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Review

Accepted: Dec. 4, 2006

Approved: Oct. 5, 2007

# DEVELOPMENT CONCEPT OF THE DUBROVNIK PASSENGER PORT FOR ACCOMMODATION OF LARGE CRUISE VESSELS

## ABSTRACT

*The technical, traffic and economic parameters of the port of Dubrovnik, specialized in goods traffic, allow for its reorganization and conversion into a multi-purpose terminal able to accommodate cruise ships. The following is required for its successful conversion: development strategy analysis, financial ratio analysis and conversion effect analysis. The paper provides the definition and analysis of the components affecting the identification of the port of Dubrovnik space requirements with the aim of defining possible indicators of the port future dimensions with respect to both, its sea and land area. The purpose of this study is to reveal the advantages and disadvantages of the port of Dubrovnik as a passenger port with respect to both the national liners and international cruisers. The questions related to finding the optimal solutions for the port facilities and services can only be resolved by perceiving all the factors impacting the traffic in the port, no matter whether marine or overland connecting the port with the highway and the airport.*

## KEY WORDS

*Dubrovnik passenger port, development, large cruise vessels*

## 1. INTRODUCTION

The natural and historic-cultural characteristics of Dubrovnik region represent, due to their integrity, and compatibility with the characteristics of tourist demand, a very important potential. Cruising, as one of the very important forms of tourist activity for this area has placed the port of Dubrovnik into focus, and has given it the role of the driver of the economic development of the entire region.

Today's port of Dubrovnik is a very busy passenger port with marked progressive trend in the number of

passengers. The passenger traffic on cruises leads in this, and taking into consideration its extraordinary economic potential, cruising as a specific mode of tourism has been assigned special significance in the development projects.

The existing elements of the port infra- and supra-structure do not satisfy the transport requirements and do not assure sufficient capacity for the accommodation of mega-cruisers such as those increasingly used today for cruising. The Dubrovnik port authority has therefore recognized the need to start projects of port development with the final objective being a modern passenger port whose facilities and quality of service corresponds to the world standards.

The project of the port development includes two phases, the first referring to the restructuring and reconstruction of the coast, and the other one to the construction of different passenger facilities.

## 2. PORT OF DUBROVNIK

### 2.1 Port history

The port of Dubrovnik was founded at the beginning of the 20th century as a cargo port, and its basic purpose was the transport of cargo from Bosnia. World War One brought stagnation which lasted until the mid of 1920s. The construction of railway line through the port added to stimulation of its orientation to the transport of cargo, and this trend was maintained all the way to the mid of the last century, when again there came to stagnation due to the opening of the new cargo ports Ploče and Bar.

Because of the development of tourism in Dubrovnik, the passenger traffic has been gaining in significance, and its progressive growth was broken by the Croatian War of Independence during which a large part of the infrastructure and supra-structure facilities were destroyed.

The port of Dubrovnik is today completely re-oriented to passenger traffic with an increasingly emphasised share of international traffic. The development projects that are currently in the starting phase of realization could transform it into a modern passenger port and increase its capacity for the accommodation of cruising vessels and line ferries.

**2.2 Basic characteristics of the port**

Today's port covers an area of 88,000m<sup>2</sup>, and includes 1205m of quay. The majority of the port is situated on the north-eastern side of the Gruški Bay with very favourable natural characteristics for accommodation of vessels, whereas a minor part is situated in the area of Batahovina at the mouth of the Rijeka Dubrovačka.

**Table 1- Berths situation in the port of Dubrovnik**

Number of berths	Length of berth in m	Depth in m	Purpose
16	180	11.50	Cruising
15	230	7.50	Cruising
14	190	7.50	Cruising
13, 12	70	7.00	Cruising
10, 11	130	7.00	Ferries
9, 8, 7	300	6.50	Ferries
6		6.00	Local ferries

Source: Port of Dubrovnik Authority, 2006

**DISTANCES:**

- City centre: 2km
- Airport: 20km
- Bus station: 100m

**PROVISION OF SERVICES IN THE PORT AREA:**

Trade companies that provide services in the port area realize their activity through concession for economical usage of maritime assets maritime domain.

