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# 1. Introduction

This report aims to guide authorities and stakeholders on the incorporation of the Inter-Connect cases' examination results into policies not only for the Inter-Connect regions and country but a wider European level. For this reason this report summarize the key findings from Inter-Connect case studies examination conducted in the deliverable "Deliverable T2.3.1. Cases examination and evaluation report". In order to reach this objective the clustering of different activities was conducted in order to find general messages and general approaches able to be replicated in other contexts. In particular the focus of this report is on three main topics:

- Promotion of rail and maritime passenger's intermodality;
- Rail and maritime transport enhancement in ADRION area;
- Improving transnational rail and maritime intermodality.

Seamless intermodal travelling in Europe is not always reality. There are still several challenges, barriers and problems to overcome in order to promote effective and efficient intermodal transport solutions. However, a lot of good work has been done in analysing these challenges, both in EU projects analysed during the Inter-Connect technical activities and in the different case studies developed in the framework of the Inter-Connect projects. These potential solutions for intermodality promotion are situated in fields of policy, planning and design, coordination and cooperation, legal issues, financing, technical issues and language.

In chapter 2 an analysis of the major problems, risks, and threats in the Inter-Connect case studies and of the major Inter-Connect case studies needs was conducted.

In chapter 3 an analysis of the key solutions for the rail and maritime passenger's intermodality promotion in ADRION area. Some evidences form the scientific literature was provided in order to generalise the key messages of the Inter-Connect intermodality key actions.

In chapter 4 the conditions for the promotion of rail and maritime passenger's intermodality are presented starting from the clustering and assessment activities conducted on Inter-connect case studies. Finally in chapter 5 the conclusions are reported.

This report is strictly related to the Inter-Connect DeliverableT2.4.2 titled "Cases key generalized messages" related to policy recommendations derived from Inter-Connect experiences on examined cases. Intermodal and rail promoting interventions and effective ways to adopt or mitigate them are analysed.

## 2. Passengers intermodality enhancement major problems and needs

The better integration of the different transport modes as a way to improve the overall efficiency of the public transport system is a priority both in European, national, regional and local sustainable mobility policies. When we referring to “intermodality” we refer to the need to integrate two or more public transport modes on the same journey.

But for every traveller a change of transport mode is first of all a nuisance. The aim of the actions aimed to promote intermodality is to make this interchange as seamless as possible with common information, an integrated ticket and/or a multimodal station where passengers feel safe, secure and comfortable. If successfully implemented intermodal passenger transport solutions will give more sustainable options to the traveller, a more user-friendly experience and adds to the overall efficiency of the urban, regional and national transport systems. Moreover promoting intermodality it is not an easy task, and several problems and risks have to be solved in order to reach the final objectives.

### *2.1 Major problems, risks and threats in the Inter-Connect case studies*

Transport connectivity represents the effectiveness of the transport network (irrespective of mode) at getting people from one location to another. This will depend on the time within which a number of individuals can reach different destinations via the transport network. The connectivity dimension of the transport infrastructures and solutions affect economic growth, competitiveness and quality of life. One of the main challenges of the Inter-Connect project and in general of the last 20 years of EU policies on transport is related to the promotion of more sustainable public and private transport solutions in order to overcome the main problems nowadays slow down the use of these sustainable solutions. In fact, promoting intermodal sustainable transport is not an easy task and there are many problems to be faced as well as policies/strategies to be defined.

A first starting point in this analysis on how to promote intermodal effective and sustainable solutions is to evaluate how, from a geographical point of view, the intermodality promotion problems, risks and threats are changing in based on the territorial levels you are considering. Based on the international literature and the Inter-Connect evidences collected during the project implementation, it is clear that the intermodality promotion strategies and actions have to be clearly developed considering three different territorial/spatial levels:

- **City connectivity.** It refers mainly on actions and strategies to improve the connections of passengers among different urban transport hubs (train and bus stations, national transport hubs with local hubs, etc.);
- **Regional connectivity.** It refers mainly on how to better connect the different cities, creating effective, reliable and attractive competitive public transport solutions able to compete with the private car transport. In this sense the rail connections have a crucial role;
- **Transnational connectivity.** It refers mainly to the connections of the main cities of the Adriatic-Ionian area with fast, effective and reliable public transport solutions. In this sense rails and maritime connections have a crucial role.

The analysis of the eight Inter-Connect case studies conducted in the report “DT2.3.1. Cases examination and evaluation report” and the clustering of the different activities and measures developed, shown as there are recurring problems related to the intermodality promotion in Adrion area and also in the others EU countries.

Base on the Inter-Connect case studies analysis, it was possible to map the major problems affecting the intermodal promotion at the different geographical scales as follow.

The main problems at **city level** (as documented in the Inter-Connect case studies) are:

- Hub to hub smooth connections (mainly connections from ports to train and bus stations at urban scale);

- High season public transport demand (difficulties in providing public transport efficient solutions during peak touristic season).

The main problems at **regional level** (as documented in the Inter-Connect case studies) are:

- (Lack of) Fast and reliable coast to inland sustainable connections;
- Hub to hub smooth connections (mainly connections from ports to train and bus stations at regional scale).

The main problems at **transnational level** (as documented in the Inter-Connect case studies) are:

- Lack of cross-borders train and ships services;
- Existing services not competitive with car use (due to long travel times and costly fares).

These major problems affecting the improvement of better and more sustainable public transport intermodality solutions are related to specific technical, political and economic problems and threats. The analysis of the Inter-Connect case studies provide relevant information and a clear view of which are the main specific problems and threats in intermodality promotion as summarized in the tables below.

**Table 1. Summary of the specific intermodality problems and threats documented in the Inter-Connect case studies. City level**

<b>City level</b>	
	<b>Specific problems and threats documented in the case studies</b>
Hub to hub smooth connections	<ul style="list-style-type: none"> <li>- Lack of information on the interchanges opportunities among the key urban nodes;</li> <li>- Lack of soft infrastructures (info boards, dedicated road signals, etc.) guiding the tourists from one public transport hub to another;</li> <li>- Lack of public transport solutions connecting the different urban stations (dedicated bus lines, fast public connections, etc.);</li> <li>- Lack of data on passenger flows (needed for a better planning of potential on intermodal solutions);</li> <li>- Lack dedicated facilities in the interchange points (luggage deposits, etc.);</li> <li>- Lack of an integration among the different public transport services' timetables.</li> </ul>
High season public transport demand	<ul style="list-style-type: none"> <li>- Difficulties in balance the offer of public transport services in the different seasons (mainly in the touristic areas, affected by a great passengers flows seasonality);</li> <li>- Potential conflicts among residents and tourists during summer peaks on the utilization of public transport;</li> <li>- Lack of economic resources to increase the services during the demand peaks;</li> <li>- Potential conflicts among tourists and residents on requested stops and territorial coverage of the public transport services.</li> </ul>

In the Inter-Connect case studies there are several examples of intermodality problems, threats as well as challenges and improvement opportunities documented at city level. For example, in Trieste case though the train station and the maritime terminal are very close to each other (450m), their fully functional integration through smooth accessibility and interconnectivity as well as effective information provision on the connecting paths to the users are to be improved. In this purpose, relevant opportunities are related to the currently ongoing overall re-organisation of the area (Old Port), which encompasses also the realisation of the new bus station. In this purpose, it is to highlight how a limited intervention could allow a relevant improvement, thus achieving the potential related to the strategic positioning of the terminal. . This limit the intermodality promotion. Another example is related to the Igoumenitsa case study where there are no public transport services apart from a marginal and not very frequent intercity bus connection that connects the surroundings and the

suburbs with the city centre. Another interesting case is the Port of Bar case study where there are not enough connections between the quays, the rail station and road networks as there is no dedicated infrastructure to establish intermodality. Furthermore, the information available to users is not easily accessible and the information channels are not available in foreign languages.

**Table 2. Summary of the specific intermodality problems and threats documented in the Inter-Connect case studies. Regional level**

<b>Regional level</b>	
	Specific problems and threats documented in the case studies
Fast and reliable coast to inland connections	<ul style="list-style-type: none"> <li>- Old rail infrastructures;</li> <li>- Weak connections among ports to main big cities PT networks (especially with the inland capital cities);</li> <li>- Long travel time;</li> <li>- Train services delays;</li> <li>- Low reliability of the public transport services (mainly train services and intercity buses).</li> </ul>
Hub to hub smooth connections	<ul style="list-style-type: none"> <li>- Weak integrations among timetables of different public transport solutions (national with regional trains, buses with trains, etc.);</li> <li>- Weak integration among PT fares and ticketing systems;</li> <li>- Hub connections only with private Taxi.</li> </ul>

In the Inter-Connect case studies there are several examples of intermodality problems and threats documented at regional level. For example in the Emilia-Romagna region case study, travel between the regional capital and the coastal areas is frequent throughout the year but especially in the summer months as areas of tourist interest. At railway level, due to the growing demand from users, delays on the line are increasing. Furthermore, there is no possibility of having a single travel solution. Another important example of the intermodality problems related to weak infrastructures network is related to Port of Bar case study where the total length of the railway network in Montenegro is 250 km. Railway stations are not long enough to provide adequate conditions for passengers' trains, while the existence of a single track reduces the transport capacity.

**Table 3. Summary of the specific intermodality problems and threats documented in the Inter-Connect case studies. Transnational level**

<b>Transnational levels</b>	
	Specific problems and threats documented in the case studies
Very few cross-boarders train and ships services	<ul style="list-style-type: none"> <li>- Existing cross boarders train services with very long travel time;</li> <li>- Infrastructure problems (mainly in Balkans);</li> <li>- Cross borders ships services only during summer period.</li> </ul>
Existing services not competitive with car use	<ul style="list-style-type: none"> <li>- Travel high costs;</li> <li>- Long travel times;</li> <li>- No adequate communication strategies;</li> <li>- Different governance level not aligned on priorities and actions to be implemented in order to improve the services.</li> </ul>

In the Inter-Connect case studies there are several examples of intermodality problems and threats as well as challenges and improvement opportunities documented at transnational level. In this purpose, a peculiar example is provided by the case of Trieste, where a complex set of conditions (starting from the geographical positioning and geomorphological conditions as well as the particular historical background) over the years have contributed to shaping the transport network. Among other things, it is to highlight the role of maritime transport as well as the fact that the main rail station (Trieste Centrale) is a terminus station of the Italian railway network.

In this purpose, it is possible to ascertain how, in the case of Trieste, attaining the full role of transport hub implies, almost inevitably, dealing with the cross-border dimension in a context with a high transnational vocation and where maritime transport plays a key role.

Furthermore, as testified by the developed case study, well-targeted interventions closing existing gaps are likely to leverage relevant improvements with limited efforts and budget (soft measures).

Based on the scientific literature evidences and on the different technical activities conducted during the Inter-Connect project lifetime, the main reasons of these different problems in passengers intermodality promotion at the different territorial levels can be summarized as follow:

- Lack of lobby support for intermodality (compared to single modes);
- Lack of data availability (market data, cost-benefit, evaluation);
- Difficulties in putting user needs regarding interchanges into practice;
- Problem of network level planning of interchanges;
- Lack of cooperation in a difficult multi-stakeholder and competitive environment;
- Lack of a functioning and acceptable revenue sharing system for intermodal journeys;
- Lack of successful business models for intermodal solutions;
- Lack of effective information systems.

The main barriers affecting the promotion of intermodality at regional, national and cross borders levels are:

- Technical barriers;
- Political/Institutional barriers;
- Economic barriers.

The Inter-Connect clustering activities presented in the following paragraphs helps in understanding the importance and the specific “weight” of these barriers in the promotion of intermodality solutions at ADRION level.

## ***2.2 Major Inter-Connect case studies needs***

The results obtained within the Inter-Connect project showed that the common intermodality needs pursued, both at national and regional levels, concern the following aspects:

- Promotion of more attractive public transport services capable of involving an increasing number of users (both commuters and tourists);
- Creation of hub to hub “smooth” connections between railways, ports and bus stations;
- Creation of integrated fares systems and ticketing for tourists in order to facilitate the intermodal solutions both for commuters and tourists;
- Soft and technological solutions aimed to improve the railway network without major investments;
- Improvement of the real-time information and timetables integration.

The eight case studies of the Inter-Connect project evaluate connectivity within countries with different levels of analysis. Based on connectivity levels, accessibility at city, regional or transnational level is considered. For this reason, the cases examined were divided into three macro-groups based on the level of connectivity taken into consideration.

In general, the main needs/challenges of the Inter-Connect case studies can be summarized in the following points:

- Integration of long distance travel with the last urban mile;
- Integration of maritime transport with local public transport services;
- Develop innovative and effective cooperation schemes between the main stakeholders (public and private) in order to achieve seamless intermodal travel solutions.

The following table shows these three groups in which the Inter-Connect cases were divided according to the level of geographical analysis: urban, regional and transnational connectivity.

**Table 4: Inter-Connect case studies' geographical clustering of the different intermodality needs at different geographical levels**

<b>Geographical clustering. Case study intermodality needs</b>			
	<b>City connectivity</b>	<b>Regional connectivity</b>	<b>Transnational connectivity</b>
<b>Igoumenitsa</b>	Igoumenitsa Port - city accessibility. Better management of the urban summer PT demand peak.		
<b>Emilia-Romagna</b>		Improvement of coast (Rimini and Ravenna) to inland (Bologna) rail connections. More attracting rail service for tourists and commuters.	
<b>Trieste</b>	Trieste Port – city centre accessibility. Improvement of maritime/cruise urban terminal accessibility.		Improvement and strengthen of Italy-Slovenia-Croatia PT sea connections.
<b>Ljubljana</b>		Ports (Koper) to inland rail connections (Ljubljana Airport). Better integration of existing PT services for tourists.	
<b>Zagreb</b>		Ports to inland rail connections (Zagreb). Better integration of existing PT services for tourists.	Croatia – Greece –Italy cross boarder connections. Improvement of existing services.
<b>Bar</b>	Port of Bar – city centre accessibility. Improvement on PT information provision for tourist in the port area.	Port of Bar to inland train connection. Create valid alternative to the use of private car.	
<b>Durres/Tirana</b>	Port of Durres – city centre accessibility. Improvement on PT information provision for tourist in the port area.	Port of Durres to inland (Tirana) train connections. Increase the perceived quality of existing train services.	
<b>Belgrade</b>	Train stations – Bus stations connections. Improve the urban multimodality increasing the accessibility to PT hubs.		

### *City connectivity*

As shown in Table 1, Inter-Connect cases in Trieste, Igoumenitsa and in Port of Bar refer to public transport intra-city connectivity. In those three cases strategies are analysed to improve and integrate the public transport service through real-time information systems to encourage an extensive use. The three case studies have shown how relevant improvements in public transport connections, infrastructure realisation, and the provision of suitable information about possible delays could contribute in shifting from the (prevalent usage) of private vehicles to the choice of intermodal public transport solutions. Consequently, those three case studies are working on improving methods to strengthen public transport at city level.

In the town of Igoumenitsa, for example, at present there are no public transport services, except for a marginal and rather infrequent intercity bus service connecting the surrounding villages and the suburbs to the town centre. However, buses are not allowed to take on any passengers within some areas. This pilot activity aims to promote the establishment of a new public transport system capable

of supplying regular connections among different terminals (i.e. between the international port of Igoumenitsa and the international bus station) to facilitate the visit of the town by bus to international tourists. For this purpose, local offers should be properly advertised and a new synergic public transport system is to be planned with a regular line operating all year round and a DRT service during the holiday period (7 months a year).

A similar situation was documented in Port of Bar case study. Nowadays connections are poor between the quays and the rail and road networks and infrastructures to ensure intermodality are very poor. As already stated in the previous report, intermodality is the core concept when talking about attractive and efficient sustainable transport systems. The essence of intermodality is to create a cohesion among different means of transport and create an accessible and seamless door-to-door transport without using private car. After a careful analysis of timetables and existing public transport service lines, intermodality in Montenegro has proved to have low levels of accessibility and attractiveness. Due to these obstacles, only few passengers use public transports while travellers using private vehicles are constantly increasing and private cars are still the most popular transport solution. Moreover, information for users are not conveniently accessible or easy to understand since not translated in foreign languages. The place where people can find information is not clearly identified, web sites are not regularly updated, real-time information for travellers is not available, there is no online ticketing service and it is not possible to combine tickets to use them to travel by different means of transport. These weaknesses show how urgent are measures to encourage the use of public transport.

As for the study carried out in Trieste, even a potential improvement jointly acknowledged by the involved stakeholders is related to the interconnections between different modes of transport (esp. waterborne and different modes of surface transport), with particular reference to destinations and nodes also relevant for touristic purposes (also taking into account the growing attention paid to this component of transport demand in the analysed area). These improvements are to be developed according to a vision extended to the cross-border dimension in which the city of Trieste is framed. In this purpose, it should be also underlined the peculiar interrelations between the hub of Trieste, its regional framework, and its cross-border position. Although it is the capital town of Friuli-Venezia Giulia, Trieste is also a “border town” situated towards the end of a narrow strip of Italian land lying between the Adriatic Sea and Slovenia, in correspondence of the south eastern corner of the region. Hence, it has been developed a two-folded case study for the Trieste area that is also complying with the cross-border strategic vision:

- SUB CASE A, focusing on the existing cross-border maritime service and aiming to enhance its accessibility and (land-side) interconnection with public transport services as well as its usability;
- SUB CASE B addressing the assessment of the potential and development of a new maritime service linking Trieste-Muggia-Koper.

Finally, the case of Albania concerns above all the improvements of the railway connections in the city of Durres. There are in fact good maritime connections with the rest of the ADRIAN area thanks to the port of Durres (Durres), connected directly to Piran (Slovenia), Split (Croatia) and Italy (Bari) but, as regards the railway connection, there are connections only with the city of Belgrade (Serbia), while a freight transport link with Montenegro is envisaged. Consequently, the most used means of transport are cars and airplanes.

### *Regional connectivity*

The Inter-Connect cases of Ljubljana, Zagreb, Bar, Belgrade and Durres analyse the aspects relevant to regional connectivity. In these pilot cases the connections of the towns within the different regions they belong have been studied in the direction of an intermodal solution to the existing problems. In each case, in fact, the aim was to find a single travel solution ensuring reduced travel times and greater comfort for users to encourage the use of public transport.

In the case of the Emilia-Romagna Region, the biggest issue is the connection between the west area of the Region (Emilia) and the east one (Romagna). Movements between these two areas, mainly from the region capital Bologna towards the coastal area, are frequent all over the year but especially in the summer months for its many places of great tourist interest. An efficient public transport would

be highly recommended in this region to allow comfortable transfers avoiding delays and granting a single travel solution. Aiming at these goals, the case study has been divided into two sub cases.

Similar to the case of Emilia-Romagna is the Albanian case in which, at regional level, the public authority are planning to create better connections between the port of Durres and the hinterland/capital city (Tirana) increasing the perceived quality of existing railway services.

The Slovenian case study shows the main bottlenecks both on the road and the rail public transport. As for the sea and air transport, the main problems are along the main corridor connecting the port of Koper to Joze Pucnik airport in Ljubljana. In this case measures and operations will focus on a thorough analysis of the present situation and on a proper development of intermodality among the different means of transport (buses, railway, sea, and air transport). The final aim is to develop and support sustainable tourism in the area between the coastal towns and the urban region of Ljubljana. The study will consider the current state of the public passenger transport in Slovenia and of intermodality within the pilot region. Measures to improve the use of public transport will be proposed especially for tourists travelling from and to Slovenian coastal towns, the urban region of Ljubljana and Joze Pucnik airport in Ljubljana. The Croatian case mainly focuses on the tourist-marine transport towards the others ADRIAN regions. At present, in fact, most of the tourist agreements involving maritime transport in South East Europe included road transport (buses) at Italian ports and then ships towards Greece. For this reason, passengers or groups of tourists move from Croatia to Greece travelling for hours by bus stopping at the port of Venice or Trieste or Ancona and here they can board on a ship or a ferry to Greece.

