



# **A. T1.2.1: BEST PRACTICES ON INTERMODAL PROMOTION AND RAIL REFORM REPORT**

**Deliverable T1.2.1: Best practices on intermodal promotion and rail reform report**

**FINAL version, 09<sup>th</sup> of November 2018**

**Contributing partners: RDA LUR, CERTH, CEI, ITL, RER, HŽ-PP, MTI,  
Port of Bar and BCC**

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## 1. INTRODUCTION

Especially when dealing with transport of tourists, transport is combined from very complex activity that is comprised and depends on policy-making, incorporating multiple levels of government and multiple transport operator responsible for different transport modes including land, sea and air transport. Considering transport in a whole organization chain there is also an increasing trend of public-private partnerships and governance arrangements associated with transport infrastructure provision and service delivery. In addition, there are a range of new business models which enable the provision of innovative and more personalized transport services which are more and more popular by modern tourists.

Inter - Connect project aims to promote intermodal passenger's transportation and revitalize rail use in ADRION by supporting policymaker through tangible proposals for the alleviation of existing inefficiencies in the development of intermodal door-to-door transport. Under Work package T1 the Deliverable about Best practices on intermodal promotion and rail report is provided under T1.2.1. which concentrates on experiences, good practice analysis inside the partnership that have invested in intramodality and rail revitalization. Main result of deliverable is to present and benchmark the effective interventions from the international experience that are supporting seamless intermodal passengers transport and promotion of rail use within the project area.

Best practices are divided in three major groups:

1. HARD MEASURES
2. SOFT MEASURES
3. GOVERNANCE

Under hard measures were placed:

- New services
- Rolling stock renewal
- Infrastructure
- Cross border interoperability.

Soft measures consist:

- Intermodality (rail - bus, rail - car, rail - bicycle, rail port, rail - airport)
- Integrated spatial - mobility planning
- Integrated ticketing
- ICT
- Timetable harmonization
- Rail promotion initiatives
- Sustainability campaigns and awareness raising actions in the field of sustainable mobility
- Public engagement and participatory activities (e.g. game-based learning on sustainable mobility)

Best practices under governance mainly include contracts, agreements, schemes:

- Public private partnership (PPP) for implementation of projects on sustainable mobility (e.g. implementation of PPP within e-mobility rental schemes)
- Innovative business models (e.g. innovative ticketing systems “pay as you go”, implementation of MaaS concept - Mobility as a System)
- Improvements in governance schemes (e.g. improving the speed and efficiency of governmental policy and projects to implement mobility projects)
- Cooperation scheme (e.g. implementation of Sustainable urban mobility plans, cooperative information platforms)
- Integrated authorities (integration of transport authorities that help to improve sustainable solutions in cities or regions)
- Transnational authorities
- Transnational agreements
- Public and stakeholder’s involvement.

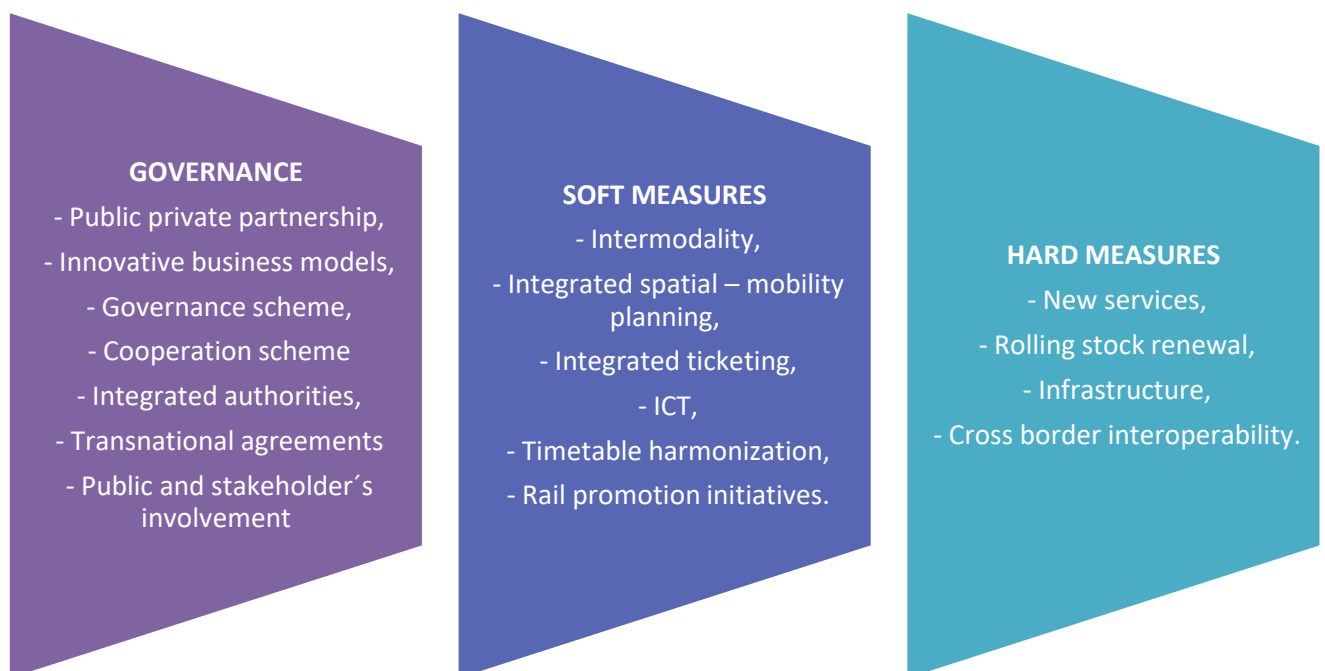


Figure 1: Interaction of various groups of measures in the areas of sustainable mobility

Each partner was invited to identify three good practices from their area/country supporting rail use or intermodal passengers transport with emphasis on sea based intermodal solutions. Outputs could be either of a previous or ongoing project or a planned intervention keeping in mind the importance of the soft measures and the innovative ways of overcoming the challenges in practice.

Identified intervention as best practice	Proposed by (partner)	Type of intervention			Interest of PP's for add. description (low, high, med.)
		Hard	Soft	Cooperation based	
City train in Thessaloniki - a new rail service of suburban character - connection between port - suburb - industrial & commercial zones	CERTH	X			low
Trainotaxi in Athens and respective suburbs - combined trip with train and taxi under a single ticket	CERTH		X		high
Integrated methodologies and systems for the control, analysis and assessment of the quality and performance of transport systems and services provided by transport operators in the passenger transport sector	CERTH			X	high
Motivate platform, services and game - App - Trip Diaries, Mobility Measures, Future Intervention	CERTH		X		low
Train use reward - for regular passengers - collecting points - 100 points bonus upon 1st registration	CERTH		X		low
Rail service Thessaloniki - Sofia, bilateral agreement	CERTH			X	low
Thematic trains and event trains - combining a special train route with buses to the ski resorts	CERTH		X		high
Easytrip services Greece - Bulgaria (mobility planner, traffic info, points of interest) - Improvement of Cross Border Facilities	CERTH		X		high
MiMuovo - integrated ticketing system - different modes of transport could be used - buses, trains even bike - magnetic strip tickets	RER & ITL		X		high
Intermodality bike - train. 100 EUR regional contribution per folding bike purchased by any commuter with a valid annual train pass	RER & ITL		X		low
New rolling stock (Rock and Pop trains, in 2019 Jazz, Vivalto, Minuetto and Swing will be added) - roadshow's stops - chance to join in music venues organized in collaboration with RTL	RER & ITL		X		high
Revitalization of the Cross - border train Venice - Trieste - Ljubljana- planned to be in service from September 2018 (with stop at the recently built multimodal railway station of Trieste airport)	CEI	X			low
Crossborder train between cities of Villach and Udine - also connecting peripheral small towns and villages in between (Italy provides locomotive, Austria provides the carriages), will be extended in 1 year to Trieste -the proof for the excellent cross-border collaboration - one railcar also equipped for bicycle transport (ideal for the Ciclovía Alpe Adria bicycle trail), Project MICOTRA	CEI			X	high
Revitalization of the Gemona Sacile railway line	CEI	X			high
Plan of detailed regulation of "Altina" settlement - project of car parking and closing - up of public bus station, enabling park and ride system	CCIS		X		low
Sub - urban railway station "New Belgrade" in the City of Belgrade, integration with public bus system and car parking, enabling the transition from rail to bus and vice versa as well as park 'n' ride for both, railway and bus public traffic	CCIS	X			high
Common Railway border crossing point between Serbia and FYR Macedonia - under construction, agreements signed, project phase completed	CCIS			X	high
Rehabilitation of the existing railway network in Montenegro - funds from bank, IPA funds and state budget has been allocated to the reconstruction of the railway of Montenegro - improvement of rail connection of the Port of Bar with its hinterland - contribution to the intermodality sea - rail	PORT OF BAR	X			high

Identified intervention as best practice	Proposed by (partner)	Type of intervention			Interest of PP's for add. description (low, high, med.)
		Hard	Soft	Cooperation based	
Transport development strategy in Montenegro: - continuing with activities on the construction of the Belgrade -Bar highway section - to reconstruct completely the railway line Bar - Belgrade to rehabilitate and modernize Podgorica - Skadar railway line - to reconstruct the road Montenegrin Seaside - Podgorica - the border with Serbia, ect. Railway Development Strategy in Montenegro (2017) - reconstruction and electrification of railway line Podgorica-Tuzi - the border with Albania, - modernization of the signal and safety system.	PORT OF BAR			x	high
Regional Infrastructure Study in Transport (07/2003) - REBIS - similar to the Trans-European Networks of the EU - focused particularly on the development of a regional Core Transport Network for the Balkan Region and on identification of projects suitable for international co-financing	PORT OF BAR			X	low
Study on the Financial / Economic Appraisal for the Rehabilitation of the whole Albanian railway network	MIE			X	high
Rehabilitation of the existing railway line from Durres (seaport) to Tirana public transport terminal and construction on the new railway connection up to Tirana (Rinas) international airport - contribution to the improvement of intermodality with rail, road, maritime and air modes of transport	MIE	X			high
Study on establishing of rail freight corridor in Western Balkans (ongoing) - to be finalized by mid-2018	MIE			X	
Contract between HŽ PP and ZET bus operator	HZ PT			X	high
Contract between HŽ PP and Promet d.o.o. Split bus operator	HZ PT			X	high
Contract between HŽ PP and Meštrovič prijevoz bus operator	HZ PT			X	low
Integrated ticketing system between train and bus ticket for students, online purchasing the ticket is possible, free service during the summer holidays for students	RDA LUR		X		high
Rail promotion - heritage train - travelling back in time and riding on the steam train (journey to Bohinj, across the land of Celje), - trips by train to Slovenian famous caves, trips to places where best-known Slovenian poetry was written (intermodality train - bus), - trains to events (festivals, sports events), train Ljubljana - Istanbul - cooperation with Optima Tours (intermodality train - bus).	RDA LUR		X		high
The purchase of 26 new trains - the first step towards the modernization of rail passenger transport, which is one of the major goals of the railways	RDA LUR	X			low

Table 1: Table of identified intervention as best practice from Inter-connect project partners

Good practices presented briefly by partners **mostly** include:

- rail promotion initiatives;
- governance schemes and
- intermodality rail - bus.

**Majority** (4 of 7) presented also good practices with elements of:

- cross border cooperation,
- integrated ticketing,
- integrated authorities,
- intermodality rail - car,
- intermodality rail - bicycle,
- new services and
- changing travel behaviour.

**Few** good practices with elements of:

- transnational agreements,
- intermodality rail - port,
- timetable harmonization,
- cross border interoperability,
- ICT and
- public and stakeholders' involvement.

**Lack** of good practices in:

- implementing innovative business models,
- private public partnership,
- intermodality (rail - demand responsive transport),
- integrated spatial - mobility planning (transit oriented) development.

Results above show great rail promotion activities among all Partners as well as intermodality rail - bus, and quite sufficient implementation of intermodality rail - bicycle along with integrated ticketing. Some cross-border cooperation is visible but still not adequately. Grater effort is obviously needed in implementing innovative business models in passengers transport and especially on private public partnership as from the latest there is no good practice known or mentioned.

Further on two good practices were chosen for each partner to describe them in detail according to expressed interests of other Partners. Each group of practices (hard measures, soft measures, governance) is represented by at least 5 cases.

## 1.1. Transnational transport flows data, transport supply data and the projects related to data collection

Within the on-line questionnaire also collection of information (e.g. projects, links) on international transport flows were collected. Majority of PP' countries had an input on data provision, but most of the data or links provided were focused on national transport data. Since there is rarely any evidence on transnational data, we analysed only the ones that are relevant for the Inter-Connect intervention logic. Provided databases are not presented for each country specifically. Despite the fact that there is a lack of data on transnational flows some data on infrastructure can be found at:

- SEETO transport network map: <http://webseetis.seetoint.org/seetis.home/>
- Data on countries from OECD databases which are country based and do not present transnational data;
- Statistical data on road and railways flows for specific countries (<http://www.putevi-srbije.rs/index.php/бројање-саобраћаја>, <http://www.monstat.org/eng/index.php>, <http://www.instat.gov.al/al/temat/industria-tregtia-dhe-sh%C3%ABrbimet/transporti-dhe-aksidentet/publikimet/2018/statistikat-e-transportit-janar-2018/>, [www.si-stat.si](http://www.si-stat.si)

Additionally, there were some transnational projects that have dealt with provision of transnational flows of transport. Among others are:

- EASEA-WAY PROJECT: documents can be found on: <http://www.easeaway.eu/documents/item/233-studies>. Databases are available here: <http://www.easeaway.eu/documents/item/230-databases>.
- RAIL4SEE project where rail services demand any supply were analysed: <http://rail4see.eu/downloads/deliverables/>; [http://rail4see.eu/wp-content/uploads/2012/10/Final-4\\_1\\_v4.pdf](http://rail4see.eu/wp-content/uploads/2012/10/Final-4_1_v4.pdf)
- ACROSSEE project: [http://www.southeast-europe.net/en/projects/approved\\_projects/?id=201](http://www.southeast-europe.net/en/projects/approved_projects/?id=201) within which ACROSSEE transport model for Western Balkans was prepared for modes: inland waterways, rail and road with various scenarios and projections

What can be observed from data analysis is that data on average annual daily traffic are available in majority of countries (for roads that are categorised as national) and also main transport network is well defined within SOUTH-EAST EUROPE TRANSPORT OBSERVATORY (SEETO network), but there is lack of transnational flows data. Especially in the case of transnational maritime and rail transport there are no data on passengers and lines that would operate across borders in the area of intervention.



## 2. BEST PRACTICES DESCRIPTIONS

### 2.1. Best practices from the Greek experience

#### Easytrip services Greece- Bulgaria (mobility planner, traffic info, points of interest) - Improvement of Cross Border Facilities

##### 1. Description of selected best practice (location, stakeholders, time of implementation, overview)

The Easytrip platform (web-based and apps) aims to encourage public transport trips made by tourists by providing them the relevant information. Based on the above, the Easytrip services were designed in order to provide effective, timely and accurate information to support more efficient traveller decisions and system objectives. The services are provided in Greek, Bulgarian and English languages, so as to enable smooth and convenient flow of information and service provision to all travellers, despite the language used locally.

##### *Information Services*

- Public Transport Information Service
- Points of Interest (Places) Information Service
- Offers Information Service
- Traffic Information service
- Parking Information Service
- Environmental Information service
- Touristic Routes Information Service
- Road Safety Information Service
- Weather Information Service

##### *Routing Services*

- Car Routing Service
- Public Transport (multimodal) Routing Service

The benefits from its operation in most cases not directly quantifiable, as most of the social and economic benefits from such projects. Succinctly, social and economic benefits of the platform are:

##### 1.1. Social benefits

- Improvement of traffic conditions and shift to public transport means versus private car
- Reduction of travel time by providing real time traffic information
- Reduction of environmental pollution
- Improvement of road safety
- Promotion of the cooperation between local public and private authorities
- Promotion of the culture and history of the participating in EasyTrip locations
- Equal opportunities for development through e-promotion for all the commercial enterprises

## 1.2. Financial Benefits

- Increase of tourism demand
- Strengthening of the local economy through tourism and commerce.
- Better coordination of investments for development of tourism services under the specific requirements that will be recorded from the users of the platform.

