community action.

Article 37

Repeals

Regulation (EEC) No 2830/77, Regulation (EEC) No 2183/78, Decision 82/529/EEC, Decision 83/418/EEC and Directive 95/19/EC are hereby repealed.

Article 38

Implementation

The Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 15 March 2003. They shall forthwith inform the Commission thereof.

When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

Article 39

Entry into force

This Directive shall enter into force on the date of its publication in the Official Journal of the European Communities.

Article 40

Addressees

This Directive is addressed to the Member States.

Done at Brussels, 26 February 2001.

For the European Parliament

The President

N. Fontaine

For the Council

The President

A. Lindh

(1) OJ C 321, 20.10.1998, p. 10, and

OJ C 116 E, 26.4.2000, p. 40.

(2) OJ C 209, 22.7.1999, p. 22.

(3) OJ C 57, 29.2.2000, p. 40.

(4) Opinion of the European Parliament of 10 March 1999 (OJ C 175, 21.6.1999, p. 120), confirmed on 27 October 1999 (OJ C 154, 5.6.2000, p. 22), Council Common Position of 28 March 2000 (OJ C 178, 27.6.2000, p. 28) and Decision of the European Parliament of 5 July 2000 (not yet published in the Official Journal), Decision of the European Parliament of 1 February 2001 and Council Decision of 20 December 2000.

(5) OJ L 237, 24.8.1991, p. 25. Directive as amended by Directive 2001/12/EC of the European Parliament and of the Council (see page 1 of this Official Journal).

(6) OJ L 143, 27.6.1995, p. 75.

(7) OJ L 184, 17.7.1999, p. 23.

(8) OJ L 334, 24.12.1977, p. 13. Regulation as last amended by the 1994 Act of Accession.

(9) OJ L 258, 21.9.1978, p. 1. Regulation as last amended by the 1994 Act of Accession.

(10) OJ L 234, 9.8.1982, p. 5. Regulation as last amended by the 1994 Act of Accession.

(11) OJ L 237, 26.8.1983, p. 32. Regulation as last amended by the 1994 Act of Accession.

(12) Regulation (EEC) No 1191/69 of the Council of 26 June 1969 on action by Member States concerning the obligations inherent in the concept of a public service in transport by rail, road and inland waterway (OJ L 156, 28.6.1969, p. 1). Regulation as last amended by Regulation (EC) No 1893/91 (OJ L 169, 29.6.1991, p. 1).

ANNEX I

Contents of the network statement

The network statement referred to in Article 3 shall contain the following information:

1. A section setting out the nature of the infrastructure which is available to railway undertakings and the conditions of access to it.

2. A section on charging principles and tariffs. This shall contain appropriate details of the charging scheme as well as sufficient information on charges that apply to the services listed in Annex II which are provided by only one supplier. It shall detail the methodology, rules and, where applicable, scales used for the application of Article 7(4) and (5) and Articles 8 and 9. It shall contain information on changes in charges already decided upon or foreseen.

3. A section on the principles and criteria for capacity allocation. This shall set out the general capacity characteristics of the infrastructure which is available to railway undertakings and any restrictions relating to its use, including likely capacity requirements for maintenance. It shall also specify the procedures and deadlines which relate to the capacity allocation process. It shall contain specific criteria which are employed during that process, in particular:

a) the procedures according to which applicants may request capacity from the infrastructure manager;

b) the requirements governing applicants;

c) the schedule for the application and allocation processes;

d) the principles governing the coordination process;

e) the procedures which shall be followed and criteria used where infrastructure is congested;

f) details of restrictions on the use of infrastructure;

g) any conditions by which account is taken of previous levels of utilisation of capacity in determining priorities for the allocation process.

It shall detail the measures taken to ensure the adequate treatment of freight services, international services and requests subject to the ad hoc procedure.

ANNEX II

Services to be supplied to the railway undertakings

1. The minimum access package shall comprise:

a) handling of requests for infrastructure capacity;

b) the right to utilise capacity which is granted;

c) use of running track points and junctions;

d) train control including signalling, regulation, dispatching and the communication and provision of information on train movement;

e) all other information required to implement or operate the service for which capacity has been granted.