There are railway lines from Croatia and neighbouring countries getting to Greece but, due to the long journey time travellers are not likely to use the train. This is a problem especially for tourists whose main purpose is going sightseeing and therefore are not willing to spend too much time travelling. So, as for the Croatian case, the purpose is to create an independent, reliable, and automatic railway service capable of ensuring punctuality and shorten the travel times. Proper information about any possible operational changes during the journey (time delays or unexpected events) should be readily available at stations, on new trains or through other communication channels. Moreover, journeys should become faster and cheaper for tourists thanks to these innovative services.

The municipality of Bar is located in the western part of Montenegro, between the Adriatic Sea and Skadar Lake. Thanks to its geographical position, Port of Bar is well connected either by sea or by land and it is an important hub for connection between different transport systems. Bar is the largest Montenegrin port and represents the connection between Montenegro and other countries since it is a border municipality. It is connected to Italy, too through the Adriatic Sea. Moreover, since its road and rail infrastructures are located inland, Bar offers great opportunities for a further development of combined transport and interconnection of all regions. The length of the whole rail network in Montenegro amounts to 250 km. The network consists in three railway tracks that converge towards Podgorica. The backbone of the system is the fully electrified track connecting Bar to the border with the Republic of Serbia (Belgrade). The presence of a single track significantly reduces the transport capacity. Moreover, there is no direct connection to the neighbouring Bosnia Herzegovina or Albania. The geographical description of the whole sea, rail, and road transport system in Montenegro clearly shows how urgent and vital is the improvement of the train infrastructures and of an efficient system to improve connections within the region and towards neighbouring countries.

The case of Belgrade will consider another solution to increase accessibility within the region. The main result of the case study is the definition of a follow-up project to reorganize transit lines in the city centre so as to ensure better connections between railway and bus stations as well as future rail links to Belgrade Airport. The general aim is to establish the basis to create intermodal solutions for a sustainable public transport in the Belgrade metropolitan area.

### *Transnational connectivity*

The Trieste and Zagreb case studies are the two pilots focussing more in transnational intermodal transport solutions. The aim is to create an integrated tourist sustainable transport model also with other regions. Here both the sea and the rail transports play a key role as for cross-border connections. Trieste, in fact, is the end point of the maritime and railway Italian network and it is possible to reach many other ADRIAN countries from there. In particular it is important to focus on promoting

effective alternatives to the use of car, mainly in the summer period. This solution is a cross border passenger maritime connections among Trieste and Slovenia and Croatia.

In the Croatian case, on the contrary, connections with the whole ADRIAN area are based only on links at Croatian ports and involve transnational trains (Slovenia and Bosnia and Herzegovina) and transnational marine lines between Croatia and Greece. The aim is to provide innovative and reliable services connecting the ADRIAN countries to make travel easier, faster and cheaper for tourists.

### 3. Rail and maritime passenger’s intermodality promotion in ADRION area. Identification of potential solutions

This paragraph lists and describes the potential solutions identified in each of the case studies of the Inter-Connect project in order to improve the intermodality of passengers in ADRION countries.

#### 3.1 Inter-Connect actions plans

The table below describes the case studies of the Inter-Connect project listing, for each of them, the different problems encountered, which hinder intermodality within the ADRION countries, and the effective solutions adopted.

**Table 5: Summary of the Inter-Connect Action Plans’ main actions**

Case Study	Current status	Inter-Connect action plans
<b>Igoumenitsa</b>	<ul style="list-style-type: none"> <li>- Road transport is still the most effective transport solution.</li> <li>- Igoumenitsa is not currently served by the railway.</li> <li>- The only regional public transport solution, with relatively low performance, are intercity buses.</li> <li>- Absence of integrated services (ticketing, information, harmonization of timetables).</li> </ul>	<ul style="list-style-type: none"> <li>- Promotion of more attractive public transport service for tourists (accompanied by an offer of integrated tour packages).</li> <li>- Create a hub to hub regular connection between the port and the inter-city public transport terminal.</li> <li>- New PT service having two bus lines: one regular and one based on the Demand Responsive Transport model to serve seasonal needs during summer peak period.</li> </ul>
<b>Emilia-Romagna Region</b>	<ul style="list-style-type: none"> <li>- Need to improve rail passenger transport solutions between the regional capital, Bologna and Romagna cities.</li> <li>- Long train journeys duration between Bologna and coastal cities. It was the same since long time.</li> <li>- Weak accessibility of the coastal areas (Romagna - province of Ravenna, Forli-Cesena and Rimini) from the Bologna hub.</li> </ul>	<ul style="list-style-type: none"> <li>- Increase rail passenger attractiveness reducing the travel time among Bologna, Ravenna and Rimini adopting soft solutions.</li> <li>- Develop a train-bus integrated ticket for tourists visiting the Romagna region using public transport.</li> </ul>
<b>Trieste</b>	<ul style="list-style-type: none"> <li>- The Trieste Maritime hub accessibility is not adequately served by urban public transport.</li> <li>- Maritime services and their intermodal connections with Trieste's rail and public transport are to be improved as to promote the development of sustainable multimodal solutions.</li> </ul>	<ul style="list-style-type: none"> <li>- Improvement of public transport urban interchanges between buses/train hubs and the maritime passenger’s terminal.</li> <li>- Understand the potential of a new maritime public transport connection from Trieste (Muggia) to Koper (Slovenia) and Croatia.</li> </ul>
<b>Ljubljana</b>	<ul style="list-style-type: none"> <li>- The Slovenian maritime services are not adequately linked with inland public transport solutions.</li> <li>- The rail service is not competitive with road transports.</li> <li>- Integrated public transport solutions are not adequately</li> </ul>	<ul style="list-style-type: none"> <li>- Improvement of the connections from maritime areas to Ljubljana Airport and Ljubljana urban region.</li> <li>- Improvement of info-mobility services (on-board and in the interchanges points) for tourists.</li> <li>- Improvement on fare</li> </ul>

	<ul style="list-style-type: none"> <li>- developed.</li> <li>- Slow implementation of new transport policies.</li> </ul>	<ul style="list-style-type: none"> <li>- integration and integrated ticketing systems.</li> <li>- Definition of organisational and regulation aspects aimed to improve public transport operation and the interconnectivity at regional level.</li> </ul>
<b>Zagreb</b>	<ul style="list-style-type: none"> <li>- Low use of train services by tourists. The main transport solutions adopted by tourists are private cars, buses and ships in coastal areas.</li> <li>- Inland railway lines are characterized by long traveling times, long waiting times in case of interchange and high-ticket costs.</li> </ul>	<ul style="list-style-type: none"> <li>- Improve information provision related to timetables, punctuality and other problems during the trip (delays, unexpected events, etc.).</li> <li>- Facilitate and improve faster and cheaper train travels for tourists traveling from coastal to inland areas.</li> </ul>
<b>Port of Bar</b>	<ul style="list-style-type: none"> <li>- The railway connecting Bar to Belgrade does not meet modern railway transport requirements in terms of transport, speed, service level and reliability.</li> <li>- Poor connections between the port of Bar and the existing railway service.</li> <li>- Poor connections between the port of Bar and the hinterland.</li> <li>- Prevalent use of private cars for touristic purposes.</li> </ul>	<ul style="list-style-type: none"> <li>- Harmonization of the timetables.</li> <li>- Integrated ticketing service providing real-time and reliable information.</li> <li>- Improve port to city connectivity.</li> <li>- Improve the role of port of Bar as a tourist gate at ADRION level.</li> </ul>
<b>Durres-Tirana</b>	<ul style="list-style-type: none"> <li>- The passenger cross boarder rail connections are possible only with the city of Belgrade.</li> <li>- Car is the main local transport solutions.</li> <li>- Aircraft is the main cross boarders transport solution.</li> <li>- Difficulties in providing reliable train information to passengers.</li> </ul>	<ul style="list-style-type: none"> <li>- Better train services information to final users thanks to the development of new technological solutions.</li> <li>- Improvement of the train connections among inland and coastal areas (Tirana and Durres).</li> </ul>
<b>Belgrade</b>	<ul style="list-style-type: none"> <li>- The rail network is weak due to the low level of infrastructure.</li> <li>- Weak connections with the others ADRION cities.</li> <li>- Road transport is the first travel solution both for tourists and local population.</li> </ul>	<ul style="list-style-type: none"> <li>- Definition of new solutions for urban promotion of intermodal bus and rail.</li> <li>- Definition of innovative solutions to improve the movement of passengers between two main transport nodes (Central railway station and central intercity/international bus station).</li> </ul>

Public transport services become a significant part of the tourism economy in recent years. Promotion of a tourist destination requires an increase in the number of trips from the ports of call to the inland tourist attractions. To be made by public transport, such as buses or trains, these movements need an efficient and reliable travel network. Accessibility of an area is essential to improve its attractiveness. The development of a sustainable model of tourist mobility requires a careful analysis of the potential use of the public transport by passengers both inland and on the coast. The development of public transport services should be aimed at promoting tourism as well as at improving the network for commuters using public transport regularly for work or study purposes. Within the Inter-Connect project each pilot has found convenient and sustainable solutions to improve public services and encourage their use instead of private means of transport.

In the town of Igoumenitsa it was found that the lack of public transport services and a shortage of walking and cycling paths cause people to use private cars to move also at urban level. Although Igoumenitsa is in a geographically strategic location, it has not developed yet as a tourist centre or a

favourite destination for visitors. The lack of appropriate sustainable transport infrastructures and of a valid alternative to private transports represents a great weakness for the increase of tourists' attractiveness.

In the Emilia-Romagna region tourism in coastal towns is widely promoted especially during the summer season. Anyway, it has been found that not so fast connection between coastal and inland towns discourage tourists to move toward the interior of the region. It often happens that tourists get to a town on the coast to spend their holiday and they stay there for the whole period without moving to visit other cities of interest in the same area. Hence the need for faster rail services between the towns of Bologna and Ravenna to promote tourism at regional level. Moreover, the introduction of a 3 or 7 days integrated ticket to be used for travelling around all the towns in the Romagna area can help tourism.

Similar initiatives have been taken in the Slovenian case within the Inter-Connect project. Activities will focus on a thorough analysis of the present situation and on a proper development of intermodality among the different means of transport (buses, railway, sea, and air transport). The final aim is to develop and support sustainable tourism in the area between the coastal towns and the urban region of Ljubljana. The study will consider the current state of the public passenger transport in Slovenia and of intermodality within the pilot region. Measures to improve the use of public transport will be proposed especially for tourists travelling from and to Slovenian coastal towns, the urban region of Ljubljana and Joze Pucnik airport in Ljubljana. One of the aims is to provide passengers reliable information and customer support services (i.e. information mobility app, pre-trip, and travel information, opening times of stations, additional information services). The objective of future actions will also be to promote interconnectivity and provide transport timetables in several foreign languages at the main hubs (i.e. timetables, shuttle buses at railway stations, facts available on spot and online for transfers and connections). Moreover, some ticketing systems should be built along the pilot corridor to facilitate tourism with convenient fares and single and return tickets valid on different public transport and shuttle buses within the area taken into exam. In recent decades, the area of the case study has become an important point of tourist attraction and tourism along the Slovenian coast is expected to develop as one of the leading industries of the country. In this perspective, improvements of infrastructure, intermodal services, and public transport are essential to attract an increasingly sustainable tourism.

In relation to the Trieste case study, considering its geographical position, it is easy to understand how tourism and enhancement of public transport, both on land and by sea, are strictly linked. The railway network is a key backbone to be exploited for the development of a sustainable intermodal transport and the demand for a reliable railway service comes both from locals and tourists. Sub case A of Trieste for the Inter-Connect project focuses on intermodal connection and on land accessibility in relation to the existing seasonal services that connect Trieste to towns along Slovenian and Croatian coasts. The main aim is to improve general conditions to facilitate changes between urban public transport services and the maritime passenger terminals especially for tourists leaving or landing in Trieste from/to Slovenian and Croatian coastal areas (i.e. provide practical and useful information or manage accessibility of the maritime terminal).

The Albanian case study in Inter-Connect project refers to a study on the development and implementation of technological solutions aimed to improve intermodal public transport thanks to an improvement of real-time information provision for travelers, the harmonization and integration of the time schedules of all the public transport solutions. The objective of this case study is to improve intermodal transport between rail and maritime solutions in the Tirana and Durres regions.

The Albanian Ministry of Infrastructure and Energy, Inter-Connect project's partner, intends to promote intermodal solutions using various information channels including the website of the Ministry of Transport, Albanian tourism fairs and sites of Albanian tourism. This integrated digital time information will allow foreigners and/or Albanians returning from their journeys to have the necessary information in real time so that they can plan and coordinate their movements more effectively and efficiently. The area considered would be the area from Durres to Tirana, including the area of the Rinas international airport. The study will focus more on the area around Durres ferry terminal and Durres central train station. In fact, the ferry terminal at the port of Durres is very close (and within walking distance) from the central train station of Durres.

The Croatian pilot, on the contrary, focuses on a feasibility study about the Croatia-Greece tourist railway route. The study will engage the main parts involved such as the Tourist Board of Croatia, with its branches in the towns of Rijeka, Zadar, Split, and Dubrovnik, the local governments, and the Port Authorities of the towns. As mentioned above, most of the tourist agreements involving maritime transport in South East Europe include road transport (buses) at Italian ports and then ships towards Greece. For this reason, passengers or groups of tourists move from Croatia to Greece travelling for hours by bus stopping at the port of Venice or Trieste or Ancona and here they can board on a ship or a ferry to Greece. There are railway lines from Croatia and neighbouring countries getting to Greece but, due to the long distance, the journey time and the cost (from Zagreb or Ljubljana to Athens there are 2 to 6 changes and it takes about 43 hours, Sarajevo -Athens 3 changes and 65.5 hours), travellers are not likely to use the train. This is a problem especially for tourists whose main purpose is going sightseeing and therefore are not willing to spend too much time travelling.

To overcome these problems solutions found for the Croatian case include the improvement of information systems for tourists using public means of transport (real-time information, timetables, time delays or unexpected events). Moreover, the rail network will be enhanced giving passengers a faster and more convenient service to move between coastal and inland areas of the region thus discouraging the use of private vehicles.

In the Montenegrin case, the pier infrastructure of the port of Bar does not meet the technical requirements to allow the docking of modern cruise and passenger ships. In fact, it can only host vessels of limited length or freeboard deck ships. For this reason, it is not possible to set up new ferry lines. In this case study investments will respond to economic interests, to the spatial planning, to local and tourist transport planning, to the requirements of the local government and of a broad public interested in the project of promoting intermodality. Better infrastructure will create conditions for better transport connectivity which is vital for the development of the territory.

### ***3.2 Inter-Connect intermodality promotion actions and case studies development phases***

The Inter-Connect project aims to promote intermodal passenger transport and to revitalize the use of rail transport in the ADRION area, through different soft measures capable of reducing the current inefficiencies and problems.

Rail and maritime intermodality promotion solutions can be clustered in three different dimensions: soft measures (measures working on increasing the efficiency of existing services and infrastructures without big investments), major measures (measures where relevant public investments on infrastructures are required) and administrative/governance measures. The Inter-Connect case studies focus on the soft measures and on administrative/governance measures.

Each case study within the project promotes the intermodal transport of passengers with different actions based on the needs documented and analysed during the Inter-Connect project.

The following table summarizes the Inter-Connect actions developed and planned in each case study.

**Table 6: Synthesis of the key soft measures analysed and developed in the Inter-Connect case studies**

<b>Case Study</b>	<b>Key soft measures analysed in the Inter-Connect case study</b>
<b>Igoumenitsa</b>	Bus lines; Transport hubs accessibility; Demand responsive transport (DRT).
<b>Emilia-Romagna</b>	Train time tables optimization aimed to reduce travel times; Integrated train-bus ticketing system at regional level.
<b>Trieste</b>	Improvement/increase accessibility of port hub; Better information to tourists; Cooperation scheme for the promotion of a new cross border maritime service;
<b>Ljubljana</b>	Transport hubs accessibility; Bus lines improvement; Info-mobility; Integrated ticketing.
<b>Zagreb</b>	Train timetable; Integrated ticketing; Collaborative strategies among key stakeholders.
<b>Port of Bar</b>	New ship line; Infomobility.
<b>Durres-Tirana</b>	Real time information; Train digital solutions; Cost-benefit analysis.

<b>Belgrade</b>	Data and transport planning; Urban public transport lines reorganization.
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The different technical solutions tested in the Inter-Connect project can be summarized in the following key soft measures for the intermodality promotion:

- Urban planning solutions;
- Integration of ticketing solutions;
- Different solutions for the integration of the transport mode;
- Flexible public transport solutions (DRT);
- End users better information solutions;
- Solutions of transnational agreements,
- Multi-stakeholder agreement solutions.

These technical solutions differ according to the geographical scale taken into consideration in each case study. The table 7 provide a synthesis of this aspects.

**Table 7: Geographical clustering of the key soft measures analysed and developed in the Inter-Connect case studies**

<b>Geographical clustering. Case study measures</b>			
	<b>City connectivity</b>	<b>Regional connectivity</b>	<b>Transnational connectivity</b>
<b>Igoumenitsa</b>	Igoumenitsa Port - city accessibility. New DRT solutions for summer period.		
<b>Emilia-Romagna</b>		- Reduction of regional train journey duration thanks to organizational measures ; - New bus and train integrated ticketing system	
<b>Trieste</b>	Trieste Port – city centre accessibility. Improvement in provision of better PT information to passengers arriving in the maritime terminal area.		Stakeholders cooperation for the activation of a new cross borders maritime service Trieste-Koper. Improvement of PT interconnectivity, accessibility and information provision for the existing international maritime services linking Trieste and different centres in the Slovenian and Croatian coastal area
<b>Ljubljana</b>		Ports (Koper) to inland rail connections (Ljubljana Airport). Strategic agreement aimed to integrate the different PT solution at regional and national level	
<b>Zagreb</b>		Ports to inland rail connections (Zagreb). Weak integrated PT services for tourists.	Croatia – Greece –Italy cross boarder connections. No integration among different services
<b>Port of Bar</b>	Port of Bar – city centre accessibility. Improvement in	Port of Bar to inland train connection.	

	provision of better transport information to passengers arriving in the port area.		
<b>Durres/Tirana</b>		Port of Durres – city centre accessibility. Improvement in provision of better PT information to passengers arriving in the port area thanks to new digital time tables.	
<b>Belgrade</b>	Train stations – Bus stations connections. Wide passengers flow analysis aimed to better plan the measure for the intermodality promotion at urban level		

In order to collect relevant information in a common way among all the different project's partners, it was defined a common evaluation methodology. The aim is to extract valuable able to be used in other areas and to be generalized in ADRION area. Inter-Connect case studies were compared referring to 5 different projects' development steps as summarized in the table below.

**Table 8: Inter-Connect case studies development phases' assessment methodology.**

<b>Case study phases</b>	<b>Case study phases</b>	<b>Brief description of each phase</b>
<b><u>Phase 1</u></b>	<b><i>Concept definition</i></b>	<i>Define needs, specify scopes, study the problem(s), identification of the main project ideas, identification of the key stakeholders to be involved.</i>
<b><u>Phase 2</u></b>	<b><i>Pre-feasibility study</i></b>	<i>There is more than one business scenarios and we want to know which one is the best, both technically and financially, to solve the identified problems. The objective of this phase is to select the best idea among several ideas. Minor components of investment and implementation/management costs are identified in order to select the best solution to be realized.</i>
<b><u>Phase 3</u></b>	<b><i>Feasibility study</i></b>	<i>It is the project evaluation and approval phase. It means there is a technical study presenting enough information to determine whether or not the project should be advanced and implemented. This is a "go/no-go" decision. In this step one project was approved and there is the political decision and/or the private commitments on the project implementation, "Green light" on the project implementation.</i>
<b><u>Phase 4</u></b>	<b><i>Project implementation</i></b>	<i>Project implementation (or project execution) is the phase where visions and plans become reality. This is the conclusion, after evaluating, deciding, visioning, planning, applying for funds and finding all the financial resources for the project.</i>
<b><u>Phase 5</u></b>	<b><i>Operation &amp; maintenance</i></b>	<i>The project is fully implemented and operative. Project operations and maintenance phases encompasses a broad spectrum of services, competencies, processes, and tools required to assure the measure will perform all the functions for which a solution/project was designed and implemented.</i>

The following graph shows the development level reached by all the case studies in Inter-connect lifetime. As can be seen only the case study of the Emilia-Romagna Region reaches the operation and maintenance phase. All the other case studies focus more on a preliminary feasibility analysis without foreseeing the implementation during the Inter-Connect duration (June 2020). In particular, it can be observed that the cases of Igoumenitsa, Trieste, Ljubljana, Zagreb and Port of Bar reached the pre-feasibility phase. The different alternatives between the various proposals for the implementation of the project will be analyzed in the next years by selecting the best idea and evaluating in a more

precise way the various implementation, management, and investment costs. Durres/Tirana and Belgrade reached the project implementation phase. In these two pilots, in addition to an initial feasibility analysis.