## 2. Photos

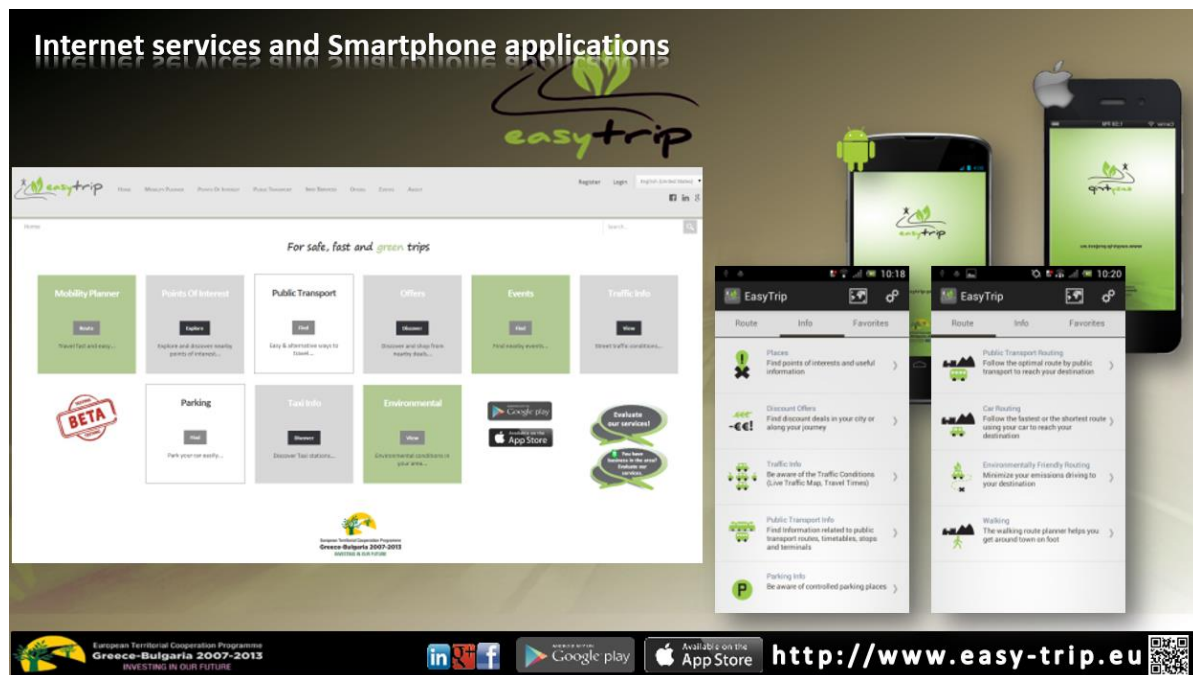


Figure 2: Internet services and Smartphone applications implemented within the practice

## 3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

The main problem for the implementation of the transport information services is the need for complete, updated and detailed data. The required data do not only refer to the transport systems characteristics (timetables, routes, frequencies etc) but also to geographical information (detailed GIS networks, road characteristics, etc), detailed points of interest description in all the potential origin or destination pairs and all the other data that is required for covering the users' needs.

For the Easytrip routing services, detailed network mapping took place and all the appropriate data was collected concerning frequencies, timetables, stops and terminals for both urban and interurban public transportation systems (trains, taxis, urban and interurban buses). Additional data included average travel time for each itinerary, route timetables, cost information and nearest stop/terminal location.

The points of interest information services, required data relating to entertainment, health and welfare, shopping, tourist attractions, accommodation, restaurants, culture, education,

sports centres etc. All the collected information was formed into categories and subcategories in order to facilitate all users' search procedure. Additionally, parking information and policy in the study area (e.g. pedestrian streets, , streets with parking restrictions, controlled short-term or long-term parking, loading and unloading spaces etc), as well as pricing policy and force hours were collected and digitized.

Except for the extensive data collecting process, a major challenge of the Easytrip platform development was also associated with data management and processing, even at the level before the actual use of data for supporting the provided services to the end users.

In order to support the Points of interest services (POIs), 28.000 POIs were acquired for North Greece. A detailed graphical representation of the network, consisting of approximately 200.000 links for the region of Greece and Bulgaria is used to support the routing services. Additional data were collected by the project partners in order to facilitate individual regions' requirements.

All data were collected, processed and transformed to a unified efficient data structure, considering the requirement analysis, with respect to quality and integrity of the information. Data are stored in a relation database management system (Microsoft SQL Server).

Different sources of information and amount of data led to the need of creating the appropriate policy for update of the data. Web-based management systems were designed and implemented in order to support the update of data by third-party entities.

#### **4. Funding mechanism, cooperation schemes developed and institutional reforms made**

The Advanced Traveler Information System (ATIS) that has been developed in the framework of EasyTrip: GR-BG E-Mobility solutions project that was funded by the European Territorial Cooperation Programme “Greece-Bulgaria 2007-2013” in order to offer to all travellers of Northern Greece and Southern Bulgaria advanced and personalized electronic mobility services. The partnership was:

- Research Institutes
  - CERTH/HIT - Hellenic Institute of Transport
  - CERTH/CPERI - Chemical Process & Energy Resources Institute
- Bulgarian Cities
  - MUNICIPALITY OF BANSKO
  - MUNICIPALITY OF KRUMOVGRAD
- Greek Cities
  - MUNICIPALITY OF THESSALONIKI
  - MUNICIPALITY OF KAVALA
  - MUNICIPALITY OF SERRES
  - MUNICIPALITY OF THERMI
- TRAINOSE (Greek Railway Operator)

#### **5. Factors of success**

The involvement of local public authorities that are the decision makers (decision makers, bodies that can coordinate local bodies) and the effective cooperation with a research institute able to develop and maintain the web services guaranteed the efficiency and the durability of the services.

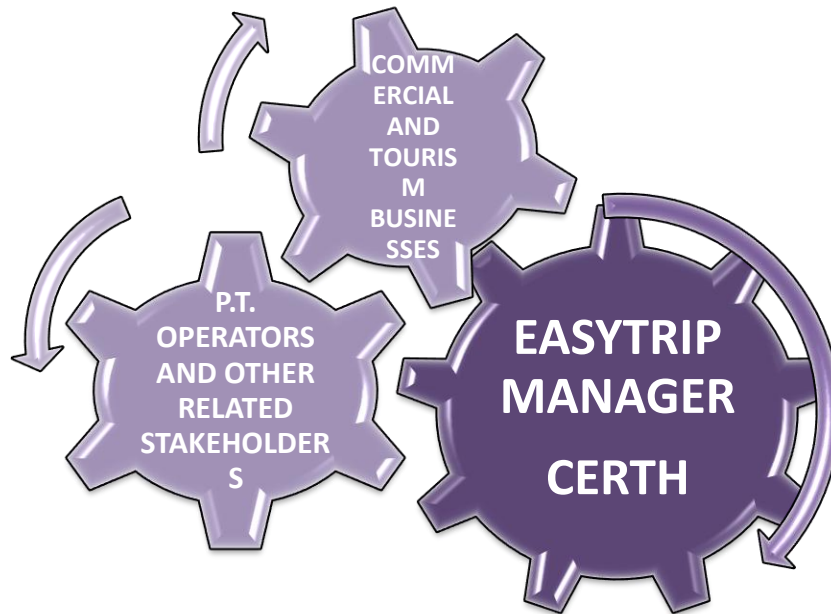


Figure 3: Cooperation of actors within the scheme

## 6. Recommendations, transferability

The services extension for covering new areas is feasible - however it is subject of cooperation among the respective authorities and the developer (CERTH).

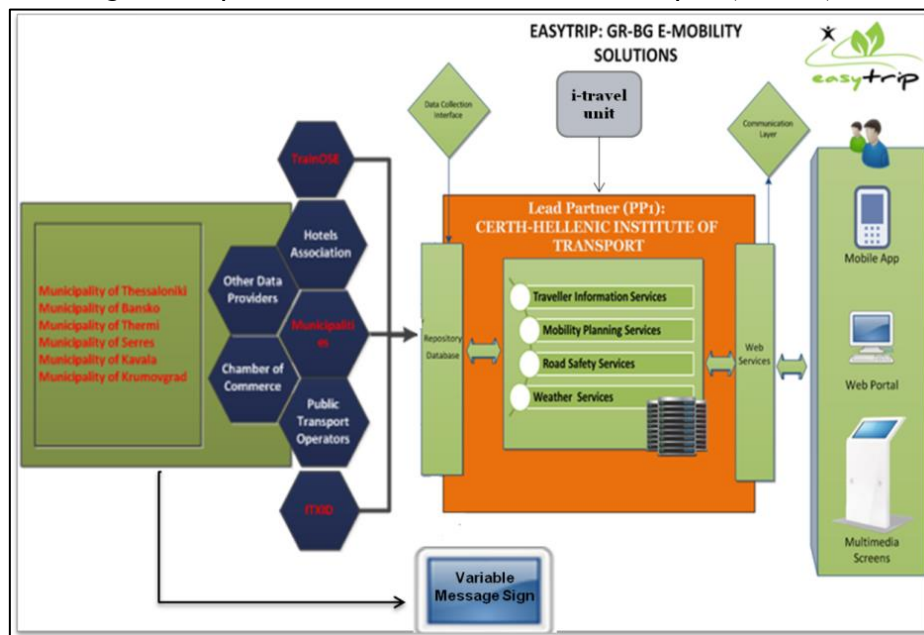


Figure 4: Layout or responsibilities among authorities and developers

In order to ensure the sustainability of such a system, close and long-term cooperation between local stakeholders, public transport systems operators, the market representatives and all other interested parties must be achieved. This is the only way to continuously update the databases of the platform and offer up-to-date information to the users. This kind of cooperation can be achieved through the development of specific memorandum of understanding or public and private partnerships between relevant public and private authorities.

## 2.1.2. Integrated methodologies and systems for the control, analysis and assessment of the quality and performance of transport systems and services provided by transport operators in the passenger transport sector

### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

Based on the “quality loop” at the level of the public transport system and on an extended literature review (project results, already applied methodologies, EU documents), CERTH/HIT developed “Integrated methodology and system for the control, analysis and assessment of the quality and performance of transport systems and services provided by transport operators in the passenger transport sector” for the case of the Bus Services in Thessaloniki (2005).

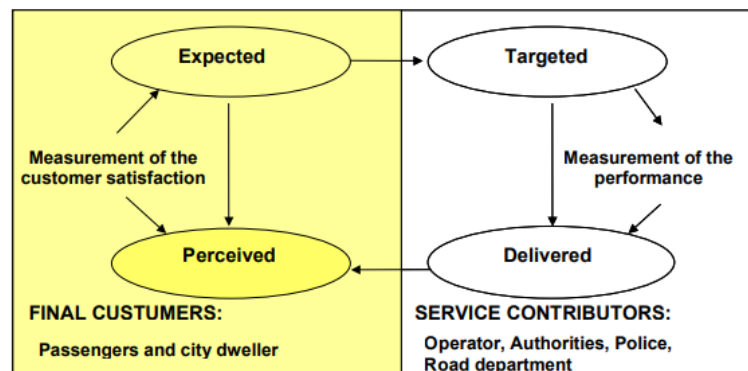


Figure 5: The quality loop at the level of the public transport system Source: AFNOR

The methodological steps followed are presented in the following figure:

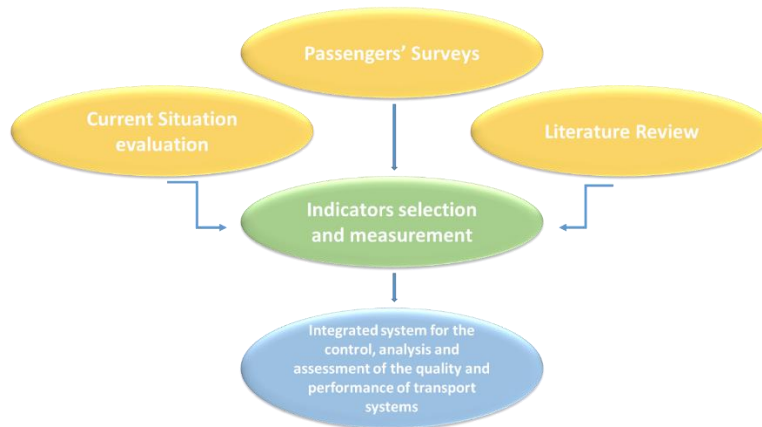
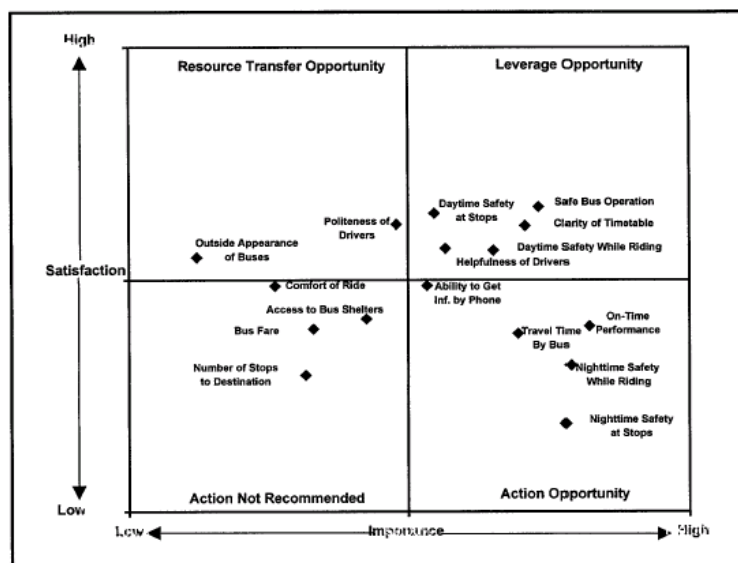


Figure 6: Methodology for developing the integrated system for the control, analysis and assessment of the quality and performance of transport systems and services, CERTH/HIT For the final selection of indicators, the following parameters were considered:

- Users' needs and rating for specific criteria (significance) - (Customer Satisfaction/ Dissatisfaction) / Quadrant Analysis

	Importance (% Very Important)	Rating (% Very Satisfied)
On-Time Performance	82.2%	40.0%
Nighttime Safety While Riding	79.0	31.5
Nighttime Safety While Waiting	78.1	18.9
Safe Bus Operation	73.4	65.7
Clarity of Timetable Information	71.0	61.6
Travel Time by Bus	69.7	38.4
Daytime Safety While Riding	65.3	56.3
Helpfulness of Drivers	56.7	56.7
Daytime Safety While Waiting	54.7	64.3
Ability to Get Information by Phone	53.4	48.8
Polliteness of Drivers	47.9	61.9
Access to Bus Shelter	42.5	41.6
Bus Fare	33.0	39.4
Number of Stops to Destination	31.6	29.4
Comfort of Ride	26.1	48.7
Outside Appearance of Buses	12.1	54.8



- Transport provider business model
- Methodologies and *benchmarks from the international experience are the following:*
  - TRCP, Report 100, “Transit Capacity and Quality of Service Manual”, 2nd Edition, 2004.
  - EU, RTD Programme “PORTAL- Promotion of Results in Transport Research and Learning”, Final Report, 2003.
  - TRCP, Report 88, “A Guidebook for Developing a Transit Performance-Measurement System”, 2003.
  - EUROPEAN STANDARD, EN 13816, “Transportation- Logistics and services- Public passenger transport- Service quality definition, targeting and measurement”, April 2002.
  - EQUIP - 4th F.P. project - Final Report and particularly its annex (practical handbook), 2000.
  - TRCP, Report 47, “A Handbook for Measuring Customer Satisfaction and Service Quality”, 1999.
  - QUATTRO - 4th F.P. project - Quality approach in tendering/contracting urban public transport operations - Final Report, June 1998.
  - TRCP, Report 37, “A Handbook: Integrating Market Research into Transit Management”, 1998.
  - “Bus planning and Operation in Urban Areas: A Practical Guide”, G.A. Giannopoulos, 1989.
  - Strategic Performance Measures for State Departments of Transportation Handbook for CEOs and Executives, Final Report, National Cooperative Highway Research Program, TRB, June 2003.

