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FORTIS

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D.3.1.2.3 – ACTION PLAN FOR STREAMLINING PUBLIC TRANSPORT CONNECTIONS IN CROSS BORDER AREAS

This project is supported by the Interreg V-A Italy-Slovenia Cooperation Programme funded by the European Regional Development Fund. This project aims at improving public transport connections in the cross-border area between Italy and Slovenia, through innovative solutions and at facilitating mutual knowledge on vehicle registration.

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1 INTRODUCTION

The FORTIS project aims to promote inter-institutional dialogue in cross-border mobility according to an approach fostering innovative solutions for improving the overall quality of life for residents. In this purpose, FORTIS is addressing two main topics:

- improving the local public transport system for cross-border integration;
- systematizing and harmonizing the different legal frameworks in the field of vehicle registration and driving licenses.

In particular, the present deliverable is focusing on the first one, thus addressing key challenges and relevant gaps affecting multimodal connectivity at cross-border level.

These ambitious tasks are pursued according to a concrete and operational approach that is particularly focusing on the short-medium term perspective. In this purpose, the specific deal paid to operational and concrete aspects requested for unlocking potentials and removing barriers a distinctive character of the FORTIS approach. This imply that results from the carried-out analyses as well as feedbacks received from the relevant stakeholders involved are to be conveyed into an effective strategy/roadmap supporting and contributing to inter-institutional dialogue for a concrete enhancement of the multimodal connectivity and accessibility at CB level.

Therefore, the present deliverable is meant to provide a valuable and well-targeted tool fostering an innovative approach as to improve the CB connectivity (esp. in the area close to the border).

In this purpose, within this overall framework, the present deliverable D.3.1.2.3 is meant to deliver an Action plan for streamlining public transport connections in CB areas highlighting the existing potentials in terms of innovative solutions.

The Action plan is foreseen to:

• Identify main legal, institutional, technical, economic barriers hindering the further strategic development of cross-border sustainable mobility in CB ITA-SLO area – including outcomes from interviews made with main stakeholders in D.3.1.2.1 and conclusions from stakeholders' Round table in D.3.1.2.2.

• Give proposals for improvement of cross-border PT connectivity in CB area IT-SLO and PT connectivity to the hinterland areas (e.g. Veneto region, Primorska region, Ljubljana urban region).

• Highlight potentials in terms of innovative solutions for streamlining PT connections in CB areas based on SWOT and gap analysis methodology.

In order to achieve these goals, after briefly recalling the outcomes of the previous deliverables providing the basis for this activity, the document starts with an analysis of gaps hampering a multimodal cross-border accessibility and connectivity at cross-border level. In particular, such gaps are meant to emphasise what should be needed in order to provide an appealing and efficient alternative to the predominant car-based solution. This analysis is summarising the results of detailed analyses previously carried out within the FORTIS project and, in turn, a synopsis of its key outcomes is provided through a SWOT analysis.

On top of this understanding, a strategic vision endowed with concrete proposal to be implemented is described in the following chapters. The proposed approach is hierarchically structured according to different levels as to provide a comprehensive coherent framework encompassing both general goals and specific measures to be applied.

In particular, the following levels have been addressed:

1. Goals, describing general objectives and needs to be pursued;
2. Strategies, providing a list of intervention areas to be addressed;
3. Actions, specifying measures to be taken for implementing the strategies.

This framework corresponds, passing from the first to the third layer, to a progressive increase of the level of detail. In this sense, the definition of a general objective corresponds to one or more strategies whose implementation is based on a set of specific Actions / measures.

Such an ambitious and systemic approach, encompassing both a wide perspective and the well targeted specific improvements to be concretely pursued, implies relevant challenges. Hence, the need for adequate assessment of potential criticalities and search for coordinating synergic efforts are a fundamental driver for successfully bringing to reality such vision. Therefore, in the last part of the document potential criticalities are duly addressed and possibility of contribution from different synergic initiatives.

Within this framework, specific pilot activities being developed within FORTIS play a relevant role. In fact, they provide concrete examples of actions to be taken and once accomplished, relevant lessons learned. Consequently, by showcasing proposed measures of a comprehensive action plan, their relevance is not limited to the specific addressed issue. In fact, they are providing for their replicability in different contexts sharing similar needs.

It is to underline that the present action plan has been developed in a particular contingent situation due to the COVID-19 pandemic. Obviously, this factor is highly impacting on the activity being addressed by the present analyses. In particular, at the time of writing this document related restrictions have led to temporary cancelling cross-border passenger transport services between Italy and Slovenia. Having said that, the main deployment will be possible after the current general contingencies have been overcome.

2 SCOPE OF THE DELIVERABLE

The present deliverable is pursuing the goals described in the previous paragraph also elaborating on the outcomes of the preceding deliverables of WP 3.1.

In fact, within the two-folded approach of FORTIS, the first three deliverables WP 3.1 addressing the improvement of cross-border public transport connectivity are:

- 3.1.2.1 Territorial needs assessment in the cross-border area ITA-SI (TNA);
- 3.1.2.2 Stakeholder's round table;
- 3.1.2.3 Action plan for streamlining public transport connections in CB areas (i.e. the present document).