### Case study development phases

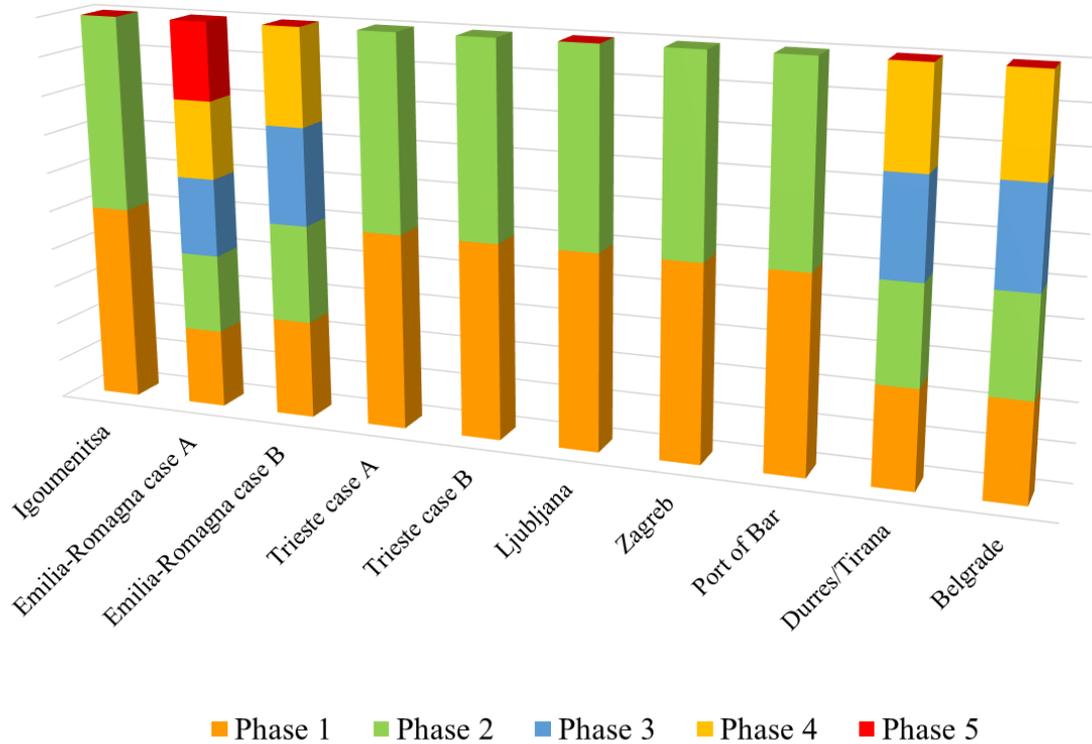


Figure 1: Inter-Connect case studies development phases in the framework of the project’s duration (June 2020)

### 3.3 Impacts of Inter-Connect pilots

In this paragraph the contributions of case studies to the reduction of environmental pollution are considered. It is assessed how the promotion of intermodal transport in the Inter-Connect project also allows to have a positive feedback regarding environmental sustainability. The table below lists the different indicators that have been taken into consideration, for each case study, in order to assess whether the projects reached result in terms of reduction in pollution, reduction of traffic levels and pollutants emissions.

Each Inter-Connect case study takes into consideration different indicators for the reduction of environmental pollution in different levels. It should be remembered that not all projects include a feasibility analysis and, for this reason, some of them are not able to evaluate the impact of the case study on the environment KPIs. The following table shows the different case studies according to the indicators considered.

Table 9: Key technical KPIs of the Inter-Connect case studies

Indicator	RER	Trieste	Igoumenitsa	Ljubljana	Zagreb	Port of Bar	Belgrade	Albania
<b>Transport modes integrated</b>	Buses and trains	Buses, maritime services and trains	Bus and Ferry	Ferry/cruise, rail, bus, airplane	Buses and trains	Train, bus, ship, ferry, airplane	Train, bus and local public transport sub-systems.	Bus, train
<b>MaaS</b>	Yes	/	No	Yes	/	Yes	No	No

<b>approach</b>								
<b>Foreseen users</b>	Additional 17.000 users to regular public transport users	/	1400 passenger per day (Based on traffic simulation models)	200-400 additional users month	/	761.000 per year (estimated/expected)	At least 200.000/year according to concept analysis	All passengers that use ferries, trains and buses.
<b>Traffic reduction*</b>	N/A	/	N/A	Reduction of 0,5 % traffic with personal vehicles (* observation from current status and PT usage)	/	N/A	10/20% reduction in traffic and pollution achieved through a 30% increase in passengers using new railway lines.	N/A
<b>Pollution reduction*</b>	N/A	/	N/A	Reduction of 0,3 % emissions from personal vehicles	/	N/A	Integration of Inter-city and transnational, as well as local transport time tables can and should be integrated.	N/A
<b>Timetable integration</b>	Yes	/	/	Yes	/	Yes	Yes	In the future will be taken into consideration
<b>App for final users</b>	To be developed in the next years (second part of 2020)	/	App provides routing information and forecasts for bus arrivals at stops along the PT network. The use of demand-sensitive transport software will allow travel reservations	No	/	Yes		N/A

Even if it is not possible in the framework on the Inter-Connect project to collect a wide set of data in relation to environmental impacts of intermodality promotion, from the preliminary data collected it is possible to notice as these soft solutions are able to increase the numbers of travelers moving in a more sustainable way and consequently reduce the general environmental impact.

### ***3.4 Promoting passengers intermodality. Considerations for the definition of an Actions Plan***

In this paragraph, in order to generalize the main conclusions and evidences collected thanks the Inter-connect case studies assessment, others soft measures for rail and maritime intermodality promotion are analysed. The scope is to extend the evidences and the data related to key soft measures for intermodality promotion at EU and ADRION level.

#### **3.4.1 Integrated “tourists” ticketing systems**

In order to define a functioning tariff system that meets the users' needs, it is of fundamental importance to analyse some similar solutions adopted in the rest of Europe.

To address the need for coordination, mainly in large cities, integrated tariff systems have been introduced, i.e. contractual forms capable of involving various public transport operators and allowing the use of different means of transport with a single travel document. The essential prerequisites for the realization of an integrated ticketing system (ITS) are basically three:

- Infrastructural integration achieved thanks to parking lots, stations, stops, etc.;
- Modal integration, for example using different modes of transport as much as possible coordinated between them so that the user has the perception of traveling on a single vehicle;
- Tariff integration, for example a single ticket valid for all modes of transport offered in such a way that the same conditions of use exist.

The introduction of an ITS can therefore be traced back to the inefficient management of the transport network by the operators of the system, but at the same time the costs that users must incur in the absence of integrated services cannot be neglected. Furthermore, to the coexistence of different types of vehicles and tickets, psychological and temporal inconveniences are added, deriving from the queues at the branches and at the stops that are generated in the absence of adequate forms of intermodal coordination.

The ITS can contribute to achieving environmental policy objectives aimed at reducing congestion, air pollution, noise and accidents. Due to the reduced capacity of cars and the inefficient use of road space compared to public transport, the increase in private motoring has caused considerable problems over the years, greatly reduced thanks to the introduction of combined public transport services. The various pricing systems adopted in Europe are different both in terms of costs and in terms of services, depending on the size of the cities, the type of users (workers or tourists) and the type of vehicles that can be used.

#### *Forfait Navigo - Paris (France)*

The weekly "Forfait Navigo" pass (formerly "Carte Orange") is a weekly or monthly pass for € 21.50 or € 70 respectively, which allows you to travel on the entire transport network of the Île-de-France: Metro, RER, Bus, Tram, suburban trains SNCF, Funicular of Montmartre, Montmartrobus, Noctilien, bus of the Optile network. The weekly pass can be purchased from the Friday of the week preceding the one of validity, until the Thursday of the same week, while the monthly pass can be purchased from the 20th of the previous month until the 19th of the current month. Residents or Parisian workers can upload their pass to the Passe Navigo free pass, while tourists can upload it to the Passe Navigo Decouverte magnetic pass, which has the name and photo of the owner, available for purchase at the metro ticket offices at 5 euros.



**Figure 2: Forfait Navigo-Paris**

The advantages of this type of pass are:

- Cheap ticket and long duration;
- Multiple tariff zones available according to need.

While the disadvantages are:

- It not give any type of discount on tourist attractions;
- Minimum weekly validity, while there are no options that can be used for tourist stays that take place over the weekend;
- It can be purchased only on site and not from abroad.

#### *Vienna City Card - Vienna (Austria)*

The "Vienna City Card" is a public transport ticket for 24, 48 or 72 hours at the cost of 17, 25 or 29 euros, respectively, to explore the city with unlimited access to public transport: metro, tram, regional trains and buses. The subscription is valid 365 days from the issue and is activated starting from the first validation to the network's obliterating machine (not from the purchase date) for the period of time specified in the purchased card. The card can be purchased directly online, after printing the voucher it is possible to pick it up in the main places of the city: at the airport, at the central station or in the historic centre. The Vienna City Card also offers more than 210 discounts applicable to the main points of interest, including museums, tourist attractions, tours, theatres, concerts, shops, cafes and restaurants, in order to encourage the purchase with a promise to save during the stay in the city. A 120-page brochure is provided containing coupons to be used in participating shops, and containing a detailed list of all the advantages and benefits of the Vienna Card.



**Figure 3: Vienna city card**

The advantages of the card are as follows:

- Possibility to choose the duration of use appropriate to the stay;
- Discounts and agreements at various points of interest in the city;
- Possibility of bringing a child under the age of 15 for free on public transport.

While the disadvantages are:

- No changes or cancellations are available;
- The airport is not within the city area for which the season ticket is valid.

#### *Hamburg City Pass - Hamburg (Germany)*

The Hamburg City Pass is the tourist pass that allows you to use buses, trains and ferries to better explore the city of Hamburg, has a duration of 1 to 7 days and different costs depending on the duration of the season ticket. It is possible to purchase the subscription to the online public services by receiving it comfortably on your e-mail address following the payment, with the indication of all the information necessary for use. Thanks to the pass, you can also access museums and attractions in the city of Hamburg for free, even avoiding the queue at the entrance. Finally, the Hamburg City Pass allows you to discover the city at 360 degrees, by sea thanks to the cruises on the rivers Alster and Elba, or by land thanks to a bus that makes a tour along the whole city with the possibility for the tourist to get off and go back at will.



**Figure 4: Hamburg City Pass**

The advantages of the pass are as follows:

- Possibility to choose the duration of use appropriate to the stay.
- Discounts and agreements at various points of interest in the city.
- Discounts for children between 3 and 14 years and for teenagers between 15 and 17 years.

While the disadvantages are:

- Absence of subway (fast transport system);
- High costs in relation to other integrated transport systems.

#### *Tourist Transport Abono Madrid - Madrid (Spain)*

The Tourist Travel Subscription allows the use of all public transports in the Community of Madrid without limitations during the period of validity and, therefore, represents a practical and convenient way to move within the city. The pass is loaded exclusively on the Tarjeta (card), a multi-personal public transport card, free, without contract, rechargeable, with a duration of ten years.



**Figure 5: Tourists card transport in Madrid**

The pass has a duration of 1,2,3,4,5,7 days and is valid starting from the first use (it may not coincide with the date of purchase), it can be purchased in all subway stations, at the airport and in all authorized stores and has two traffic zones with different costs. The main advantages of this pass are:

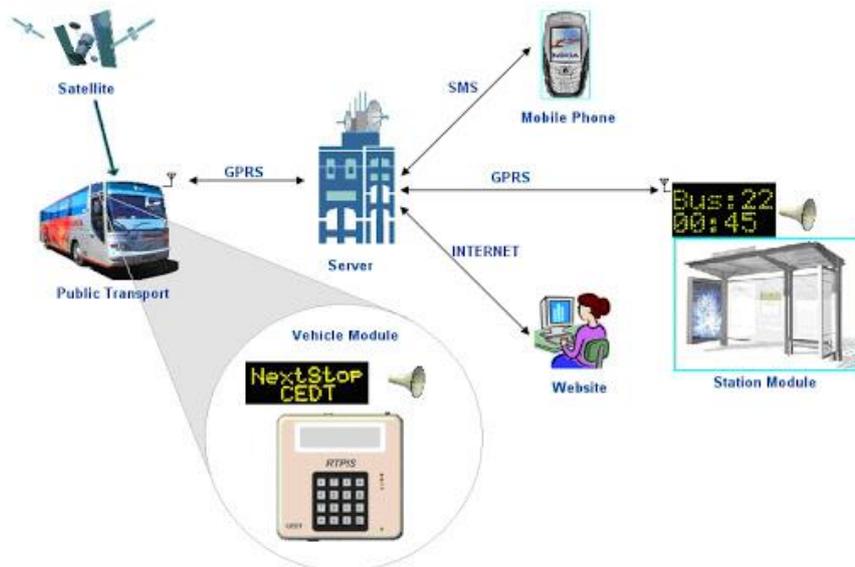
- Possibility to choose the duration of use;
- 50% discount for children under the age of 11, free for children under 4 years old;
- Possibility to add a subscription for the use of BiciMAD, the electric bikes sharing service with reduced prices.

The main disadvantages are:

- It does not give any type of discount on tourist attractions.
- At the moment there are two tariff zones.

### 3.4.2 Provide reliable/real time travel information

Promoting the use of public transport and real-time information for travel between origin and destination, as well as improving transport accessibility for all citizens, can help reduce traffic congestion and air pollution in the urban areas. The increase in the number of vehicles in urban areas in recent years has resulted in traffic congestion which has become a significant problem in many cities. One of the possible solutions to reduce pollution and traffic pressure is the development of intelligent public transport systems (IPTs). By intelligent public transport systems, we mean all the services available to users who use public transport that can update them in real time on the status of the service and on the arrival of the vehicle they are waiting for at the stop.



**Figure 6: Real time travel information**

Poor information to users about travel times is one of the main problems in public transport services since providing accurate travel information in real time on public transport, rather than on scheduled times, can reduce the waiting times of passengers and consequently it can discourage the use of private transport for traveling. Furthermore, having a real-time information service on transport systems can also improve the quality of the system's service by instantly adjusting the starting schedule in case of an unexpected event.

The advantages of real time services can be summarized in the following three aspects:

- Reduction of expected waiting times;
- Greater users' satisfaction;
- Positive impacts on driving.

*Reduction of expected waiting times:* real-time travel information reduces the perception of passengers of the duration of waiting times at bus or train stops. For example, some studies have found that providing real time information at bus stops has reduced expected waiting times for passengers by 13% in Stockholm (Kronborg et al. 2002) for passengers with information at their stops, by 26% a London (Schweiger, 2003) at the bus stop and 20% in the Netherlands (Dziekan and Kottenhoff 2007) for the introduction of the display of passenger information on a tram line. In addition, real time information also facilitates changes in the choice of route that would minimize travel time (Cats et al., 2011).

Therefore, we can see from the literature that ITS reduces both the perception of passengers of how long they are waiting at bus stops, and through an advance consultation of information that allows them to adapt their behavior to reduce the actual time spent waiting at stops.

*Greater satisfaction with the service:* the provision of real time information can increase the level of security perceived by passengers and improve their overall satisfaction. Wardman (2003) examined the anxiety of waiting at a bus stop at night and reported that 46% of respondents felt safer at the stop if they had been aware of when the bus should have arrived. Schweiger (2003) found that passengers experienced less stress and reliability had improved since implementation (although it had actually decreased). Zhang et al. (2008) revealed that passengers reported an increase in perceived personal safety levels at night with the introduction of real time information system on the university shuttle bus.

*Impact on driving:* in their studies, Ferris et al. (2010) and Gooze et al. (2013) also found that about a third of passengers said that due to the presence of the ITS system, their number of trips for non-working / school purposes per week increased

### *Traveler information: needs and expectations of travelers*

Understanding user needs is a critical first step in building a successful travel information system. Travelers need quick, easy and secure access to accurate, timely, reliable and route-specific information so they can save time, improve safety, avoid traffic congestion and reduce stress. When adverse weather conditions or unforeseen accidents or congestion occur, travelers (regardless of how they travel) benefit from real-time travel information by changing the organization of their trip in no time.

Most often, travelers use pre-trip, real-time information for one or more of the following uses:

- Time management, for example by changing a departure time to avoid or reduce delays or adverse weather conditions
- Travel changes that change the travel route based on conditions or situations
- Stress reduction: a well-documented use of information for travelers, including the cause of a delay or impending road conditions, can serve to reduce driver stress.

The review of the literature on user needs and benefits assessments identified three distinct classifications of users with specific real-time information needs, summarized as follows:

- Commuters employed who make local commuter trips;
- Interregional travelers through rural and urban areas;
- Rural drivers (commercial or recreational).

#### *Commuter employees who make local commuter trips*

The commuters employed access the traffic information (Internet, television or radio) before leaving in the morning. Certain circumstances such as accidents, unusual congestion or reports of delays in vehicles in transit can cause commuters to change their departure time, change their route or change their mode. Each commuter has a personal elasticity in travel time restrictions. Some commuters have fixed work shift start times and are severely penalized if they are even a few minutes late, while other commuters have greater flexibility in arrival time. For this reason, real-time information on the state of traffic is required to keep up to date on any delays along the road that could require commuters to plan an alternative route and, consequently, change the departure time.

The information needs of commuter travelers are:

- Specific fare information describing the current travel time or travel speed
- Information on specific circumstances affecting travel (eg. accidents, closures, major congestion)
- Real-time alerts of transit delays or service interruptions

#### *Interregional travelers*

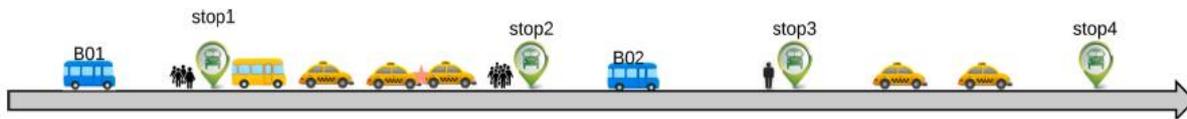
Inter-regional travelers often travel from one metropolitan region to another. They can cross rural or suburban areas. Interregional travelers may need to understand travel conditions in both the origin and destination region. Many times, the cities reached can be located in separate regions and therefore may require travelers to access multiple travel information systems operated by different agencies. Travelers expect uniform descriptions of the entire journey from origin to destination. In this sense a multi-regional Maas approach have to be developed.

#### *Rural travel*

The information needs for rural travelers can be summarized in the following points:

- Information on current and short-term road conditions and accident information have an high priority for rural travelers;
- Information about planned or unplanned events (accidents or road works) that cause long delays;
- Travelers need directions to their destination;
- Travelers need travel times and tourist information.

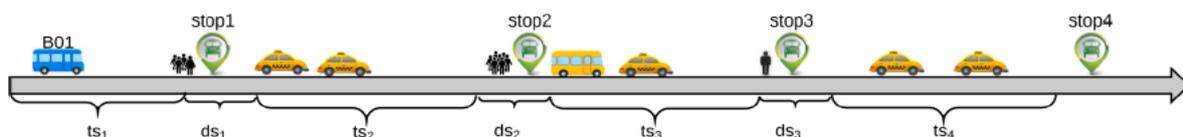
A feature shared by all three categories of users who need real-time information during their daily commute, for work or leisure reasons, is the need to have information on the current state of the road in terms of accident or traffic congestion. A practical example of this is reported by Jiaman Ma et al. (2019) in the following figure 1 on road traffic in case of waiting at the bus stop. Suppose that an accident occurs between stops 1 and 2.



