

IGOR JAKOMIN, D. Sc.  
Fakulteta za pomorstvo in promet,  
Portorož, Pot pomorščakov 4, Republika Slovenija  
E-mail: igor.jakomin@fpp.edu  
MILAN PUČKO, B. Sc.  
Luka Koper d.d.  
Koper, Vojkovo nabrežje 38, Republika Slovenija  
E-mail: milan.pucko@luka-kp.si

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## POSSIBILITIES OF INTEGRATION OF FERRY SERVICE IN THE PORT OF KOPER

### ABSTRACT

*The Municipality authority of Koper and the company Port of Koper Ltd. have agreed that a part of the existing port infrastructure be returned to the town again. The development plan of the town foresees that the old town core be revitalised through the northern bypass road again.*

*The paper presents the possibility of the integration of Koper in maritime passenger traffic, which represents a new possibility for the current and future tourist and economic development. The solution proposed enables fast inclusion of the port of Koper port in the ferry service without substantial investments in infrastructure.*

### KEY WORDS

*maritime passenger transport, ferry service, passenger terminal, port of Koper*

### 1. INTRODUCTION

Ship owners, port operators, owners of goods and passengers meet in the market of sea traffic, which differs from other markets in its organisation and structure. Passenger transport by sea has its specific features, relating to:

- speed of travel,
- comfortable transport for passengers,
- transport capacity (number of passengers, beds or seats),
- type of ships transporting passengers and automobiles or other vehicles.

In modern operating conditions, the passenger transport by sea involves various types of ferry and cruising ships for tourists. Since the World War II, the volume of these services has shown a continuous growth.

The sea-borne passenger transport is organised primarily by liner operators and cruise operators. The characteristic of liner operation is that their service is

scheduled in advance at certain intervals and with known dynamics of carrying passengers from port to port. Smooth operation of passenger transport by sea requires passenger terminals in ports, sufficient for receiving the passengers and their luggage. After the World War II, the car has been added to the passengers and their luggage, which gradually changed the conventional passenger terminals into ferryboat terminals.

### 2. DEVELOPMENT OF FERRY TRANSPORT LINES

In transportation by sea, the ferry lines have become widely used since the 1950s, linking the land to the islands, coast towns and all other destinations not suitable for the airlines. In particular they operate on the seas with richly indented coast, such as Scandinavia, the Baltic, the Adriatic, Japan, Great Britain, etc.

Immediately after the end of the World War II (1945), Norway employed the renovated war ships for ferry operations. In the 1970s, the increased motorization and mass tourism boosted the number of ferry lines. The Scandinavian ferry traffic was in the domain of private initiative, while in Western Europe the ship owners entered into alliances with the state railways primarily to cope with the complex transport of rolling stock combined with ships.

Regarding the offer of ship's space, the ferry services are marketed globally. However, in some special features of the demand and navigation they are structured in a number of regional markets. The most relevant European ferry markets focus on the following routes:

- Sweden – Denmark (Göteborg – Frederikshavn),
- Sweden – Finland – Germany (Trelleborg – Sally – Travemünde),
- Sweden – Finland (Stockholm – Helsinki),
- Denmark – Norway (Copenhagen – Oslo),

- Great Britain – France (Dover – Calais),
- Italy – Greece (Venice /Trieste – Patras).

The local traffic in the territorial waters of Italy and Greece is very dynamic and has a great economic effect in the coastal zones of these countries. The ferry traffic outside Europe is best developed in Japan and Canada, and it is gaining ground in Malaysia, Australia and New Zealand.

In their development, the North Adriatic ports have paid considerable attention to the passenger transport. The leading role was assumed by the ports of Trieste and Rijeka that were used as important points of departure for traffic along the Dalmatian coast southwards, up to Boka Kotorska in the past, under the rule of Austro-Hungarian Empire. This kind of traffic is now developing in Trieste and Venice anew, assuming the leading role once more. These two ports have also established and secured a sufficient number of destinations in ferry lines, whereas Rijeka controls the traffic along the Dalmatian coast.

### 3. IMPACT AND EFFECTS OF PASSENGER TERMINAL IN KOPER

Activation and construction of the passenger terminal in the port of Koper is scheduled in two stages: the short-term objective, to establish regular ferry services between Koper, the Adriatic and the Greek ports, and the long-term plan, to integrate the port of Koper in the international market of cruise operations. This paper deals with the possibilities for the short-term development.