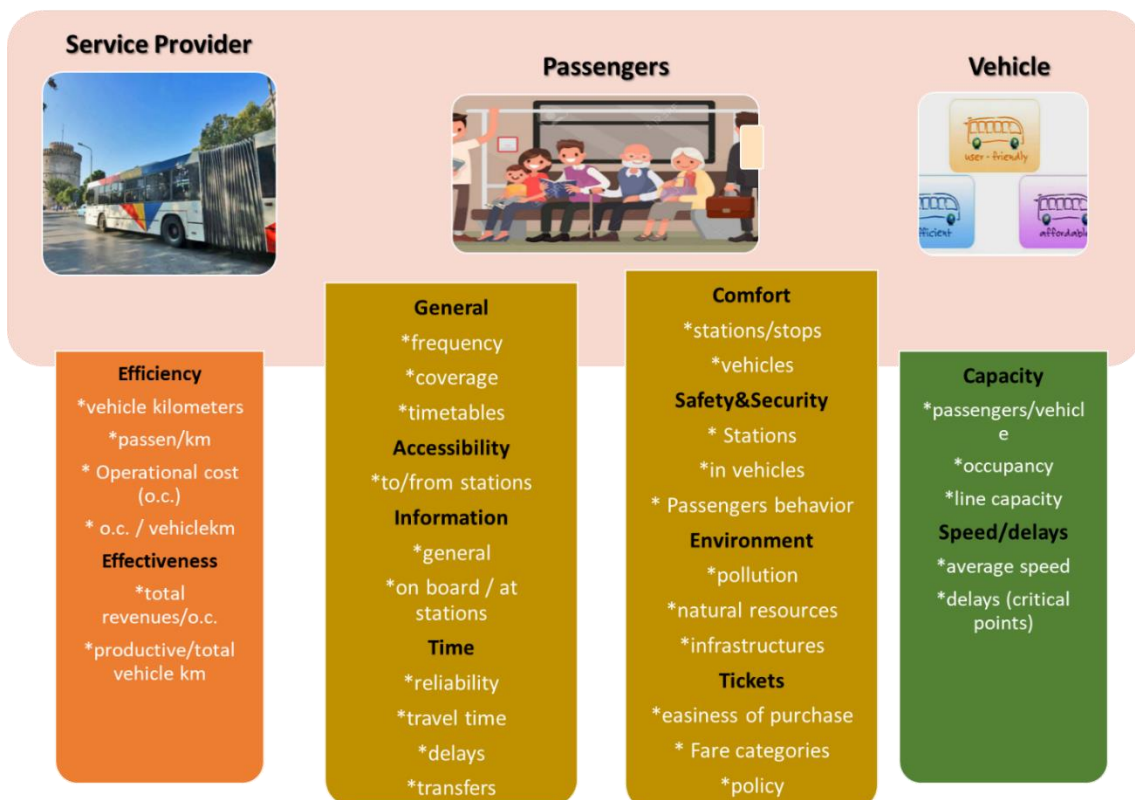


Figure 7: Main parameters in monitoring chain for PT services

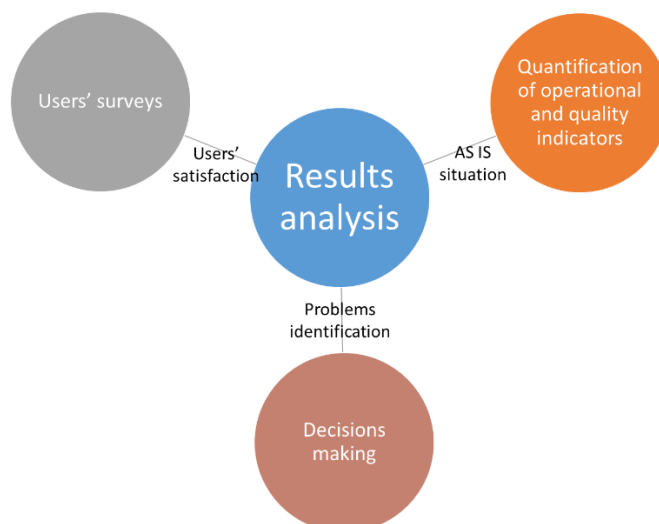


Figure 8: The decision support system (DSS) developed is a strategic tool for the monitoring and enhancement of the provided public transport services.

**2. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks**

The validity of data collection from users' and from the transport provider(s) involved is of crucial importance for deriving correct decisions.

**3. Funding mechanism, cooperation schemes developed and institutional reforms made**

The transport provider financed the study that was conducted by CERTH/HIT.

**4. Factors of success**

A monitoring and control system that depends on correct data feeding.

**5. Recommendations, transferability**

Easily transferable given small necessary modifications according to the legal structures and the business models of the transport providers.



## 2.2. Best practices from the Italian experiences

### 2.2.1. MI.CO.TRA TRAIN (Migliori collegamenti transfrontalieri - Improved cross border connections)

#### 1. Description of selected good practice:

Thanks to the cooperation among key stakeholders in the cross-border area Italy-Austria, the Mi.co.tra train was launched on 2012 as an experimental railway connection between the cities of Villach (Austria - Land Carinthia) and Udine (Italy - Friuli Venezia Giulia Region).

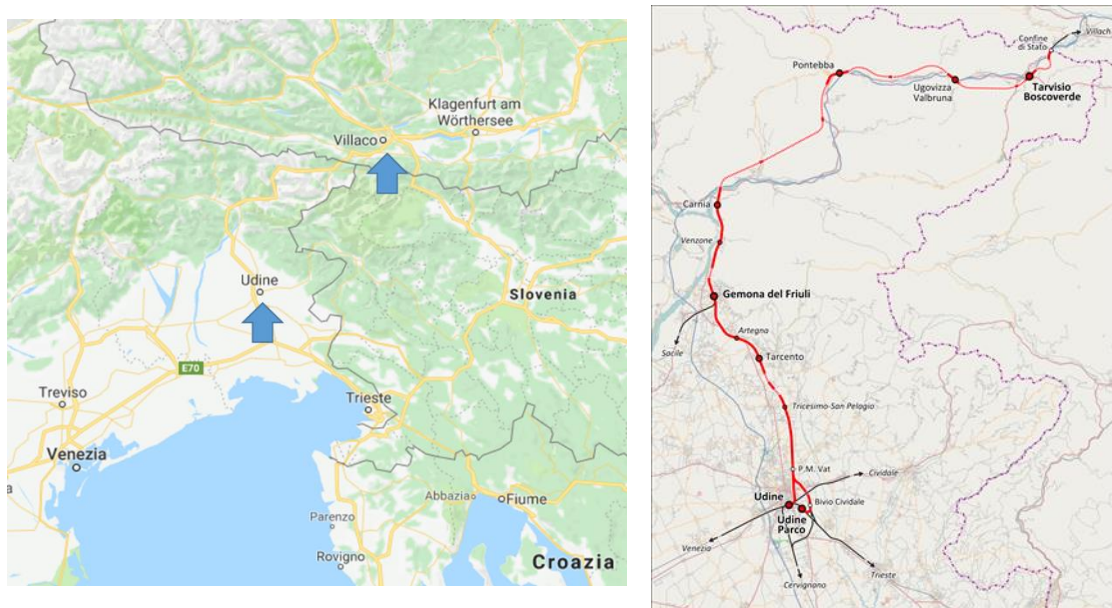


Figure 9: Area of intervention and Mi.co.tra train connection

Financed under the Interreg IV Italy-Austria Programme 2007-2013, the MICOTRA project consisted of two couples of trains every day between the two cities, also connecting peripheral small towns and villages in between. Ferrovie Udine-Cividale (in house railway company of the Friuli Venezia Giulia Region) provided the locomotive for the train, while the Österreichische Bundes Bahn (ÖBB) provided the carriages. The two companies jointly managed the experimental service between 2012 and 2013 thanks to the financial support provided by EU Funds.

Based on the excellent results of the experimental phase financed within the EU project Mi.Co.Tra, involved stakeholders (Land Carinthia and Friuli Venezia Giulia Region) decided to confirm the railway service with regional funds even after the end of the project.

At the end of 2014 the train registered 72.334 passengers and 7.661 bicycles. In 2015 the numbers increased: 79.420 and the bicycles 11.885 (respectively + 9.8% and 55.1%). Each train offers two compartments for up to 150 passenger, and one railcar is equipped for bicycle transport. FUC holds exclusive rights to perform the Villach-Udine railway services owing a specific PSO contract signed with the Friuli Venezia Giulia Region.

The MiCoTra project successfully aimed at promoting a modal shift from road to rail in the area and, moreover, has led to an important increase in sustainable mobility and a reduction in CO2 emissions,

Main stakeholders involved in the Mi.Co.Tra train service are:

- Ferrovie Udine Cividale (Udine- Cividale railway company- inhouse company of the RFVG)
- Österreichische Bundes Bahn (ÖBB)
- Friuli Venezia Giulia Region (RFVG)
- Land Carinthia

## 2. Photos



Figure 10: Operation of Mi. co. tra train

### 3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

The main obstacle was represented by the need to set up a train operated with rolling stock and staff from two different operators (in the case of OBB the staff and rolling stock are managed by two separate companies within the OBB holding).

As regards the service, operators had to find agreements on train paths, timetables, tariffs (and how to issue tickets). Additionally, they discussed and agreed on how to allocate revenues, manage responsibilities and how to deal with potential accidents and irregularities on both CB sides (Italy and Austria).

All these aspects were discussed during various stakeholders' meetings.

Based on the agreements found, a contract/agreement was signed between the operators (FUC and OBB), setting all the obligations to perform the service.

#### 4. Funding mechanism, cooperation schemes developed and institutional reforms made

The project was initially financed under the Interreg IV Italy - Austria Programme 2007-2013. After the experimental phase, thanks to the excellent results in terms of passengers' and touristic flows, main stakeholders (Land Carinthia and FVG region) decided to finance this cross border service with regional funds. An experimental extension of this train service to Trieste is actually under implementation, thanks to the CONNECT2CE project (funded by the ERDF under the Interreg Central Europe Programme 2014 - 2020 - Second call).

This extension of the existing Udine-Villach service **to Trieste**, with two trains per day in each direction, will be active until June 2019 on Saturdays, Sundays and public holidays (both Austrian and Italian). On weekdays the Udine - Villach service will continue as it is.

The information about ticket costs and timetables are available here: <http://www.ferrovieudinecividale.it/wp-content/uploads/2018/06/Servizio-Micotra-estensione-a-Trieste.pdf>

As far as the cooperation schemes are concerned, main stakeholders were strongly involved (from the Micotra experimental phase) and committed to find agreements on all the topics to be solved in order to launch the cross-border railway service. As a consequence of the agreements found, the railway operators (OBB and FUC) signed a specific agreement/contract in which all the characteristics of the service to be performed as well as the mutual obligations were regulated.



Figure 11: Train and bike service in the Friuli Venezia Giulia region

#### 5. Factors of success

- Good cooperation between key stakeholders
- Strong synergies with the Alpe Adria Cycle route (<https://www.alpe-adria-radweg.com/en/tourguide/>)
- Excellent passengers' flows
- Positive touristic impact on both regions

## 6. Recommendations, transferability

The whole process for setting up, confirming and now extending the cross-border train Micotra can be intended as a successful roadmap for the development of new cross border railway connections. Cooperation schemes among key stakeholders, written agreement/contract between the two operators and knowledge gained during the Micotra experience could represent an important starting point for highlighting the key factors that have to be taken into consideration when setting up (in a different territory) a cross border rail connection.

### 2.2.2. Revitalization of the Gemona Sacile railway line

#### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

The Gemona del Friuli-Sacile railway is a railway line operated by RFI using railway lines built at different times: the Sacile-Pinzano line (activated in 1930) and Gemona-Casarsa line (in part activated in 1914).

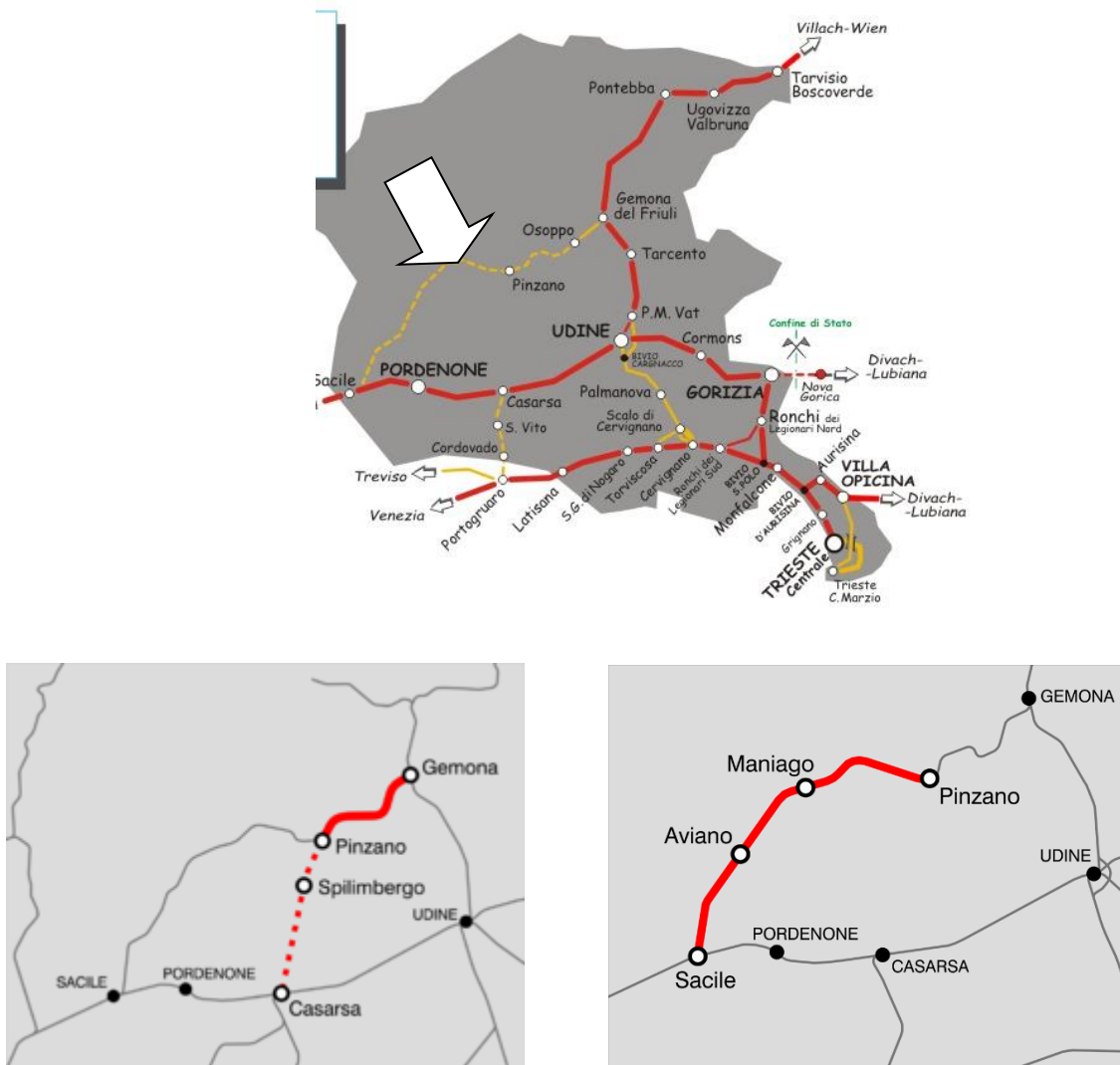


Figure 12: Railway connection Pinzano - Sacile

The Sacile - Pinzano railway line, already designed before the First World War for military reasons, in defense of the border with the Austro-Hungarian Empire, was activated on October 28, 1930 and together with the section Pinzano - Gemona was served by diesel trains until 2012: it represented an important connection for commuters of the foothill areas of Pinzano, Maniago and Sacile. In 2012 a landslide provoked severely damages to the line and, for this reason, the Sacile-Gemona railway was closed.

## 2. Photos





Figure 13: Figures old railway connection and infrastructure on Sacile - Pinzano railway line

### 3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

Considering the importance of this railway service for the population living in the area (the railway line was mainly used by students and workers), a local committee was created in order to promote the revitalization of the railway line (property of the Ministry of Infrastructures). Thus, in cooperation with the Region FVG, an official request was sent to the Ministry in order to transfer the ownership of the railway line from the State to the Region FVG.

Region FVG (in cooperation with RFI and the Foundation Italian FS) then promoted the revitalization of the railway line (maintenance works were completed in 2016) with the aim to enhance the service to commuters, sustainable tourism and intermodal freight transport in the area.

The first train that served the railway line was operated on **June 2018, 24** and - thanks to the cooperation between RFI, Region FVG and the Foundation FS - the line was served by an historic steam train.



Figure 14: The official inauguration of the railway line as it was planned for July 2018.

The Sacile-Gemona railway line will be the first Italian railway that will be used both for passenger transport (for now limited to the Sacile-Maniago line) and for the touristic project of the FS Foundation called “Timeless tracks”. The line has also been included in the list of 18 railways of tourist interest by the Italian Law n. 128/2017.

Many touristic trains are planned for 2018: in addition to the inaugural trip on July 29th, there will be 12 other historical trains that will travel from 5 August to 8 December,

promoting the great events in the area and the opportunity to discover the beauty of the foothills.

The tourist railway undoubtedly expresses great potential, as demonstrated by the recent successes of the historic train recently organized (June 2018), which have not only sold out but also registered an unexpected overbooking.

#### **4. Funding mechanism, cooperation schemes developed and institutional reforms made**

The strong cooperation between FVG Region, Local Commuters committee and the municipalities of the area as well as the strong involvement of Italian railways Foundation (Fondazione FS) and RFI guaranteed the preconditions for signing - in 2016 - a specific framework contract between Region FVG and RFI.

Based on this agreement maintenance works were realized and the set up of the service (that will be included in the regional plan of Public transport) guaranteed.

#### **5. Factors of success**

- Strong involvement of local authorities (municipalities) and population
- High demand
- Great potential of the area in terms of touristic attractiveness

#### **6. Recommendations, transferability**

Based on this positive experience, the Region FVG is planning to extend this best practice to the revitalization of other “minor” railway lines (mainly for touristic purposes).



### 2.2.3. Mi Muovo, Emilia-Romagna Region integrated ticketing system

#### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

Mi Muovo is a single, integrated travel card for regional public transport available to residents of Emilia-Romagna Region, making travel on public transport much easier and more practical. The base of this integrated ticket is the definition of a regional integrated fare (bus plus train) that substitute the old fare system based on the trip distance to be covered (calculated in kilometers) with a new system based on areas (zones) to be crossed. These integrated fares and ticketing services were launched in late 90's by Emilia-Romagna Region in a European project named STIMER.

In the framework of this project the new integrated Mi Muovo tickets were introduced, making traveling in Emilia-Romagna more comfortable, simple and easy, thanks to the use of one comprehensive chip card. During the years Mi Muovo ticket has been further developed allows the access to different transport and mobility services (from bus and train to bike sharing and car sharing), and to electric recharge points for e-vehicles. The system can be potentially extended to all the mobility services, so to improve the implementation of an integrated transport policy at regional scale.