**Figure 7: Examples of bus travel time under different traffic conditions (Source: Jiaman Ma et. All (2019)**

Due to this accident, the journey time of the B01 bus could increase unexpectedly, consequently causing a delay for users waiting at the stops and, due to the lack of information on the line, the previous bus B02 cannot indicate the current status. delay of subsequent buses. Since irregular traffic events have a significant influence on travel times (Hojati et al., 2016), existing work fails to obtain accurate prediction results under complex traffic conditions.

Furthermore, as shown in Figure 1, the time spent by buses at the stops is significantly affected by the number of passengers getting on and off, which is different from the transit times which depend on the conditions of local traffic.



**Figure 8: Factors affecting bus paths: car traffic, taxis and passenger boarding demand at stops. (Source: Jiaman Ma et all. (2019)**

In Fig. 2 you can see how the transport network is influenced by complex boarding schemes. The travel times of buses between one stop and the next are unstable and have different patterns that have a significant influence on total travel times. Therefore, it is necessary to consider the residence times of buses regardless of their transit times in order to increase the accuracy of the time estimate.

These considerations also apply to other public transport systems. For example, in the case of railway or metropolitan transport, the waiting time of users at stops will have less uncertainty than in the case of buses as they are not influenced by road traffic but any faults on the line can still cause delays for users. It is therefore easy to understand how having real-time information for consumers is fundamental to increase his confidence in public transport by discouraging him to choose private means of transport in case of delays or congestion.

In general, travelers' expectations for real-time travel information systems can be summarized as:

- Accuracy;
- Timeliness;
- Reliability;
- Convenience (ease of access and speed);
- Safety (of operation).

In the literature there are numerous cases that have studied the implementation of intelligent systems in the road network capable of predicting critical situations along the way, such as accidents or traffic congestion, and evaluating alternative routes to take less time to reach their destination. One of these studies was carried out by Bruglieri et all. (2015 in the city of Milan project called MOTUS. The objectives of this project are to provide users with information services, enabling them to manage their personal mobility and to choose the best and most sustainable mobility solution. In particular, they want to provide users with a useful decision-making tool especially in the event of an emergency or interruption of public transport.

The travel planner for the management of unforeseen events, delays and interruptions of the public transport service allows to model these interruptions with much wider approaches than those possible

with approaches currently proposed by the transit agencies. For example, a user can request a trip that does not go through a specific temporarily closed station. MOTUS is able to offer reasonable alternative routes which circumvent the interruption and which, more often than not, are not generated by the other travel planners. A potential impact of the presented service concerns the perception of the transit service by users: if the interruptions are managed easily and automatically, the perception of reliability and robustness increases considerably and uncertainty is reduced, making the option of travel with transport more attractive audience.

Hui Lu et al. (2018) studied information on the arrival of buses available to users in the city of London. To date in the city this information is provided by the countdown signals in over 2500 stops and available via app for smartphones or tablets, internet and SMS. The aim of the study was to evaluate how real-time bus arrival information affects passenger behavior and how they evaluate waiting time at the bus stop. The analysis was carried out through a survey containing a discrete choice experiment with declared preference, supplemented by some qualitative research questions. The analysis found that the socio-demographic characteristics of the participants and their travel characteristics affect their value of the waiting time and time on board. These values vary according to different purposes and travel time. Passengers traveling for travel, education and personal affairs (labeled "commuting") than those traveling for shopping, visiting friends and other recreational purposes (labeled "other") attribute higher value to the time of travel inside the vehicle; demonstrating that higher travel time pressures tend to result in higher travel time values. As for travel time, passengers on longer journeys place greater value on travel time savings within the vehicle than those on travel who make shorter trips. All this led to a lower relationship between waiting time and travel time (multiplier) for longer journeys and trips. In addition, age was found to affect the assessment of waiting times. Participants aged 17 to 20 were less sensitive to changes in waiting time after checking the factors of travel characteristics and differences in access to bus information. Passengers who traveled on low-frequency routes were less sensitive to changes in the expected waiting time. Live bus information has a significant impact on the value of expected users of the expected waiting time. There are two dimensions for these differences. Passengers who checked the bus information live before the trip reported spending less time waiting. On average, the reduction in expected waiting time ranges from a 6.7 minute interval (without information) to 8.4 minutes (with information but not verified) up to 4.5 minutes per journey for passengers who have traveled on low frequency routes and the range from 5.9 to 5.4 up to 4.3 minutes per journey for those on high frequency routes. This implies that the use of real-time bus information helps passengers manage the expected waiting time.

### 3.4.3 Provide cross borders new public transport services/lines

Intermodal travel is becoming increasingly important, particularly in large cities. The use and combination of different modes of transport in a flexible way in a single journey are considered crucial for a more efficient and sustainable urban transport system. However, research on intermodality has mainly concerned long-distance traffic or specific combinations.

The 2001 EU White Paper on transport policy stressed the need to promote seamless travel at metropolitan and urban level in Europe. Therefore, the 2011 EU White Paper considers three pillars to improve intermodality: people, integration and technology. Moreover, the perception of the value of the time necessary for the transfer (modal interfaces) is dealt with in a specific way: a new vision is promoted based on new uses of travel time thanks to reliable information from the connected passengers when they move from one mode other. In this context, exchanges are key elements in urban and long-distance mobility to achieve seamless mobility. This is evident in urban journeys where the rapid transfer between public transport means the difference between being competitive or not on car journeys. The integration covers three different dimensions: tariffing, administrative and physical. The latter includes interchanges and information systems. This integrated intermodal approach is important not only for travel within the city limits, but also for the interconnection of short and long-distance journeys. Normally, travel decisions are made considering the most convenient long-distance mode (train, bus, plane), but the fact is that last mile connections are becoming increasingly important, particularly in large metropolitan areas. The literature on this topic

shows that relatively little research has been conducted to the extent that the perspective of intermodal travellers is taken into account in the quality analyzes of the PT-Grothenhuis et al (2007) and Wardman et al (2001) service, since transport surveys mainly focus on individual modes and do not consider the entire intermodal journey made up of multiple trips.

Monzonab, Alonso and Lopez-Lambasabun (2017) provided an analysis of short and long-distance passenger interconnectivity in the European context. The analysis is based on the results of the HERMES project (EU 7th FP). In order to gather information on the obstacles of intermodality, a series of interviews were conducted with interested parties and integrated with passenger surveys. The results show weakness and strengths of four intermodal stations: Gothenburg central station (Sweden), Avenida de America interchange in Madrid (Spain), Lleida-Zaragoza railway stations (Spain) and Part Dieu intermodal station in Lyon (France). The surveys were carried out both for the stakeholders involved, highlighting the main management characteristics and the characteristics of the exchanges in the project both to the passengers. Passenger surveys provided information on travel and their socio-economic characteristics. Furthermore, they assessed the importance and satisfaction of a number of aspects. Surveys carried out to stakeholders have shown that information appears to be a key element of the perceived quality of the interchange because it becomes the means to connect the different modes of transport and also to guide travelers towards services and facilities. According to opinions, routes, delays, timetables and baggage storage are very important: 90% consider them as very important factors. The lower importance score is assigned to the luggage and the highest to the times.

The results obtained from passenger surveys showed that Avenida de America and Part Dieu achieved the lowest quality perceived in many aspects, such as shops and leisure, safety and security or cleanliness. The best results were obtained in the city of Gothenburg being the best evaluated in intermodal supply.

In surveys, the questions concerning the reasons for the choice of the method and the evaluation of the exchanges allow a better understanding of the perspective of the respective user and place the descriptive results on intermodal travel (frequency, purpose of the trip) in a general context.

A similar survey was conducted by Oostendorp and Gebhardt (2018) in the city of Berlin. The study showed that a large number of people combine different means of transport. Public transport is the basis for almost all relevant combinations. This becomes particularly evident in high altitudes for combinations of different means of public transport. However, even the combination of bikes and public transport seems to be very important for the behaviour of mobility in Berlin. The combinations are particularly and more frequently taken on business or leisure trips. Furthermore, the combinations of public transport by bike or car show spatial differences in Berlin. These data suggest that intermodal travel behaviour is influenced by the infrastructure and resources available to a person in his residential location. The results also underline that the criteria relating to efficiency and time optimization are very important for the choice of intermodal combinations. Time efficiency in everyday mobility is particularly important in an increasingly dynamic world, especially in the workplace. In this context of highly dynamic daily life, it is assumed that when considering everyday mobility, people choose the most appropriate solution for their individual needs from the wide range of mobility offered in the cities. In particular, the intermodal combination of different means of transport during a journey can allow users to move around the city in a flexible and efficient manner over time, thus representing the most appropriate solution. Travel time and access to the main transport mode are the most frequently mentioned reasons for the selection of intermodal combinations. Optimized connections with public transport, real-time information, signage and short distances in interchanges, as well as parking and the possibility of transporting bicycles on public transport are essential to meet the needs of users in terms of time efficiency.

#### 3.4.4 Flexible/on demand public transport services

Demand responsive transport (DRT) is defined as “a form of transport where vehicles alter their routes based on particular transport demand rather than using a fixed route or timetable” (Community

Transport Association CTA, 2017). These vehicles typically pick-up and drop-off passengers in specific locations according to passengers needs and can include taxis, buses or other vehicles.

The DRT services have to be analysed in strict relation with the existing technical and economic problems of providing a reliable and effective public transport service in peripheral/low density areas. In fact, public transport is a key component of the urban mobility systems in small-medium size cities not only for the city area, but also and especially for the surrounding areas such as the countryside, industrial areas and those low-populated areas which suffer from a lack of transport options, making the inhabitants of these areas rather isolated. The reason of this lack of transport offer is quite simple: a traditional public transport service in low density areas is not sustainable from a financial point of view as its demand is too low. It is resulting in a massive use of private cars to reach the city, producing pollution, traffic congestion and road saturation, especially at peak hours.

The need for a DRT service originates from these kinds of economic and technical problems. A demand responsive/flexible transport service is something between the traditional service and a door-to-door service. More in detail, a DRT system integrates the traditional public transport offer by (ATTAC Project, 2011):

- Replacing normal public transport offer in specific areas or hours of the day with low demand.
- Integrating traditional public transport services in smaller towns with low population density, population sprawl (mountain areas, rural locations, etc.) or areas not served by traditional public transport services.
- Offering a high quality service, closer to the need of users, thanks to the customization, the duration and the comfort of the trip that must not be greater than 30 minutes and that could be performed with small and ecological vehicles, equipped with devices for transporting disabled people.

This solution exists in several contexts and also in big cities in order to satisfy the request of users in particular zones or hours.

It is not easy to define which kind of transport solutions are included into the definition of Demand Responsive Transport. This complexity is also given by the fact that different terms are used when referring to these kind of transport solutions. In order to simplify the analysis summarized in this report, the terms “Flexible Transport Service” (FTS), Transport-on-Demand (ToD) and Demand-Responsive-Transit are used as synonyms of DRT.

In the scientific literature, DRT transport solutions are defined in relation to the others public and non-public, regular and non-regular transport services.

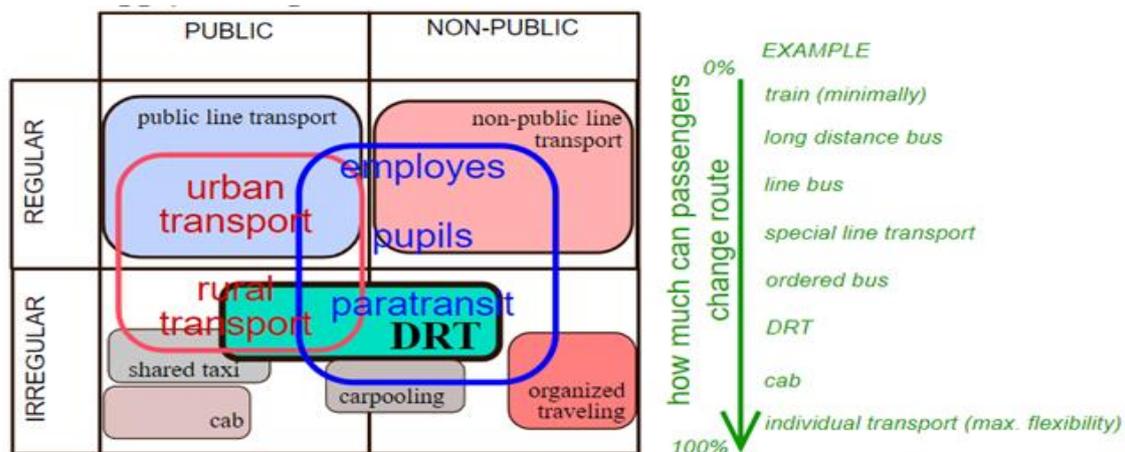


Figure 9: Public transport classes. DRT

Based on scientific literature, there are some common elements for all the demand responsive transport solutions (Davison et al., 2012). DRT can be situated between regular public transport services (which are usually served by buses) and completely personalised services provided by taxis;

DRT services can be flexible on any of the following features (or combination of these elements): route, origin–destination pattern and timetable.

Some authors include pre-booking as an element of the definition [Wright, 2013]. There are also ‘hybrid’ forms of DRT, combining a fixed route system allowing pre-booked deviations (up to a predefined maximum distance) with a “Ride hailing service” on the fixed route section (Mulley et al., 2012). For all these reasons, there are several DRT typologies:

- with fixed itineraries and flexible time tables;
- with fixed itineraries with deviation on demand;
- with flexible itineraries;
- with predefined bus stops;
- with flexible itineraries and flexible stops (door-to-door service, very similar to a taxi).

The different typologies of DRT services are briefly summarized in the scheme below.

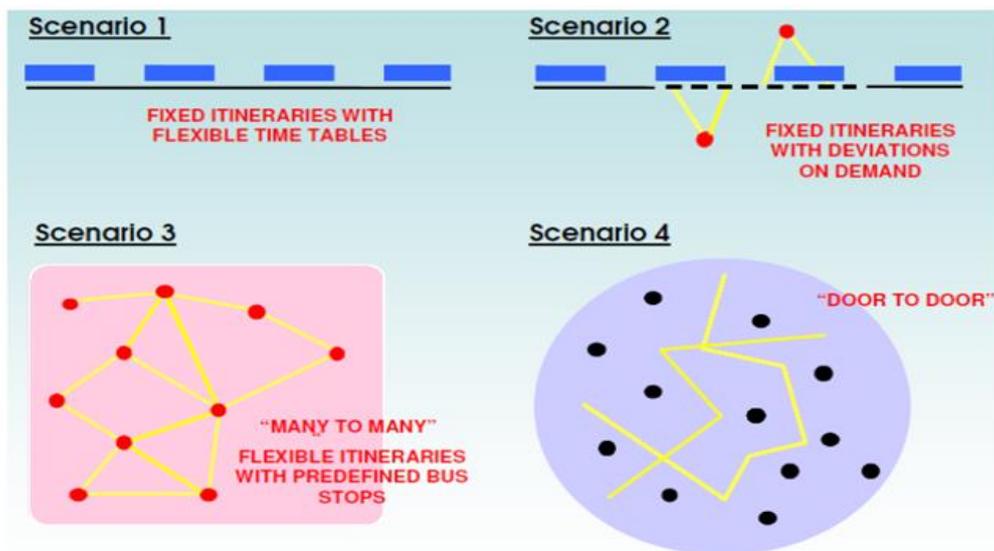


Figure 10: Demand Responsive Transport different models of services.

The different kinds of DRT services differ also in relation to the different typology of vehicles used. Depending on the market served, DRT services can be provided by minibuses or mid-size vehicles (22 to 30 seats) but also by taxi operators. Wright (2013) has developed a methodology to derive the optimal vehicle size for a given demand and average trip length. In particular

- **Taxis** provide more cost-effective DRT services in areas where demand is lowest and more dispersed.
- **Minibuses** work better on semi-fixed route patterns in more densely populated areas.
- Wang et al. (2015) find that the current level of evidence on optimal vehicle sizes remains weak. In regions with high seasonal variability (such as touristic areas), taxis can replace buses during the low demand season (Mulley et al., 2012)".
- It is therefore possible to identify different typologies of DRT services (OECD, 2015).
- A **"Virtual line"**. A virtual line is a service that is similar to normal scheduled services since it stops at fixed stopping points, follows regular routes and runs according to timetables set in advance. The basic difference compared with normal scheduled services is that it only runs if requested by one or more users.
- A **"Door-to-Door" service**. A Door-to-Door service, although less common, is a service transporting user from their homes to specified destinations. It is reserved for the elderly or for people with reduced mobility. There is no set route in this case and the service may be provided by taxis or minibuses belonging to the main network operator.
- **"Stop-to-stop" or "point-to-point" services**. Stop-to-stop or point-to-point refers to a system that serves an area with stops defined in advance. Routes may vary depending on stops and user demand. It may also use taxis or minibuses.

### *DRT services for rural areas*

The management of public transport has the role of ensuring, through sustainable methods, to serve most of the requesting request. In other words, it is necessary to study a mode of transport that allows users to move easily within the urban centre, within the suburbs and, above all, between the city and the suburbs. In many cities of Europe many studies have been conducted to analyze the possibility of setting up a public transport service on call that can fill any shortcomings of transport between the city and the suburbs. The need to give space to this new method of organizing transport evidently stems from the desire and need to connect all users in a functional way so that they feel an integral part of society. In these low demand areas, where population density is very low, it becomes difficult for the public service to fully cover these areas in organizational terms. Furthermore, given the low demand, it would not be advantageous even in economic terms to offer a service that would then be used by a few people.

It is in this context that the need arises for an accessible and functional public transport service that meets this demand and the solution has been proposed making use of the on-call service.

In Belgium, the Public Transport Company of the Flanders Region, De Lijn has launched a demand-based public transport project aimed mainly at connecting suburban areas with the rest of the city. To date, there are 18 DRT services operating in the rural areas of Flanders. The company has around 4,800 employees, 2,000 buses and 270 trams. Before the advent of on-call service, the transportation strategy in this area was to provide many vehicles that covered as many origins and destinations as possible. Over time, however, the number of origins and destinations has grown more and more and the revenues could no longer cover the costs.

So it was originally thought to decrease the frequency of the rides but this had as a main effect a further reduction in users and, therefore, in revenues.

Users have growing mobility needs and public transport is faced with a dual role: on the one hand it must guarantee essential mobility for everyone and on the other it must offer a strong alternative to the use of a private car. Particularly in the rural area of Flanders, granting the possibility to move with public transport is a factor of primary importance. In fact, 60% of the population, mostly children, the elderly, students, housewives, etc., do not own a car. The lack of means of transport for these users translates into limitations on the activities and initiatives of this segment of the population.

In this general context, on-call services can be introduced in different ways to reduce operating costs and offer users a wider form of transport. In this case, the on-call services were added to the existing classic public transport and sometimes replaced it. Users must book the trip 30 minutes in advance. This can be done by phone or via the website.

A typical on-call service is in operation in the town of Vourne where about 80 stops are served in an area of 140 km<sup>2</sup>. The origin and destination of each trip has been set in the city station, where the bus stops in correspondence with the connections of the main trains and waits to receive all users on board. Before the introduction of the on-demand service, two normal lines were in operation that connected, at two-hour intervals, several small towns with the centre of Veurne. With the DRT service, only one bus is able to create the same type of connection with an hour's frequency. The benefit for the company and customers is evident.

Another model of interest is that which has been developed between small towns in the province of Limburg. In this area, the on-call services were designed to cooperate with the classic public transport service that satisfies a large part of the demand in the most chosen destinations. On-call services in this sense cover the remaining destinations that were once less well served.

Operationally, the service was organized as follows: the areas and stops are known to residents who request the service by telephone directly to the service operators. The request is managed by a program that processes the data in real time and is able to provide the departure and arrival times at the desired destination. Timetables depend on previous bookings and on the conditions of flexibility of the service.