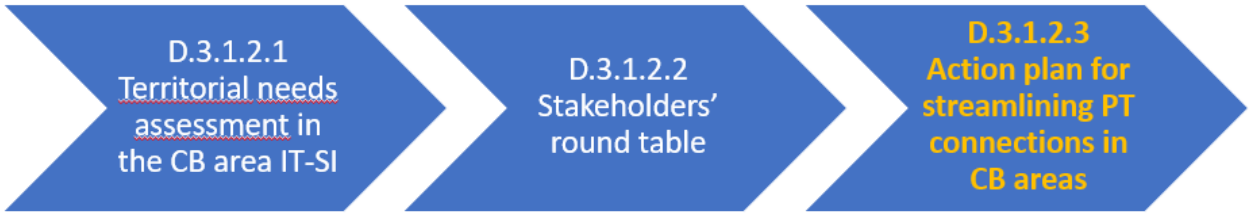

Figure 1 – Logical sequence of WP 3.1 deliverables addressing cross-border public transport connectivity

Hence, the main input for the Action Plan are the TNA (D.3.1.2.1), providing a thorough analysis of sustainable mobility in CB area along with measures for improvement, as well as the report about the Stakeholders' round table discussion (D.3.1.2.2) providing the viewpoints of different relevant stakeholders. On such basis the D.3.1.2.3 Action Plan is providing key indications for streamlining public transport connections in CB areas by highlighting potentials in terms of innovative solutions.

Furthermore, it is to recall the interlinkage with pilot activities carried out within FORTIS WP 3.2. In particular, the following are pertinent to the themes addressed by D.3.1.2.3 Action plan:

- Extension and harmonization of PT services in the CB area Muggia-Koper (D.3.2.2.1 - responsible partner 02-RFVG);
- Feasibility study on CB maritime PT connections in the IT-SI area (D.3.2.2.2 - responsible partner 03-MOK);
- Promotion of the integrated bus/train ticket IT-SI along the Trieste-Villa Opicina-Ljubljana connection (D.3.2.2.3 - responsible partner 01-CEI);
- Pilot action enhancing the PT bus connectivity between Koper and Trieste through a direct connection (D.3.2.2.5 - responsible partner 03-MOK).

In fact, the pilots, though being associated with a more specific focus, are synergically addressing and applying the approach advocated by the Action Plan. Moreover, the pilots could showcase relevant examples and best practices to be transferred and further replicated in other contexts.

In this purpose, the mentioned pilot activities are further commented within the following Chapter 6 as concrete examples of activities belonging to the Action Plan that are in condition to be implemented in the short term.

Instead, the key outcomes of the previous deliverables of WP 3.1, providing the basis for the development of the whole Action Plan described in the following paragraphs, are briefly recalled hereby.

2.1 KEY OUTCOMES OF THE TERRITORIAL NEEDS ASSESSMENT (D.3.1.2.1)

Through the Territorial Need Assessment deliverable a thorough analysis of current regional and cross-border public transport connectivity in the observed ITA-SLO cross-border area has been carried out by investigating road, railway and sea waterway public transport and intermodality situation.

In particular, the analyses have been focusing on the area of observation demarked by the dotted line along the common border of Italy and Slovenia in Figure 2. Moreover, in the same figure cross-border regional centres (also including points of interest – PoI - and transport hubs) as well as in hinterland gravitational centres (hinterland points) are represented.

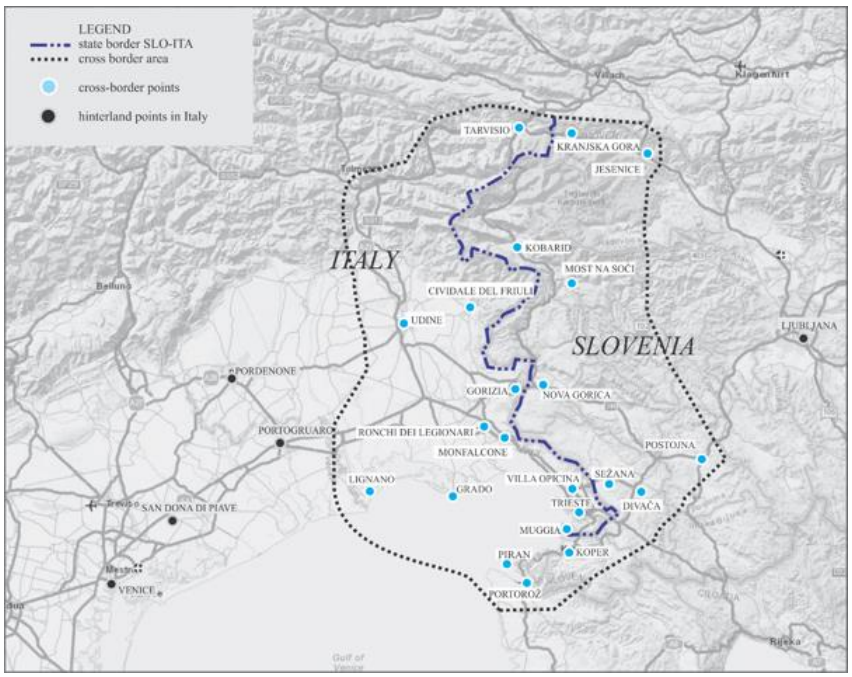

Figure 2 – Area of observation, ITA-SLO CB area. Source: https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html and Prometni institut, d.o.o.

