

"CENTRAL PORT OF PIRAEUS: A PURELY PASSENGER PORT OFFERING WATER FRONT ACTIVITIES TO THE TOWN"

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1. INTRODUCTION

Themistokles, the victor of the Salamis seabattle, at the beginning of the 5th century transferred the seaport of Athens from Phaliron to Piraeus in the core of the present central port.

The Piraeus Port complex consists of three sectors with distinct and autonomous functions: the passenger port, the commercial port and the ship-repair zone. In 1999 the Piraeus Port Authority S.A. (P.P.A.) awarded to the Joint Venture "KANTOR-PTC BREMEN-ROGAN ASSOCIATES" the study "Drawing up of a strategic operational and organisational plan of the Piraeus Port Authority - Restructuring of the Central Port".

Within the frame of this Joint Venture, ROGAN ASSOCIATES were responsible for restructuring the central port. According to the recent policy of the consecutive managements of P.P.A., the Central Port became gradually a passenger port, in order to face the expansion of passenger related activities. Today the port of Piraeus accounts for 72% of the volume of total short-sea shipping passenger movements (arrivals and departures) in Greece, after growth at average annual rate of around 3.2% in the last decade – and more than 10% in the last 3 years. Volume of international passengers has been growing very fast in recent years as well – at rates 4-7%. Given seasonal peaks (large proportions of total annual traffic take place in the summer months), such growth has placed substantial burdens on port infrastructure and facilities, sometimes resulting in deterioration of quality of service.

The first step in resolving related problems was the separation of commercial from passenger traffic, through the move of the commercial port a little to the west, at Neo Ikonio. The naturally emerging second step is the improvement of infrastructure and facilities of the Central Port – now exclusively passengers port.

The restructuring of the central port is also, aiming at offering to the surrounding urban areas of Piraeus additional green spaces and leisure opportunities. The interventions, according to this preliminary master planning, will improve the "image"

of the port and, consequently, this of the City of Piraeus which "encloses" it. The upgrading of the historical buildings of the port area will also result in an environmental improvement of the heart of Piraeus and secure its historical continuity. The transport and traffic system, not only of the port but also of the broader urban area, will also improve after completion of the Master Plan's interventions.

Thus, the Central Port will be fully dedicated to passenger shipping, i.e. short sea shipping serving to Greek Aegean Archipelago and cruising shipping carrying tourists. More than 12 million passengers pass through the Passenger Port every year, thus placing Piraeus at the top position in the Mediterranean and the third position in the entire world. The role of the port is even more important due to its role during the Olympic Games of 2004 but also as being the seafront of the central City of Piraeus and major provider of jobs and incomes in the city. The purpose of the present study, which deals with the 1st Sector, is to restructure the central port, aiming at improving qualitatively of port's infrastructure in order to operate as the first national passenger port and cruising port adapted to the high speed vessels and servicing the passengers with fully equipped terminals with gangways etc.

For the realisation of the study, a systematic methodology has been followed:

- Collection and evaluation of existing projects.
- Detailed inventory and evaluation of existing building installations as well as open areas.
- Declaration of weaknesses - shortcomings in the onshore infrastructure.
- Evaluation of priorities to confront existing needs.
- Indication of both buildings to be turned down and buildings to be restored to adapt new functions
- Proposals for new infrastructures.