The Mi Muovo system not only make payment easier and offer a discount to season ticket holders but it allows the city and regional authorities to monitor passenger flows. This information helps to better organise the public transport network according to users' needs.

#### 2. Photos

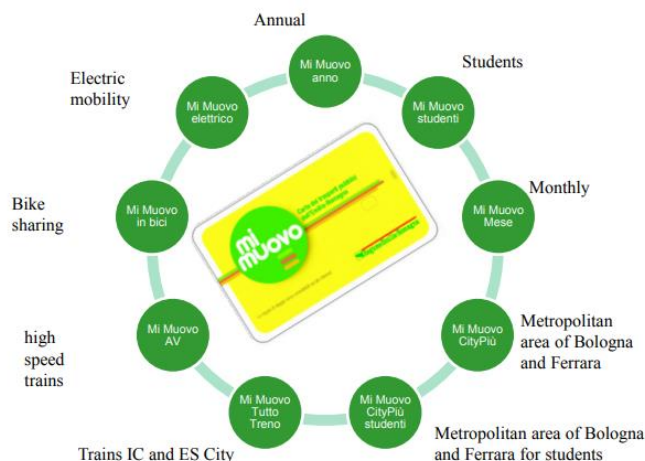


Figure 15: Pictures of Mi Muovo single, integrated travel card for regional public transport  
Source: Emilia-Romagna Region

### 3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

Key challenges in implementing the Mi Muovo integrated ticket were:

- Regional scale. A single ticket valid for all the regional transport required an involvement of a high number of local, regional and national public transport operators in order to define a common development strategy and a coordinated implementation process and time plan;
- Change over from a kilometer fare system to a zone one. This is a key technical innovation for the implementation and dissemination of such an integrated ticketing system in Emilia-Romagna Region;
- Undifferentiated transport use. One card for rails, bus, bike/car sharing services and electric charging points;
- Contact-less card. This is another key aspect for the success of Mi Muovo initiative in Emilia-Romagna Region as it allows to coordinate different existing ticketing services (usually paper tickets) and different fares system.

Key barriers in implementing the Mi Muovo integrated ticket were:

- Difficulties in coordinating different public transport operators. Mi Muovo initiatives required a coordination with national stakeholders (Trenitalia S.p.A, the national railway operator), different local public transport operators (TPER, SETA, START ROMAGNA, TEP) and several municipal initiatives (bike and car sharing services activated in some municipalities);
- Costs of the initiative. One of the solutions used by the Emilia-Romagna Region for reduce this barrier was the use of a European project for conducting feasibility studies and others relevant technical studies and pilot activities;
- Paper ticketing services. The major part of the public transport operators still uses paper tickets.

### 4. Funding mechanism, cooperation schemes developed and institutional reforms made

Emilia-Romagna Region invested more than 34 million of euro in Mi Muovo initiative. These costs were covered 50% with regional funding and 50% with the local Public Transport Companies cash flows.

The Mi Muovo initiative was supported also with an important institutional reform related to the rationalization of the number of local public transport companies.

## 5. Factors of success

The key success factors of the Mi Muovo integrated ticket initiative are:

- Mi Muovo is more than an integrated ticket, it is an integration of transport modes, fares, payment systems, different local transport management schemes;
- Strong commitment of Emilia-Romagna Region both from economic, political and communication point of views;
- Use of a magnetic strip tickets allowing to better manage all the different fares and transport modes;
- Public transport fare discounts for Mi Muovo owners;
- Involvement of several relevant stakeholders (both public and private) in defining, implementing and managing the initiatives;
- Strong promotional campaigns for the dissemination of the initiative and of the different services and technologies;
- Easy to use technology and simplification of the fare's rules;
- Integration of different existing public transport services in all the regional territory.

## 6. Recommendations, transferability

The success of such an initiative requires a strong political commitment at regional level both from political and economic point of views. All the technologies and solutions adopted for the implementation of Mi Muovo initiative are transferable as not specifically related to Emilia-Romania contex.

### 2.2.4. #lamusicastacambiando, roadshow's campaign for the presentation of the new rolling stock in main Italian cities

#### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

#lamusicastacambiando is a roadshow's campaign for the presentation of the new rolling stock (Rock and Pop trains, Jazz, Vivalto, Minuetto and Swing trains will be added) in the main squares of the most important Italian cities.

This promotional campaign aims to present to commuters and citizen the new rolling stock in a fascinating and innovative way using music events developed in collaboration with a popular Italian radio network (RTL).

This promotional campaign, organized by the Italian Railway operator "Trenitalia", started in 2017 and it is still ongoing. In these two years of activities, events were organized in Bologna, Roma, Torino, Firenze, Genova, Verona, Napoli, Palermo, Reggio Calabria and Bari. In each city, a copy of the new train's carriages was placed in the main city square and it is possible for citizen to enter in the train and visit the new equipment. During the day, dedicated music events are been organized in the proximity of the train with the dissemination of informative materials regarding the characteristics of the new trains and regional train services.

## 2. Photos



Figure 16: Images of roadshow's campaign for the presentation of the new rolling stock  
Source: <http://www.lamusicastacambiando.it/galleria/>

### **3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks**

The new commuters' trains will entry into passenger service in Emilia-Romagna Region from mid 2019. The challenge of these promotional initiatives is to increase the quota of commuters using the train for their daily trips. In particular this innovative promotional campaign is a way to disseminate information on investments made by the Regional authority to purchase and put into operations these new and high-quality trains for commuters.

### **4. Funding mechanism, cooperation schemes developed and institutional reforms made**

The new trains are partly financed by FS Group using a €600m Green Bond issued in November 2017. The Rock trains are expected to offer 30% lower energy consumption than the current fleet and are more than 95% recyclable, enabling them to obtain 'white certificates' for investments in energy efficiency. The national railway operator and each regional authority define their cooperation and their regional train development plan signing a "Service contracts". The aim of this promotional campaign is also to increase awareness of regional authority in improving and strengthen the sustainable transports in their territory. This effective financing scheme allows to organize such an expansive promotional campaign.

### **5. Factors of success**

Key factors of success are:

- Innovative promotional campaigns in the main Italian squares using new communication strategies and an intense use of social networks;
- Strong collaboration among regional authority and Italian railway operator in improving the commuter train services;
- Strong involvement of the national railway operator both from economical and promotional point of views.

### **6. Recommendations, transferability**

This case study is easily transferable as not strictly related to Italian context.

## 2.3. Best practices from the Slovenian Experiences

### 2.3.1. Slovenian railways heritage train

#### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

Slovenian Railways Heritage Train made its inaugural journey in 1986 when the tourist agency Slovenijaturist organized the first sightseeing journey down the beautiful Bohinj railway line. Ever since, the result has been a sharp increase in the number of journeys and interest therein. It is to be expected since the atmosphere inside the train can only be described as excellent. The train's staff, from the train driver to the service personnel, ensure that passengers are well taken care of and never go hungry or thirsty, particularly during the hot summer days. It is also possible to send postcards to loved ones from the post office on the train.

Offer is divided to regular journeys (departures from May until beginning of November), private excursions and hires (for weddings, business meetings, presentations, concerts etc.)

Jump back in time when taking a scenic ride on the steam train on the picturesque Bohinj railway, which celebrated its 100th anniversary in 2006, and discovering the fragments of past, is unforgettable and memorable experience **for tourists and domestic residents**, especially for families with small children.

Trip begins at Jesenice through Bled to Kanal. Anyone who likes travelling by train is sure to savour every moment of the two hours needed to complete the journey on the Bohinj rail line, as they are enjoying the view of Lake Bled and numerous gorges and plains, as well as the ride through tunnels. Distinctive features of the railway are the 6,339 metres (20,797 ft)-long Bohinj Tunnel under 1,498 metres (4,915 ft) high Mount Koblja and the Solkan Bridge with its 85 metres (279 ft) wide arch over the Soča River.



Figure 17: Solkan Bridge, the second-longest stone bridge in the world with lake Bled

Journey is a fun experience, providing passengers with a great many tips and interesting info on both the train and Bohinj railway. On board light meals, snacks, and drinks at the buffet car are available. The train arrives to Kanal at 11:18am, where the enchanting journey continues by bus along the Soča River, past Anhovo and Plave, to the westernmost part of

Gorica hills, to picturesque hamlets, vineyards and fruit orchards. On the way to Dobrovo, a quick stop is provided at the town of Gonjače to catch a magnificent view of the Gorica Hills in all their glory from a 23-metre high viewing tower. If the weather is good, it is possible to see as far as the Region of Friuli Venezia Giulia, Julian Alps, and even Karst. Train passes by the medieval hamlet of Šmartno, a tiny village located in the heart of the Gorica Hills, where excellent wines from the region of Goriška Brda could be tasted. Late afternoon the steam train slowly makes the way back towards Upper Carniola (Slovenian: Gorenjska).

## 2. Additional Photos



Figure 18: Bohinj railway line connecting coastal area with central Europe and steam historical train that operates the heritage train ride.

## 3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

Preparation and construction works of Bohinj railway line began in 1900. The construction was finished in 1906. During the First and especially during the Second World war the line was ruined and damaged. The line was modernized after 1960, the upper structure of the railways was replaced, numerous bridges and tunnels was tempered and renovated, telecommunications and signalling devices was modernized. Nowadays regular maintenance works are performed.

## 4. Funding mechanism, cooperation schemes developed and institutional reforms made

Due to the need of regular maintenance works on the railway line, sufficient amount of funds is needed as well as funds for the promotions and organisation of the historical journeys with steam train.

## 5. Factors of success

Very good promotion and great organisation of historical journeys along with regular maintenance of railway line and keeping steam train in great condition are major factors of success.

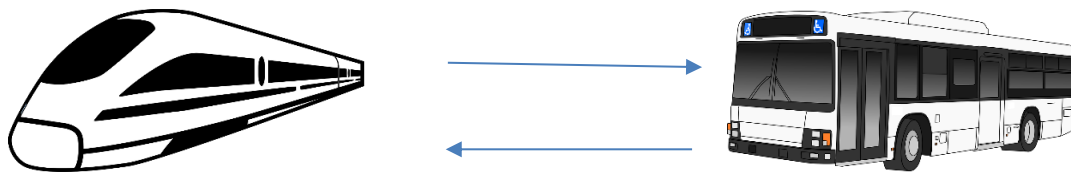
## 6. Recommendations, transferability

It is recommended to all Partners to include historical trains in their railway system to stir up interest among residents, particularly children and younger generation, and tourists for using trains, as part of their modes of transport through great and funny experience on their historical journey with steam train.

## 2.3.2. Integrated ticketing system - Integrated public passenger transportation system (IJPP)

### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

Unified ticketing & fare collection system in Slovenia, also known as integrated public passenger transportation system (IJPP), simplifies the use of a public transport for passengers traveling under different public transportation entities. Before introduction of IJPP, public transportation operators and providers used incompatible ticketing and fare collection systems, where passengers had to purchase different tickets with multiple providers for a single travel. IJPP established unified ticketing and fare collection system for different public transportation operators and providers. This simplified ticket purchasing and switching different modes of public transport for passengers. IJPP unified fare ticketing platform consists of three basic functionalities, which are presented below. The first is unified product and service definition for describing different fare ticket types. The second is common IJPP ticket data structure containing location dependent fare price tables, used to define unified fare pricing. The third is common product and service distribution system, which enables ticket distribution, validation and control with different public transportation operators and providers. These functionalities are included in common platform for IJPP transaction processing.



The purpose of IJPP is to enable passengers to purchase unified tickets for public bus and railroad fares and convenient switch between different means of public transport.

IJPP fare ticketing platform is based on contactless smartcard technology and mobile transaction system, where passengers could conveniently purchase and validate electronic fare tickets with different transportation operators and providers.

#### Common ticket operation is based on ticket properties, as follows:

1. Ticket identifier - each ticket is identified with unique ID;
2. Ticket name - human readable name for ticket identification;
3. Ticket type - identification of ticket type such as regular ticket, luggage ticket, penalty ticket;
4. Conditional ticket - defines the ticket purchasing conditions;
5. Inactive ticket time - a ticket traveling time;
6. Active ticket time - a ticket traveling time;
7. Coupon usage rules - define requirements for multiple ticket use;
8. Ticket purchase rules - define ticket purchasing requirements such as allowed purchasing time and terminal type;
9. Ticket validation rules - define ticket validation requirements, such as allowed validation time and ticket validation priority.



IJPP tickets are available for passengers to purchase and use in different geographical locations covered by IJPP system, such as IJPP city zones of Ljubljana, Maribor, and Murska Sobota. City zones are connected with intercity lines.

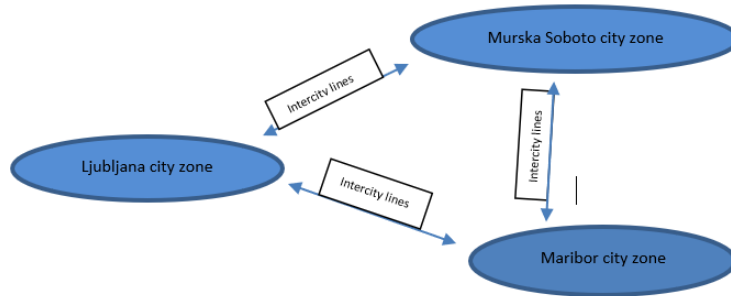


Figure 19: Example of interconnections for PT with the IJPP system

Each city location has its own fare price table. All intercity lines have one common price table. Every price table is defined with fare price table structure. Fare price table structure is a three-dimensional data structure, where dimensions represents price value dependent parameters. Prices are parameterized to three parameters, which form three-dimensional data structure:

1. Ticket type (single fare, monthly fare, coupon fares and weekly fares);
2. Passenger status (adult, student, senior etc.);
3. Tariff class (travel distance, zones).

IJPP ticket data structure is sent remotely from the central IJPP transaction system to IJPP terminals, where are IJPP compatible and registered in IJPP system.

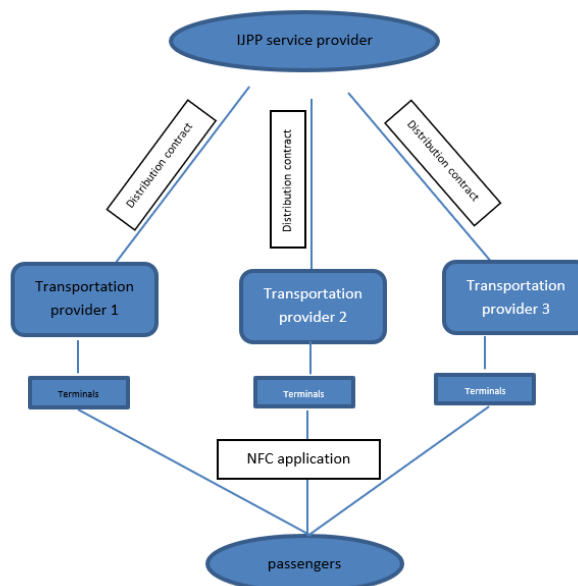


Figure 20: Ticket distribution chain in integrated ticketing system

Transportation operators and providers are owners of IJPP compatible terminals. Available distribution contract between transportation provider and IJPP service provider allows the

transportation provider terminals to obtain complete IJPP ticket data structure, which is basis for processing ticket purchases, validations and controls. Defined tickets in the ticket data structure can be purchased on IJPP terminals regardless of the ticket usage location. Purchased tickets are electronically stored on the FC compatible smartcards owned by passengers. Ticket purchases/validation/controls are executed with IJPP transactions on mobile terminals and processed in the IJPP central system. Unfortunately, since the project has finished, lack of activities in IJPP is noticed. Continuation of the project is foreseen in the year 2019, in which all the groups of passengers would be able to use the integrated system.

## **2. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks**

The IJPP project was designed to integrate all public transportation providers in Slovenia, including the national railways under a unified ticketing & fare collection system. With 37 transport providers and more than 1500 deployed terminals, this project represents the greatest feat of complexity in the segment of AFC. Hard work is needed to bring together large number of transport providers and also to provide the technology and integrate very complex system for ticket transaction processing. Trial period is necessary to collect the data and to monitor the system efficiency along with proper working. In the “trial” period in Slovenia, **which has been going on since 2016**, the system is used by secondary school and university students.

## **3. Funding mechanism, cooperation schemes developed and institutional reforms made**

The project has been contracted by the Infrastructure Ministry and is being implemented by a consortium which includes railway operator Slovenske železnice and the Ljubljana and Maribor city bus operators LPP and Marprom. IJPP was financed by the European Cohesion Fund in the amount of 6.2 M EUR and by the Ministry of Infrastructure with 1.2 M EUR.

## **4. Factors of success**

Working and user-friendly system is a key factor of success. Also, the possibility to integrate the IJPP card/app with the Urbana card is significant for greater success. The Urbana card (Urbana card was introduced at the level of Ljubljana city, for services provided by the Ljubljana city) with the IJPP application allows passengers to travel with any carrier on the line they are traveling and for which they purchased the ticket. This card offers several additional benefits if the credit is on the card, such as Bicycle service (LJ), membership in the Ljubljana City Library, trips to Ljubljana Castle, guided tours on the Ljubljana Castle, parking at P + R parking lots, parking in the white zones in the city or in the parking lots operated by LPT and travel with electric vehicles, EURBANI, on certain LPP lines. At the International contest - Ticketing Global Awards 2017 in London, the Slovenian Railways, as the lead partner of the consortium's contractor, won the award and first prize with the IJPP project in the category Most Innovative Customer Serving Operator.