Hence, a detailed analysis has been carried out on the territorial needs as well as the characteristics and state of play of the multimodal transport system serving the areas as well as linking to the external.

On the basis of outcomes of the analysis as well as of feedbacks by the CB public transport stakeholders already contacted in this phase, relevant challenges in the ITA-SLO CB public transport connectivity were identified. They have been expressed in terms of administration and organisation, transport operations and information technology support. In order to address the exposed issues and to enhance CB connectivity, a first set of measures were proposed as to tackle the identified CB connectivity challenges.

In this purpose, the gap analysis reported in the next chapter is providing a general overview summarising and further commenting key aspects and paving the way to the final definition of the Action Plan encompassing a consolidated set of measures, also on the basis of the results of the stakeholders' round table described below.

2.2 THE STAKEHOLDERS' ROUND TABLE (D.3.1.2.2)

The second step represented by the stakeholders' round table was held on 30/10/2020 (as a virtual event by the hosting partner FVG region due to the pandemic emergency). The participants included representatives, from both the Italian and the Slovenian side, belonging to the following target groups (as identified in D3.1.1 Joint methodology for the implementation of the WP3.1):

- local authorities and stakeholders (Municipality of Trieste, Municipality of Koper, Municipality of San Pietro al Natisone);
- regional and IT-SI stakeholders (Soča Valley Development Centre, EGCT "GO Gorizia, Nova Gorica e Šempeter-Vrtojba", EGCT "Euregio Senza Confini r.l.");
- universities and research centres (Venice Ca' Foscari University, IUAV University of Venice);
- PT operators (Trieste Trasporti/TPL FVG and APT/TPL FVG, Nomago d.o.o., Liberty Lines).

During this event the participating stakeholders have expressed their views with reference to the cross-border area transport system in order to identify the current situation, good practices and existing gaps and to provide operational solutions for improving the public transport services.

In order to collected well-target feedbacks the stakeholders were prompted with the questions represented in the following Table 1, which were circulated before the meeting and also presented during the event in order to stimulate the discussion.

During the discussion relevant and heterogenous gaps (of different kind, such as technical, economic, juridical etc.) hampering the fully functional and smooth integration of the multimodal transport system at cross-border have been mentioned. According to the feedbacks received, the resulting complex set of issues should be addressed through a comprehensive and innovative approach. In this purpose, along with physical realisations, less tangible aspects should be duly taken into account as well. In particular, all the organisational and coordination aspects as well as information provision to users are well known and common issues. In addition to these aspects, the cross-border dimension implies further questions and barriers (esp. legal and regulatory framework).

DIMENSION/ KEY TO INTERPRETATION	Foreword/explanation & **QUESTION**
Broad and medium-long term strategic perspective	From a strategic viewpoint (according to medium-long term approach), **what are the common PRIORITIES for the implementation of cross-border public transport services?**
Obstacles and specific measures	More specifically, **what are the main obstacles/limitations (of different kind, such as technical, economic, juridical etc.) as well as the necessary measures to be taken and/or enhanced for ensuring an improved functioning and usage of the cross-border public transport?**
Focus on specific (geographic) routes	Focusing on specific geographical routes/connections (in addition to those addressed by the pilots), **Which cross-border lines between Italy and Slovenia are o would be more used in case of an improvement or activation of PT services?**
Aspects related to technological developments	Focusing on specific application of technological solutions, **which are the key innovation to be promoted at cross-border level for supporting and promoting an effective passenger transport system?** (stable and shared governance/existence of ICT platforms for sharing and exchanging data, etc..).
Focus on the steps of the process/ roadmap	As regards to a temporal sequence of steps and with particular reference to those feasible to be implemented in the medium-short term, **what are the steps needed for ensuring the actual harmonisation of cross-border public transport services?**

Table 1 – List of points and questions posed to the stakeholders

Moreover, relevant specific suggestions have been provided as to appropriately deal with such a complex framework while making the usage of intermodal and integrated PT services of utmost simplicity for the users. In this purpose, a renewed and well-grounded (e.g. based on accurate and updated data on transport demand) approach has to be developed. Furthermore, it should be pivoting on innovation as well as framed in a well-integrated cross-border governance process.

Hence, the obtained feedbacks and indications have provided remarkable inputs for the Action Plan developed in the following chapters of the present document.

Figure 3 - word cloud of the stakeholders round table

3 GAP ANALYSIS AND MAPPING

In spite of relevant efforts and achieved results in removing barriers at national borders, as part EU integration process being actively pursued at different level, still relevant physical and not physical gaps are to be filled in order to achieve smooth cross-border connectivity and accessibility.