The services include the following:

- mooring and unmooring,
- towing,
- supply of vessels,
- disposal of waste waters,
- pilotage,
- ship agency,
- organization of excursions.

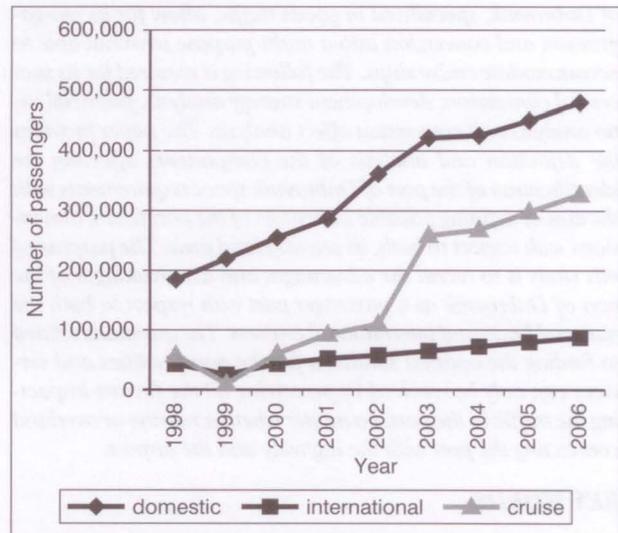
**TRAFFIC IN THE PORT**

The passenger transport statistics at the Port of Dubrovnik shows that the number of passengers marks a continuous rising trend, which refers especially to the transport of vessels on cruising voyages. Further in the text is an overview of the movement of the number of passengers during the period from 1998 to 2005.

**Table 1 - Number of passengers in the port of Gruž for the period from 1998-2005**

year	domestic traffic	international traffic	cruise	total
1998	185,637	42,857	59,331	287,825
1999	217,007	24,475	13,808	255,290
2000	253,871	39,555	61,591	355,017
2001	284,608	51,296	95,031	430,935
2002	361,693	57,244	114,196	533,133
2003	420,810	62,419	259,704	742,933
2004	427,000	70,000	270,000	767,000
2005	450,000	80,000	300,000	830,000

Source: Port of Dubrovnik Authority, 2006



**Figure 1 - Number of passengers in the port of Gruž for the period from 1998-2006**

Source: Port of Dubrovnik Authority, 2006

**3. DEVELOPMENT PLANS OF THE PORT OF DUBROVNIK AS PART OF CRUISING DEVELOPMENT**

**3.1 Tourism of cruise voyages trips**

Cruising tourism, as a mode of tourist industry which has recently shown a very marked ascending

trend, has become the backbone of the economic development for many destinations. The development projects that are being implemented in accordance with the needs of the tourist demand, most often refer to the traffic infrastructure, and the investment activities in passenger terminals in the Mediterranean ports have increased a lot over the last several years, in order to adapt these to the mega-cruiser requirements.

Cruising has acquired the features of mass transportation, and has become therefore available to wide economic layers. Also, the cruiser dimensions are increasing, and vessels of up to 330m length and capacity of about 3000 passengers are becoming more and more common. The travel arrangements take usually up to 7 days, and the package of services that is required by this market is very defined and sophisticated and implies all-inclusive arrangements adapted to short stay of the passengers at a destination (usually 6 – 8 hours).

The most important destinations of cruise trips in the world are the Caribbean Sea, followed immediately by the Mediterranean. The Adriatic Sea is also becoming a more and more important area of interest with the ports of Venice, Dubrovnik, Bari and Split. Regarding the relatively small number of Adriatic destinations, Dubrovnik has very significant possibilities in using its doubtless potentials to become the second inevitable destination on the Adriatic, on the relation between the Greek ports and Venice.