2. DEVELOPMENT SCENARIA

Three different development "scenaria" have been developed for the Central Port, following the close collaboration of all specialists, as harbour and urban planners, traffic and transportation specialists, economists, harbour engineers and environmentalists:

- a. Scenario (A) of a strategy of minimum interventions, which might be characterized as a nihil scenario. In this case, everything is organized following an optimum approach, as for example the offshore areas devoted to the passengers, the vehicles etc. Buildings without any functional or architectural interest are to be demolished. The existing small passenger terminals are to be modernized and several multi-level garages are to be dispersed in strategic points. The minimum necessary harbour works will be realized, as well as maintenance action for the existing ones.
- b. Scenario (B) of a strategy of "complete development of the port" which is a scenario of exhaustion of all the possibilities of the port. It includes all the

interventions of the previous scenario and additionally it proposes the development of new building installations and new open spaces which altogether would be combined harmonically in order to create a coherent "image" and a unique "identity" for the port. Especially, it provides the port with new ultra-modern cruiser and passenger terminals, the extension of the existing large exhibition center, the development of a large Cultural and Entertainment park or "Thematic" Park and finally the construction of a several number of multi-level garage buildings.

- c. Scenario (C) of a strategy of complete serving (with self-financing criteria) in which the interventions of the previous scenario (B) are repeated. The only difference is that many buildings and open area complexes are proposed to be developed by different private developers, as for instance, a luxurious hotel, a new exhibition or congress center, a new thematic park incorporating the archeological site of Hietion, the old grain silos and the hundred year old dry-docks, just to mention the most important interventions.

Among the proposed scenarios, the second one (B) has been selected from the Administration Council of the Port Authority of Piraeus in order to be further elaborated (see Map 1).

3. URBAN AND ARCHITECTURAL ASPECTS

The fulfilment of the selected scenario, according to the urban and architectural aspects, is based on the following main goals:

- The complete upgrading of the "image" as well as the "identity" of the port
- The equilibrated development among building installations and open areas
- The separation of movements and accesses between pedestrians and vehicles
- The preservation and rehabilitation of old buildings of the port which present architectural and historical interest.
- The growth of green areas, which are necessary for both the port and much more so for the city which encloses it and suffers from a great lack of green.
- The construction of building complexes following an advanced technological concept, compatible with the advanced technological character of modern vessels.

It is worth mentioning the following interventions (see Map 1):

- (a) Area A: Rehabilitation of both an old stone industrial building and an old "pavillon" of the 1st century. Construction of a three-storied ultra modern cruiser-terminal for "extra" and "intra Schenghen" passengers. Elevated air-conditioned access tunnels will connect the building and cruising vessels, applying airport technology.
- (b) Area B: After demolition of numerous old warehouses and transfer of the coast-guard and fire-fighting brigade to the other port sections, the area B could be used for the development of either a luxurious hotel, or an exhibition center, or a congress center or a combination of all of them, incorporating the small craft harbour.
- (c) Area C: Construction of a second three storied ultra modern cruiser-terminal and creation of a second Schenghen area.
- (d) Area H: As this area is very close to the port entrance, it is proposed to transfer, in the future, all flying dolphins and small high-speed vessels in the two new basins, thus reducing the distance from the open sea. A small modern passenger terminal will provide the adequate services to the passengers. In addition, two multi-level garage towers with a B Class Hotel on the top, will complete the amenities of this port section.

Behind the mole Krakari, the Coast Guard and Fire Brigade Station for the Central Port will be created.

Finally, the total intervention will constitute both a prototype and a pretext for further upgrading of the greater area of the City of Piraeus.

4. TRAFFIC MANAGEMENT OF PEDESTRIANS AND VEHICLES

The level of service of passengers, vehicles, goods and other port operations depends directly on the organisation of the vehicle traffic and parking as well as of the

pedestrian traffic inside the Piraeus port. Within the current Port restructuring, all types of short and long term needs were taken into consideration in the development of a comprehensive traffic and parking system transforming the Port area into a user-oriented functional interface between the sea and the city. Experience from the past dictated that the traffic and parking management system can provide high level of service if only the vehicle and passenger movements are considered as an integrated chain from inside the ship to the outskirts of the city and vice-versa.

Under this principle, the basic strategic axes for the traffic and parking infrastructure and management were thoroughly elaborated and a set of necessary interventions is proposed, comprising also basic choices for the management of the demand related to the ships arrivals (time-schedules and positioning) and the city traffic next to the Port. More precisely, these interventions concern the organisation of the internal traffic, the management of the Port accesses and the parking arrangements for the various categories of vehicles to be served.