In particular it is to highlight the different kind of gaps still affecting CB public transport in the IT-SI cross-border area. In this purpose, it is to recall how intermodal transport, in order to represent an appealing alternative (in comparison to the currently predominant car-dependent mobility), is inherently calling for a smooth integration of the different steps requested to be performed by the users. This imply a complex and multifaceted framework, which requires the contributions from different operators and modes of transport, to be brought together and made smooth and simple to the users.

However, relevant and heterogenous gaps (of different kind, such as infrastructural, technical, economic, juridical etc.) are currently hampering the fully functional and smooth integration of the multimodal transport system at cross-border. In doing this we are referring to physical gaps, such as missing links across the border, as well as to a more general concept of to be improved in order to ensure a competitiveness to the multimodal PT solution/alternative/service.

In this purpose, as remarked during the roundtable discussion, along with physical realisations, less tangible aspects should be duly taken into account as well. In this purpose, all the organisational and coordination aspects as well as user information provision are well known common issues. In addition to these aspects, the cross-border dimension brings further issues and barriers (esp. those related to the legal and regulatory framework).

Hence, on the basis of the TNA and of the outcomes of the Round Table, the gap analysis reported in the following paragraphs is summarising key aspects (area of interventions) where efforts for pursuing the CB integration of PT services are needed), thus providing a sound basis to the subsequent measures/actions to be implemented.

The main typologies of ascertained gaps are reported in the following paragraphs.

3.1 Infrastructural gaps

This typology includes the need for infrastructural improvements in the multimodal network along which PT service are (or could be) running. In this purpose, it is to report the need for improvement on key asset for (esp. medium-long distance) intermodal transport such as intermodal nodes and the rail network ([1]). Looking at the rail network it must be underlined that only two cross-border crossing are available:

[1] see also “Comprehensive analysis of the existing cross-border rail transport connections and missing links on the internal EU borders” issued by the EU Directorate-General for Regional and Urban Policy in 2018.

- Villa Opicina - Sežana, a double track electrified section located along the Trieste-Ljubljana link, which is belonging to both the Mediterranean and the Baltic-Adriatic Corridors of the TEN-T network;
- Gorizia-Nova Gorica a not electrified section (though not being part of the TEN-T network) linking to the Transalpina/Bohinj railway (Jesenice-Trieste), which is also providing relevant strategic opportunities because of its high touristic potential (even though at present it is only used by freight trains).

Looking at the rail network different issues can be outlined, such as:

- **Limited remaining available capacity in specific links** of the overall network. This implies limited margin for adding new rail services due to an already reached high degree of saturation. For instance, this aspect is particularly relevant in the cases of the sections San Donà - Venezia, Trieste-Monfalcone and Koper-Divača. However, it is to underline this not directly and specifically addressing cross-border sections, where (apart from freight services, which obviously are also consuming capacity of the shared rail infrastructures) the only passenger service currently being operated (apart from stops due to the COVID pandemic) is represented by the Trieste-Ljubljana experimental service being developed as a pilot of the CROSSMOBY project (Italy -Slovenia CB Programme), accounting for 2 daily trains per direction. Moreover, given the currently (relatively) limited number of cross-border rail services, even a remarkable percentual increase would represent limited numbers with respects to those implied by capacity assessment along the mentioned corridors.
- Other shortcomings could be associated with **performance characteristic** of rail network links. With particular reference to the needs of medium-long distance passenger transport, the **allowed speed** represents a key attribute. In this purpose, along the main East-West direction linking Venezia-Trieste-Ljubljana values below those requested for the TEN-T network are to be reported. In particular, as represented in the following Figure 4, the area between Trieste (including related surroundings) and Ljubljana is characterised by values that in some stretches remain below 80 Km/h. Moreover, it is to report design of improving the performance also of the stretch Venezia-Trieste, as part of the corridor development.