2. Track access to services facilities and supply of services shall comprise:

a) use of electrical supply equipment for traction current, where available;

b) refuelling facilities;

c) passenger stations, their buildings and other facilities;

d) freight terminals;

e) marshalling yards;

f) train formation facilities;

g) storage sidings;

h) maintenance and other technical facilities.

3. Additional services may comprise:

a) traction current;

b) pre-heating of passenger trains;

c) supply of fuel, shunting, and all other services provided at the access services facilities mentioned above;

d) tailor-made contracts for:

- control of transport of dangerous goods,

- assistance in running abnormal trains.

4. Ancillary services may comprise:

a) access to telecommunication network;

b) provision of supplementary information;

c) technical inspection of rolling stock.

ANNEX III

Schedule for the allocation process

1. The working timetable shall be established once per calendar year.

2. The change of working timetable shall take place at midnight on the last Saturday in May. Where a change or adjustment is carried out after the summer it shall take place at midnight on the last Saturday in September each year and at such other intervals between these dates as are required. Infrastructure managers may agree on different dates and in this case they shall inform the Commission thereof.

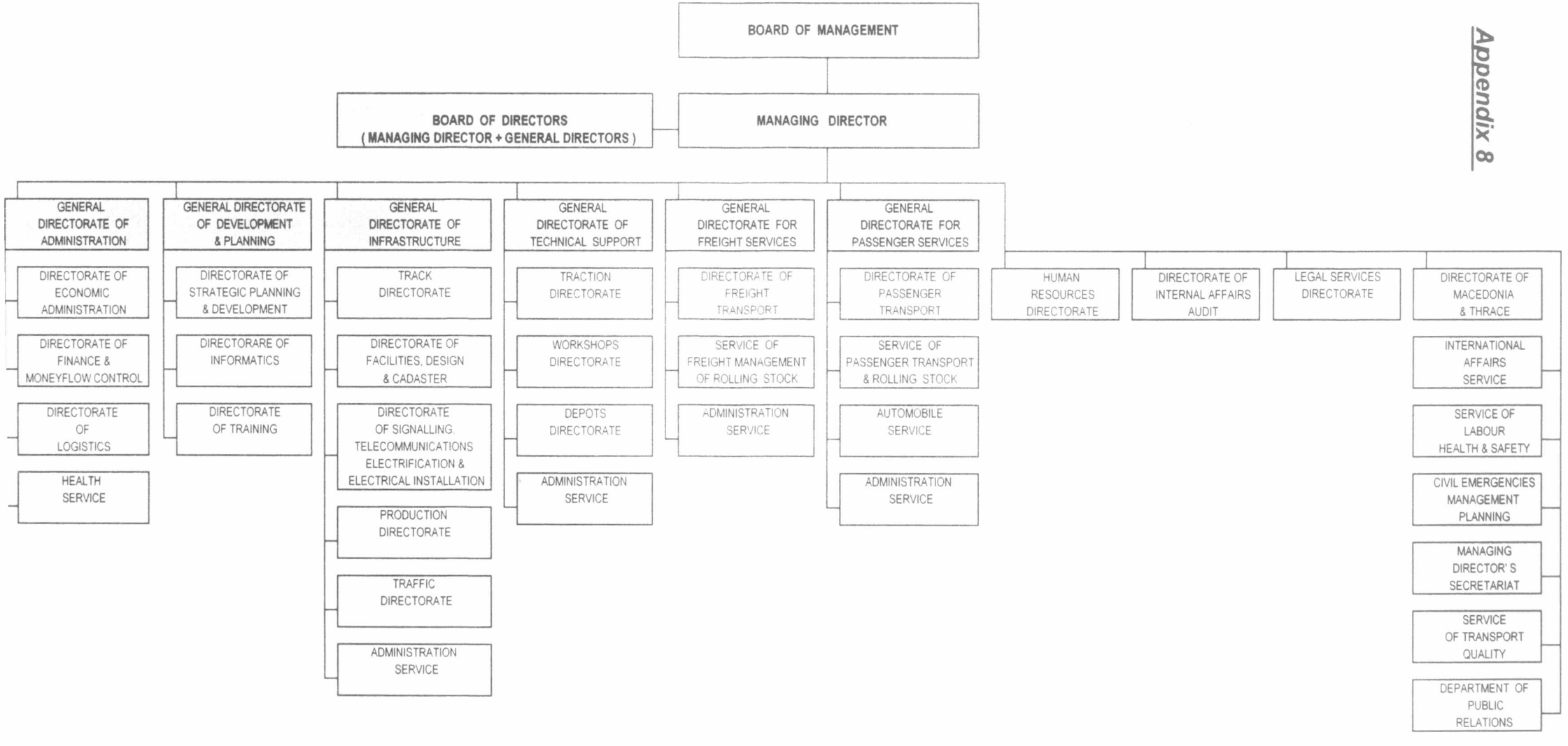
3. The final date for receipt of requests for capacity to be incorporated into the working timetable shall be no more than 12 months in advance of the entry into force of the working timetable.