Apart from natural, and cultural and historical tourist resources, in order to achieve the status of a "must-see" cruising destination, the developed port systems with multi-purpose passenger capacities and good traffic connections represent a necessary precondition. This is, however, a weak link of the cities on the Croatian part of the Adriatic, which reduces the possibility of the otherwise high level of valorisation. Including the port in the cruising company's itinerary depends, briefly, on the following factors:

- tourist resources of the destination,
- development of port systems (infrastructure and port facilities),
- service quality, especially the excursion programs,
- prices,
- transport logistics,
- marketing activity.

#### 4. DUBROVNIK AS A TOURIST DESTINATION

The Dubrovnik region occupies a very favourable position at the very south of the Croatian part of the Adriatic coast, and represents an important strategic point on the route between Eastern and Western Europe. South Dalmatia belongs to the areas of a moder-

ate Mediterranean climate with relatively warm winters, hot summers and average annual temperature of 17°C. A hundred and forty sunny days during the year, little precipitation, high sea temperatures during summer, these are the features that make this area climatically most favourable.

The Dubrovnik surroundings can boast with cultural and historical monuments, favourable relief characteristics, and richness and diversity of flora and fauna. The richness of the intact nature is most felt on the islands, among which is the island of Mljet, the northern part of which has been proclaimed a national park. The most important cultural and historic entity is the Old Town, surrounded by 2000m city walls which, together with fortresses and towers form the defence system of the town, highlighting its identity. Numerous saved examples of late gothic and early renaissance as well as baroque witness an extremely rich history of the Dubrovnik Republic. Along the coast we also find authentic minor towns and places with rich cultural heritage. During the tourist season their streets and squares offer a rich social program and the most important cultural event is the Dubrovnik Summer Games (Dubrovačke ljetne igre) which offer 40 days of various concerts, theatre performances and other events.

The Dubrovnik surrounding, as well as the city itself provide many possibilities for the organization of excursion programs for the passengers from cruise vessels. Depending on the stay at the destination, they offer the following excursions:

- Old Town – half day
- Elafit islands – one day
- Mljet – one day
- Cavtat – one day
- Konavoski Dvori – one day
- Delfa of the River Neretva – one day
- Island of Korčula – one day
- Peninsula of Pelješac – one day
- Trsteno and Ston – half day
- Međugorje – one day
- Mostar – one day

In the effort to include the tourist activity in the area of Dubrovnik – Neretva County by its level of offer into the very demanding world standards, the port of Dubrovnik was assigned high importance as one of the carriers of the comprehensive economic and spatial development of the city. The necessity of existence of a well-thought-of development strategy as a precondition for an acceptable and sustainable development is one of the basic guidelines of the development plan of the port of Dubrovnik which tends to harmonize with and support the guidelines of a wider area development. The cruising market, to which the development plans of the port are oriented, has a much

wider scope of influence which includes the economy of the entire region. According to the statistics of Medcrise (Association of Mediterranean Cruising Ports), Dubrovnik ranks already, according to the number of visitors at the very high fifth place. However, although lacking a relevant study, the volume of economic effects remains unknown; one may claim with certainty that the average consumption per visitor is very low, i. e. lower than in the competitive destinations and on the average ranges between US\$30 and 40. The reason could be partly reduced to the following:

- small and unsuitable assortment – the offer includes mainly cheap, unauthentic trend products;
- few and inaccessible stores, regarding the time-limited stay focused mostly on sightseeing activities,
- too many visitors at a time, causing congestion,
- insufficient number of information points and promotion materials.