#### 3.1. The impact of passenger terminal in Koper on its immediate surroundings

Considering the needs, priorities, direct and indirect effects resulting from the opening of a modern passenger terminal in Koper, we find that such infrastructure facilities would have a favourable impact on the adjacent and wider surroundings of the town. The terminal would contribute to a revival of the town, and exert a major influence on the development of tourism and the accompanying activities. In the platforms of the "maritime orientation" of Slovenia, which is listed among the fundamental strategic guidelines of the traffic in the country, the port of Koper has great potential to become both, the point of origin as well as of destination, of the "Adriatic Sea Route".

Considering all the indirect and direct effects accompanying the operation of a passenger terminal, we find that:

- the passenger terminal would provide the service to the ferry liner ships and passengers;

- supported by adequate road and railway connections and publicity, Koper would represent a point of entry and destination in ferry and cruise travels on the Adriatic and Ionic Sea;
- the location in the very town centre would contribute to the range of services it offers to tourists, and strengthen its function in tourism,
- the offer of port facilities and services to the passenger transport by sea would add to the identity of Koper in the whole Mediterranean area, as well as in the immediate hinterland.

#### 3.2. The impact of the passenger terminal on the wider area of Koper

The construction of the passenger terminal in Koper and the beginning of its operation would integrate the national tourist trade in the European flows, which would enhance faster development of tourism in Slovenia, and improve its quality as well. Before the realisation of such a concept, an efficient evaluation of natural and geographical potentials is needed, followed by the construction of the infrastructure to match the anticipated passenger traffic.

Developing the passenger traffic through the passenger terminal and the reconstruction of the land traffic infrastructure would also reflect in the higher rating of Slovenia.

A similar impact could be expected in the bordering regions, which would – above all seasonally – represent an additional demand for transportation by ship to Croatia and Greece.

As a great number of population from the neighbouring and nearby countries (Italy, Austria, Germany) gravitates towards the South of Europe or the Mediterranean in the summer, the traffic flows could be routed, by a more aggressive promotion and advertising, to the port of Koper and from there by ship to the desired destinations.

The opening of the passenger terminal would directly favour or improve:

- a more complete range of port services. Adding the passenger terminal to the port's services would round off its range in the presentation and promotion of Koper on the European and world market,
- the development and integration of the port of Koper in the Trans-European Transport Network (TEN),
- the identity of Koper on the global tourist market,
- the possibility of acquiring additional financial funding from the source for furthering the coastal navigation.

In the immediate surroundings and the wider area of Koper, the terminal would also provide additional jobs. Underlying for a smooth operation of a passenger terminal are a number of services directly related

to the activity – such as in receiving and forwarding the passengers, offices of freight forwarders and agencies for passenger traffic, car park maintenance and security, etc., as well as those indirectly related – sight-seeing and shopping tours, taxi service, expansion of the hotel trade and catering, sale of typical local products ...

The construction of passenger terminal could not be viewed as a major intervention into the environment: the major part of traffic infrastructure is already existing (shore, parking facilities, road and railway connections). An additional burden to the environment would only result from the increased traffic volume of passenger and freight vehicles, and a higher quantity of exhaust fumes and noise. Likewise, the volume of waste from passenger ships would increase.

#### 4. THE INFRASTRUCTURE AND ORGANISATIONAL REQUIREMENTS OF THE PASSENGER TERMINAL IN KOPER

The project of the passenger terminal in the port of Koper is based on the reconstruction of the existing infrastructure on the location of berths 1A, 1 and 2 in the first port pool. This approach complies with the recommendations by the ship owners and cruise operators, who above all support the reconstruction of passenger terminals in old town cores.

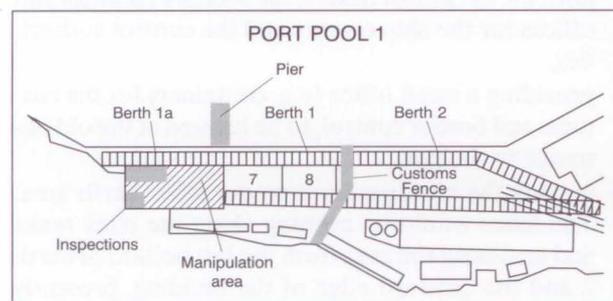


Figure 1 - Existing infrastructure

The European Union does not prescribe any standards regulating the organisational execution or infrastructure design of passenger terminals. In the Green Paper on Sea Ports and Maritime Infrastructure, the Commission of the European Union deals with the advantages of passenger transport and the need for its application wherever possible. However, it does not prescribe the minimum infrastructure and organisational requirements for the construction of passenger terminals and their range of services. As regards the minimum infrastructure and organisational requirements for the operation of passenger terminal, we were following the example of terminals operating in the EU and the recommendations by the Cruise Eu-

rope Association that will be most probably included in the European legislation.