## **5. Recommendations, transferability**

The working system would enable passengers to switch between means of transportation as easily as possible, using just a single contactless card, regardless of the transportation provider, and it is expected that it would encourage more people to use public transportation.

## 2.4. Best practices from the Croatian experiences

### 2.4. 1.& 2.4.2. ZET - HZPT integrated transport contract & Promet Split - HŽPP integrated PT

#### 1. Title of best practice

- a. ZET-HŽPP integrated transport contract
- b. Promet Split-HŽPP integrated PT

#### 2. Description of selected good practice (location, stakeholders, time of implementation, overview)

##### a. ZET-HZPT

Transport within administrative boundaries of City of Zagreb limited with stops Sesvetski Kraljevec, Odra, Podsused i Mavračići.

Contract between HZ PP and ZET Bus operator was concluded on March 1st, 2017 and is valid till February 28<sup>th</sup>, 2019 with possibility of annexing.

##### Contractual Terms - Common Monthly Subscription Cards

- the price of the monthly common general subscription ticket amounts to HRK 400.00 with VAT, of which the share of HZPP revenues is 55% and ZET 45%
- the price of monthly students, students, retired persons, persons with disabilities and social subscription cards is 200,00 kn with VAT, of which 65% is allocated as HZPP's income and ZET 35%.

##### b. Promet Split-HŽPP

Contract between HZ PP and Promet Split Bus operator was signed at January 1<sup>st</sup>, 2016 and is valid unlimited.

Transportation with train-bus/bus-train on relation Split-Split suburban area- Solin-Kaštel Sućurac-Kaštel Gomilica-Kaštel Kambelovac-Kaštel Stari-Sadine-Labin Dalmatinski-Prgomet-Preslo-Bakovići-Primorski Dolac

##### Contractual Terms - Common Monthly Subscription Cards

- the price of the monthly common general subscription ticket amounts to 380.00, 460.00, 650.00 and 800.00 HRK with VAT, depending on a Zone
- the price of monthly pupils and students tickets amounts 190.00, 230.00, 500.00 and 550.00 HRK with VAT, depending on a Zone
- retired persons subscription cards is 200.00 and 240.00 HRK with VAT, depending on a Zone

For all the revenue share amount of 65% is allocated to HZPP's and 35% for Promet Split.

3. Photos

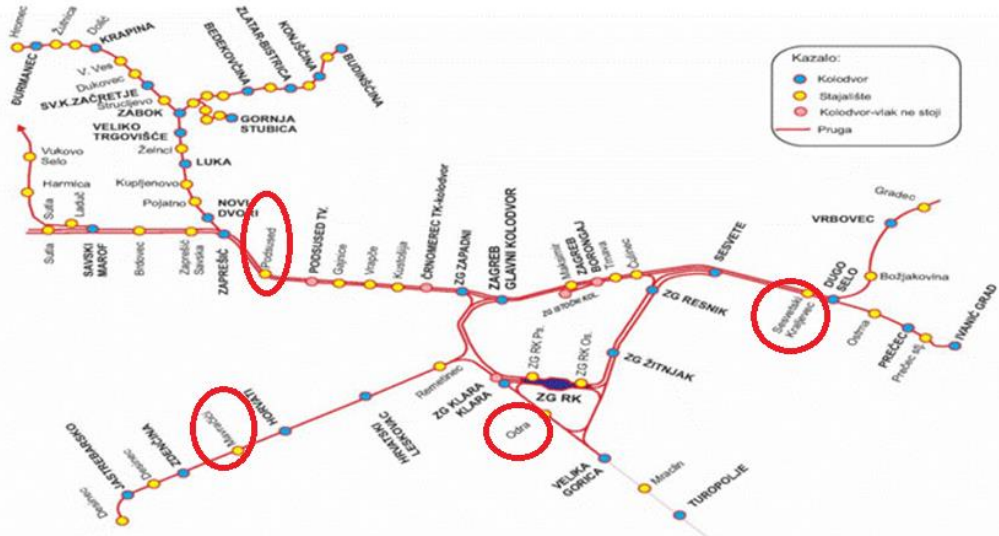


Figure 21: ZET-HZ PP boarding stations of City of Zagreb - rail network



Figure 22: HZ PP rolling stock



Figure 23: ZET Bus operator



Figure 24: Promet Split Bus operator

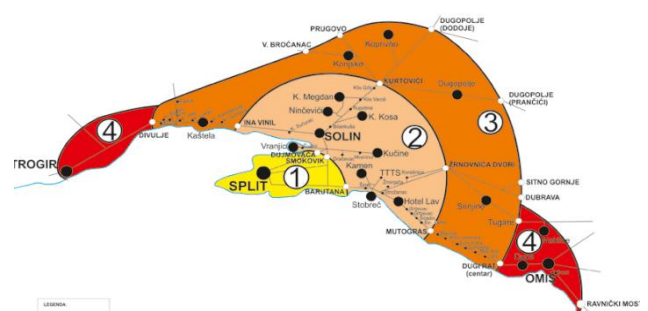


Figure 25: Tarif zones in Split area

#### **4. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks**

Public city passenger traffic is of great and irreplaceable significance for the functioning of life in cities. Everyday travel in the city and the suburban region is one of the main activities of all residents, and the quality of life in the city also measured by city and suburban transportation system. The goal is to optimally meet transport needs all inhabitants by transport intensity, time and space with the acceptable costs of organizing and maintaining the entire transport system. The need to adjust to transport participants in integrated transport system remains.

#### **5. Funding mechanism, cooperation schemes developed and institutional reforms made**

Mutual collaboration in based on initiative and also offers from HZ PP side. With mutual meeting collaboration is created and this also means terms and conditions of services.

#### **6. Factors of success**

- a. Improving traffic accessibility and accessibility of rail transport in the area of integration
- b. increasing the attractiveness of rail transport services through better traffic connections between the railway and bus operators
- c. a quicker journey after the integration in and around the integration area
- d. encouraging rail transport to increase the number of passengers and revenues
- e. became major transport operator in Croatia with direction to mass and transit railway transport to satisfy the passengers needs and all transport users.

#### **7. Recommendations, transferability**

Contractual parts can be transferred to all rail-bus relations. Template of contract with its vital parts remains the same except the area of implementation.

Crucial contract parts:

- Specific relations
- Price
- Revenue share
- Contract determination - penalties

## 2.5. Best practices from the Albanian experiences

### 2.5.1. Study on the Economic/Financial Appraisal for the rehabilitation of the whole Albanian railway network

#### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

The location is covering the Project area including Tirana (PTT) - Durres / Durres Port; Durres to Rogozhine; Rogozhine - Fier- Vlore; Rogozhine - Elbasan; Elbasan - Pogradec; Vore - Shkoder and Shkoder - Hani I Hotit border; Fier - Ballsh, Budull - Fushe Kruje, factories Librazhd, Prrenjias, etc. (a synthesis of freight lines)

The stakeholders are the Promoter Ministry of Infrastructure and Energy, the Beneficiary Albanian Railways of the IM HSH; the partnerships with the state PPP in Fier -Vora and Fier Ballsh and partners with railway connection to national railway infrastructure to/from Port of Durres, fuel port of Vlora, and with industrial logistic centres of the freight lines Budull- F. Kruja and Librazhd and Prrenjas operating with the mines of that zone in east and south east of Albania.

Time of Implementation is approved in the Law 63/2015 of 11.06.2015 and completed during 06/2015-11/2016.

An overview of the CBA Project is following:

Rehabilitation of each rail section is assessed separately, in terms of its contribution to the benefits of upgrading the whole railway network of the country. The rehabilitation of the whole network (DO ALL scenario) is also assessed, in comparison to the continuation in the future of the operation of the network in its present form (DO NOTHING scenario).

The rehabilitation of each section is evaluated as a separate scenario. By definition, the assessment of the various scenarios is based on incremental magnitudes. Incremental magnitudes (traffic, costs, revenues, users' and external impacts) are calculated as the difference of the magnitudes of each scenario under evaluation from a common base-case scenario.

The base-case scenario for the purposes of the present study has been determined to be the DO ALL scenario (i.e. the scenario which foresees the rehabilitation of all 8 rail sections), relative to which incremental magnitudes of important parameters (traffic and resulting costs and benefits) are calculated for each of the 8 scenarios and in this way the rehabilitation of each individual rail section is evaluated.

Each of these scenarios is formulated under the theoretical assumption that all other rail sections will be rehabilitated, with the exception of the particular rail section, to which the scenario under assessment each time refers.

2. Photos



Figure 26: Map of revitalisation projects in the railway core and comprehensive TEN-T connections

Source: SEETO - TEN-T Indicative Extension to Neighbouring Countries Comprehensive/Core network to Western Balkans Region – Definition for Railways and Ports [by Commission Delegated Regulation (EU) 2016/758 of 4 February 2016 amending Regulation (EU) No 1315/2013 of the European Parliament and of the Council as regards adapting Annex III thereto]

### 3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

One variable is discerned as critical: The savings in users' / external costs. These savings are mainly dependent on the forecasts of traffic that will be diverted from the road to the railroad. These forecasts have been determined through the use of a comprehensive traffic model, based on corresponding forecasts of macro parameters such as population, GDP, international arrivals etc. Of reliable organizations (INSTAT, EUROSTAT, IMF, WTO etc.), unit values derived from E.U. research programs and extensive surveys of the consultants in Albania and surrounding countries.

Furthermore, the basic forecasts of the traffic model are compatible to corresponding forecasts of recently conducted similar studies for Albania. There is therefore no credible basis for assessing the likelihood of parameters leading to the estimates of Section 3.10.3 (including macro parameters, the forecasts of the traffic model and unit values that determine savings in users' and external costs) diverging from the basic forecasts of the present, either in an upwards or in a downwards direction, where there is no credible data available, on which to base quantified risk analysis - especially taking into account the present low level of train transport service in Albania, which is associated with continuous decline of train traffic in recent years.

### 4. Funding mechanism, cooperation schemes developed and institutional reforms made

EBRD Technical Cooperation Funds *in document code:796-01-10-tsr-fapi-adfr-03/4\_0 and issue & date: 20-10-2015 (0)* for Republic of Albania/Ministry MTI in financial/economic appraisal of the whole Albanian railway network (EBRD technical cooperation funds)

Component B - Financial and Economic Appraisal of the whole railway network ( Task B3 - Financial and Economic Analysis) & ( Task B4 - Prioritisation of Investments on Railway Lines)

The project is approved at level of Decision of Council of Ministers of Albania DoCM no. 811, date 16.11.2016 On Approval of Transport Sector Strategy and Action Plan 2016-2020 and published in the Official Journal 230-2016.

Corridor management on selected SEETO flagship corridor by using the models of TEN-T Corridor. That meant Albanian railway network is already included into the Flagship axles initiative Study and REBIS study update according to SEETO Multiannual PLAN.

Cooperation schemes developed through support rail opening market for the SEETO region. The institutional reform made is at implementation of new railway code in Albania already approved by Government of Albania by Decision of Council of Ministers of Albania Nr. 566 date 03.08.2016 and by Law no. 142, date 22.12.2016 and published in the Official Journal 265-2016 as of 12.01.2017 after its approval in parliamentary adoption procedure. The railway code entered into force on 12.01.2018.



## 5. Factors of success

- Connection to harbour/port: the railway connection to a harbour/port is very important, especially regarding freight transport, as the opportunity of combined transport services between sea and rail is given. Freight transportation by rail not only promotes the evolution of the ports connected, but also provides high railway revenues and contributes to the economic growth of the country.

Scenario S1 was given the highest grade as it directly connects to the major port of Albania, port of Durres, and has a positive impact both on passenger and freight transport. The connection of the port with the capital, Tirana, promotes passenger transport between the two main poles of the country and, besides facilitating the railway freight transportation, it also supports the development of the touristic aspect of the harbour. Scenario S2 was given the second highest grade, as it also refers to a direct connection of Durres port. Scenarios S3 and S7 were given equal high score, as they both connect to port either directly or indirectly. More specifically, section Rogozhine - Vlore directly connects to the port of Vlore. Although the scenario refers to a direct connection with a port, like Scenario S1, the score given is lower based on the importance of the port and its role to the Albania port network. Scenario S7, on the other hand, is given the same grade thus not directly linked to a port. However, the section Shkoder - Hani i Hotit promotes the connection with the port of Bar, a major port of Montenegro, located very close to the border with Albania. Scenario S4, S5 and S8 were given lower grades as they do not connect to a port and/or are far from any.

- International connection: Albania holds an important geo-strategic position within the Balkans, providing access to the Adriatic Sea for the neighbouring countries of Kosovo and FYR Macedonia, access to the central Europe for Greece and FYR Macedonia and access to the Mediterranean through Greece to Montenegro. The connection of the sections with the neighbouring countries was considered important in evaluation, as it plays a major role regarding exchange of people and goods. Sections the Shkoder - Hani i Hotit that links the Montenegro border crossing with Albania, was given the highest grade.

- Part of corridor VIII: Trans-European Corridor VIII is a key corridor for the major transport network in the Balkans. This transportation route not only facilitates the exchange of goods, people and energy supplies between the European Union, the Balkan states and the Central Asian states, but it is also significant due to its important role in strengthening the links between the Balkan countries and improving the stability in the region. Any activity related to the development and promotion of Trans-European Transport Corridor VIII as an important element of the European transport network.

- Suburban transport service: This sub-criterion refers to the capability of each section in carrying passengers within urban areas, related with higher frequency services than conventional railway and involving commuting and/or common every day passenger movements. The highest score got the railway line between Durres and Tirana, being the section connecting the two major attraction poles of the country and holding a special position within the railway system, has the characteristics of being upgraded to suburban railway service section transferring large number of passengers on a daily basis.

- Railway network is planned at connection to international airport: Grading for these Sub-criteria were based on the Connectivity of each section to the airport or its proximity to a section connecting to the airport. The connection to an international airport is important regarding the role of a railway section in the transport sector, as it involves connection with an important pole of transport movements, especially passenger transport movements, indicating an integrated service for visitors and high revenues for the railway.

Albania has one international airport at Tirana and, thus, and, thus, with higher proximity to links connecting to the international airport and Durres - Tirana were awarded

- Environmental Air/noise/vibrations pollution: Grading for these sub-criteria was based on the proximity of each section to urban and inhabited areas or located near areas whose flora and fauna could be affected by air pollution, high noise disturbance and vibrations. Scenarios S8 involving the railway branches to major plants and factories was awarded the highest grade, as they connect to industrial areas which are usually not connected with areas of high environmental value.

Durres - Tirana, evaluated was found to be the most significantly affected section by environmental pollution, as higher frequency services are programmed for this section, producing high levels of noise and air pollution as well as vibrations.

- Transverse(al) connectivity: The sub-criteria refer to the capability of each railway Section in connecting areas between the two sides of the railway line. This sub-criterion is closely related to the number of tunnels and bridges involved in each evaluated section, as these technical projects are assumed to be providing easy access between both sides of the railway line both to people and to the fauna in each area.
- Nature protection Scenic zone travelling: Grading for these sub-criteria was based on the alignment of each railway section through areas of natural beauty. Section Elbasan - Pogradec of Scenario S5 was assumed to have the best landscape view as it crosses a mountainous terrain and is also aligned in close proximity to the Ohrid lake, giving to railway passengers the opportunity to enjoy beautiful natural scenery.

## 6. Recommendations, transferability

RECOMMENDATIONS incl. the MCA ranking is to be considered more appropriate for basing decisions on investment priorities, because many other important (non-economic) criteria are considered in the prioritization.

- Regional Development: Grading for this sub-criteria was based on the role of each Railway section in the connection of regional areas and small urban conurbations. Thus, industrial links scenario, S8, was given a very low score as it is not related to connectivity of regional areas. The same applied to scenario S7 evaluating the border section to Montenegro that does not cross any important town or village.

Moreover, Scenario S1 regarding section Durres - Tirana which crosses mainly urban areas and connects high-populated cities was given a rather low grade, the same with Scenario S2 that connects Rrogozhine and Durres, being very close to high urbanized areas. Scenario S3,

connecting the regional areas of Lushnje, Fier and Vlore and, thus, providing access of northern Albania to the central part of the country and the capital was ranked first, followed by Scenario S5 in which the Elbasan - Pogradec section contributes in the connectivity of east Albania with the central area and section Vore - Shkoder of Scenario S6 that improves the connectivity of northern Albania.

- Connection of logistic and industrial production poles: the railway connection to a production pole, such as a plant or factory, is very important regarding freight transport, as it provides the opportunity of combined transport services between sea and rail. Big cement and petrochemical factories are situated in the Albanian territory, thus, freight transportation by rail enforces the growth of imports providing high railway revenues and contributing to the economic growth of the country. Scenario S8 was given the highest grade as it directly connects to the major plants of Albania in Fier and Fushe Kruje. Scenario S2 was given the second highest grade, as it refers to the section linking southern and eastern Albania with the central part of the country. The third higher score was given to Scenario S1 and the rest received lower grades.
- Connection of urban settlements: Grading for these sub-criteria was based on the alignment of each railway section through main urban areas of the country. The highest score was awarded to Scenario S1, related to a railway section connecting two major urban centres, and the lowest grade was given to Scenario S8, related to a section aligned through industrial areas only.