The most difficult problems refer to the traffic within the city, especially on peak days of the season when as many as 6000 visitors arrive to the city and

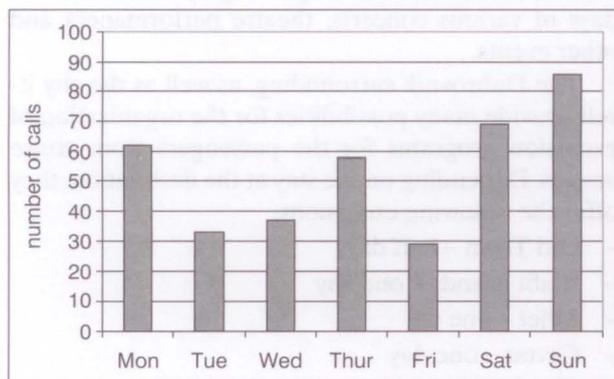


Figure 2 - Dynamics of the number of vessel on cruise travels per weekdays

Source: Port of Dubrovnik Authority, 2006

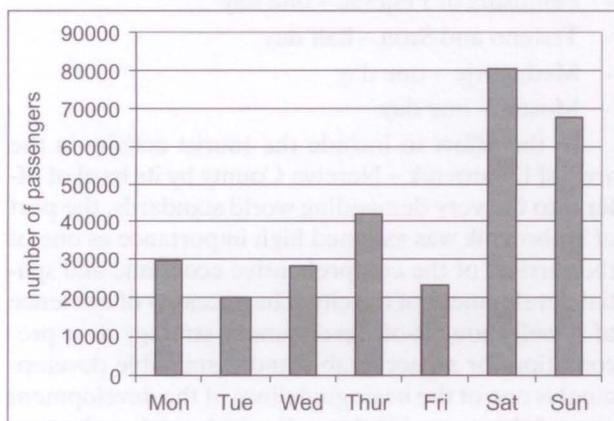


Figure 3 - Dynamics of the number of passengers on cruise travels per weekdays

Source: Port of Dubrovnik Authority, 2006

participate at the same time in the excursion programs, mostly to the Old Town (Stari Grad). In order to solve these problems, it is necessary to organize co-operation of all the relevant institutions and economic subjects at the local level.

It may be concluded that Dubrovnik, as a tourist destination with a significant potential, needs to invest a lot more into the organization and creation of a high-quality tourist offer, profiling its offer as a product of luxury, avoiding the feature of mass activity. The average level of consumption in the Mediterranean ports is calculated to be between US\$100 and 120. This shows the important economic possibilities that should certainly be realized.

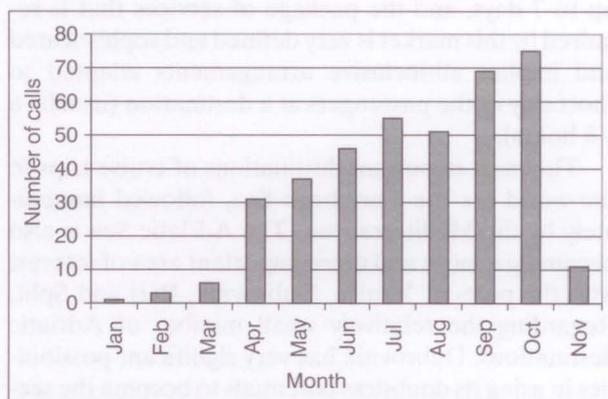


Figure 4 - The vessel mooring schedule per months in 2005

Source: Port of Dubrovnik Authority, 2006

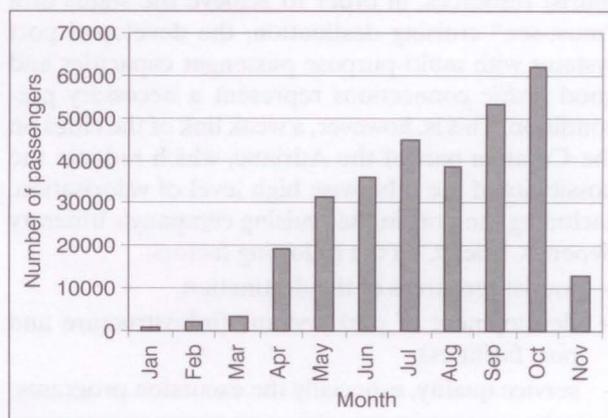


Figure 5 - Number of passengers distributed per months in the port of Dubrovnik

Source: Port of Dubrovnik Authority, 2006

## 5. DEVELOPMENT PROJECT OF PASSENGER PORT DUBROVNIK

The development project of the passenger port of Dubrovnik consists of two phases, the first of which means the reconstruction of the existing and the construction of a new quay in order to achieve straight-