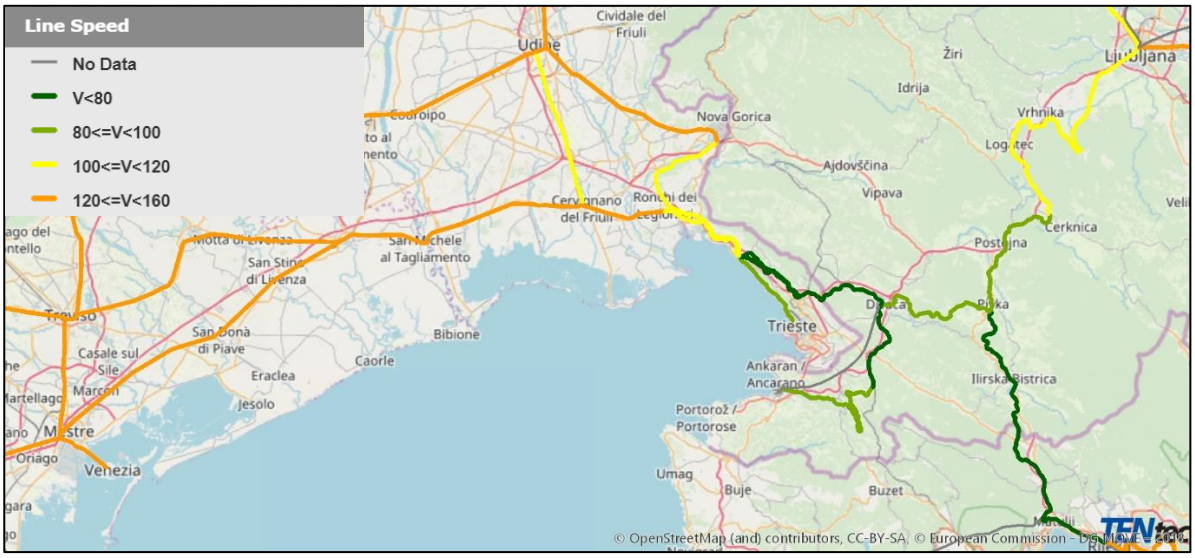

Figure 4 – Thematic representation of allowed speed in the TEN-T railway links. Source: TENtec

- Missing cross-border connectivity is also presenting relevant gaps due to the fact that both in the case of Trieste and Gorizia-Nova Gorica area the rail connectivity with their cross-border hinterland is affected by relevant shortcomings. In case of Trieste, it is to recall that the main rail station (Trieste Centrale) is a terminus station of the Italian railway network. The Gorizia-Nova Gorica connection, apart from the fact of being not electrified, at the time being is not allowing all the possible connections due to the lack of specific tracks in correspondence of the junctions of the bypass across the border.

3.2 Interoperability issues

The aspects related to interoperability, though being related to infrastructural realisation, deserve a particular attention and focus since they are peculiar examples of cross-border obstacles and gaps in the rail transport. In this purpose, first of all, it is to underline that in both Italy and Slovenia the electricity supply to the railway line is provided through 3 kV DC.

Nonetheless **each Country has its own safety and signalling system**, which implies relevant interoperability constraints (SCMT in Italy and INDUSI in Slovenia). More in detail, it brings about certain technical requirements on the rolling stocks and procedures (also including the change of the crew) to be carried out at the train border crossing (Villa Opicina), which causes up to 20 minutes waiting time.

In this framework, a relevant improvement is represented by (ongoing) the adoption of the "**European Railway Traffic Management System" (ERTMS)** that, among other benefits, is providing a unifying framework along the core network corridors.

With reference to bus transport, other relevant gaps are represented in particular by different devices used for ticketing verification. In fact, smartcards are currently being developed according to different standard in the two countries.

3.3 Legislative and juridical constraints

As from the case of rail interoperability, differences and constraints due to changes in the legislative system are specifically affecting the national border and (consequently) particularly impacting on its vicinity.

In this purpose, a main distinction is given by the fact that while according to the Slovenian regulation the cross-border services are only commercial, the FVG Region has the competences for planning (and financing) **cross-border services as a full-fledged public transport** within a certain range from the border. In fact, as reported in the Regional Public Transport plan of FVG, public bus services are qualified as cross-border and are tendered under the rule of the Regional Administration when connecting origin and destinations in territorial areas within 40 km radius (i.e. distance calculated through a straight line, as the crow flies) with respect to at least one of the 9 road CB passes located along the state border marked as red points in the following Figure 5 (which includes also 3 related to ITA-AU border).

With reference to maritime transport, in the cross-border dimension the related public services have to be tendered by the Autonomous Region, up to a distance of 150 km. Hence, it is including fully covering existing and other potential connections between the FVG and Slovenia coasts. Furthermore, it is to duly consider the impact of rules and regulations that a cross-border waterborne transport service has to comply with. These rules are related to the following (distinct) thematic fields:

- Safety - The need for ensuring safety from the external factors (e.g. storms, accidental collisions, fire) providing risks and threats to maritime transport is addressed by the International Convention for the Safety of Life at Sea (**SOLAS**), an international maritime treaty that sets minimum safety standards in the construction, equipment and operation of merchant vessels. A specific prescription, which can eventually result in a restrictive condition with respect to the possible typology of vessel, is related to the fact that the regulation is allowing only specific materials (e.g. metal) for the hull of the ships.
- Security - “maritime security” means the combination of preventive measures intended to protect shipping and port facilities against threats of intentional unlawful acts. In this purpose the “International Ship and Port Facility Security” (**ISPS**) Code prescribes specific checks and minimum-security equipment like scanners and metal detectors etc., which must be available at all the times within the port facility whose layout must be designed as to avoid the breach of security inside the port itself. Hence, it implies setting up physical barriers, such as (at least temporary) fences, to be used for keeping restricted areas along the boarding and landing paths separate from the external. Consequently, it requests for specific requirements in term of port terminal layout and the equipment to be available on-site (as well as a certain time spent for the users while carrying out the checks before boarding).