### *DRT services for vulnerable users*

In the city of Gothenburg, the second Swedish city after Stockholm with 500,000 inhabitants, an experiment was conducted within the SAMPLUS project with the aim of providing a service for weak users by implementing the existing one and at the same time evaluating possible interferences, advantages and disadvantages. Located on the west coast between Oslo and Copenhagen, Gothenburg is an important industrial center and has the largest port in all of Scandinavia. For the services available for disabled users, the city of Gothenburg has followed a different philosophy compared to many European cities: guaranteeing autonomy not through personalized transport, expensive and available only in limited circumstances, but through full accessibility of the transport network public. To achieve this goal, the city of Gothenburg has adapted all the buses and underground networks to the needs of the disabled and has introduced the use of on-call services with the innovative door-to-door mode, a service that guarantees the disabled user the stop on request under his own home. In this way it is possible to lighten the fatigue of a person who is unable to move and encourages him to be an integral part of society. In addition, the Administration of the city of Gothenburg has also provided disabled people with assistance along the path that other users normally walk. Where an able-bodied person has to travel long stretches, walk stairs, etc., there is an assistant from the municipality who helps the disabled and eventually transports them by car.

Attention to the world of transport has led this city to have a fleet of vehicles that has more than 200 buses and 200 trams and an automatic computerized system that updates the user in real time (with any delays) via application. Since 1992, the city administration has invested in the purchase of the PLANET system for the management of a call service for elderly users or those with limited mobility. The service, which has been called STS (Special Transport Service), is a door-to-door service that is carried out with collective taxis or minibuses equipped for these needs.

Just think that the PLANET system manages more than 5000 trips on request per day, most of which are used, precisely, by weak users with walking difficulties. To be even more specific, the actual site where the trial data was collected is the municipality of Hogsbo with about 16,000 inhabitants with the highest percentage of elderly people in the entire metropolitan area (33% of the inhabitants are over 65 years old). The area studied for the project extends for about 6 km<sup>2</sup> and includes two of the main poles of attraction of the demand: Frolunda Torg, the most important shopping centre in the city and the Sahlgrenska hospital. The service therefore provides the following characteristics:

- Service available from Monday to Friday from 8.00 to 17.00;
- Ticket price equivalent to that of the classic public service;
- Area covered by the service > 6 km<sup>2</sup> with about 75 meeting points;
- Distribution of meeting points so as not to let users walk for more than 150 m;
- Flexible itineraries determined by demand;
- Door-to-door call services for social card holders (STS).

In Italy, in the Piedmont region, since 2009 a project has been born called "Transport for elderly on call in the Po, Bronda and Infernotto Valleys", a project carried out in 15 municipalities constituting the former Mountain Community of the Po-Bronda and Infernotto Valleys.

The project is dedicated to the elderly who reside in the municipalities mentioned above and are more specifically understood: elderly with social problems, elderly with physical problems, patients with the need for non-urgent transport to hospitals or health facilities and elderly with impossibility of moving. The municipalities in question counted about 24,000 inhabitants spread over an area of over 480 sqkm where the population of over seventy years old constitutes 15% of the residents. The average density is 60 inhab/SqKm.

The management of reservations has been entrusted to a single switchboard where all calls from the various municipalities arrive through the toll-free number; at that point the switchboard can give a direct answer for the reception of the reservation or sort the calls to secondary telephones according to a shift which is programmed according to the number of affiliated municipalities. Alternatively, it can transmit a pre-recorded message on the times and methods of accessing the service and possibly record reports and / or voice messages of the user. The switchboard operating hours are from 10 to 13 from Monday to Friday or alternatively you can consult the web page and book online. On the page there will therefore be a public information area with the characteristics of the service and an area

reserved for operators. From this area, employees will be able to check the availability of the vehicle for the requested time slot, the possibility to book it and archive the personal data of the applicant, the transporter, date of departure, destination, etc.

Once the procedure is completed, the platform will send an automatic summary SMS to the passenger. The rates for using the service are standard rates for mileage ranges and are divided into 3 cases:

- service in the municipal areas affiliated with the elderly transport;
- service in the municipal areas not affiliated with the elderly transport;
- service under concession to nursing homes.

In the first case, the cost of the single journey (A / R) is:

- band up to 10 km € 5.00;
- range 11-20 km € 8.00;
- range over 20 km € 12.00.

In the second case, the cost of the single journey (round trip) is:

- 10.00 € for call fee;
- 0.80 €/ km travelled by the user to the destination;
- 0.30 €/ km travelled from the base to the user and back;
- 10.00 €/ h for hourly waiting for the user to return.

In the third case, the rate will simply be € 50.00 / day with the cost of fuel and human resources for the driver borne by the requesting structure.

### *DRT nighttime services*

In some Italian cities, a night call service has been developed which is available for users from the late hours of the night until the early hours of the morning. The service can be booked with a telephone application in which time and place of meeting are provided, making the service even safer. The service can be booked up to 15 minutes before.

An example of a city where this service has been implemented is the municipality of Padua in which the service, called NightBus, is managed by BusItalia Veneto and financed by the Municipality and University of Padua. The service has been designed mainly for young people but can be aimed at those who want it. It is active every day from 21.00 to 1.00 and on weekends it extends until 4.00 in the morning. The service can be easily booked with the NightBus application that can be downloaded for free. The price for the ride is € 1.50 or the same as the ticket for a traditional public bus. In addition, the time to be covered on foot from the destination or on arrival is shown.

Another case of interest concerns the experimentation of the night call service conducted in the municipality of Vimercate, province of Monza. The population is around 26,000 people spread over an area of 20 km<sup>2</sup>. Managed by the Zani auto service, already the contractor of the local public transport within which the activation of a new optional service was envisaged, transportation by call is possible thanks to a 7-seater van. To take advantage of the service, a reservation must be made through the "Shotl" application, communicating the ascent and descent stop to the operator. There are two vehicles available to citizens and they run the service from Monday to Friday at the following times: the first half from 7 to 9 and from 12 to 19 the second half from 8.30 to 12.30 and from 17.00 to 19.00. Once the service has been booked through the app, the system sends the confirmation of acceptance of the reservation and, about 15 minutes before the request, it will notify the user with an indication of the time and place. The bus is active only on the territory of Vimercate and hamlets, both for the ascent and descent stops and it is possible to get on / off only in authorized stops of local and extra-urban public transport. Once the reservation has been made and the place from which to leave has been made, the citizen will be notified of the meeting point corresponding to the nearest stop. Based on the requests, the application creates the trip that will be assigned to the driver, indicating the sequence of the users' ascent and descent stops, including the time and the route between the stops. The cost of the service is € 1.00 for each single journey, to be paid directly to the driver.

This form of transport is decidedly more flexible than the traditional one and allows not to circulate empty buses thus increasing the efficiency of the service both for the transport manager and for the user who has the security of being able to use the service and therefore is more incentive to use it.

## 4. Conditions for the promotion of rail and maritime passenger's intermodality

From the actions developed within the Inter-Connect project it emerged that the main dimensions through which intermodal passenger transport can be promoted are three:

- Institutional sustainability;
- Financial sustainability;
- Political sustainability.

From an economic point of view, it is not necessary to provide very expensive solutions as there are "soft" solutions that do not require large investments. Some cases where the infrastructures present do not allow the strengthening of public transport, large public investments are inevitable. From an institutional point of view, it has been seen that it is essential to involve key stakeholders from the beginning of the decision-making process, within the round tables, and in signing agreements.

The aim is therefore to understand the economic, institutional and political enabling conditions for better rail passenger's intermodality promotion.

The following paragraphs will specifically describe all three main dimensions in order to develop common guidelines that can also be followed outside the Inter-Connect project.

**Table 10: Inter-Connectivity components addressed by project's case studies**

	Inter-Connectivity components addressed by cases						Feasibility study or implementation?
	Physical	Logical	Economic al	Contractu al	Institution al	Legal and regulatory	
Igoumenitsa							FS
Bologna - Case A							IMP
Bologna - Case B							IMP
Trieste - SubcaseA							FS
Trieste - SubcaseB							FS
Zagreb							FS
Ljubljana							FS
Bar							FS
Belgrade							FS
Durres							FS

Main component  
Secondary component  
Not addressed

The dimensions of analysis taken into consideration within the Inter-Connect project are:

- Physical;
- Logical;
- Economical;
- Contractual;
- Institutional;
- Legal and regulatory.

The logical, contractual and institutional aspects are placed at the top of the aspects examined in the Inter-Connect project. Therefore, harmonization of information provision and cooperation and

commitment of stakeholders are considered preparatory steps and prerequisites necessary to offer advanced services to travelers.

#### ***4.1 Institutional sustainability***

The objective of this paragraph is to identify the most relevant case studies' stakeholders and analyse their main roles. It is important to understand the potential roles and positions of stakeholders within the case study in order to allow for a possible replication of the Inter-Connect project. The involvement of stakeholders is generally considered a good practice, not only to have a good technical result but also to guarantee the duration of the project results and the effectiveness of the actions in the long terms perspectives.

The result of this mapping activity can support the identification of possible conflicts and coalitions between the stakeholders and how they can influence the process of defining the action plan in terms of geographical coverage, integration of policies and availability of resources.

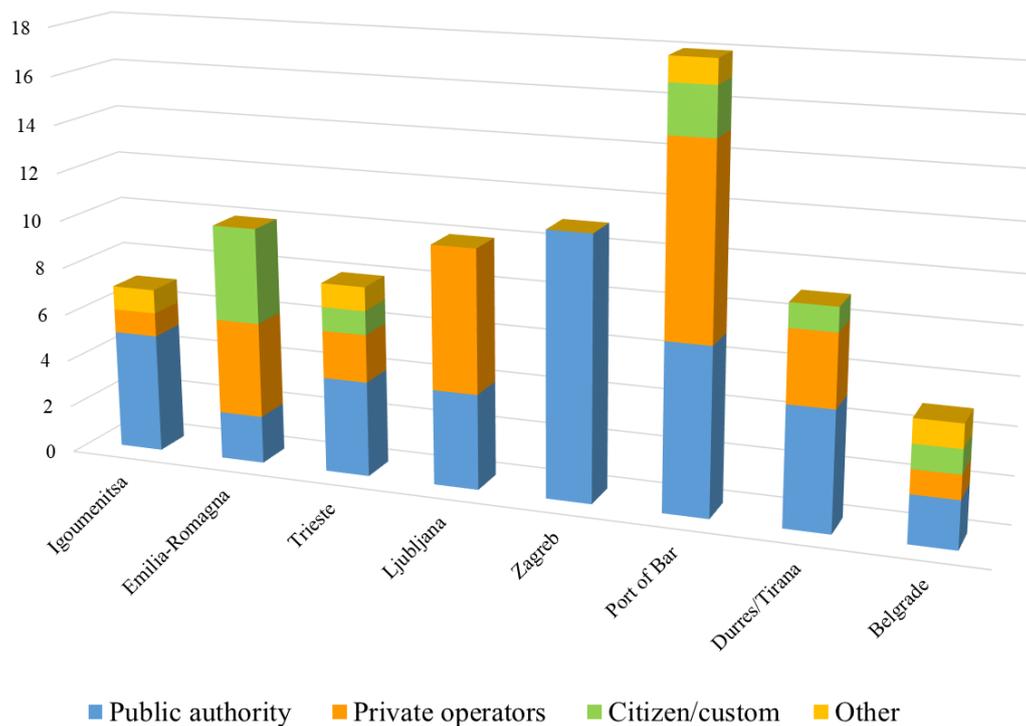
##### **4.1.1 Inter-Connect key stakeholders**

#### **Stakeholder general information**

The main public and private stakeholders involved in the definition and management of Inter-Connect case studies are mapped and described below. This analysis, in particular, focuses on the role of these stakeholders in enabling the definition and/or implementation and management of the case studies. Strong cooperation between the main stakeholders for the promotion of sustainable transport is fundamental as it can allow a greater financial and political support. In building more effective sustainable and intermodal solutions it is essential to have:

- high involvement of stakeholders, both public and private;
- regular exchange of communications, information and initiatives;
- coordination of joint projects in the intermodal sector of the public transport;
- involve the main stakeholders through round tables, memorandum of understanding;
- develop a participatory approach that allows to establish synergies and develop a global vision of the project among all the parties involved.

The figure below shows the average number of partners involved in each case study. The various stakeholders have been grouped for simplicity of representation and description into four macro groups: public authorities, private operators, citizen/customers and others (which includes any other stakeholders that do not fall into the three previous groups).

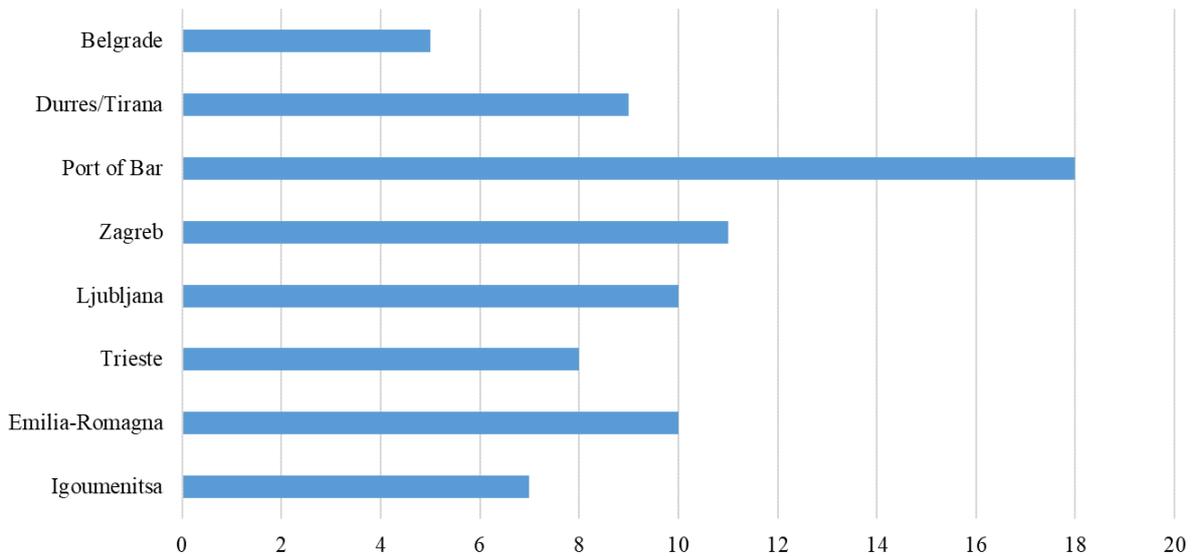


**Figure 11: Average number of involved partners in the Inter-Connect case studies**

As can be seen from the graph, most of the stakeholders are public authorities, demonstrating the importance of public actors within each project. In fact, all eight Inter-Connect case studies see the involvement of public authorities within the projects. Another key role is related to private operators. Also in this case they are present within almost all the Inter-Connect case studies.

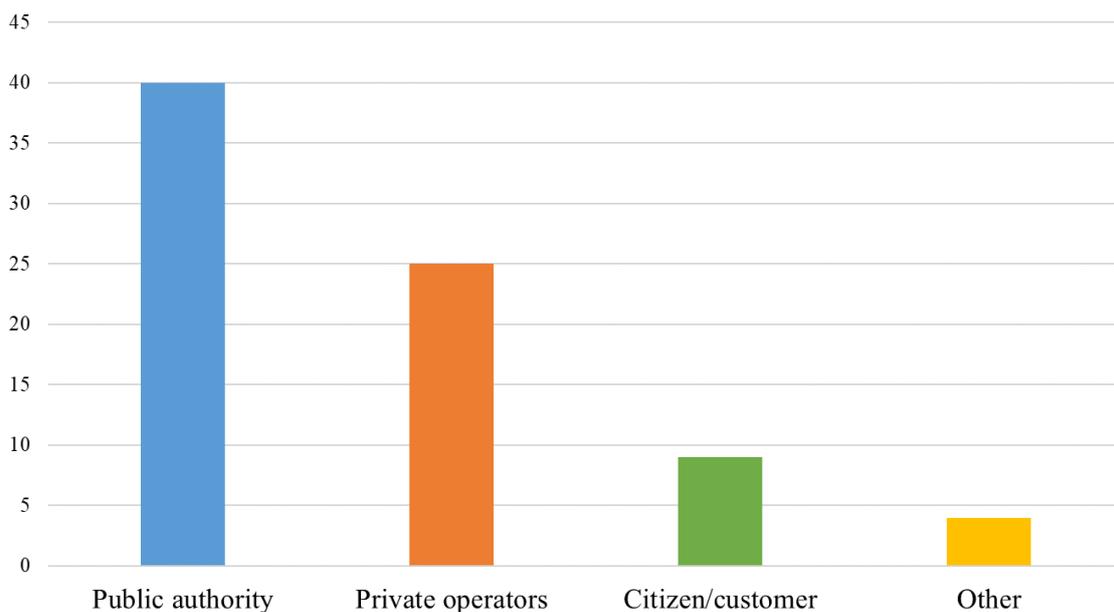
The case studies evidenced also the importance to involve all the key stakeholders since the beginning of the decision-making process. This involvement must in fact take place from the early stages of the project study (pre-feasibility stage) in order to agree on the general vision and objectives to be reached with the different actions. Obviously, the greater the number of partners involved the greater the institutional complexity to be managed.

Other institutional stakeholders involved in various case studies as Emilia-Romagna, Trieste, Port of Bar, Durres and Belgrade, are citizens' associations very active in the public consultation events aimed to define the actions to be implemented for the train and public transport improvement.



**Figure 12: Total number of stakeholders involved in each Inter-Connect case studies**

As can be seen in the graph, the number of partners involved in the various case studies of the Inter-Connect project is on average always greater than five, reaching in the case of the Port of Bar eighteen partners involved. This makes it clear how important is the involvement of the different parties within the project in each implementation phase, although this implies greater institutional complexity.



**Figure 13: Inter-Connect involved partners per typology**

As mentioned above, most of the stakeholders involved are public authorities. In fact, the graph shows how, compared to the other types of partners involved, the number of public partners in the individual cases of the Inter-Connect project is almost double that of the private operators involved (companies, wholesale, SMEs, etc.).

The following table shows the main stakeholders involved in each case studies divided into four macro types.