In addition to the traffic-related aspects, the Green Paper also lists the ecological effects of the passenger transport by sea, which have a favourable impact only if viewed from the perspective of a broader area. Compared with other forms of transport by sea, the maritime passenger transport has a rather limited impact on the environment. Passenger ships produce a certain quantity of garbage and waste waters, and a smaller quantity of waste oil from the engine room need to be collected. Discharging operations will certainly result in an increased level of noise in the town. However, these values are negligible and do not exceed the permitted noise levels.

In ferry ships, we need to consider the emissions from trucks carrying various goods, as well as washing the deck carrying vehicles. The receiving facilities and restaurants at the terminal will also produce some garbage and waste-waters. However, the highest pollution will reflect in the increased load onto the urban transport, and in the additional air pollution by exhaust gases (more considerate long-term solutions of the traffic regime would also eliminate these difficulties).

The reconstruction of the terminal would also add to the burden on the environment, generating a big quantity of waste building material.

All the environmental issues can be controlled and managed by the existing organisation of the company Port of Koper Ltd., which has well-developed and qualified services in charge of waste collecting and control, including the monitoring of environmental impacts thereof.

A modern passenger terminal satisfying the traffic function and the range of services for tourist trade and supporting the receiving of ships, passengers and vehicles by its technical and technological equipment must be capable of offering a wide range of additional services to tourists. The users of these services are ship-owners and their crews on the one hand, and passengers on the other.

A quality-level port service to the ship-owners involves:

- a fast and safe receiving and dispatch of ships (suitable berths, ramps, aquatorium),
- facilities for ships' supply with water, fuel, provisions, etc.
- possibility of minor repairs of ships and ship's gear,
- freight-forwarding and agency services within the terminal.

The range of services offered to the passengers at their arrival and departure should be aimed at satisfying all the needs to which they are accustomed at home. Therefore, the following facilities must be available at the terminal:

- parking and garage facilities for cars,
- workshops for repair of vehicles,
- rent-a-car agents,
- insurance agents,
- freight forwarding and other agents,
- service stations,
- bank and exchange offices,
- shops with consumer goods,
- bars, restaurants and other catering facilities,
- a range of hotels,
- hairdressers and beauty salons, etc.

The city and the port of Koper are already in the position to satisfy many of the above listed requirements: here we refer to expanding or upgrading the existing range of tourist and port services, and to building of some specific facilities, such as: loading ramps, parking lots, a building for receiving and forwarding the passengers, and a building for customs and border control. Special attention has to be dedicated to the design and implementation of an adequate traffic regime allowing for a smooth operation of the terminal, and posing the least burden on the urban traffic.

## 5. PROPOSAL OF USING THE EXISTING PORT INFRASTRUCTURE FOR THE PASSENGER TERMINAL

The acquisition of berths 1A, 1 and 2 by the City of Koper will restore an area for the development of the passenger terminal to the town; as the berths 1A and 1 have been used by the company Port of Koper Ltd. for its business activity, they can be brought on line in a very short time and with minimum investments. Although the proposed variant is suitable for ferry ships only, this is sufficient advantage for Koper to be included in the passenger transport market and to gain the necessary experience for the operation. We need to highlight that the site is very favourable for further development of passenger terminals in Koper, and the inclusion thereof in the maritime cruise business is only an upgrading.

### 5.1. Existing situation

The location of the passenger terminal on berths 1A and 1 comprises an area ranging from the westernmost point of the General cargo terminal, along the barrier with the Marina, up to the warehouses no. 7 and 8, including the latex tanks. The whole area covers a surface of approximately 18,500 qm, in the south enclosed by customs fence.

A relatively large free area is still available at this site, stretching from the Marina barrier to the ware-

houses no. 7 and 8: it is used by the General cargo terminal for the storage of pipes and similar goods, covering about 5,500 qm. Four tracks lead to the warehouses no. 7 and 8 and berths 1A and 1.

The berth 1A has 120.9 m of quay and the sea depth between 3.9 and 7.7 m. This quay can support bigger load than the quay at berth 1. The latter is 134.9 m long, with sea depth between 7.6 m and 10.5 m. It is located along the warehouses no. 7 and 8 and has limited handling areas.

### 5.2. Site layout for the needs of passenger terminal

The minimum site layout in the area of berths 1A and 1 can only be applied as a short-term solution of the problem. It would be sufficient for the passenger ferry transport for a period of three to five years.