Scenarios S3 and S5 refer to railway sections connecting main urban conurbations in the south and east part of the country respectively and were, thus, given the same grade - the second highest one, followed by S6, also connecting major town of northern Albania. The rest of the scenarios were given lower grades, as the sections they relate to run through smaller towns and villages.

- Project Maturity: This sub-criteria refers to the progress made on the studies related to the implementation of rehabilitation works in each section. This criterion has taken under consideration whether each project is included in the Operational Programme of Albania and/or if it is given any priority within the Transport sector projects. Scenario S1 holds an important position within the projects programmed from the Albanian Ministry of Transport, and the final study is in progress, so it was given the highest score. A high score is also given to Scenario S8 including the freight-only railway sections, which are considered to be rehabilitated as part of a Concession Agreement. The rest of the scenarios were given relatively low scores as the related studies are still at an initial level and/or have not yet started.
- Project Constructability: This sub-criterion refers to the grade of difficulty in the construction of each railway section. High difficulty levels are mainly connected with the geology of the areas of the railway lines and the technical structures included in each section. Scenarios involving railway sections aligned in flat terrains got higher grade compared to scenarios with railway sections running in hilly or mountainous terrains or sections that cross rivers and streams.

Moreover, the type and quality of the ground on which the railway is seated is also important as loose and unstable ground can also cause problems and reduce the constructability of a scenario.

Based on these issues, Scenario S7, related to a railway section running along a flat area was given the highest grade, followed by scenarios S1, S3, S6 and S8 that tied in the second place.

Scenario S5 was considered to be related with the lowest constructability because of the difficult topography of the area between Elbasan and Pogradec, while scenarios S2 and S4 got a slightly higher but still low grade.

- **Project feasibility Cost/km:** For the purposes of this sub-criteria, a parameter related to unit costs (MLN EUR per kilometre) of rehabilitated railway network has been considered. Although project costs are relatively close, Scenario S5 is the most expensive one at about 1,32MEURO/km, followed by S1, S2 S3, S4 and S5 with project costs of 1,1MEURO/km, 1MEURO/km, 0,99MEURO/km and 0,97MEURO/km respectively...)

## **2.5.2. Rehabilitation of the existing railway line from Durres (Seaport) to Tirana public transport terminal and construction on the new railway connection up to Tirana (Rinas) international airport- contribution to the improvement of inter-modality with rail, road, maritime and air modes of transport**

### **1. Description of selected good practice (location, stakeholders, time of implementation, overview)**

Location of the case study, Durres, Tirana, Rinas/airport. Regarding accessibility to the one of the key features characterizing the Program area is the balance in the development of infrastructure and modes of transport, both between the two Adriatic coasts and between the Partner States, due to the identified weaknesses structural, level of maintenance and investment related infrastructure.

Considering the sustainability at interventions proposed in Port of Durres (freight and ferry terminals) to railway line Durres-Tirana PTT and access to Rinas Airport with available resources, are described in that inter-modality in the ADRION area that can benefit from increasing the efficiency of intermodal nodes - ports, freight terminals, courtyards - interfering in their bottleneck for entry, to warehouse for storage and parking areas as well as the efficiency of intermodal transfer technologies.

Other issues of trade facilitation and support for the modernization of transport-related networks, customs and border crossing points and port services and operations are the points of attention for the area of this Project.

Photos



Figure 27: Schematic form of Albanian Railway Network

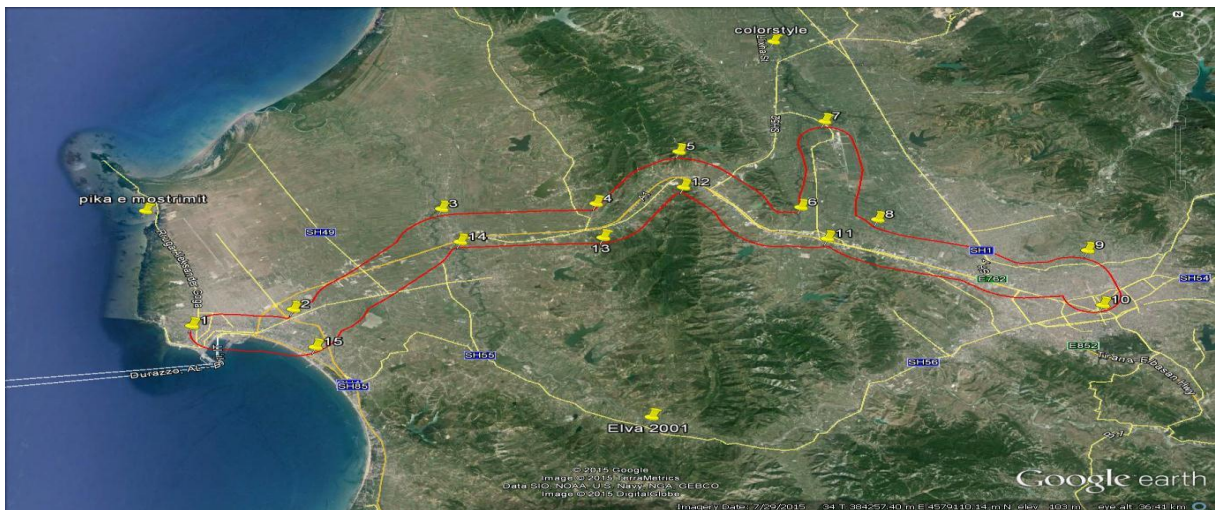


Figure 28: Satellite picture of the project and the main points of the study area coordinate

## 2. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

### Challenges and bottlenecks:

There are key issues, challenges and risks that have to be taken into the consideration:

1. Planning and deployment EU Railway Traffic Monitoring Systems ERTMS is a future of railways. In this moment, Albanian railways systems are taking a huge step in a new era

where Digitalisation is imminent and is planned within the Project, hence, can't be avoided. ERTMS is a part of digitalisation and it is a milestone to new era of Albanian railways ascension.

2. The setting-up of strategic and legal framework and Capacity Building of Albania are first and probably most challenging steps, creating Institutional framework and functionality enabling next steps in process of ITS deployment for interoperability needed.

- Several of efforts are already made in some steps and implemented certain provisions in national regulations, but mostly without strategic and coordinated framework which will lead to effective and efficient ITS deployment.

3. Organizational and technical issues are point of action which requires comprehensive, systematic approach and coordinated work and involvement of different key players (competent authorities, stakeholders, users).

4. Adopting relevant EN standards as preconditions to ERTMS deployment, where Innovation, digitalization including future signalling systems and ERTMS have to be adopted relevant EN standards as preconditions on ERTMS deployment.

5. Presentation, testing and evaluation of concepts new, e.g., in ecosystem services,

Development / Blue and Green Growth in Practice development and cohesion policy, by facilitating the achievement of EU standards and standards generally increasing the potential of good governance also in the context of EUSAIR.

6. Treatment of poor interconnection between ports and intermodal interconnections and logistic (intermodal: water-rail, rail-road).

7. Managing the seasonal tourist peak for it avoid traffic congestion, providing one

Integrated mobility backup thanks to ICT - ITS (Intelligent Transport Systems) - its new media spread across the Adriatic region.

### **3. Funding mechanism, cooperation schemes developed and institutional reforms made**

- Funding mechanism is approved at implementation of the Law no. 29/2017 on the ratification of the harmonization Agreement between the Republic of Albania and the European Bank for Reconstruction and Development for the financing of the project "Albanian Railways - Rehabilitation of the railway line Tirana - Durres and construction of the railway line to the International Airport of Tirana" (Rinas) and Law 3/2018 as of 25.01.2018 on Amending the Joint Agreement on basis of Law 63/2015 for the extension of railway line from PTT to a New passengers train station as suburban transportation or light rail transport systems.
- Planning and deploying and RAILDATA, RNE as railway specific systems as approved in the NTS 2016-2020 and Action Plan of the Strategy in priority action for RAILWAYS in Albania and incl. Cross-border operations by railway.

- Improvement the priority actions for Intermodal and combined transport as in the NTS to 2020. Implementation of ASTP funded by EBRD, as in the applicable legislation in Albania.
- Implementation of Directive 2010/40/EU as in the Guidelines of MoIE dated 21.07.2017 for ITS deployment in road transport and interfaces to other transport modes incl. Railways on Multimodal ITS Directive where prioritized by EU legal acts and policies, even the strategic development in transport sector that is focused on other means of transport, specifically Railway and IWW/Maritime.
- Furthermore, having in mind above mentioned, development of other modes of transport is highly dependable on interactions with road transport or in other words, enabling intermodal services, where ITS and IT solutions are playing the crucial role.

#### 4. Factors of success

- Having in mind above mentioned, factors to success is in efficient planning for deployment of i.e. harmonization in information travel time which is fragmented into several main groups of aspects of requirements:
  - Institutional requirements (strategic and legal framework) and Organizational requirements (Rules and responsibilities, Coordination, Working bodies, Stakeholders)
  - Technical requirements (Technical specifications and standards, Data exchange and Telecommunication standards, ITS Architecture development, performance monitoring etc.) and Economic / financial requirements (RPs internal and external sources of funding above mentioned requirements)
- Electro-mechanic logical infrastructure where Railway line electromechanical infrastructure consists mainly of all underground cabling infrastructure, for data transmission and power supply of outdoors equipment, including fibre optic cables and Data cables as well as Power cables and Protective underground PE pipes for fibre optic and Grounding conductors, Shafts, manholes and prefabricated concrete cable trays.

All the cables are used for power supply, operation and control of the signalling installations will be developed in the Durres - Tirana section, connecting "entry - exit" signals with all their indications (main and complementary indications/shunting indications), train detection circuits, turnout machines, turnout blade control devices, key blocking cabinets, detailers and all types of ground devices, terminal boxes, local workstations, power plants, relay rack(s) accommodating the relays, all other device or apparatus installation relating to the signalling/control-command system CCS in Cabling infrastructure in stations also includes the cables used for power supply, control, etc.

- Interlocking and Communication Equipment at the railway line interlocking/signalling equipment consists of the following main components:



- Electric colour light aspect signals (route signals) installed across the line,
- Switch points, electromechanically controlled, at all stations,
- Level crossing protection barriers of appropriate types at each crossing location,
- Outdoors signalling equipment and DATA-VOICE communication equipment for Durres-Tirana and Rinas to broader area...

## **5. Recommendations, transferability**

The main positive results of the activity were the following:

- Strengthening the development of Rail Freight Corridors (RFCs)
- Improving conditions for intermodal competition
- Adoption of EU interoperability specifications (DATEX, ETCS, ERTMS, TSI, etc.)
- Digitalization of documentation regarding railways infrastructure and operational information systems
- PSOs offer on-board internet and entertainment services in order to respond to the increased demand from customers to have the ability to access the internet in order to use their phones, tablets and laptops for leisure and work purposes.
- This enhances customers' experience, who are satisfied that internet is consistently available throughout the rail networks. Railways will boost access to internet to fulfil customers' wishes and to create an interconnected and 'always-on' digital rail network.
- Better collaboration within the sector and beyond will bring added value and offer better solutions for passengers, freight users and their own staff.

## 2.6. Best practices from the Montenegro experiences

### 2.6.1. Transport Development Strategy of Montenegro

#### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

Current Transport Development Strategy of Montenegro was prepared in 2006 and EU Delegation to Montenegro has contracted external experts for the project “Preparation of the Transport Development Strategy - Montenegro” (EuropeAid/132633/C/SER/multi, Contract No. 829-4147). At the moment the draft version no 1 is available and the following text is part of this report.

“The Transport Development Strategy (TDS) of Montenegro is targeting to support the improvement of the economic efficiency, safety, accessibility and environmental sustainability of the country’s transport system whilst ensuring a seamless integration of the transport sector, as well as national and EU policies.

The TDS sets five high-level (strategic) objectives, which reflect the vision for the country’s future transportation system.

The objectives are the following:

- **Economic Welfare:** Achieve economic efficiency and financial sustainability and support economic development.
- **Safety and Security:** Improve safety, security of people and goods in the transportation sectors.
- **Accessibility, Performance of Operations and Quality of Services:** Provide maximum possible accessibility, offer quality transportation services and maintain an adequate performance in operations, as a whole and with respect to its individual elements.
- **Environmental Sustainability:** Minimize carbon footprint, noise and impact to the natural, historical and socio-economic environment
- **EU Integration:** Policies and a core transportation network, which are fully compatible and integrated to EU mandates.

In the forthcoming years, Montenegro will need a transport sector, which will efficiently support the country’s economic development and ensure the socioeconomic prosperity of its citizens. In this context, the country’s transportation system is expected to offer high quality services, meaning that its performance of should be improved and maintained, under possibly limited resources and operational constraints. This implies that economic efficiency and financial sustainability of Montenegro’s transportation system development and operations should be ensured” (source: Transport Development Strategy Report, Version 1 (Draft) - Dr. Antony Stathopoulos, Dr. Konstantinos Kepaptsoglou).

## 2. Photos



Figure 29: The Montenegro Rail Network (Source: MTMA)

### 3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

Over 48% of Montenegro's rail infrastructure has been rehabilitated in the recent years and overhauling work on remaining segments is either ongoing or planned. The network is almost fully electrified (225 km out of 250 km or 90%), which is among the highest in Europe (the EU average is 52%). Maximum allowable speeds remain low and range between 50 km/h and 100 km/h while the fact that the rail lines are single track reduces their capacity and allowable frequencies of operations (source: TDS)

Future measures refer to activities for alleviating to barriers regarding rail sector include full transposition of EU legislation, facilitation of the introduction of new market players in rail services, etc.

### 4. Funding mechanism, cooperation schemes developed and institutional reforms made

Transport infrastructure expenditures in Montenegro have risen to over 5% of its GDP in past couple of years. Given the size of Montenegro's GDP and public debt (which exceeds over 60% of the country's GDP), traditional financing schemes such as loans are neither viable nor desirable. Additional infrastructure interventions and the introduction of intelligent transportation systems in the state network could yield additional funding requirements. As such, Montenegro should seek alternative funding schemes, especially in the form of concessions and public-private sector partnerships. With respect to services, railways exhibit low cost-recovery ratio and high subsidization; these are attributed to repayment needs of railway overhaul loans in the past years, as well as to deficits of revenues with respect to operating costs.

The role of the TDS is to create the path for improving and upgrading Montenegro's transportation system and to support full alignment of the country with EU policies and requirements.

The Transport Development Strategy (TDS) will assist the Ministry of Transport and Maritime Affairs (MTMA) of Montenegro to provide a sound framework for its operations and at the same time to lay down the foundation for the future development of the transport sector in a way that is responsive to the socio-economic needs of the country, aligned with TEN-T guidelines and EU policies. The TDS will determine the condition of the various areas of transport, will define the concept of development of the transport system, establish long-term goals for the development of transport infrastructure and establish an action plan for their implementation (source: TDS).

## **5. Factors of success**

The opportunity to use EU funds to engage EU experts in the domain of transport and the creation of modern strategy in line with EU legislation and trends.

## **6. Recommendations, transferability**

As Montenegro is a candidate country for entering the EU, all recommendations and transferability are related to the good cooperation with EU institutions and financing strategic projects from the IPA funds.

## 2.6.1. Rehabilitation of the existing railway network in Montenegro

### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

The railway network of Montenegro has a length of 326 km and consists of the railway line Bar-Vrbnica-border with Serbia (167 km electrified), the railway line Podgorica - Tuzi - border with Albania, (24km, non-electrified), and the railway line Nikšić - Podgorica, (56km, electrified).

The railway line Bar-Vrbnica (a part of railway line Bar - Belgrade (Serbia)) is a single-track line, it is intended for mixed transport and its length on the territory of Montenegro is 167,1 km. Due to extremely complex configuration of the terrain and the fact that 254 tunnels, with a total length of 114,437 m, were built on the complete line (Belgrade - Bar), which is almost  $\frac{1}{4}$  of its total length, the railway line is very demanding for maintenance, which requires significant financial resources.

When it was built, a train took approximately 7 hours to go from Belgrade and Bar, while now it takes 11-12 hours, due to speed restrictions, as the railway cannot safely sustain the projected speeds prior to thorough reconstruction. Bar - Vrbnica (the latter at the Montenegro - Serbia border) is the most important section of the Montenegrin rail network. It runs through Montenegro from Vrbnica on the north to Bar on the south thus connecting economical and administrative centres and having direct link to Nikšić. As a whole, rail is an important part of the Montenegrin economy, accounting for almost 60% of all freight and 10% of passenger travel (source: WBIF - Orient/East-Med Corridor (R4): Montenegro - Serbia Rail Interconnection). At present, Bar-Belgrade railway does not meet modern rail transport requirements with regard to railway transport, speed, service level and reliability. This situation has led to efforts to start rehabilitation of the railway infrastructure (the main priority regarding transport in Montenegro is reconstruction and upgrade of railway infrastructure).