-line quay in the length of about 1000m, and thus raise the efficiency and capacity of the port, allowing simultaneous mooring of up to 3 mega-cruisers each of a length of up to 300m.

After having completed the preparation activities for the project of reconstructing and constructing the port infrastructure, the construction works are expected to begin in the first months of 2007. It is, namely, that based on the feasibility study of the consulting company GP Wild and its partner, which defined the need to enhance the conditions of the existing quay, and by constructing a new coast structure with the aim of insuring the necessary conditions for high-quality mooring of ships, and by increasing the port capacity, a decision has been made about this investment that is to be funded from the EBRD loans.

The basic aims of the project of developing the passenger port of Dubrovnik are:

1. the first phase considers the classification of the port of Dubrovnik into the group of the leading Mediterranean tourist ports according to all the features necessary to create a high-quality tourist product, which will greatly contribute also to the tourist offer of the Dubrovnik area as a tourist destination
2. the second phase would encompass the development of the passenger capacities that are a necessary element in this development concept of the port.

According to the past visions of development, these port facilities would be divided into the basic ones, necessary for the functioning of the port, such as the passenger terminals, and additional facilities (hotel capacities, shopping centres, entertainment) that would fulfil the tourist offer and that would be intended for the guests and the population of a wider area.

## 6. CONCLUSION

By starting the development project which primarily refers to the creation of the preconditions for the accommodation of cruising vessels, the port of Dubrovnik has started a comprehensive venture of creating a modern passenger port with multi-purpose facilities intended not only for passengers but also to visitors and the population of the region.

In the tendency to achieve results in this area, it is necessary to take into account the need for intensive interaction both with local and with international surrounding. One has to consider also the social and economic as well as spatial characteristics of the climate not to neglect the imperative of the development sustainability, which, regarding the area characteristics, certainly favours quality over quantity. The aim is to develop a distinguished and world-known must-see cruise destination whose image, and the wide range

and quality of services will attract distinguished customers, and become an inevitable stop in this part of the Mediterranean.

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## SAŽETAK

### **RAZVITAK DUBROVAČKE PUTNIČKE LUKE ZA PRIHVAT VELIKIH PUTNIČKIH BRODOVA**

*Teretna luka Gruž po svojim tehničkim, prometnim i gospodarskim parametrima omogućuje reorganizaciju odnosno prenamjenu u višenamjenski terminal za prihvata putničkih brodova na kružnim putovanjima. Uvjeti prenamjene jesu: analiza strategije razvoja, analiza financijskih pokazatelja i analiza učinaka prenamjene. U radu su definirane i analizirane komponente koje utječu na definiranje prostornih uvjeta luke Gruž s ciljem definiranja mogućih pokazatelja budućeg dimenzioniranja i pomorskog i kopnenog dijela luke. Cilj ovog istraživanja je pokazati prednosti i nedostatke luke Gruž za prihvat putničkih brodova i to kako na domaćim linijama, tako i na kružnim putovanjima. Sagledavanjem čimbenika koji utječu na promet u samoj luci, ali i na pomorski promet, te na kopneni promet koji veže luku s cestom i zračnom lukom, odgovorit će se na pitanje pronalaza optimalno postavljenih objekata i usluga u samoj luci.*

## KLJUČNE RIJEČI

*Dubrovačka putnička luka, razvoj, veliki putnički brodovi*

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