In addition to an adequate traffic regime, the following infrastructure interventions would be required for receiving and forwarding the passengers:

- fixing a floating loading ramp<sup>1</sup> or a smaller floating pier sized 20 x 40 m, respectively. The floating pier can be lifted or lowered by means of its own ballast system, so as to allow loading the ship through the aft or bow door, or berthing by its port or starboard side,
- setting up a minor prefabricated facility in front of the warehouses no. 7 and 8, functioning to receive the passengers without their own means of transport, for the sale of tickets, the sanitary facilities and offices for the ship owners and the control authorities,
- providing a small office (e.g. container) for the customs and border control, to be located at the old entrance to the port,
- moving the customs fence to the other berth area. The fence would be running along the latex tanks and enclosing the area from the last bollard of berth 2 and the outward edge of the building, presently functioning as the wine store (Slovin) and the garage of the General cargo terminal. There must be a passage for trucks bound to the passenger terminal through the fence,
- restoring the free areas on berth 1A and drawing demarcations on the ground to route the traffic in boarding and discharging the vehicles,
- purchasing an adequate moving stairway (escalator) for the safe access of passengers and crewmembers onboard.

### 5.3. The organisation of receiving and forwarding passengers and vehicles

The organisation of work in receiving and forwarding the passengers and vehicles onboard, as well as sat-

isfactory implementation are to be taken over by the operator of the passenger terminal. Co-operation will be needed with the border police and customs authorities, travel agents, the company Port of Koper Ltd., the Maritime Directorate of the Republic of Slovenia, the shipping agents and municipal authorities. Work will be carried out in compliance with the requirements by the Slovenian law governing the crossing of state border, and with the system applied in the comparable Mediterranean ports.

The ship's operator will provide for the sale of tickets or their validation before boarding respectively, in the facilities provided for at the terminal and on the car park. Passengers travelling without their own vehicle will be able to buy tickets at the terminal, whereas passengers with cars will do that already on the car park, and truck drivers on the Trucking terminal of the company Port of Koper Ltd. The method of payment for the freight and fees on the Trucking terminal is subject to the ship owner's agreement with the company Port of Koper Ltd.

The border and customs control for passengers and vehicles fall under the competence of the Border Police Authority of the Republic of Slovenia and the Customs Administration of the Republic of Slovenia. The control for passengers and their cars will be carried out at the old entrance to the port, whereas the trucks will follow the current procedure at the main entrance to the port.

#### 5.4. The traffic regime

Arrivals (and departures) of passengers and their cars on the passenger terminal would be running in the same direction, i.e. from the parking lot at the Maritime Directorate of the Republic of Slovenia, past the Marina and up to the old entrance to the port. Trucks, on the other hand, would be arriving in the opposite direction. After completing the formalities on the Trucking terminal they will be routed through the main entrance of the port, to the General cargo terminal and ferry pier, and onboard.

Trucks would be following the same route to Koper as they are using at present to enter the port: their grouping centre would be the Trucking terminal. The current situation as regards the occupancy and possibility of expanding the terminal allows for substantial reserve, as the terminal is not fully occupied. There are bathrooms, sanitary facilities, a motel and other additional services available to the drivers, and the possibility of arranging their formalities before boarding the ship.

From the Trucking terminal exit, the trucks would be routed along a two-lane road to the entrance and be admitted to the port, since all customs and forwarding formalities have been arranged for, provided that

the drivers have a fixed time of boarding the vessel (a few hours before its sailing out).

Once they have entered the port area, the trucks would be headed directly to the warehouse no. 17, turn left and proceed along the warehouses no. 17 and no. 13, turn left again and drive to the terminal, parallel with warehouse no. 3, up to the loading ramp at berth 1.

Passengers travelling without their own cars would be brought to the terminal mainly by urban transport (bus, taxi) from the bus or railway station, or on foot from the town centre or old town core (and v.v. in departure). The way will have to be marked on all the starting points (bus or railway stations, town centre) and access routes (information signs), as well as the location of the passenger terminal. After the purchase of tickets, or validation thereof, and customs and border formalities on the terminal they will proceed to the ship along the secured route. Passengers not travelling in a car will reach the old entrance to the port by taxi, or on foot.

Passenger cars will be arriving from the main road, past the Maritime Directorate of the Republic of Slovenia, and be grouped on the car park on the old pier. They will purchase tickets or validate them at the car park, pay for the charges, and obtain information about their accommodation onboard, the arrival and departure times, delays etc. The car park would be reserved for the use of the passengers of the passenger terminal at the arrival of the ship.