More in general, the possibility of carrying out public transport services at cross-border level is severely limited by the **EU regulation on cabotage**[2] (i.e. the provision of road haulage services within a Member State by a carrier established in another Member State).

Furthermore, with reference to the possibility of financing the service, this has to be performed taking into account and preliminary checking with the **EU State Aid regulation**[3] (as to avoid advantages in any form whatsoever conferred on a selective basis to undertakings by national public authorities that are distorting competition and affecting trade between Member States).

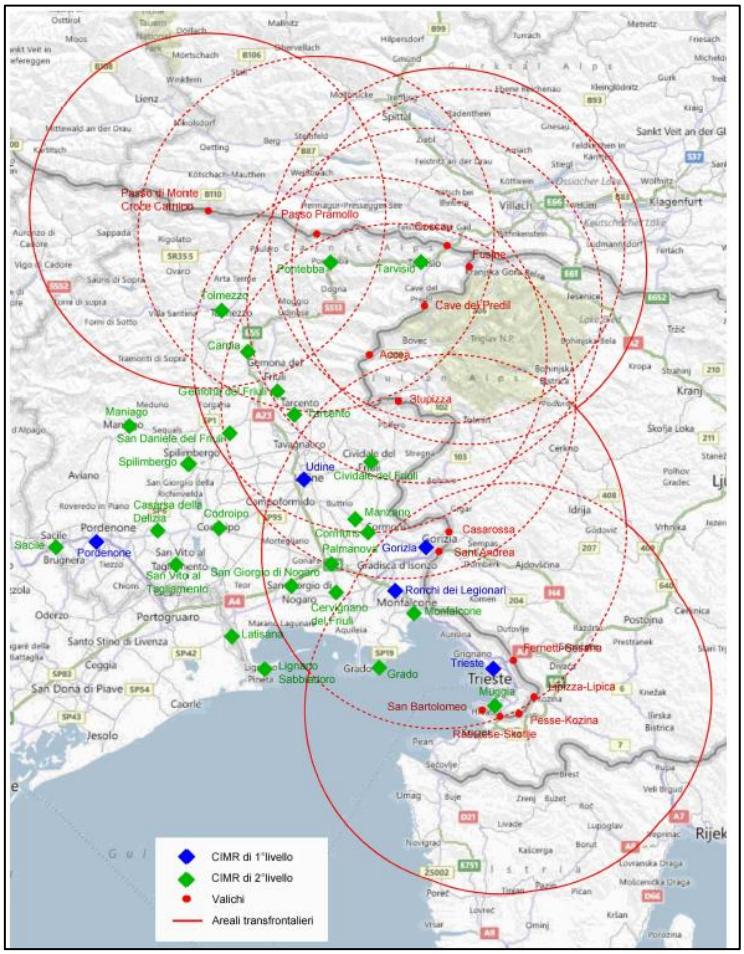

Figure 5 – Overview of relevant transit points (in red) acknowledged in the FVG regional PT plan. Source: Piano Regionale del Trasporto Pubblico Locale – PRTPL, 2013

[2] Regulation (EC) No 1072/2009 of the European Parliament and of the Council of 21 October 2009 on common rules for access to the international road haulage market.

[3] As from Article 107 of Treaty on the Functioning of the European Union "any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market"

3.4 Economic sustainability thresholds and information about the mobility demand and needs

The above-mentioned aspects are related to the supply side of the multimodal transport system. However, a fundamental requirement for attaining a successful public transport system, especially for the sake of its economic sustainability, is ensuring a certain threshold of demand (i.e. of users). Obviously, this aspect is also fundamental for designing appropriate and successful services, optimised and well-tailored with respect to the actual needs to be met.

Unfortunately, available data are usually lacking especially at cross-border level where the availability of sources is particularly reduced, and data are even more likely to be fragmented/incomplete and not harmonised.

Moreover, apart from data availability, the area surrounding the border in many cases is characterised by low demand level, thus making the reach of adequate level of users challenging. This is also due to the urban and geomorphologic characteristics of the territories, encompassing peripheral and scarcely populated areas surrounding the main centres (e.g. Karst plateau or mountain range of the Julian Alps) that are not favouring relevant and concentrated flows, as well as a quite usual remainders of the separation effect (also due to linguistic barriers and consolidated patterns in mobility and socio-economic relationship between different areas) related to the presence of the national border.

3.5 (Missing) PT services integration

With particular reference to physical gaps, the availability of georeferenced representation of the PT network allows to map and effectively visualize the gaps in the bus services affecting the PT network in correspondence of the CB, which can be seen in correspondence of the IT-SI border. In fact, since (apart from the exceptions of the international urban line linking Gorizia and Nova Gorica and from a Slovenian line running with no stops for limited less than 2 kms on the Italian territory for reaching Podsabotin area near Gorizia) currently no road public transport is operated across the border. In this purpose, it is to underline that the exiting international lines are linking the main centres, thus not providing the usual density of stops and providing accessibility to the peripheral areas across the border. Hence, a kind of “re-sewing” exercise seems to be needed and an adequate level of awareness about these shortcomings is to be raised as well.