**Table 11: Main Inter-Connect key stakeholders**

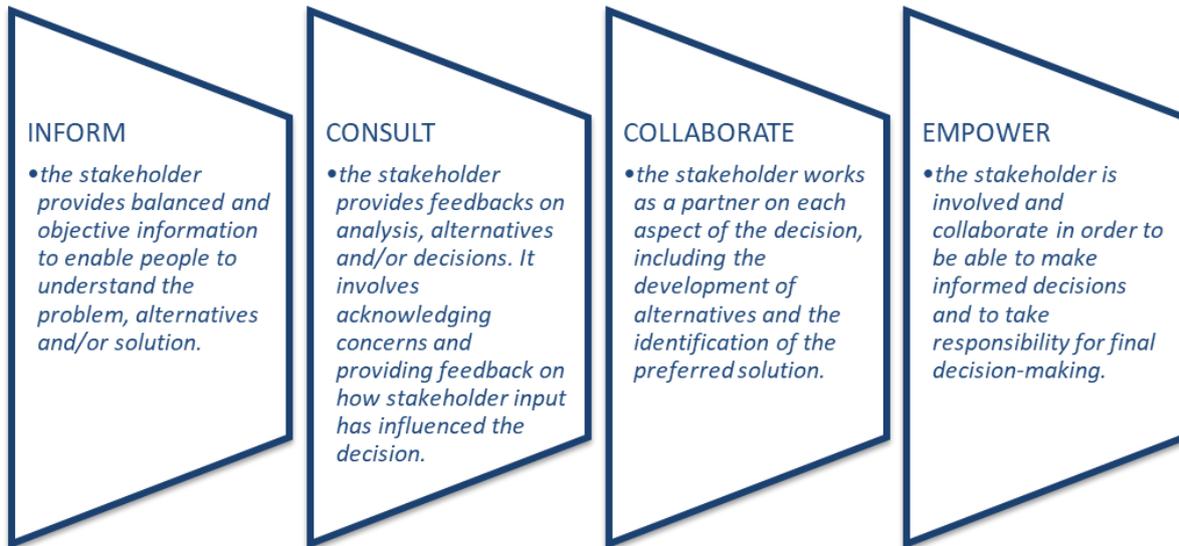
<b>Main Inter-Connect key stakeholders</b>				
	<b>Public authority</b>	<b>Private operators</b>	<b>Citizen/custom</b>	<b>Other</b>
<b>Igoumenitsa</b>	<ul style="list-style-type: none"> <li>- City of Igoumenitsa</li> <li>- Port Authority of Igoumenitsa</li> <li>- Region of Epirus</li> <li>- Regional Unit of Thesprotia</li> <li>- Traffic Police</li> </ul>	Intercity private bus operator		The chamber of commerce of Igoumenitsa
<b>Emilia-Romagna. Case A</b>	Emilia-Romagna Region	National train operator (Trenitalia)	Commuters associations	/
<b>Emilia-Romagna. Case B</b>	Emilia-Romagna Region Local Transport Operator (Start Romagna)	National train operator (Trenitalia)		
<b>Trieste. Case A</b>	<ul style="list-style-type: none"> <li>- Autonomous Region Friuli-Venezia Giulia - Regional authority</li> <li>- Trieste Municipality - Local authority</li> <li>- Koper Municipality - Local authority</li> <li>- Muggia Municipality - Local authority</li> </ul>	<ul style="list-style-type: none"> <li>- Trieste Trasporti – Public Transport operator</li> <li>- Samer &amp; Co</li> </ul>	Viaggiare Slow - Citizen associations	Regional Development Centre Koper
<b>Trieste Case B</b>	<ul style="list-style-type: none"> <li>- Autonomous Region Friuli-Venezia Giulia - Regional authority</li> <li>- Trieste Municipality - Local authority</li> <li>- Koper Municipality - Local authority</li> <li>- Muggia Municipality - Local authority</li> </ul>	<ul style="list-style-type: none"> <li>- Trieste Trasporti – Public Transport operator</li> <li>- Samer &amp; Co</li> </ul>	Viaggiare Slow - Citizen associations	Regional Development Centre Koper
<b>Ljubljana</b>	<ul style="list-style-type: none"> <li>- BSC, Business Support Centre, Ltd., RDA of Gorenjska</li> <li>- Regional Development Centre Koper</li> <li>- RDA Green Karst, Ltd.</li> <li>- Ministry of infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>- Luka Koper, p.l.c.</li> <li>- Fraport Slovenija, Ltd.</li> <li>- Ljubljana urban transport (LPP)</li> <li>- SŽ-Passenger transport, Ltd.</li> <li>- NOMAGO, Ltd.</li> </ul>		
<b>Zagreb</b>	Tourist National Office	National Train operator		
<b>Port of Bar</b>	<ul style="list-style-type: none"> <li>- Ministry of Transport and Maritime Affairs of the Government of Montenegro</li> <li>- Ministry of Internal Affairs</li> <li>- Ministry of Sustainable</li> </ul>	<ul style="list-style-type: none"> <li>- The Port of Bar JSC</li> <li>- Barska plovidba“ JSC</li> <li>- Railway Transport of Montenegro JSC</li> <li>- Port of Adria JSC</li> <li>- Monteput Ltd.</li> <li>- Utilities Ltd.</li> <li>- Interlog Bar</li> </ul>	Citizen associations	Citizens

	<ul style="list-style-type: none"> <li>Development and Tourism</li> <li>- Office for European Integration at the Prime Minister's Office</li> <li>- Chamber of Economy Montenegro</li> <li>- Bar Municipality</li> <li>- Tourism Organization of Town of Bar</li> </ul>	<ul style="list-style-type: none"> <li>- Private bus carriers (Mediteran express, Zejdin, Blue line, Nikšić transport...)</li> </ul>		
<b>Durres/Tirana</b>	<ul style="list-style-type: none"> <li>- Ministry of Infrastructure and Energy (MIE)</li> <li>- Ministry for Europe and Foreign Affairs (MEFA)</li> <li>- Durrës Port Authority (DPA)</li> <li>- Albanian Railways</li> <li>- Institute of Transport</li> </ul>	<ul style="list-style-type: none"> <li>- Railway industry operators</li> <li>- Albanian railways partners</li> <li>- SME railway undertakings</li> </ul>	Citizen	
<b>Belgrade</b>	<ul style="list-style-type: none"> <li>- City of Belgrade - Secretariat for public transport</li> <li>- City of Belgrade - Secretariat for transport</li> </ul>	Belgrade Railway Node JSC	Traffic Company "Lasta" JSC	Transportlog – association of Transport managers

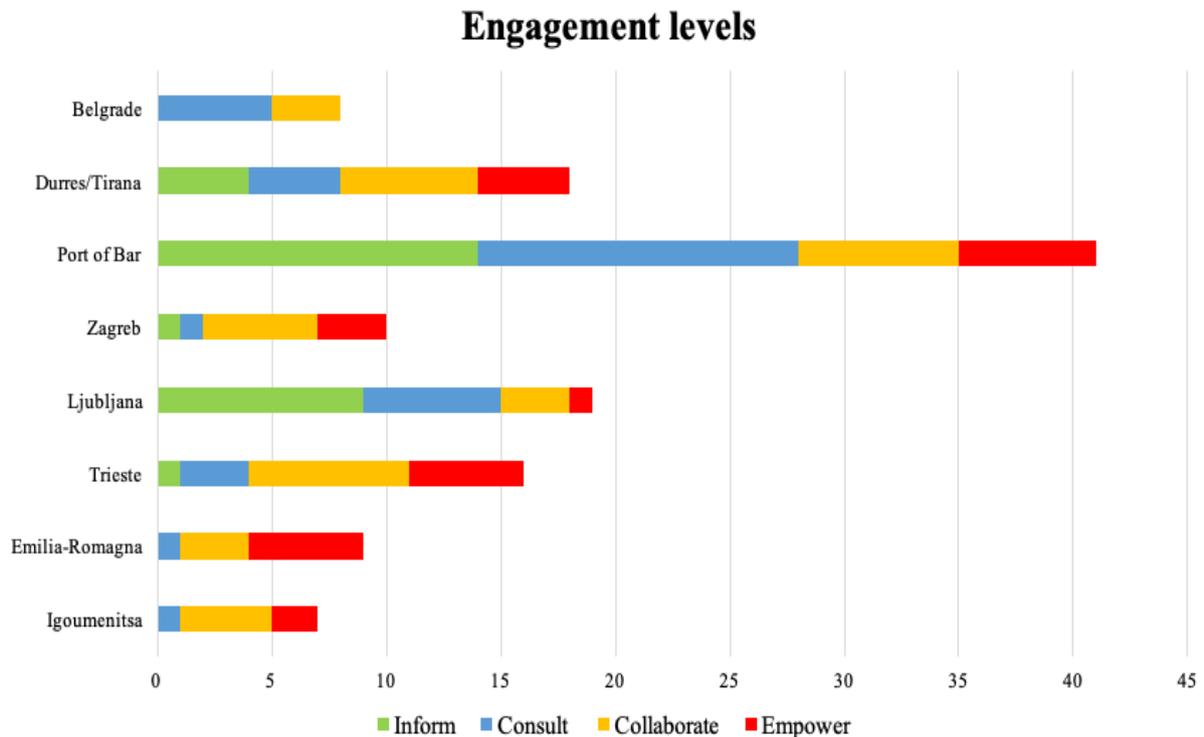
### Engagement levels

In relation to stakeholder's engagement sustainability, the objective is to identify the most relevant stakeholders and their specific contributions and role in reaching the project's main objectives. In fact it is important to understand their potential roles and contributions in the case study definition and implementation, their interests and objectives, useful to define the local action plans, paving the way to the replication of the Inter-Connect case studies in the ADRION area.

The result of this mapping activity intends to support the identification of possible conflicts and coalitions between stakeholders and how these may affect the action plan definition process in terms of geographical coverage, policy integration and resource availability. The engagement level is assessed using the categories summarized and described in the table below.



The following graph shows the engagement levels of the different stakeholders for each case study. As can be seen, in almost all cases, the partners involved have played the role of consultancy, collaboration and decision-making. This shows how the involvement and collaboration of the different stakeholders in each decision-making phase between the different alternatives is a choice shared by each partner for the positive development of each project. Only in a few cases including Durres, Port of Bar, Zagreb and Ljubljana did interested parties provide balanced and objectives information to allow people to understand the problem, alternatives and / or the proposed solution.



**Figure 14: Inter-Connect key stakeholders' engagement levels**

The following table summarizes the key players to enhance the measures in each case study.

**Table 12: Stakeholder-commitment level in the Inter-Connect case studies**

Stakeholder	Brief description of the commitment level
<b>IGOUMENITSA</b>	
<b>Municipal Authority of Igoumenitsa</b>	High – Initiator of the new project
<b>Port Authority of Igoumenitsa</b>	High – willing to collaborate with the city to enhance passengers’ mobility needs
<b>Intercity private Bus operator</b>	High – willing to offer two low floor buses for the pilot case as a starting point
<b>Chamber of Commerce</b>	High – fully acknowledging the need for PT services
<b>Region of Epirus</b>	Collaborative
<b>Regional Unit of Thesprotia</b>	Collaborative
<b>Traffic Police</b>	Collaborative
<b>EMILIA ROMAGNA REGION CASE A</b>	
<b>Emilia-Romagna Region</b>	Initiative promoter
<b>Trenitalia</b>	Initiative promoter
<b>Municipalities</b>	Consultation with the municipalities involved in the train stop reduction.
<b>Local Public Transport companies</b>	Provider of the bus services where the train stops were reduced
<b>Users associations</b>	Observations on difficulties generated by the introduction of the new timetable.
<b>EMILIA ROMAGNA REGION CASE B</b>	
<b>Start Romagna</b>	Initiative promoter
<b>Trenitalia</b>	Initiative promoter
<b>Emilia-Romagna Region</b>	Supervisor and contributor (Regional integrated fare system)
<b>Romagna touristic and commercial attractions</b>	Commercial support through discounts for integrated ticket holders.
<b>LJUBLJANA</b>	
<b>ARRIVA SLOVENIA</b>	ARRIVA SLOVENIA was informed about the Inter-Connect project via newsletter and e-mail. They participated at the second stakeholder’s consultation and round table for Slovenian case of Inter-Connect project in Ljubljana. ARRIVA SLOVENIA participated as a signatory of the Memorandum of Understanding, also, they were involved in preparation of the MoU and are one of the main decision-makers in region.
<b>BSC, Business Support Centre, Ltd., RDA of Gorenjska</b>	BSC was informed about the Inter-Connect project via newsletter and e-mail. They participated as a signatory of the Memorandum of Understanding.
<b>Stakeholder 8: Fraport Slovenija</b>	Fraport Slovenija was informed about the Inter-Connect project via newsletter and e-mail. They participated at the first stakeholder’s consultation and round table for Slovenian case of Inter-Connect project in Ljubljana. Fraport Slovenija also participated as a signatory of the Memorandum of Understanding.
<b>Ljubljana urban transport (LPP)</b>	LPP was informed about the Inter-Connect project via newsletter and e-mail. They participated at the first and second stakeholder’s consultation and round table for Slovenian case of Inter-Connect project in Ljubljana. LPP also participated as a signatory of the Memorandum of Understanding.
<b>Luka Koper, p.l.c.</b>	Luka Koper, p.l.c. was informed about the Inter-Connect project via newsletter and e-mail. They participated as a signatory of the Memorandum of Understanding.
<b>Ministry of infrastructure of Republic of Slovenia</b>	Ministry of infrastructure of Republic of Slovenia was informed about the Inter-Connect project via newsletter and e-mail. They participated at the first and second stakeholder’s consultation and round table for Slovenian case of Inter-Connect project in Ljubljana. Also, they participated as a signatory of the Memorandum of Understanding.
<b>NOMAGO, Ltd.</b>	NOMAGO, Ltd. was informed about the Inter-Connect project via newsletter and e-mail. They participated at the second stakeholder’s consultation and round table for Slovenian case of Inter-Connect project in Ljubljana. NOMAGO, Ltd. participated as a signatory of the Memorandum of Understanding and they were also involved in preparation of the MoU and are one of the main decision-makers in region.

<b>Regional Development Centre Koper</b>	Regional Development Centre Koper was informed about the Inter-Connect project via newsletter and e-mail. They participated as a signatory of the Memorandum of Understanding.
<b>RDA Green Karst, Ltd.</b>	RDA Green Karst, Ltd. was informed about the Inter-Connect project via newsletter and e-mail. They participated as a signatory of the Memorandum of Understanding.
<b>SŽ-Passenger transport, Ltd.</b>	Passenger transport, Ltd. was informed about the Inter-Connect project via newsletter and e-mail. They participated at the first and second stakeholder's consultation and round table for Slovenian case of Inter-Connect project in Ljubljana. Passenger transport, Ltd. participated as a signatory of the Memorandum of Understanding.
<b>FRIULI VENEZIA GIULIA REGION</b>	
<b>Autonomous Region Friuli-Venezia Giulia</b>	Planning role and in particular it is to report the fact that it is financing and tendering the cross-border maritime services.
<b>Trieste Municipality</b>	Key local level stakeholder, involved in the accessibility of the terminal and urban city centre as well as of the promotion of sustainable tourism.
<b>Koper Municipality</b>	Key local level stakeholder involved in particular in sub-case B.
<b>Muggia Municipality</b>	Key local level stakeholder involved in particular in sub-case B.
<b>Trieste Trasporti</b>	As PT operator in the province of Trieste during the period in which the case study has been developed, it has represented a key player at operational level in the local context, managing both bus and maritime services (as from 11.6.2020, the regional public transport service is managed by TPL FVG scarl, a company that involves the previous 4 provincial PT operators, including Trieste Trasporti).
<b>Samer &amp; Co</b>	Involved in the operations of Sub-case A services.
<b>Regional Development Centre Koper</b>	Addressing sustainable mobility and accessibility needs of the South Primorska planning region, including the Slovenian coastal area and its hinterland.
<b>Viaggiare Slow</b>	Promotion sustainable tourism (esp. cycle tourism) and related needs.
<b>ZAGREB</b>	
<b>Croatian National Tourist Board</b>	The case concerns mostly tourists, going from or coming to Croatia. Institutions mission includes the planning and implementation of a common strategy and the conception of its promotion, proposal and the performance of promotional activities of mutual interest for all subjects in tourism in the country and abroad, as well as raising the overall quality of the whole range of tourist services on offer in the Republic of Croatia.
<b>Port of Rijeka authority</b>	Port authority needs to be included concerning specifications and procedures regarding passengers, operators and port infrastructure.
<b>Port of Zadar authority</b>	Port authority needs to be included concerning specifications and procedures regarding passengers, operators and port infrastructure.
<b>Port of Split authority</b>	Port authority needs to be included concerning specifications and procedures regarding passengers, operators and port infrastructure.
<b>Port of Dubrovnik authority</b>	Port authority needs to be included concerning specifications and procedures regarding passengers, operators and port infrastructure.
<b>City of Rijeka</b>	Local government fosters tourism; creates, formulates and implements politics on local level, specifically mobility. It supports local projects, aligns them with local strategies and connects stakeholders.
<b>City of Zadar</b>	Local government fosters tourism; creates, formulates and implements politics on local level, specifically mobility. It supports local projects, aligns them with local strategies and connects stakeholders.
<b>City of Split</b>	Local government fosters tourism; creates, formulates and implements politics on local level, specifically mobility. It supports local projects, aligns them with local strategies and connects stakeholders.
<b>City of Dubrovnik</b>	Local government fosters tourism; creates, formulates and implements politics on local level, specifically mobility. It supports local projects, aligns them with local strategies and connects stakeholders.
<b>Ministry of Maritime Affairs, Transport and Infrastructure</b>	MMATI is responsible for drafting laws, supervising and controlling law enforcement, issuing licenses, inspection and other expert activities. Plans, drafts and implements strategic documents and projects for transport infrastructure, recommends development strategy, does strategic infrastructural projects and investment programs

	of strategic importance for Croatia and prepares project suggestions for Government to approve and implement. From the managerial point of view, the Ministry deals with reconstruction, maintenance and other investments of strategic importance for the development of Croatia, which are completely or mostly financed by the state, coordinates these activities and supervises investments. State also covers the difference between costs and revenues, ensuring railway transport on non-profitable lines, and contracts operators.
<b>Ministry of Tourism</b>	Ministry of Tourism is an important stakeholder for the future. Its participation will ensure sustainability of the pilot if the idea is feasible. MoT can insert it into strategic documents and facilitate its implementation.
<b>PORT OF BAR</b>	
<b>Ministry of Transport and Maritime Affairs of the Government of Montenegro</b>	The institution responsible for the transport sector and has overall responsibility for the development, management, and coordination of the various modes of transport and strategic planning
<b>Ministry of Internal Affairs</b>	Responsible for traffic safety, border crossings, driver and vehicle records, protection and rescue management
<b>Ministry of Sustainable Development and Tourism</b>	Responsible for spatial planning, environmental protection, and accessibility of Montenegro as a tourist destination
<b>Office for European Integration at the Prime Minister's Office</b>	Responsible for leading the process of accessing the EU and horizontal monitoring of the use of pre-accession funds and other EU instruments available to Montenegro
<b>Chamber of Economy Montenegro</b>	Harmonises the prepared traffic timetables at the national level, after which the carrier is entitled to register the determined timetable
<b>Bar Municipality</b>	Key stakeholder at the local level, involved in the accessibility of terminals and city center, as well as in promoting sustainable transport development
<b>Tourism Organization of Town of Bar</b>	Conducts marketing and promotional activities related to tourism in the region
<b>The Port of Bar JSC</b>	A key stakeholder in the case study implements the investment and represents an operational authority for maritime transport
<b>Interlog Bar</b>	Interlog Bar is acting as General agent of Maersk Line since 1999 and since that time it is acting as a logistics operator  Interlog is also representative of the Grimaldi Group in Montenegro
<b>„Barska plovdba“ JSC</b>	Operates maritime transport
<b>Railway transport of Montenegro JSC</b>	Operates rail transport
<b>Port of Adria JSC</b>	Operates maritime transport and has extensive experience in accepting cruise ships on round trips.
<b>Monteput Ltd.</b>	Operates road transport and manages the largest investment in the transport system of Montenegro, Bar - Boljare highway
<b>Utilities Ltd.</b>	Provides station services for bus transportation.
<b>Private bus carriers (Mediterranean express, Zejdin, Blue line, Nikšić transport..)</b>	Operate bus transportation
<b>Citizens</b>	Provide feedback on analyses, alternatives, and decisions made.
<b>DURRES/TIRANA</b>	
<b>MIE</b>	The institution responsible for formulation, application and monitoring of the policies, programs, and national standards of road, air, rail, maritime transport infrastructure, contribute to the safety, security and efficiency of all modes of transport the protection of the environment. Will stimulate cooperation, harmonization and interoperability that will enhance intermodal transportation. Will ensure the travel information on regular and updated traffic flows and timetable of passenger ships at Albanian Ports combined with public transport info-mobility.
<b>MEFA</b>	High level of commitment from the GoA is a member of National Investment Committee via the SSPP/SPP
<b>HSH</b>	Will contribute to the better integration of regional connections between ports, airports and main tourist destinations/urban areas

<b>: MFE</b>	The fiscal space should always allow the implementation of the project in the infrastructure included critical infrastructure and the Rolling stock and/or equipment
<b>Durres Port Authority</b>	Will support the case examination on developing and implementing the technological solution in the intermodal transport.
<b>Institute of Transport</b>	Collaborate with other institution to support harmonization of bus, train and maritime timetables, Provide information on how to improve passenger mobility and to explore new possibilities for use of the technological innovative solution;
<b>BELGRADE</b>	
<b>City of Belgrade - Secretariat for public transport</b>	Secretariat for Public Transport provided all data necessary for analysis and participated to meetings and Round Tables but didn't show any further feedback.
<b>City of Belgrade - Secretariat for transport</b>	Stakeholder participated at meetings and Round Tables, but with often changes in views, level of interest and officers who participated.
<b>Belgrade Railway Node JSC</b>	Stakeholder participated actively, discussed and contributed to project activities. But, in terms of core responsibilities and relations to national government and dependency on national railway infrastructure company at decision making level, stakeholder couldn't fully collaborate in terms of taking responsibilities.
<b>Traffic Company "Lasta" JSC</b>	Consulted in terms of opinions, issues and acceptance of concept of intermodality for Bus operators and their position and role in further development of Belgrade Transport system.
<b>Transportlog – association of Transport Managers</b>	Consulted in terms of professional opinions, issues and possibilities to intervene. This stakeholder actually defined and proposed Belgrade Case within Inter-Connect and monitoring of activities was main role as Associated Partner

After stakeholders identification phase, the relationships between these actors should be taken into account. This analysis should be based on a list of different criteria or attributes which are relevant for the respective case, e.g. interest, power, influence on each other, coalitions, etc. This way you can find out what the objectives of each stakeholder are, what their hidden agendas are, and whether they regard themselves as "winners" or "losers" if a given issue is implemented.