The Bar-Vrbnica railway line connects the port of Bar with trans-European corridors VII and X and is the most important transportation route for the economy of Montenegro.

Infrastructure Management Plan “IAMP”, developed by the Railway Infrastructure of Montenegro in May 2011, includes the reconstruction of the main railway line “Vrbnica - Bijelo Polje - Podgorica - Bar” (167,4 km). The realization of the following projects is expected by the end of 2020:

- Reconstruction of the line on the part Kos - Trebješica
- Reconstruction of the line on the part Trebješica - Lutovo
- Reconstruction of the line on the part Lutovo - Bratonožići
- Reconstruction of the line on the part Bratonožići - Bioče
- Reconstruction of the line on the part Bioče - Podgorica
- Rehabilitation of railway tracks at the railway station Podgorica
- Reconstruction of the line on the part Podgorica - Golubovci
- Reconstruction of the line on the part Golubovci - Zeta
- Reconstruction of the line on the part Zeta - Virpazar

- Reconstruction of the line on the part Virpazar - Sutomore
- Reconstruction of the line on the part Sutomore - Bar
- Rehabilitation of railway tracks at the railway station Bar

The railway system of Montenegro comprises:

- Railway Transport of Montenegro JSC (passenger transport company)
- Railway Infrastructure of Montenegro JSC (company in charge for management and infrastructure of the railway system)
- Montecargo JSC (freight transport company)
- Maintenance of railway rolling stock JSC (company in charge for maintenance of trains and railway vehicles).

## 2. Photos

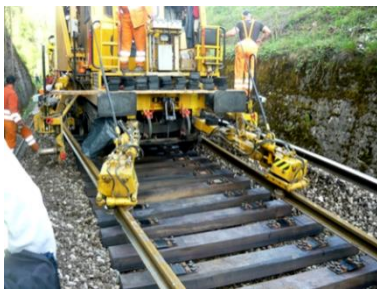




Figure 30: Railway system in Montenegro and reconstruction of railway lines ((source Montecargo)

### 3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

After more than 30 years of exploitation of railway infrastructure, without significant investments in its maintenance in the last decade the rehabilitation of the railway network in Montenegro became one of the most important priority in field of the transport system in Montenegro. Accordingly, reconstructed infrastructure should contribute to the development of economy, in particular transport infrastructure, reconstruction of the railway infrastructure will help to the better utilization of railway capacities and the Port of Bar as well. In line with development plans in the forthcoming period, it is expected that Railway Infrastructure of Montenegro will continuously dedicate its work to modernization and rehabilitation of the railway network in Montenegro, with a clear objective of better positioning of our country as an intermodal transport center and integration into the Trans-European transport network.

### 4. Funding mechanism, cooperation schemes developed and institutional reforms made

In previous period, railway infrastructure was financed through 3 type of the funding mechanism:

- loan arrangements of an international financial institution (e.g. EIB - 14 mill.€, EBRD - 15 mill.€, Czech Export Bank 49 mill.€, etc.);
- Funding sources from the EU assistance program (e.g. IPA 07 - 1 mill.€, IPA 09 - 5 mill.€, IPA 10 - 5 mill.€, etc.);
- Contribution by Railway Infrastructure of Montenegro.

Objectives of investing in railway infrastructure of Montenegro are the following:

- to increase the capacity of railway track Vrbnica - Bar

- to valorise the capacities of Port of Bar
- to stimulate development of transport corridor SEETO 4b and its integration into Trans-European Transport Network (TEN-T)
- to stimulate and encourage economic activities within Montenegro and in the region
- to protect the environment and road infrastructure
- to attract new operators to the network
- to enable more modern technologies and services on Montenegrin railway tracks
- to reach transport efficiency through a principle of competitiveness, fair prices, multimodality and integrity of the transport chain, etc.
- to increase the speed of trains to the planned speed

## 5. Factors of success

The opportunity to use IPA funds/grants, as reconstruction of the railway infrastructure is one of the main priorities set by the EU commission and government of Montenegro.

## 6. Recommendations, transferability

In order for the Project to be financed from the EU funds (in particular IPA funds), it must contribute to the realization of priorities set out in the EU strategic documents and in addition financial resources are allocated exclusively for pre-planned and elaborated Projects, based on the defined tender procedures.

## 2.7. Best practices from the Serbian experiences

**2.7.1. Railway station "New Belgrade" in the City of Belgrade** (railway integration with public bus and tramway system and car parking - existing situation and future additional integration with new inter-city and international bus station)

### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

Main stakeholders of presented solution are City of Belgrade - Secretariat for Transport and Secretariat for Public Transport, Ministry of construction, transport and infrastructure, Serbian Railway infrastructure, Railway city company - Belgrade node, City public transport company, railway and bus operators, several City municipalities, citizens.

### Existing Solution

Location of Railway station "New Belgrade" is in the middle of two most urban parts of municipality of New Belgrade, in block 42 at western part of City of Belgrade, on the left bank of Sava River. On one side of railway station direction there is a numerous blocks of residential buildings and on the opposite side mixed structure of blocks of residential buildings and business zone, representing a new business center of Belgrade and Serbia. This station is one of the several stations of Belgrade Railway node, a project started back in 70's aiming to develop and integrate City Railway, intercity and international railway connections of the City of Belgrade.

Total population of New Belgrade Municipality is about 220.000 inhabitants, but together with other two municipalities at the left bank of Sava river, there are almost half a million population in direct gravity zone of railway station "New Belgrade".



Railway station “New Belgrade” serves all types of passenger trains, from City railway “BG Voz” (meaning “Belgrade Train”) connecting sub-urban areas and Belgrade down town, inter-city trains connecting west, central and north parts of Serbia and international trains operating at Corridor 10.

At this moment, there are five rail tracks, merging into double tracks on both ends of station. All tracks are electrified.

In the past, railway station “New Belgrade” was not so busy regarding that main station in down town was operational, serving main international and intercity lines. Also, next to the station there was a huge open “flee market” and not so attractive location.

Today, after closure of main railway station in down town, railway station “New Belgrade” get a new dimension and more significant role. Also, flee market was cleaned and regulated by construction of City open mall. The station is very close to the new bridge over river of Sava, connecting New Belgrade and Downtown.

Integration of this railway station with public transit is not a new solution. It was projected and constructed back in 70’s- 80’s of the last century.

Solution was constructed and implemented through denivelation of railway tracks over the street where buses and tramways are passing. Latest integration of car parking was completed by transformation of flee market into open mall and construction of high capacity car parking near to public transit and railway station, enabling fast and easy transfer from individual car to public transit or railway and vice versa.

Railway station “New Belgrade” and car parking are next to 3 tramway lines (7,9,11) and one bus line (95), and near (less than 5 minutes of walk) to additional 4 bus lines (67, 85, 89, 94) enabling connection to all parts of the city (direct or by one transfer).

Using City Railway “BG: VOZ” it’s possible to reach 3 railway stations in city center as well as sub-urban areas - settlement “Batajnica” at the west and settlement “Ovča” at the north of the Belgrade.

#### **Future Solution (construction works started)**

According to available plan of detailed regulation and construction project of new Inter-city and international bus station and railway station in block 42, municipality of New Belgrade, fully integrated two stations with underground walking connection, integrated with public transport and park’n’ride system is projected. Completing of construction works are planned for 2020.

## 2. Photos and maps

### Existing situation

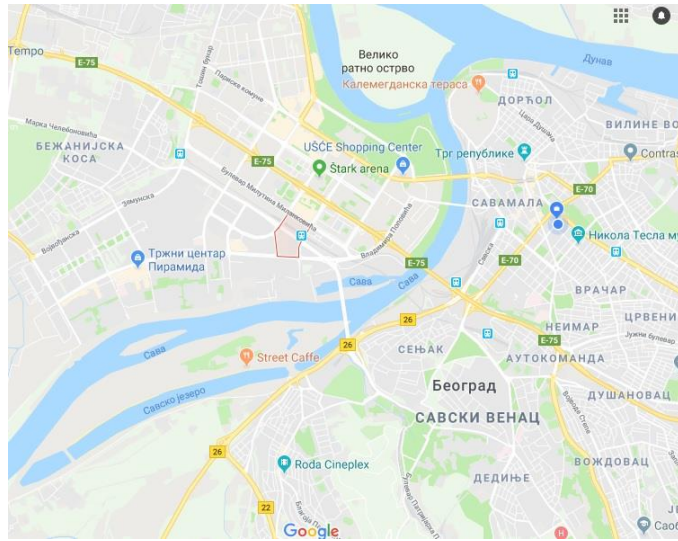


Figure 31: Position of block 42 (red area) - Railway station New Belgrade



Figure 32: Integration of park'n'ride with railway and public transit system



Figure 33: Schematic view on public transit lines and connections to railway system



Figure 34: Transfer from individual car to tramway lines

Future solution



Figure 35: Future land use: blue - bus station, grey - railway station, orange - commercial

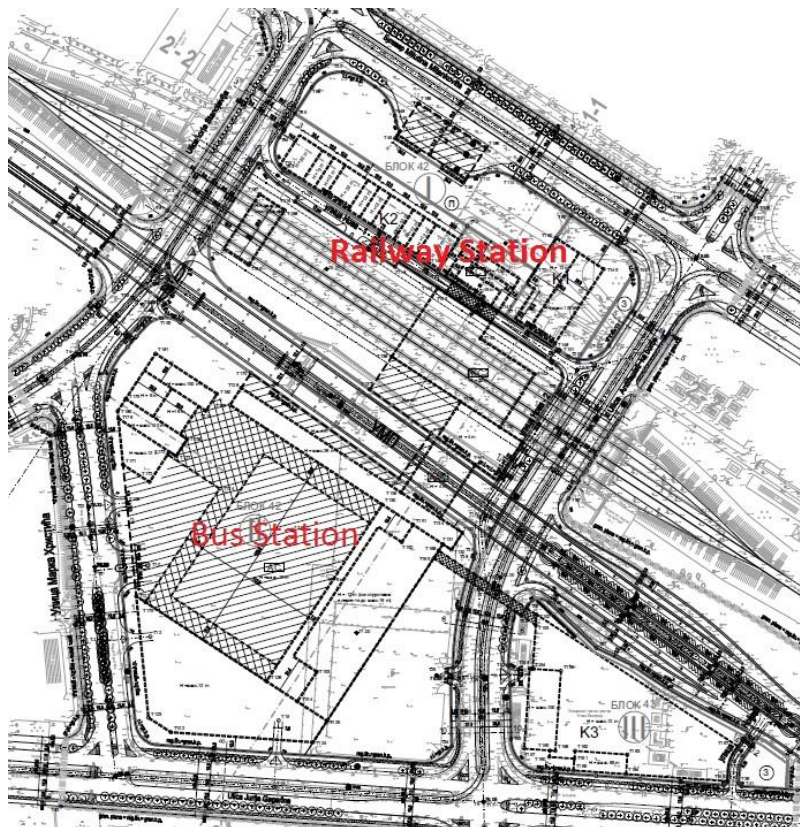


Figure 36: Detailed regulation plan of new bus and railway stations

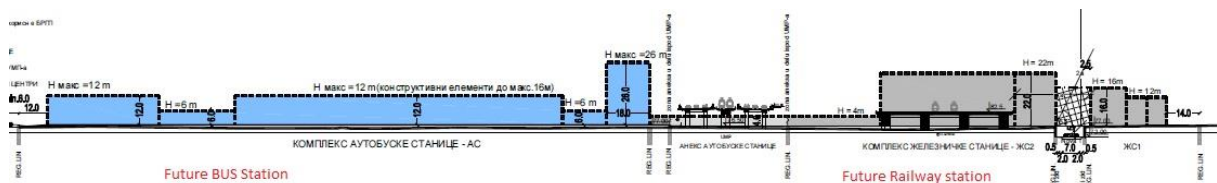


Figure 37: Cross section of new stations with underground walking connection

### **3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks**

Main barrier for full implementation of integrated railway station with public transit system, park and ride and inter-city bus station is lack of funds for construction.

Second, there was certain difficulties to achieve positive public opinion and public support for movement of bus and railway stations to new locations, mostly caused by daily politics and miss-understandings.

### **4. Funding mechanism, cooperation schemes developed and institutional reforms made**

Partial solution for funds ensuring was found through joint funding by City of Belgrade who will ensure the land and Stock Company “Belgrade Bus Stations” who will finance construction of new Bus Station. Funding sources for new railway station is still unknown, but for sure, Belgrade Railway node and Serbian Railway Infrastructure Public companies will be involved.

### **5. Factors of success**

In case of railway station “New Belgrade” integration with public transport and park and ride, after many years of low level of use by citizens, main factors of success are increasing of service level and quality of railway line services.

On the other side, in terms of further development and construction of new bus station integrated with railway station, main factor of success is creating of funding mechanism through joint cooperation scheme of City of Belgrade and Stock Company “Belgrade Bus Stations”.

Still, regarding that intermodality applied in this example is aligned with EU policy in transport and city development, opportunity to use funds and experience of European Union through Instruments of Pre-Accession or similar, is missed.

By support of this instruments and funding mechanisms, integrated railway, bus and public transport systems would be closest to full implementation.

### **6. Recommendations, transferability**

Even not fully implemented, example of integration of railway with public transport and park and ride system presented by this report, showing that it is possible to achieve good results without huge investments by good planning, increasing of quality of railway services, step-by-step implementation.

## 2.7.2. Common Railway Border Crossing between Serbia and FYR Macedonia

### 1. Description of selected good practice (location, stakeholders, time of implementation, overview)

Lack of interoperability, immigration policy and customs procedures are some of the main reasons that impede the efficient transport of people and goods between countries. Time losses are costly not only for transport operators but for competent authorities also as well as for trade and logistics costs of products in general. By applying bilateral or multilateral agreements between countries would enable reduction of dwell time at border crossing by using the integrated (joint) border procedures.

Example of implementation of the integrated border procedures shown, significantly contribute to faster "flow" of trains, simplifying and shortening the procedure of border crossing which increases the quality of rail transport.

Integrated (joint) railway border crossing is in second phase of implementation at border crossing point (BCP) Presevo-Tabanovce, between Serbia and FYR Macedonia. At the moment, only several passenger trains are treated in the regime of joint border procedure as a Pilot operations and testing. Passenger trains in single-stop customs and border police procedure are planned for last phase of implementation.

Railway BCP Presevo-Tabanovce is one of the most frequent BCPs in the WB6 region, regarding its position at Corridor 10, connecting ports in Greece, FYR Macedonia and Serbia to Central and West Europe. Integrated railway BCP is located on Macedonian side, at village of Tabanovce, where was easier to build, implement and operate customs, border police and inspection's controls and operations. The Railway operations intensity increased significantly in last few years after entering of Chinese COSCO Shipping to Greece market by buying the part Port of Piraeus and started Railway operations over FYR Macedonia to Serbia and further, by organizing several block-trains on weekly or even daily basis as well as intensified operations from port of Thessaloniki.

Main stakeholders are two countries (FYR Macedonia and Republic of Serbia, local Railway operators, trade companies and citizens in general.

Approximate time of full implementation will be about 8 years. Back in 2014 by establishing WB6 (Western Balkan six countries) initiative under Berlin process, the Connectivity agenda was adopted resulting in creating of Transport Facilitation Working Group - TFWG within SEETO (South East European Transport Observatory) governed by DG MOVE and DG NEAR of European Commission. The TFWG is constituted by representatives of Ministry of Interior (border police), Ministry for Transport, Customs, Ministry for Trade and Chambers of Commerce as an observers, all of mentioned from all of six countries. In 2014. this body adopted the plan for implementation of "Soft" measures for Trade and Transport facilitation, among which was common railway border crossing between Serbia and FYR Macedonia. From that moment, number of administrative and technical issues was solved:

- Feasibility study
- Dedicated bilateral agreement negotiated, signed (February 2015) and ratified
- Cooperation established at the level of:

- Ministries of Internal affairs - border police
- Customs
- Phytosanitary inspections
- Veterinary inspections
- Conceptual design and main engineering project
- Protocol for implementation of agreement (June 2016)
  - Zone for common operations (offices, rail tracks, trains)
  - Use of tracks by order
  - Traffic regulation
  - Border procedure and control procedure
  - Telecommunications and data exchange
- Land use and expropriation
- Funding

As it was announced at closing workshop held in Skopje in October 2018 construction works are planned to start 2019 or 2020 with 2022 as a deadline for completion.

Funds for construction are already approved by EBRD.

Meanwhile, pilot operations with several passenger trains are successfully tested. Still, lack of infrastructure (offices at first place) at Tabanovce railway station prevents regular common operations at this moment.

## 2. Photos

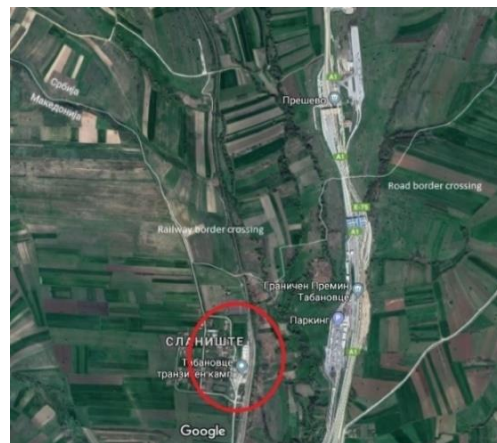


Figure 38: Trains and location of border crossing

### 3. Challenges and barriers in implementing /introducing selected good practice and respective ways used in order to overcome or limit risks

Biggest challenge for implementation of joint - integrated railway border crossing point was to reach positive political will and achieve agreement to start working together.