In this regard, a remarkable synergic contribution is provided by the Interreg Italy Slovenia CROSSMOBY strategic project, which is developing a web platform as to support stakeholders dialogue through an effective representation of key themes describing the multimodal transport system of the Cross-Border area as shown in the following figures.

In particular, a thematic representation of the gaps expressed in physical distances (in kms) between PT services in the Italian and Slovenian side is reported in Figure 6 (see also Table 2) with reference to the list of relevant border transit points identified in the FVG PT plan. More in general, about 40 crossing (with no PT services) has been identified along the whole IT-SI border. Considering that border is stretching over 232 km,

along with the absence of PT services, it is to underline the limited number of total available cross-border links. Obviously, this is also due to the actual geomorphological environment, including mountainous areas (especially in the Northern part).

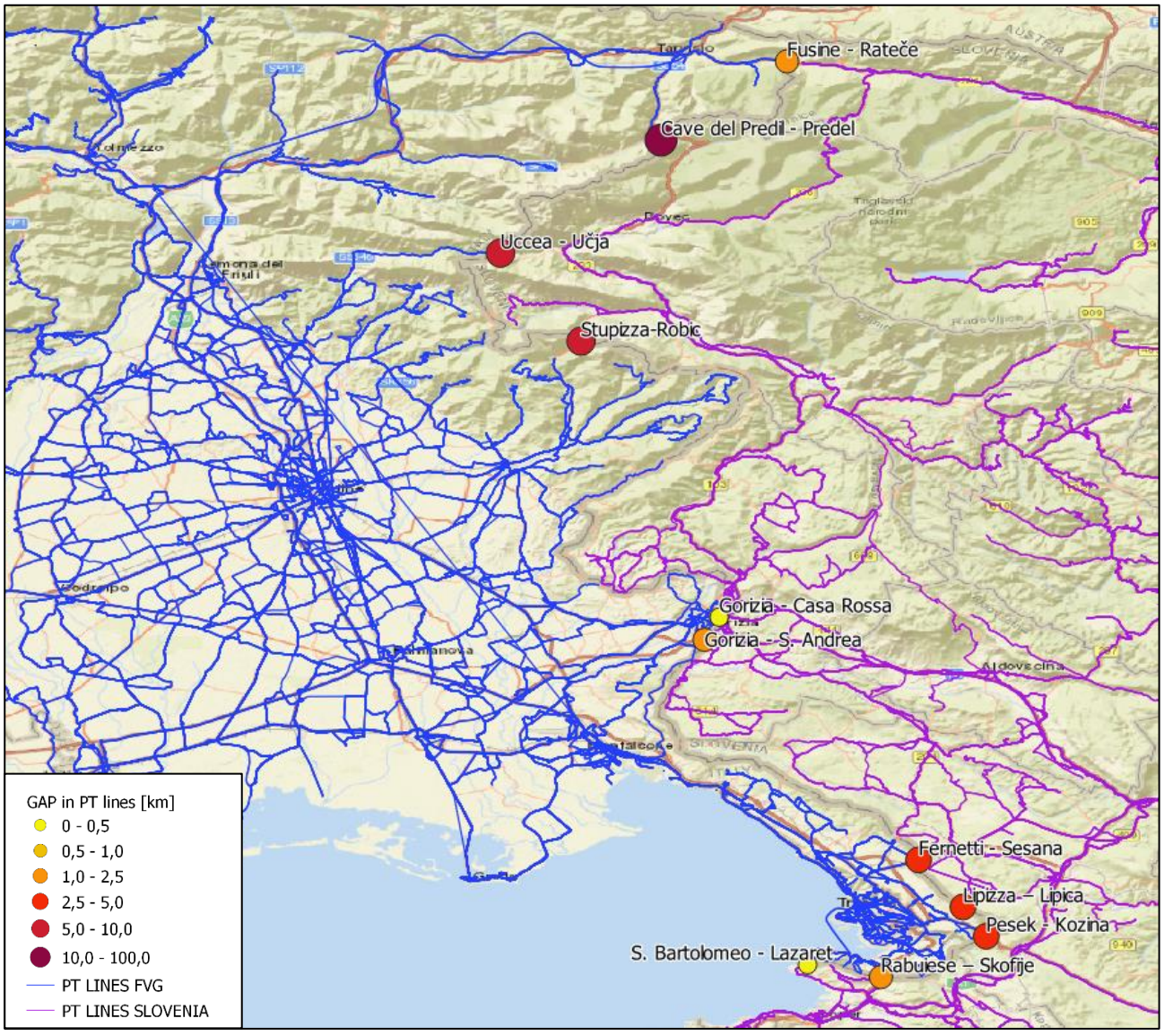

Figure 6 – Overview of relevant transit points acknowledged in the FVG regional PT plan.
Source: CROSSMOBY project

In the following Figure 7 a zoomed view is provided with reference to the Southern area that is particularly addressed by the FORTIS pilot activities. Among other things, it allows to point out various additional gaps related to other crossing points in addition to those listed in the FVG Public Transport Plan.