The objective of a systematic analysis of actor relationships is to get a clear picture of conflicts of interest or potential coalitions and to be able to better determine clusters of stakeholders who may exhibit different levels of interest, capacities and interest in the issue in question. For example, this can be done by developing an "Influence-Interest Matrix", which groups stakeholders by their level of influence/importance.

**Table 13: Stakeholders influence-interests matrix in the Inter-Connect case studies**

		Low Influence	High influence
<b>Low stake</b>	<b>Igoumenitsa</b>	Chamber of Commerce	Region of Epirus Traffic Police
	<b>Emilia-Romagna. Case A</b>	/	Users associations Public transport companies
	<b>Emilia-Romagna. Case B</b>		Emilia-Romagna Region Start Romagna Trenitalia
	<b>Friuli-Venezia Region - Trieste</b>	<b>Giulia</b>	
	<b>Ljubljana</b>	BSC, Business Support Centre, Ltd., RDA of Gorenjska; Regional Development Centre Koper.  RDA Green Karst, Ltd.	Luka Koper, p.l.c.; Fraport Slovenija
	<b>Zagreb</b>		
	<b>Port of Bar</b>	- Private bus carriers (Mediterranean express, Zejtin, Blue line, Nikšić transport...)	- Citizens of Internal Affairs

		<ul style="list-style-type: none"> <li>- Utilities Ltd.</li> <li>- Chamber of Economy Montenegro</li> <li>- Port of Adria JSC</li> </ul> <p>Tourism Organization of Town of Bar</p>	
	<b>Durres/Tirana</b>	Rail operators	Citizens MFE
	<b>Belgrade</b>		Transportlog – Association of Transport Managers
<b>High stake</b>	<b>Igoumenitsa</b>	Intercity Bus Operator	Municipal Authority
		Port Authority	Regional Unit of Thesprotia
	<b>Emilia-Romagna. Case A</b>		Emilia-Romagna Region Trenitalia
	<b>Emilia-Romagna. Case B</b>		Trenitalia, Start Romagna, Emilia-Romagna Region, Romagna touristic and commercial attractions
	<b>Friuli-Venezia Giulia Region - Trieste</b>	Samer & Co, Viaggiare Slow	Autonomous Region Friuli Venezia Giulia, Trieste Municipality, Koper Municipality, Muggia Municipality, Trieste Trasporti, Samer & Co, Regional Development Centre Koper
	<b>Ljubljana</b>	Ljubljana urban transport (LPP); NOMAGO, Ltd. ARRIVA SLOVENIA	Ministry of infrastructure of Republic of Slovenia SŽ-Passenger transport, Ltd.;
	<b>Zagreb</b>		
	<b>Port of Bar</b>	<ul style="list-style-type: none"> <li>- Barska plovodba JSC</li> <li>- Railway transport of Montenegro JSC</li> <li>- Interlog Bar</li> <li>- Monteput Ltd.</li> </ul> <p>Office for European Integration at the Prime Minister's Office</p>	<ul style="list-style-type: none"> <li>- The Port of Bar JSC</li> <li>- Bar Municipality</li> <li>- Ministry of Transport and Maritime Affairs of the Government of Montenegro</li> </ul> <p>Ministry of Sustainable Development and Tourism</p>
	<b>Durres/Tirana</b>	MEFA	MIE Durrës Port Authority Institute of Transport Albanian Railway
	<b>Belgrade</b>	Traffic Company “Lasta” JSC	City of Belgrade - Secretariat for public transport City of Belgrade - Secretariat for transport Belgrade Railway Node JSC

#### 4.1.2 Key stakeholder involvement tools and strategies

One aspect to be addressed is the means of engaging stakeholders to improve the efficiency and effectiveness of their involvement and to avoid disputes. There are several specific techniques for achieving stakeholder participation.

The involvement of multiple levels of stakeholders in the planning concept aimed at integrating strategies and involving the public, in order to develop effective mobility models, directing them towards sustainability. Engagement and dependence on collaboration aim to address social, environmental and economic challenges in developing local sustainable transport strategies. This means moving away from the decision-making process from top to bottom towards a synergistic strategic planning that takes into account the connection of traffic with other aspects of urban life.

The participation of different sectors, private and public, offers a greater wealth of knowledge, experiences and insights that can help to better develop a sustainable transport strategy.

The approach involved discussions with stakeholders responsible for developing the strategy to ensure that the case study included as many strategies as possible. In addition, the wishes and support of end users for the proposed transport solutions were tested by conducting a survey by private individuals.

The participation of different stakeholders ensures that the problem of mobility is addressed and creates a more cohesive and sustainable transport system through a holistic approach and inter-sectoral (horizontal), multilayer (vertical) and multi-territorial cooperation. Vertical integration ensured alignment of local strategies with relevant strategies and priorities at regional, national and EU level. Horizontal integration at local level will guarantee the spatial conditions of the project through spatial planning and ensuring the ground and transport connections to the project, while territorial integration will guarantee the participation of nearby urban areas and their involvement at regional level wide.

The process of involvement of administrations, planning institutions but also all other stakeholders in the project, which influences or is influenced by the development of the transport system and the demand for mobility, operators, service providers, special interest groups and citizens themselves.

In practical terms, the most powerful tool to implement active participation and dialogue between stakeholders was seen to be face-to-face meetings at various levels of representation. Matching the level of representation between stakeholders is critical to achieving maximum results. Pilots have to work in parallel at three levels, namely the political level (political commitment to sustainability principles), the technical level (addressing technical issues, deciding routes, timetables, fleet characteristics, bus stations etc.) w last, but not least, at an institutional / legal level. It is known that many projects cannot be implemented in due course, due to deficiencies in institutional preparation and legal constraints that prevent the parties involved from carrying out their duties. It is therefore important to make useful information available that helps a lot in all types of discussion, focus groups to make clear statements for the present and make predictions for the future. Furthermore, direct involvement of citizens is also important in order to increase their level of awareness.

During the case study implementation, as reported in the following table, different means have been used for involving and engaging the different stakeholders. The choice proved to be correct as to cope with different needs:

- Start involving and contacting relevant stakeholders
- Collecting information as to ensure as to map the issue and provide a sound knowledge base with respect to a pre-identified set of aspects to be investigated
- Focus and deepening on specific aspects interacting freely with a committed expert/pertinent stakeholder
- Favouring the exchange of ideas and brainstorming ensuring all different viewpoints to be represented
- Reaching a consensus and ensuring long-term commitment
- In particular, it is to underline the importance of monitoring, tracking the developments taking place in the analysed context and adjusting accordingly the development of the case study throughout the months. (e.g. bilateral meetings and round tables).

It can therefore be summed up by saying that the key message and lesson learned from the case studies of the Inter-Connect project is that more effective stakeholder involvement should be acquired, including in the project preparation phase.

The table below shows the different strategies adopted in each case study of the Inter-Connect project to involve interested parties. It can be observed that all the case studies all the case studies have provided questionnaires and interviews with citizens to involve them, inform them and make them more sensitive on issues concerning sustainable transport mobility. Another key aspect is the Memorandum of Understanding (MoU) which has been provided by almost all case studies for stakeholder involvement.

Last fundamental aspect, as has been said previously, is to foresee round table discussions. Within the Inter-Connect project, all the case studies have provided stakeholder engagement strategies through discussion tables to share and promote the participation of all involved, public and private.

**Table 14: Engagement strategies adopted in the Inter-Connect case studies**

Engagement strategies	RER	Trieste	Igoumenitsa	Ljubljana	Zagreb	Port of Bar	Belgrade	Albania
Invitation Letters		X	X	X		X	X	X
Questionnaires and Surveys	X	X	X	X	X	X	X	X
Exhibitions and Road Shows			X	X				X
Public Meetings	X		X		X			X
Use of the full range of the media	X		X	X		X		X
Structured interviews	X	X	X			X	X	
Forums			X		X			
Focus Groups			X	X	X			X
Advisory Committee	X		X					
Workshop	X		X					X
Round Table Discussions	X	X	X	X	X	X	X	X
Public-private agreement	X		X					
Participatory processes	X	X	X			X		X
Memorandum of Understanding (MoU)	X	X	X	X	X			X

# Engagement strategies

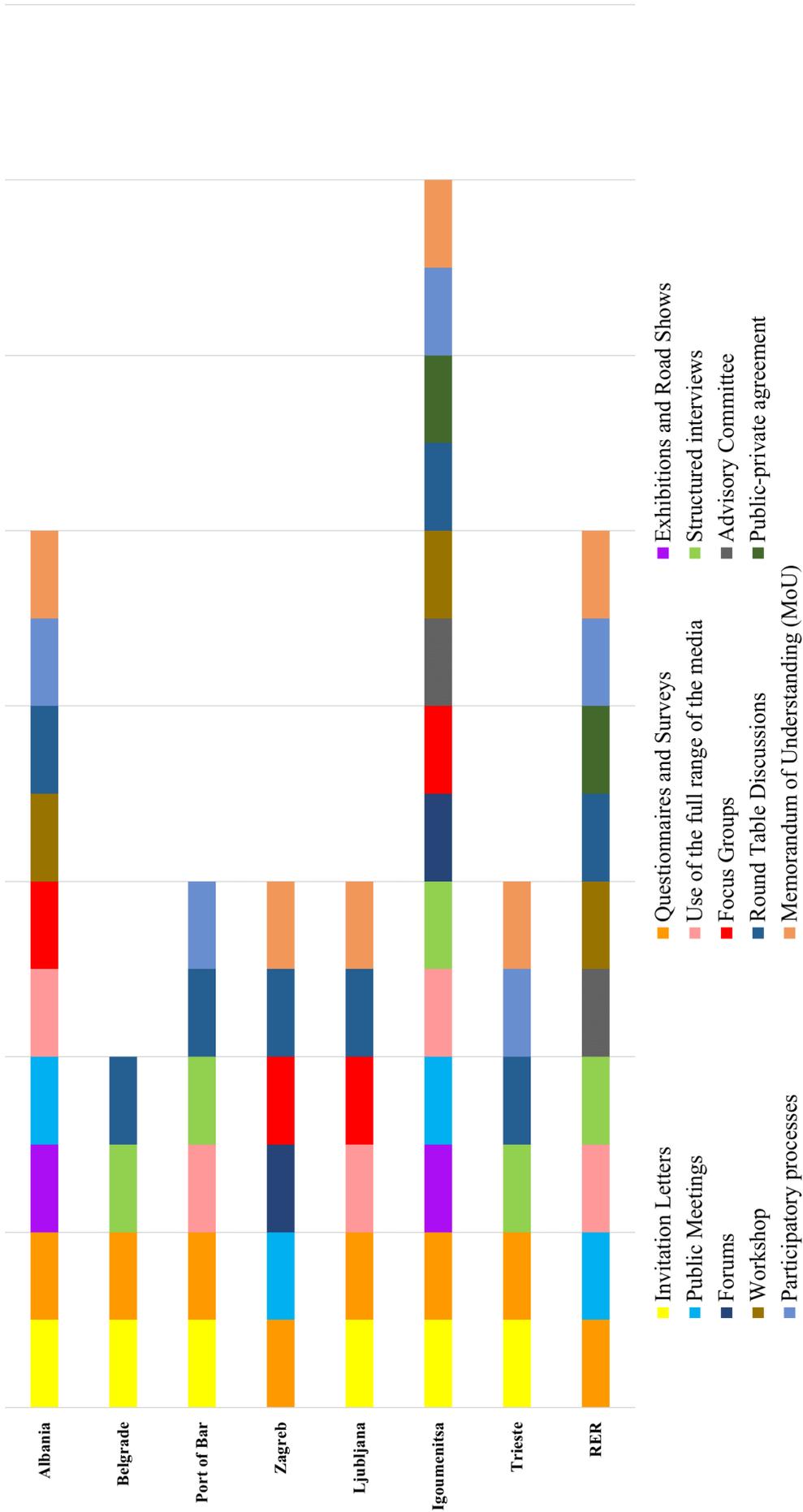


Figure 15: Summary of the engagement strategies adopted in the Inter-Connect case studies

## 4.2 Political sustainability

### 4.2.1 Policies supporting intermodality promotion in the Inter-Connect area

One of the most important prerequisites for a successful sustainable transport promotion strategy is the adherence with the existing European, national, regional and local policies. Also in the Inter-Connect project one of the most important success factors of the developed case studies is related to the ability of these actions to create synergies and continuity with the existing transport and environmental policies.

**Table 15: Political sustainability. Inter-Connect case studies main supporting policies**

Political sustainability. Inter-Connect case studies main supporting policies			
	Local level	Regional level	Transnational level
<b>Igoumenitsa</b>	<ul style="list-style-type: none"> <li>- Master Plan of the Port of Igoumenitsa 2016-2019</li> <li>- Igoumenitsa's SUMP – Sustainable Urban Mobility Plan of Igoumenitsa</li> </ul>		<ul style="list-style-type: none"> <li>- Strategic Plan for the Region of Epirus (2014-2020)</li> <li>- Operational Program “Transport Infrastructure, Environment and Sustainable Development”</li> </ul>
<b>Emilia-Romagna</b>		<ul style="list-style-type: none"> <li>- Regional Integrated Transport Plan (PRIT) 2025</li> <li>- “Mi Nuovo” and Stimer. Regional integrated ticketing action plans</li> <li>- Regional Energy plan</li> </ul>	
<b>Trieste</b>		<ul style="list-style-type: none"> <li>- Sustainable Urban Mobility Plan (SUMP)</li> <li>- FVG regional strategic plan 2014-2018</li> <li>- FVG Public Transport Regional Plan (2013)</li> </ul>	<ul style="list-style-type: none"> <li>- International laws on ship services</li> <li>- National laws on maritime connections with transnational implications</li> </ul>
<b>Ljubljana</b>	<ul style="list-style-type: none"> <li>- Sustainable Urban Mobility Plan for Municipality of Ljubljana</li> </ul>	<ul style="list-style-type: none"> <li>- Sustainable Urban Mobility Plan of Ljubljana urban region (SUMP LUR)</li> <li>- Regional Development Program of the Ljubljana Urban Region (2014-2020)</li> </ul>	<ul style="list-style-type: none"> <li>- The transport Development Strategy in the Republic of Slovenia;</li> <li>- Resolution on the National Program for the Development of Transport in the Republic of Slovenia (2030)</li> </ul>
<b>Zagreb</b>			<ul style="list-style-type: none"> <li>- Transport Development Strategy (<i>TDS 2017</i>) of the Republic of Croatia (2017- 2030)</li> <li>- Master plan of Hz Putnicki prijevoz d.o.o.- Strategic programme for the period 2015-2030</li> </ul>
<b>Port of Bar</b>		<ul style="list-style-type: none"> <li>- Regional Development Strategy of Montenegro 2014–2020</li> <li>- Airport</li> </ul>	<ul style="list-style-type: none"> <li>- Transport Development Strategy of Montenegro (2019-2035)</li> <li>- Spatial Plan of Montenegro Until 2020</li> <li>- National Strategy for</li> </ul>

		Development Master Plan of Montenegro for the period 2011-2030	Sustainable Development Until 2030 - The Railway Development Strategy 2017-2027
<b>Durres/Tirana</b>			- The National Strategy for Development and Integration (2015-2020) of the Republic of Albania - The National Transport Strategy and Action Plan (2016-2020) - Albanian National Transport Plan (ANTP 3) - General National Plan of Albania - The Sectorial Strategy of Transport & Action Plan (2016-2020) - First Five-Year Review of the Albanian National Transport Plan (ANTP)
<b>Belgrade</b>	- Belgrade Transport Master Plan (“Smart Plan”)		- Strategy of Railway, Road, Inland Waterway, Air and Intermodal transport development in the Republic of Serbia - General Master Plan for Transport in Serbia

The table below summarize some general messages emerged from the analysis of the Inter-Connect case studies supporting key policies:

- At local level the importance of SUMP in promoting intermodal transport solutions both at local and regional level;
- At regional level the fundamental role of the regional development programs in identifying the priority actions and the main strategic goals to be achieved;
- At national level the importance of the national strategies on transport able to identify key development axes and priorities. Only with these general strategies it is possible to develop the required synergies for the development of ambitious cross regional and cross border transport intermodality projects;
- At transnational level, the importance of the TEN-T policies in identifying the key public transport development/improvement axes and key solutions for improving the cross borders connectivity for tourists and passengers.

The importance to have effective multi-level governance schemes is the key lessons learned from the analysis of the Inter-Connect case studies.

#### 4.2.2 Governance schemes supporting the Inter-Connect case studies

The following table represents the main governance schemes adopted within the pilot cases of the Inter-Connect project.

**Table 16: Governance schemes adopted by the Inter-Connect case studies**

Governance schemes adopted	Description
<b>Memorandum of Understanding (MoU)</b>	Memorandum of Understanding (MoU) can be signed in order to identify regional interdependencies and common

	understanding of the main stakeholders in the case study area to further support the development of transnational, regional and even local public transport solutions and the intermodality of various ways of transport.
<b>Public-private cooperation schemes</b>	Public-private partnerships (PPPs) can be an effective way to build and implement new infrastructure or to renovate, operate, maintain or manage existing transport infrastructure facilities. In both areas PPPs can be a mutually beneficial way to solve critical transportation problems.
<b>Amendment of the framework law on public transport</b>	The change in the law offers long-term tenders, in order to encourage investments, to open up to the liberalization of the sector and aim at the strong renewal of the fleet vehicle to give greater quality to the system and services (RER case).
<b>Involvement of stakeholders in the SUMP</b>	The various stakeholders and the general public were involved in SUMP and in the analysis of case studies during the cycle of the Inter-Connect project.
<b>Greater political involvement</b>	Greater political involvement can be achieved by the active participation of various national organizations in the discussions, supporting further project actions in the field of PT and intermodal development. Study actions aimed at measures on a regional scale have the potential to obtain feedback from regional bodies such as the regional development council, the regional council and the regional coordination committee for public transport.
<b>Discussion within round tables</b>	The discussions within the Interconnect round tables and communication events involved the main transport operators in the different regions.

The main policy adopted by the Inter-Connect case studies was the signature of a local "Memorandum of Understanding (MoU)" which was signed in order to identify regional interdependencies and the common understanding of the main stakeholders to further support the development of Transnational, regional and even local PTs and the intermodality of various modes of transport. The main purpose of the memorandum of understanding is therefore to further support the development of efficient public transport operations, complementary services and intermodality in the Inter-Connect case studies, in particular through:

- Ensure commitment to public transport service improvements and public transport reliability.
- Support measures to improve passenger information and mobility services.
- Implementation of measures in the sector of tariff systems and integrated ticketing between complementary transport and tourist services and transport operators.
- Promotion of public transport, intermodality and other complementary services for sustainable mobility - "Mobility as a service".
- Support for further analysis and proposals for implementation measures to improve public transport connectivity within the corridor analyzed.

The agreements reached between interested parties will increase the potential for improving the supply of PT and improving intermodality. The memorandum of understanding signed within the case studies also aims to promote communication between the parties included in the supply of public transport within the case study area and therefore to support the improvement of the public transport in the area of ADRION in the long run.

However, other governance is in fact to promote involvement and dialogue between the various stakeholders (public and private) through a participatory approach that allows to establish synergies and develop a global vision of the case studies. The aim is to further support the integration of all aspects of transport to improve passenger mobility, to have an impact on local and regional strategies, as well as to be actively involved in the preparation of proposals for the development of national level.

### ***4.3 Financial sustainability of the Inter-Connect case studies***

This paragraph collects quantitative and qualitative information on the financial sustainability of the Inter-Connect case studies. The objective of the financial sustainability analysis that was carried out is to investigate the strong and replicable business models from which the Inter-Connect case studies are supported, highlighting any problems encountered.