The public car park on the old pier can hold up to 200 cars. The layout of the facilities along the car park (a smaller park) would require only small interventions (sideways slopes, removal of columns, protection of ground surface) and allow for a provisional circular traffic. Considering the size of the car park and the capacity of ships, additional car parks would be needed at the peak of the season: the nearest available area is the parking lot at the market hall.

#### 5.5. Developmental potential

The proposed construction of the passenger terminal is viewed as adequate for two reasons:

1. this variant allows for a fast, simple and rather inexpensive breakthrough of Koper into the market of maritime passenger transport, and
2. the possibilities of further development of the passenger terminal are not restricted as regards the service to the cruise travel operators, and the increase of ferry capacities. See position of passenger terminal at berths 1A, 1 and 2 for a more detailed account of the passenger terminal development.

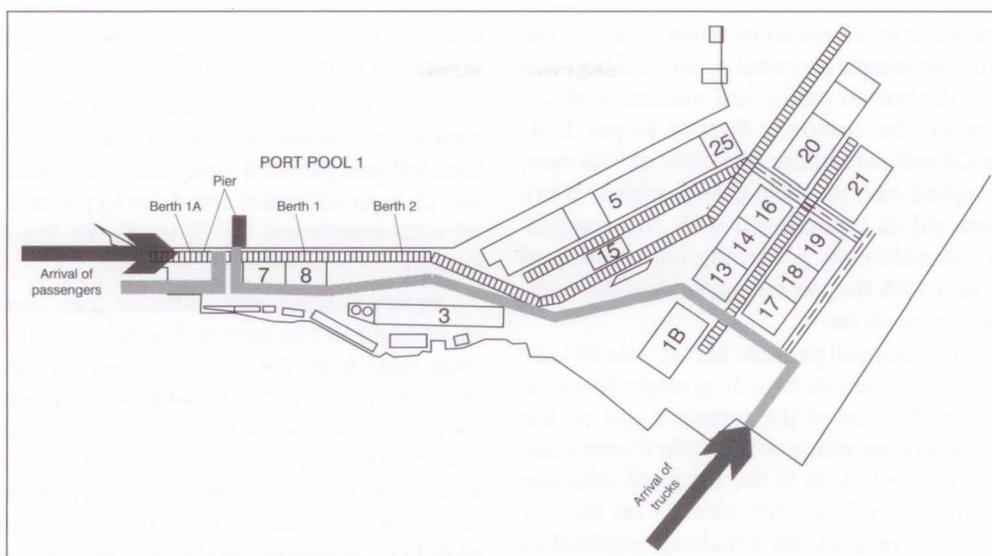


Figure 2 - Proposed traffic regime

## 6. CONCLUSION

The paper reveals that Koper already has the required potential to introduce ferry service to the destinations in Dalmatia, Greece, and Turkey right away. The completion of the northern by-pass road construction allows for the construction of a modern passenger terminal. The existing facilities in the area of the present-day General cargo terminal offer ideal possibilities for reconstruction, in the sense of the recommendations by the ship-owners, cruise and ferry line operators.

We are aware that the consent by the Municipality authority of Koper, the management of the company Port of Koper Ltd., and the ship-owners are needed, as well as their co-operation. Only a focused approach and good will can promise that Koper will start to implement the maritime passenger terminal project in the coming years.

**IGOR JAKOMIN, D. Sc.**

Fakulteta za pomorstvo in promet,  
Portorož, Pot pomorščakov 4, Republika Slovenija  
E-mail: igor.jakomin@fpp.edu

**MILAN PUČKO, B. Sc.**

Luka Koper d.d.  
Koper, Vojkovo nabrežje 38, Republika Slovenija  
E-mail: milan.pucko@luka-kp.si

### POVZETEK

#### MOŽNOSTI VKLJUČITVE KOPRSKEGA PRISTANIŠČA V FERRY PROMET

Mestna občina Koper in Luka Koper sta se sporazumeli, da se del obstoječe pristaniške infrastrukture ponovno vrne mestu. V planu razvoja mesta je predvideno, da se staro mestno jedro, preko severne obvoznice ponovno revitalizira.

V članku je predstavljena možnost vključitve Kopera v pomorski potniški promet, ki predstavlja novo možnost za sedanji in bodoči turistični in gospodarski razvoj. Predlagana je rešitev, ki omogočata hitro vključevanje koprskega pristanišča v ferry promet brez večjega vlaganja v infrastrukturo.

### KLJUČNE RIJEČI

pomorski potniški promet, ferry promet, koprsko pristanišče

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