The traffic management of pedestrian and vehicle accesses should fit into the overall traffic management of the Port and the surrounding city network with special provisions during peak hours of ships arrivals and departures. Intensive gate control (suppressing illegal parking and other operations) combined with appropriate signing and variable arrangements (including bus and taxi traffic) constitute the only way to minimise congestion during peak hours. Conflicts in vehicle - pedestrian movements should be minimised and when necessary, efficiently managed by prioritising organised pedestrian movements. For this purpose, an underground pedestrian-exclusive crossing, linking directly the Port area with the metropolitan subway terminal is considered as a basic short term priority, integrating thus the two terminals.

A principal solution for efficient traffic within the Port area concerns the creation of a road ring, a two-way road of 6.3 km length and 7 m width (in some sections possibly underground). This road ring will guarantee an efficient and fast link of all the Port areas, as it will comprise only few exits to the Port areas and the city network. Access and illegal parking management are prerequisites for the efficient operation of this road ring. Internal traffic can also be served by a bus line (tram system could also be examined) using the road ring and offering a frequent and high level service and leading to the decrease of internal traffic of passenger cars.

A set of parking solutions combined into an integrated parking management scheme is proposed, in order to efficiently serve the various needs (waiting to board, kiss-and-ride, recreation, administrative services, cruiser passengers, etc.). Calculations based on the peak period and hour of the short-sea shipping traffic for each Port area proved the need for special arrangements in eight Port areas, of a total surface of about 50.000 m². Calculations are also made for activities beyond short-sea shipping (recreation, hotels, expositions, etc.), which led to the proposal of four parking buildings (about 1.800 parking places) to be constructed. Systematic enforcement of parking rules as well as adoption of variable arrangements (responding to the sharp demand fluctuations of the various activities) are the key management practices for the provision of high level services to all the Port users.

5. SOCIO-ECONOMIC ASPECTS

After careful consideration of port characteristics, prospects for growth of passenger and related vehicle traffic, as well as standards and practices of major international passenger ports, several interventions (described in other sections) were deemed necessary in order to achieve successful operation of the Central Port of Piraeus as a purely passenger port. The cost of these interventions is estimated at around 75 billion drachmas – or 219 million EURO.

Many benefits are expected to result accordingly. Some of these are directly quantifiable and enter into the calculations of the financial and socioeconomic profitability indices, such as the internal and economic rate of return (IRR and ERR) of the investment.

Taking into account investments mostly in basic infrastructure and some activities that do not generate income directly (e.g. refurbishing of buildings of historic value, creation of open, public use spaces etc.), it is estimated that IRR of minimum acceptable level (i.e. 5%, at constant prices and for a period of 30 years of operation of proposed interventions) can be achieved with limited proportion of grant – around 16% of cost of investment.

Taking further into account only some quantifiable social benefits – such as income tax and VAT receipts by the public – the ERR rises to relatively high levels, i.e. around 9.8%, with economic net present value (ENPV) of social flows of the investment estimated at around 72 billion drachmas or 211 million EURO.

There are, however, many additional benefits that it was not possible to quantify within the context of the strategic plan (as they require special feasibility and other similar studies) and are thus not represented in these indices. In summary, such benefits include:

- Improvement of the overall image of the Port, essential for insuring its continued growth and competitiveness relative to alternative modes of transport and resulting in the attraction of higher income port users who will spend more in port facilities and in shops etc. of the surrounding area.
- Potential for development of economic activities of substantial profitability, related to a modern port – such as hotel, conference-exhibition center etc. Private capital may be attracted to the port through the development of such activities.
- Substantial improvement of interface between the Port and the City of Piraeus, in terms of both transport / accessibility and general land uses. The port will become an important asset of everyday city life, among others providing the population of surrounding areas with much needed open spaces and recreation facilities, as well as parking space.
- Maintaining many existing employment positions and creating new ones in the port and the surrounding areas – in nautical and related professions and in other activities as well (travel agents, lodging – dining – recreation etc.). This is of utmost importance in an area where unemployment has risen to very high levels in recent years.
- Improvement of sea transport service to and from the Aegean Islands, for which proper short sea shipping connections to the Port of Piraeus is an issue linked to their very survival.