An important issue in the development and implementation of the actions related to the case studies of the Inter-Connect project is to ensure the necessary financial resources. In most cities, investment financing needs for sustainable mobility outweigh the resources available. The potential difficulty in finding resources is mainly linked to "heavy" projects such as the construction of new transport infrastructures or the existing expansion. In many of the cases examined, however, the public transport project and the related interventions can be considered "light" as they do not involve large investments but allow the promotion of intermodal public transport. The implementation plan for each city must be able to compete with other investment needs taken into consideration in the same period of time.

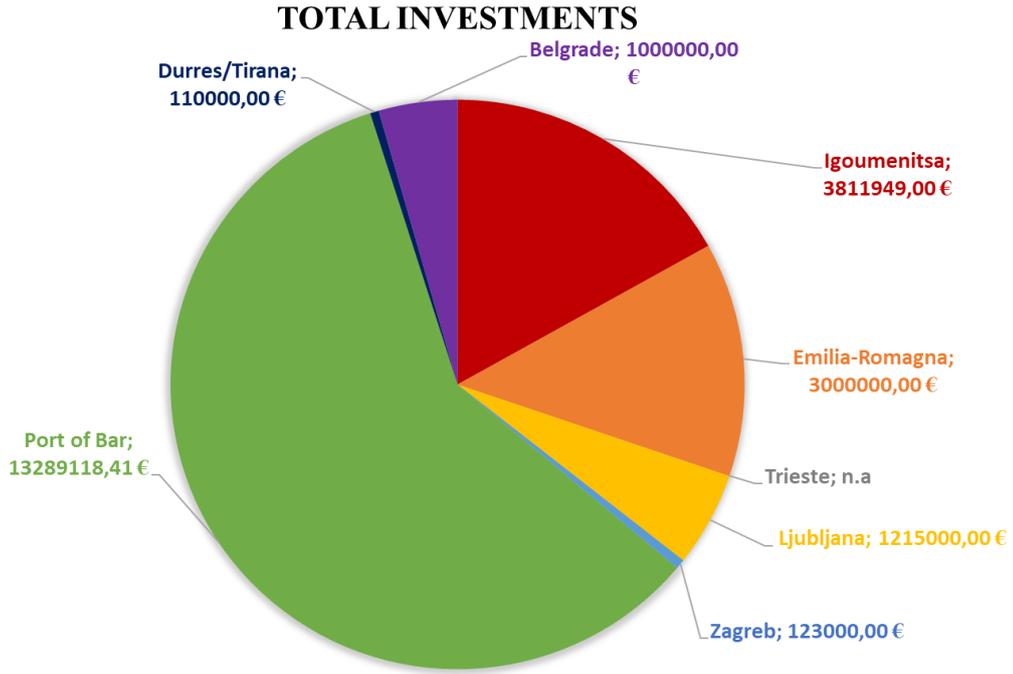
In this regard, a reference to how funding can be guaranteed for all the key actors involved is considered necessary. Funding and financing are two terms with different meanings but are often used for the same purpose. Since both funding and financing can be used for the implementation of a SUMP, it is useful to provide the meaning of each term.

Funding is an amount of capital provided by an organization or government on the basis of an agreement. It is usually free. There may be certain contractual requirements in this agreement, but there are no requirements to repay the principal. The most common facilitators who normally meet an organization's funding needs are central, regional and local governments, as well as international organizations such as the EU that provide grants under certain terms; other private entities can also finance projects through donations.

Funding, on the other hand, is an amount of principal or the sum of money provided to an organization with the expectation of repayment, and organizations are required to repay the principal amount together with a certain percentage of interest. Therefore, the repayment also includes an interest component. It is usually provided by financial institutions such as banks or investors such as venture capitalists, business angels, shareholders, etc. In implementing a project, funding and financing can be combined. The first part will be provided as a grant and the second in the simplest form as a loan. The kind of funds used in the different Inter-Connect case studies are:

- European funds (structural, investment, cohesion, social fund);
- National funds;
- Regional funds;
- Private funds;
- Subsidies/incentives;
- Internal/own economic resources.

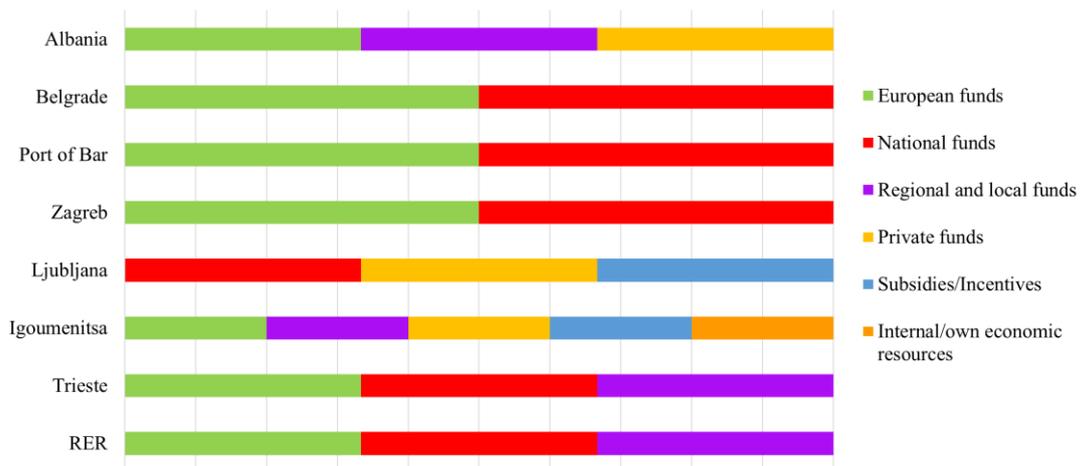
The graph below shows the total investments made for each case study. In most of the pilots of the Inter-Connect project, huge investments were needed to be able to develop the case studies. An example is the Port of Bar where the need for new infrastructures, the harmonization of timetables, new integrated ticket services, the provision of reliable and real-time information, and the improvement of the connectivity of the port of Bar as a tourist port of ADRION has foreseen the need for large sums of funding.



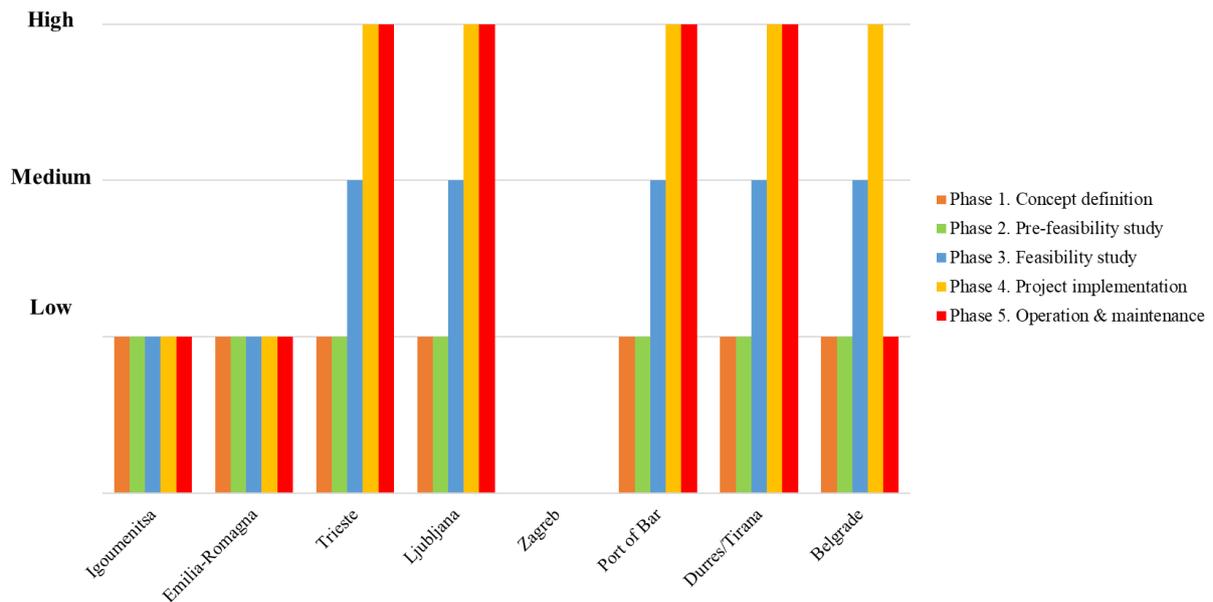
**Figure 16: Total investments associated to the Inter-Connect case studies**

The financial scheme of the investment is based on the assumption that the amount of the investment is too high for the investor to be able to make own or borrowed funds, therefore it is based on the availability of EU and central government contributions to the implementation of projects. As can be seen in the graph below, in almost all pilots, with the exception of the case of Ljubljana, European funds play a key role. In fact, it can be observed that the implementation of the projects within Inter-Connect provides for the support of economic resources deriving from European funds and/or national funds.

### Kind of funds



**Figure 17: Kind of funds used in the Inter-Connect case studies**



**Figure 18: Levels of financial risks in the different Inter-Connect case studies' development phases.**

Figure 18 shows the level of financial risk for each phase of the Inter-Connect case studies. As can be seen, the economic resources from the European projects and from the regional authorities in all the case studies cover the pre-feasibility phases and the necessary personnel costs.

In fact, it can be observed that in all projects the initial analysis of the definition of the current state and pre-feasibility involve very low costs for the various pilots.

On the other hand, phase three of feasibility is different, where, except in the cases of the Emilia-Romagna Region and Igoumenitsa, it foresees higher costs in order to make the initial analysis operational. At this stage, therefore, it could happen that the project's expected revenues seem to exceed implementation and operating costs. It should also be remembered that in some case studies, although the analysis stopped at phase 2, in the case of application of the study, it may be necessary to renew the equipment and the fleet required for about half of the project's operating time and therefore this would imply further financing and significant costs.

In general, however, the feasibility study, including a specific set of measures to be implemented in case studies, could be covered by national sources in case the level of analysis of the case study were to be adopted at national level. There are more risks for the last two phases into which the case studies have been divided: project implementation and operation & maintenance. It should be remembered that only in the Italian case of the Emilia-Romagna region has it provided for the actual implementation of the project developed within Inter-Connect. In the other case studies, the financial risks assessed are only preliminary analyzes for a possible future development of the projects.

#### ***4.4 Intermodality Enabling technologies. Considerations from the Inter-Connect case studies***

The latest ICT developments offer new opportunities to enable a leap forward in the way collective and individual mobility services are organised and offered. This paragraph intends to analyse the enabling technologies allowing the Inter-Connect case studies development and the way these technologies supports the case studies development.

Technological advances in telecommunication networks have contributed to the development of high-level vehicle localization systems and public transport telematics. These technologies are now considered fully mature and stable to be implemented in the offer available to users who use public transport services. In fact, users are very vulnerable and their choice to use public transport or private vehicles is largely conditioned by the services offered and the technologies present. Having timely

and reliable information on routes, timetables and arrivals at bus stops are fundamental characteristics for the development of a sustainable way. Each of the technologies implemented offers the possibility to overcome all identified risks and threats for intermodal passengers.

An example is the RER case study which shows that the main problems in the integration of tickets between train and public transport are related to the lack of dialogue between the interested parties and the technological problems related to the issue of tickets (paper ticket in trains and RFID bus ticket). Other case studies have found similar problems. In the city of Ljubljana and in the Port of Bar it has been seen that the absence of multilingual channels, of having different payment methods, of different packages for tourists and of information points diminishes the attractiveness of the PT service offered by users. All these services available to users must be supported by advertising campaigns that encourage and promote the use of public transport.

The following table summarizes all the enabling technologies implemented within the Inter-Connect project for each case study.

**Table 17: Summary of the intermodality enabling technologies in the Inter-Connect case studies**

Enabling technologies	Case studies	Brief description of the technology and the role (potential role) in the case study
<b>DRT software</b>	- Igoumenitsa	The DRT (Demand Responsive Transport) system provides pre-booking and routing interfaces.
<b>Introduction of info boards on stations with live arrival and departure tools</b>	- Igoumenitsa - Trieste - Port of Bar - Durres	Passengers need to be informed on time about the status of transportation so that passengers can prepare for unforeseen circumstances of changing travel timetables. Improved communication and information provision through user-friendly ICT solutions is highly requested and perceived as a key driver for improving the usage of the maritime services as well as connected public transport services
<b>Smart traveller's applications (IOS/Android)</b>	- Igoumenitsa - Emilia-Romagna - Port of Bar	In order for users to be able to easily combine different modes of transport in one place with minimal time waste, a web or mobile app interface should be developed that summarizes all relevant information. This would make information more accessible to passengers and would, thus, encourage the use of public transport.
<b>Multilingual public service passenger information</b>	- Port of Bar - Ljubljana	There are difficulties in obtaining all relevant information on the available transport options, so it is necessary to enable passengers to have better access to all relevant information in a multilingual form, as frequent users of public transport are foreigners.
<b>Smart/integrated ticketing</b>	- Emilia Romagna - Ljubljana - Trieste - Port of Bar - Belgrade	Buying tickets is often a significant waste of time, and if the sales system is not sufficiently developed, it can discourage some passengers from using public transport, especially in cases where the transferring occurs and often the time for buying tickets is limited. In this way, passengers are guaranteed the opportunity not to miss certain trips and it is timesaving as well.
<b>Touristic packages</b>	- Port of Bar - Ljubljana	In order to encourage users to use public transport, it is also necessary to implement measures that include benefits for certain tourist attractions, i.e. sell ticket packages that include additional benefits, in order to try to reduce road transport as the prevailing mode of transport. It also gives impetus to the tourism sector.
<b>Various payment methods for all modes of public transport (paying with credit cards, smartphones, online banking, smart ticketing)</b>	- Port of Bar - Ljubljana	Making payments easier by focusing on more advanced technologies saves time, makes it easier for travelers to pay, as they are not required to have paper money with them, and especially for foreigners who do not have the local payment currency available.
<b>Public transport info point</b>	- Port of Bar	Significant terminals should allow locations where

		direct information on transport options can be obtained, in order to direct the passengers to use public transport.
<b>Big data analysis tool</b>	<ul style="list-style-type: none"> <li>- Port of Bar</li> <li>- Ljubljana</li> </ul>	Thanks to the use of advanced technologies, it is possible to gather a large amount of information about the movement of passengers, making it easier to identify the necessary key corrections in the transport system in order to respond to the needs of passengers.
<b>Coordination of public transport timetables for all modes of transport</b>	<ul style="list-style-type: none"> <li>- Port of Bar</li> </ul>	Better coordination of different public transport systems reduces the time spent waiting, which can often delay some of the passengers who intend to travel using a combination of different means of transport. This encourages an increase in the number of public transport users.
<b>Encourage, promote and educate about the benefits of using public transport</b>	<ul style="list-style-type: none"> <li>- Port of Bar</li> </ul>	Through publicly available media, it is necessary to educate potential users about the benefits of public transport in order to increase their number.
<b>Reformulation of concession areas and frequencies of the public transport services</b>	<ul style="list-style-type: none"> <li>- Port of Bar</li> <li>- Emilia-Romagna</li> </ul>	Adjustment of timetables and the introduction of temporary lines in areas with a significant number of tourists can encourage them to rely more on the use of public transport.

## 5. Conclusions

The Inter-Connect project pursues the promotion of sustainable integrated transport and the reduction of bottlenecks in public transport infrastructures, increasing the capacity of existing transport services and promoting integrated and connected solutions across the Adriatic and Ionian Seas. The measures analyzed in the Inter-Connect project focus both on interventions related to infrastructure improvements and on soft improvements more related to operational and organizational aspects.

After describing the actions envisaged within the case studies of the Inter-Connect project in report DT2.3.1, in this transferability report the common results obtained in the development and case analysis phase were assessed. A transferability analysis of the main results of Inter-Connect was then carried out, defining the implications for future Adriatic actions in order to present the main results of the examination of the project cases to the authorities and stakeholders, through the formulation of projects. Agreement to promote intermodal and rail passenger transport.

One of the main results observed within the Inter-Connect case studies is that, if pilots are considered as isolated interventions on the public transport infrastructures, they cannot have a great impact on the increase in passengers (both tourists and local population) if they are not accompanied by synergies with the user's needs and with political and planning processes.

For this reason, this report summarizes the main results of the Inter-Connect case study assessment conducted in the deliverable “Deliverable T2.3.1. Case examination and evaluation report” analyzing not only the actions planned by each pilot for the promotion of intermodal transport but also the political, institutional and financial dimensions necessary for the development of the projects.

From the analysis of the Inter-Connect case studies it has been seen that a first starting point for promoting effective and sustainable intermodal solutions is to analyze how, from a geographical point of view, the problems of promoting intermodality, the risks and threats change based on the territorial level being considered.

Three different territorial/spatial levels were therefore taken into consideration:

- City connectivity: actions and strategies to improve passenger connections between different urban transport hubs (train and bus stations, etc.);
- Regional connectivity: better connect the different cities, creating effective, reliable, and attractive competitive public transport solutions capable of competing with the transport of private cars. In this sense, rail links play a crucial role;
- Transnational connectivity: connections of the main cities of the Adriatic-Ionian area with fast, effective, and reliable public transport solutions. In this sense, rails and maritime connections play a crucial role.

For each of these three geographical levels it has been seen that the main problems related to intermodal passenger transport are related to the absence of fluid connections from hub to hub, to the difficulty in providing efficient public transport solutions during the high peak tourist season, the lack of cross-border train and ship services and services that are not competitive (both in terms of economic convenience and time required) with the use of car. All these important problems negatively affect the improvement of more sustainable public transport intermodality solutions and are linked to specific technical, political and economic problems and threats.

The analysis of the Inter-Connect case studies therefore provides relevant information and a clear vision of the main specific problems and threats in promoting intermodality. In general, the various technical solutions tested in the Inter-Connect project can be summarized in the following points:

- Urban planning solutions (e.g. transport hubs accessibility);
- Integration of ticketing solutions (e.g. integrated train-bus ticketing system at regional level);
- Different solutions for the integration of the transport mode;
- Flexible public transport solutions (DRT);
- Better information solutions for end users (e.g. train timetables optimization aimed at reducing travel times, train timetables, real time information);

- Solutions of transnational agreements (e.g. cooperation scheme for the promotion of a new cross boarder ship line service);
- Solutions of multi-stakeholder agreements (e.g. collaborative strategies among key stakeholders).

One of the key point founded within the project is the involvement of key stakeholders. In fact, it has been seen that making the various stakeholders involved is fundamental in order to reach the objectives, not only in order to have a good technical result of the project activities, but also to guarantee the duration of the project actions and their effectiveness. In synthesis, in order to develop more effective and sustainable intermodal public transport solutions it is essential to have:

- High involvement of all the key stakeholders, both public and private, since the beginning of the project's life;
- Regular and effective exchange of information and coordination with existing/ongoing projects already working on public transport intermodality promotion;
- Actively involve the main stakeholders through round tables, dedicated technical events and whenever it is possible with memorandum of understanding;
- A participatory approach that allows to establish synergies and develop a global vision of the projects among all the parties involved.

In practical terms, the most powerful tool for implementing active participation and stakeholders dialogue has been seen as face-to-face meetings at various levels of representation. Moreover within the Inter-Connect project, all case studies have provided for a memorandum of understanding (MoU) for the involvement of interested parties. Furthermore, all the case studies provided stakeholder engagement strategies through discussion tables to share and promote the participation of public and private stakeholders.

Direct citizen and key stakeholders involvement was also important in order to increase their level of awareness. It is therefore important to provide questionnaires and interviews with citizens and key stakeholders to involve them, inform them and make them more sensitive on issues related to sustainable transport mobility

An important issue in the development and implementation of the actions related to the Inter-Connect case studies for the promotion of intermodal transport is related to the different strategies available for activating the required financial resources. Inter-Connect case studies demonstrate that it is possible to improve intermodality and attractiveness of sustainable transport solutions thanks to soft measures. Measures requiring low budgets but with a big impact in terms of intermodality promotion at local, regional, national and transnational level. These soft measures, if related to bigger infrastructures investments (mainly for train line development), have to potential to really reshape the sustainable public transport offer at Adrion level. In this sense, the contributions of EU funds, both for soft and hard measures, are fundamental in order to support local, regional and national authorities in implementing the required intermodality promotion measures.

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