4. No later than 11 months before the working timetable comes into force, the infrastructure managers shall ensure that provisional international train paths have been established in cooperation with other relevant allocation bodies as set out in Article 15. Infrastructure managers shall ensure that as far as possible these are adhered to during the subsequent processes.

5. No later than four months after the deadline for submission of bids by applicants, the infrastructure manager shall prepare a draft timetable.

Appendix 8

EXISTING ORGANISATION



Appendix 9

Questionnaire

Date……..
Organisation…….. Position/Role……
Country…….
Sector: Public…….. Private…… Public/Private……..
Nature of Organization: Ministry of Transport ……Railway undertaking……
Infrastructure Manager…… Labor Union……Pan-European Institution……

1. Which of the following best explains your view of the market opening efforts?
   a. I welcome them, they will bring great benefits to the railway industry and to the European economy
   b. I welcome them but much needs to be done to ensure that the spirit as well as the letter of the law is implemented
   c. I believe that this package of directives will not have an impact on market opening and the integration of the railways
   d. I believe that these initiatives may have a negative impact on the railways
   e. This package is harmful to the development of the railways and should not be put into place or strengthened
   f. Other/comments……
   ……
2. How would you rate the successes to date of the market opening process?
   a. Very successful
   b. Successful
   c. Neutral
   d. Not successful
   e. Harmful
   f. Other/comments……
   ……
2. What is your view of competition in the rail market?
   a. Competition has brought or will bring higher quality to the market
   b. Competition has led or will lead to growth in the industry
   c. Competition has lead or will lead to cost reductions
   d. Competition has lead or will lead to more participants in the industry
   e. Other/comments……
   ……
3. What do you see as the most important barrier that inhibits access to the market?
   a. Lack of support from the government
   b. Industry structure
   c. Technical standards
   d. Lack of liberalization
   e. Other/comments……
   ……
4. What do you see as the most important benefit of market opening?
   a. Increased revenue
   b. Better quality of service
   c. Increased punctuality
   d. Increased growth
   e. Other/comments……
   ……
5. Which of the following best explains your view on whether the market opening legislation has gone far enough?
   a. The legislation has gone far enough
   b. The legislation has had no effect on my activities
   c. The legislation has not gone far enough and needs to open up the market a lot more to competition
   d. Other/comments……
   ……

6. How have the Directives affected your input costs (capital & labour)?
    a. Costs have increased substantially
    b. Costs have slightly increased
    c. No effect
    d. Costs have fallen slightly
    e. Costs have decreased substantially
    f. Other/comments.....
    .....
7. How have the introduction of first railway package made a difference into your business?
    a. To costs
    b. To revenues
    c. To the movement of goods
    d. To access to the infrastructure
    e. To interaction with the other parts of the industry
    f. Other/comments.....
    .....
8. To which extend the essential functions within your network have been independent?
    a. The incumbent railway undertaking and/or capacity allocator, or their holding companies, or the railway operator have common board members
    b. The incumbent railway undertaking and/or capacity allocator and the railway operator are located in the same building
    c. The incumbent operator undertakes some of the tasks of the infrastructure manager on the main network
    d. The incumbent railway undertaking controls capacity of infrastructure manager assets such as depots and terminals
    e. Other/comments.....
    .....
9. How has been defined the licensing process in your state and which are your views?
    .....
    .....
10. How has been defined the charging structure in your state and which are your views?
    .....
    .....
11. How do you find the necessity of the existence of an independent Regulatory Body and which are the procedures followed by your state for its organization?
    .....
    .....
12. Are the changes illustrated above, a result of market opening?
    Yes..... No .....
    Other .....