7. HARBOUR AND MARITIME ASPECTS

The main interventions, which are foreseen regarding harbour infrastructure, are briefly described below, for each area of the Port (see Map 1).

Area A: A new waterfront will replace the existing quays. This will be achieved by widening the Kanellos wharf as well as the inner side of the Themistokleous mole, and reclaiming the land in between. The result of these interventions will be a total length of 720 m of new quaywalls, with depths of -12.5 m, and a total land area of 20.500 m².

With these interventions the simultaneous berthing of three (3) cruising vessels will be possible in this way the transportation of 5000 tourists simultaneously will be possible, and will be served by the modern cruise terminal building.

Also, during the Athens Olympic Games of 2004, these 2 or 3 cruising vessels will be offering 5000 – 6000 hotel beds of very high standards.

Area C: In this area the small harbour which is today used by the Coastguard will be converted to a small leisure harbour.

A modern cruiser terminal building will also be created in this area to serve international tourists.

During the Olympic Games of 2004 the cruising vessels will offer an additional 2500 hotel beds of very high standard.

Two new ramps are also going to be created in this area for alternative use by passenger F/B vessels, under the conditions of Schengen Agreement.

Area E: The layout of this waterfront is going to change radically with the prospect of transferring all small high speed crafts (flying dolphins etc.) to the new basins at Vasilliadis Coast, and the eventual substitution of the traditional open-type F/B's with new technology high speed crafts (e.g. Catamarans).

A single, straight line quay is created, of total length 240 m, capable of offering star/stern berthing to vessels with LOA up to 80 m.

Alternatively this quay can be used for vessels serving short sea shipping and having LOA up to 130 m.

The total land area of the new quay will be 35400 m².

Area F: The waterfront in this area will be completely reshaped, by cutting part of the existing quay and reclaiming part of the basin in order to create a new straight line quay of 92 m length.

Three short sea shipping F/B's with LOA up to 150 m will be able to star/stern berth in this quay, while the two existing ramps are also retained.

All vessels will be served by a new modern passenger terminal building.

Area G: The historical dry docks will be incorporated in the new thematic park, which will be created in the area, and which will also include the archaeological site of Hietion.

A large area is reclaimed and a new straight line quay of total length 260 m and depth of the sea -11.50-m will be created. The total land area of the wharf will be 19000 m².

The new quay will provide star/stern berthing of five old or new technology F/B's, whose passengers will be served by a modern terminal building.

The existing quay for grains and cereals will be abolished, while the silos will also be incorporated in the thematic park, and will thus offer a place of amusement and entertainment to the residents of the surrounding municipalities of Piraeus and Drapetsona.

It is noted here that the star/stern berthing in the quay, which is created just opposite the entrance of the harbour, facilitates manoeuvring and makes navigation safer.

Area H: Part of the existing quay will be occupied by berthed F/Bs, while the rest will become the waterfront of the new building of the Ministry of Mercantile Marine.

Works for the construction of two new basins for new technology high speed vessels are nearly finished. This development will allow high speed crafts to enter the Port, at conventional vessel's speed, and berth after travelling for only 300 – 500 m instead of 2000 today, while not interfering with the routes of large passenger vessels entering or leaving the Port. Thus the danger of accidents will be greatly reduced.

The basin and the land area which is being constructed in this area will host the Central Port Harbour Master building, housing the Coastguard and the fire fighting service.