Second issue was to coordinate and achieve cooperation level among huge number of actors (different ministries, customs, inspections, local support, etc.)

As an example of how challenging is to achieve any progress in terms of joint border procedures, here is presented Serbian initiative to all neighbouring countries to sign agreements on defining of border procedures:

Country	Agreement	Border crossing point defined	Agreement applied
Hungary	-	/	/
Croatia	-	/	/
Bosnia & Herzegovina	-	/	/
Montenegro	+	Bijelo Polje	-
FYR Macedonia	+	Tabanovci	+
Bulgaria	+	Dimitrovgrad	-
Romania	-	/	/

Table 2: Agreements at the border crossings

Initiative was launched in 2005 and after 13 years of efforts only one can be considered as successful, which is a main topic of this report.

### 4. Funding mechanism, cooperation schemes developed and institutional reforms made

Funding of joint railway border crossing point in project phase was ensured through Western Balkan Investment Framework (WBIF) Steering Board decision to support production of Technical documentation and project, including environmental impact assessment.

Funding of Construction of joint border crossing at railway station Tabanovce, which is planned to be completed by 2022 the latest, is ensured by support of WBIF and approval of European Bank for Reconstruction and Development (EBRD).

Other costs of implementation are on national budgets of Serbia and FYR Macedonia.

### 5. Factors of success

Significant role in overcoming main issues in terms of political will and organisational issues was played by international driving force through adopting Connectivity agenda and creation of “soft” measures as a list of tasks for each of WB6 regional participants, supported by common decision at the level of prime ministers of 6 WB countries and European Commission by involving high representatives of DG NEAR and DG MOVE. Additional driving power was generated by setting the SEETO as coordination, control and reporting body and process facilitation through TFWG.



## **6. Recommendations, transferability**

In order to speed up and achieve better results in transport facilitation at border crossings through establishing joint border procedures and common border crossing points it is important to align strategic approach of neighbouring countries through international initiatives and process of accession to EU of candidate countries, supported by macro-regional strategies, newly ratified agreement on Transport Community Treaty (TCT) and expected establishing of TCT Secretariat and enhance inter-disciplinary cooperation of competent authorities by involving them in projects such Inter-Connect is.

Second important point is to align national strategic documents, development plans and incorporate transnational development strategies and objectives in national legislative and operational action plans at all vertical and horizontal levels by involving all necessary actors.

### 3. OVERVIEW OF BEST PRACTICES

Within Inter-Connect activity the A.T.1.2.1 report on “Best practices on intermodal promotion and rail reform report” concentrates mostly on experiences, good practice analysis, benchmark of types of hubs in and outside the partnership that have invested in intermodality and rail revitalization. Majority of practices are comprised from rail promotion initiatives and other activities to revitalise the rail market, improvement in the governance schemes and intermodality rail - bus which improves interconnectivity of provided PT services with focus on touristic market.

Good practices also included cross border cooperation in the field of mobility improvement which is crucial for transnational connectivity of transport operation, integrated ticketing, intermodality rail-bicycle (example from Italy on Mi.co.tra train) and improvement of PT assessment processes (Greek example on Integrated methodologies and systems for the control, analysis and assessment of the quality and performance of transport systems). Also well-presented are the railway revitalisation processes (Gemona Sacile railway line, heritage train in Slovenia, railway revitalisation in Montenegro) and other incentives that initiate revitalisation of sustainable mobility. What is missing are more examples of private public partnership, specially in the process of intermodality (only example of P+R in Belgrade is presented), intermodality of railway with demand responsive transport services (DRTS) and more examples of integrated spatial - mobility planning (only example is Transport Development Strategy in Montenegro).

In the following chapters we will shortly present the main outcomes of the specific characteristics of selected best practices.

#### 3.1 Benefits of presented practices

Modern societies demand a high degree of mobility of a variety of types. This makes a complex transport system adapted to social needs essential, so as to ensure people can move and goods be transported in ways that are safe and economically efficient. The current transport system presents significant and growing challenges for the environment, human health and sustainability. Presented best practices are improving the mobility of passengers and tourists in a sustainable and safe way with the aim to reduce congestion and negative environmental influence of personal motorised transport in metropolitan and also peripheral areas of ADRIAN region.

**Main benefits of the presented practices in the cross-border areas** (Greek-Bulgarian practice on Easytrip service) are focusing mainly on improvement of traffic conditions and shift to public transport means versus private car, reduction of travel time by providing real time traffic information and improvement of road safety. Moreover, additional benefits are seen in the governmental cooperation of local public and private authorities which is also a **case in revitalisation of the railway lines** which mostly illustrate (Mi.Co.Tra train, Gemona Sacile railway line) the increase of tourism demand, strengthening of the local economy through tourism and commerce and better coordination of investments for development of tourism services under the specific requirements that are recorded from the users of the platform. All the presented services that are promoting shift from car-oriented transport to

the public transport are leading to an important increase in sustainable mobility and a reduction in CO2 emissions which is an important goal in ADRIAN region.

In the case of **rail-bus integration** (Croatian good practice) the main benefits are improving passenger transport accessibility, intermodality and accessibility of rail transport, increasing the attractiveness of rail transport services through better traffic connections between the railway and bus operators and encouraging rail transport to increase the number of passengers and revenues.

In the good practices of **building new infrastructure** (Montenegro, Albania and Serbia) the main benefits of the practices are as following:

- **Improvement of economic welfare:** to achieve economic efficiency and financial sustainability and support economic development.
- **Safety and Security:** improve safety, security of people and goods in the transportation sectors.
- **Accessibility, Performance of Operations and Quality of Services:** provide maximum possible accessibility, offer quality transportation services and maintain an adequate performance in operations, as a whole and with respect to its individual elements.
- **Environmental Sustainability:** minimize carbon footprint, noise and impact to the natural, historical and socio-economic environment.
- **EU Integration:** Policies and a core transportation network, which are fully compatible and integrated to EU mandates.

### 3.2. Funding mechanism, cooperation schemes developed and institutional reforms

Various financial mechanisms are available to support multilateral project cooperation in the ADRIAN region and are also presented within the analysed best practices. The most important funding sources for presented practices are **European Territorial Cooperation Programme funds** (Greece-Bulgaria 2007-2013, Central Europe, Interreg IV Italy - Austria Programme 2007-2013) and **regional funds** from specific regions that have invested in the sustainable mobility practices (among other examples are FVG Region, Emilia-Romagna Region, Land Carinthia).

For some actions (Croatia, Italy, Slovenia, Greece) funds were also collected from various **transport operators** (Italian railways Foundation, HZ PP, SŽ-PP and bus operators) or rail infrastructure managers.

For IPA partners majority of resources for case studies was derived from **International Financial Institutions** (among others are: EBRD Technical Cooperation Funds, European Bank for Reconstruction and Development, European Investment bank, EU assistance program) and ministries of specific countries (Albania, Montenegro, Serbia).

### 3.2. Challenges and barriers in implementing /introducing selected practices

All cases presented needed to cross some sort of challenges in order to make successful implementation and result in a positive action that can be presented as a good practice for Inter-Connect project. Key challenges can be applied in to three different implementation types.

Within the actions in the **integrated ticketing** (Italy, Greece and Slovenian example) and governance schemes the main challenges can be summarised as following:

- **Difficulties in coordinating different public transport operators:** since integration ticketing initiatives requires wide coordination among regional and national stakeholders, different local public transport operators and several municipal initiatives were also largely included in the scheme;
- **Costs of the initiative** for integrated ticketing are quite high. Solution in all the cases of integrated ticketing (be it national or transnational) was to use funds from European funds or project to conduct either feasibility studies, technical studies, pilot activities (example from Emilia-Romagna Region) and also implementation (Slovenian integrated ticketing system);
- **Change over from a kilometer fare system to a zone system:** this was the main issue in majority of cases of integrated ticketing practices. Only when this key technical innovation was being implemented and the transport operators have adopted to the zone system (pricing, ticketing, clearing) the process of integrated ticketing could begin to take place.
- **Introduction of innovative ticketing and tariff systems:** Innovative ITS systems (e.g. contact-less card, integrated validation systems, clearing systems among transport operators) were, in some region, a great innovation and it took time and a lot of effort for transport operators and transport users beginning to accommodate to it.

Within the examples of good practices that presented **implementation of new railway line and P+R systems** the main challenges and bottlenecks that needed to be overcome were the following:

- **Setting-up of strategic and legal framework and Capacity Building** of the countries (Albania, Montenegro) creating Institutional framework and functionality enabling next steps in process of ITS deployment for future innovations and constructions, was of great importance;
- Organizational and technical issues are point of action which requires comprehensive, systematic approach and coordinated work and involvement of different key players (competent authorities, stakeholders, users);
- Adopting relevant EN standards as preconditions to ERTMS deployment, where innovation, digitalization procedures have to be adopted relevant to EN standards as preconditions on infrastructure and ITS deployment;
- Lack of funds for construction was the main barrier for full implementation of integrated railway station with public transit system, park and ride and inter-city bus station in the case of Belgrade P+R;

- overcoming of difficulties to achieve positive public opinion and public support for movement of bus and railway stations to new locations.

Within all the cases that have dealt with cross border actions (Greece-Bulgaria, Serbia-FYR Macedonia) the main challenge for implementation was to reach positive political will and achieve agreement to start working together. It was also very important to coordinate and achieve cooperation level among huge number of actors (different ministries, customs, inspections, local support, etc.) that had to begin working for the same goal.

### 3.3. Factors of success of best practices

Depending on the type of the presented best practice, the factors for success also largely differentiate. The main factor for success on the **actions dealing with intermodality** were the following:

- besides integration of ticketing systems, the integration was be done also on the level of transport modes, fares, payment systems and different local transport management schemes. This was the real factor for success of the integrated ticketing action (integration in Emilia-Romania region);
- Strong commitment of all the partners both from economic, political and communication point of views in order to implement the actions in a quality required from the public;
- Introduction of public transport fare discounts for new users of PT transport and other incentives to promote the actions and its benefit for the users;
- Involvement of several relevant stakeholders (both public and private) in defining, implementing and managing the initiatives in the field of integrated ticketing (also across borders: Greek-Bulgaria example);
- Strong promotional campaigns for the dissemination of the initiative and of the different services and technologies (Emilia-Romania region);
- Implementation of “easy to use” technology and simplification of the fares rules, so that the users get familiar with the system very quickly;
- Integration of different existing public transport services in all the regional territory which gives an added value to the whole integration scheme (example of Slovenia).

Success factors of good practices on **rail revitalisation and implementation of new PT railway lines** can be summarised as follows (Italy, Slovenia, Montenegro):

- Innovative promotional campaigns using new communication strategies and an intense use of social networks is a must in all the cases;
- Strong collaboration among regional authority and railway operators in improving the commuter and touristic train services;
- Strong involvement of the national railway operator both from economical and promotional point of views for implementation and promotion of actions;
- Using all the commuters and touristic potential (touristic attractiveness) of the area of implementation in order to attract wider audience and produce high demand for the newly implemented services;
- Establishment of strong synergies with other modes of transport services (e.g. connections with bike routes, touristic areas, information centres, ect.);

- Following and collecting data on positive touristic impact of the actions that can be used for further promotion and additional financing resources from local, regional and national sources.

In the cases of **P+R facility** the main factors of success are increasing levels of service and quality of railway line services that will be improved with P+R implementation. Additionally, main factor of success for further development and construction of new bus station (integrated with railway station) was creating of funding mechanism through joint cooperation scheme of City of Belgrade and Stock Company “Belgrade Bus Stations”.

### 3.4. Recommendations and transferability of good practices

Main part of good practices examination is learning the recommendations that can be transferred also to other practices in the Inter-Connect project and even wider in ADRION area. The main recommendations in the field of **road-rail integration** processes can be described as:

- It is of great importance to establish an effective cooperation schemes among key stakeholders and, if possible, already in beginning stages start with written agreements/contracts between the main operators/stakeholders.
- It is also very important to achieve, as quickly as possible, a strong political commitment at regional (and, if needed, on the national) level both from political and economic point of views.
- In order to better operate rail-bus integration the main part is to have all the agreements written in very details that must include (in minimum) the following elements: price, revenue share and contract determination (penalties for low performance).

For **new railway connections, railway revitalisation and P+R facilities** the main recommendations are:

- It is of great importance to adoption EU interoperability specifications (DATEX, ETCS, ERTMS, TSI, etc.), since they are crucial element for future railway development according to EU regulation;
- Digitalization of documentation regarding railways infrastructure and operational information systems;
- In order to attract more users, public transport operator should offer on-board internet and entertainment services to respond to the increased demand from customers to have the ability to access the internet. Now days usage of phones, tablets and laptops for leisure and work purposes are essential part of commuting and tourist services;
- Need for better collaboration within the transport sector and beyond brings added value and offer better solutions for all the involved partners in the project;
- Innovative promotional campaigns using new communication strategies and an intense use of social networks to promote newly established services;
- Clear agreements among the stakeholders and step-by-step implementation of actions.

Actions that promote transborder connection strongly recommend establishing joint border procedures and common border crossing points. It is also important to align strategic

approach of neighbouring countries through international initiatives and process of accession to EU of candidate countries, supported by macro-regional strategies, newly ratified agreement on Transport Community Treaty (TCT) and expected establishing of TCT Secretariat. It is of great importance to establish clear process of inter-disciplinary cooperation of competent authorities by involving them in to different EU projects where they learn on good practices and implement them.

Additionally, it is also very important to align national strategic documents, development plans and incorporate transnational development strategies and objectives in national legislative and operational action plans. Actions plans should be verified on vertical and horizontal levels with involvement of all necessary actors.

#### 4. SUMMARY

As in other areas also in ADRIAN transport policy aims to achieve strong connectivity and seamless transport for where there is demand for it. Transport policies affect not only the travel experience of locals, but also tourists as they navigate the ‘last mile’ in the journeys; from arriving at transport hubs until reaching their final destinations in the hinterland. In order to improve general travel experience, the main aim of Inter-Connect project is to improve passengers’ intermodality and revitalize rail transport connections from peripheral and coastal areas to the main transport hubs in the ADRIAN region. Main aim of the activity on good practices presentation was to see what are the main **challenges, barriers and factors of success that comprise a good transport practice** in the ADRIAN region. Learning from experiences gained and recommendations given, we can expect to implement better case studies and make pilot actions in the Inter-Connect region even more successful.

What we can learn from the good examples from Italy, Slovenia, Croatia, Serbia, Albania, Montenegro and Greece is that providing seamless transport between cities or across borders requires co-ordinated responses to technical, institutional and financial issues from a variety of stakeholders. From the examples and lessons learned, it can be seen that many of the underlying difficulties in meeting the associated infrastructure and other implementation challenges in the field of seamless transport can be attributed to governance and coordination issues that can influence infrastructure planning, policy, regulation, financing, procurement and management.

Presented good practices also indicated the importance of effectiveness of information exchange, learning, communication and co-ordination across policy sectors. Including different policy sectors in implementation of actions (be it on regional, national or transnational level) determines how transport interests are balanced in tourism policies and how effective implemented measures will be. Also, it is of great importance for effective management of transport and tourism synergies that can improve visitor’s mobility to and within destinations, enhance visitor satisfaction and additionally help to secure the economic viability of local transport systems and services servicing both residents and tourists.

There are many bright examples (Italy, Slovenia, Croatia and Serbia) that combination of effective transport policies (e.g. integrated multimodal transport systems) and successful promotion of intermodal hubs and gateways (at the national and trans-national level) can

not only help attract, manage or direct visitor flows, but can also facilitate a shift to more eco-friendly transport options. Sustainably oriented pilot implementations in Inter-Connect project can help to consolidate a destination's reputation as sustainable and tourists friendly region.

Additionally, from the examples of Greece-Bulgaria and Serbia-FYR Macedonia it can be clearly seen that border regions are sometimes recognised as functional regions that can only exploit the potential for transport flows and economic growth and if there is sufficient connectivity between the two sides of the border. However, there is a lack of information on fundamentals such as cross-border flows of workers, trade and tourism, cross-border use of public services or technological border clusters. Only a few cross-border regions have succeeded in building cross-border observation systems and this is a thing to be improved in the whole ADRION area.

From the good examples in A.T.1.2.1 we can clearly conclude that the provision of suitable rail and maritime services are fundamental requirements to facilitate the mobility of tourist within and among countries in the ADRION region. In order for tourism to deliver on its potential as an engine for economic growth, it is dependent on multimodal transport systems that offer convenience, capacity, reliability and connectivity to suit specific destination types from maritime area to hinterland. Public transport hubs in cities and regions are designed for different purposes and scale but all play an important role in increasing access to regions and beyond. In next activities within Inter-Connect project (e.g. Pilot actions within WP T2, ADRION Roadmap) we will clearly see that the efficient operation of these transport systems directly reduces costs and opens up new opportunities for further tourism development which is also one of the important strategic goals of EUSDR Strategy and Europe2020 strategy.