CLUSTER	NAME	ROAD CODE - ITA SIDE	ROAD CODE - SLO SIDE	MUNICIPALITY - ITA SIDE	MUNICIPALITY - SLO SIDE
Fusine	Fusine - Ratecè	SS54	202	Tarvisio	Jesenice
Cave del Predil	Cave del Predil - Predel	SS54	203	Tarvisio	Bovec
Uccea	Uccea - Učja	SR646	401	Resia	Bovec
Stupizza	Stupizza - Robič	SS54	102	Pulfero	Kobarid
Gorizia	Gorizia (Casa Rossa) - Nova Gorica	Via Casa Rossa	444	Gorizia	Nova Gorica
Gorizia	Gorizia (S. Andrea) - Nova Gorica	A34		Gorizia	Sempeter-Vrtojba
Trieste	Fernetti - Sežana		445	Monrupino	Sežana
Trieste	Lipizza – Lipica	SP10	205	Trieste	Sežana
Trieste	Pesek – Kozina	SS14	7	San Dorligo della Valle	Hrpelje-Kozina
Trieste	Rabuiese – Skofije	NSA326	H5	Muggia	Koper
Trieste	S. Bartolomeo - Lazaret	SP14	406	Muggia	Ankaran

Table 2 – List of relevant transit points acknowledged in the FVG regional PT plan

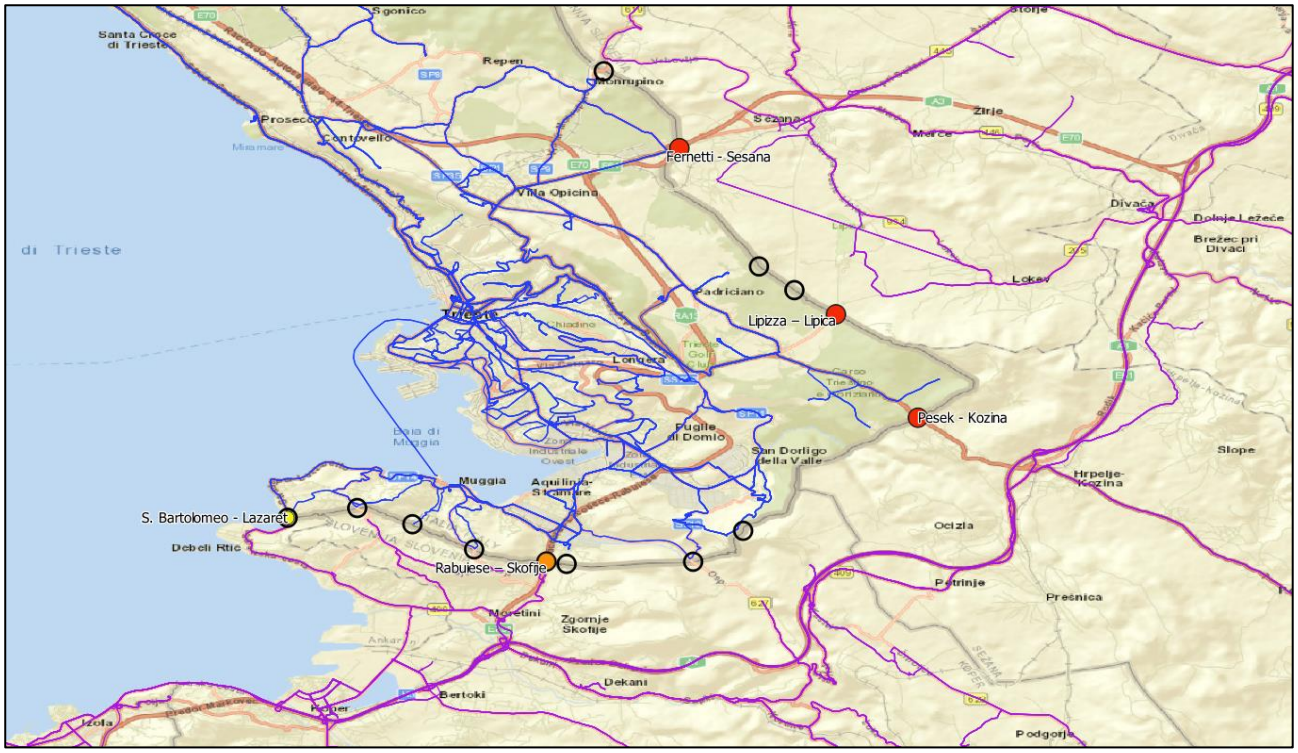

Figure 7 – Detailed view of gaps between the PT service across the border in the area addressed by the FORTIS pilot activities. Source: CROSSMOBY project

However, it is to underline that (coherently with what already said) other relevant gaps are also to be reported with reference to other contexts in the Northern (e.g. Val Natisone-Kobarid) as well as Central (Gorizia-Nova Gorica) part of the border area. It is in fact to recall that also taking into account the commercial dimension (international services), bus connections are more frequent in the Southern part of the CB region by connecting some bigger centres as Trieste and Venice in Italy to Koper, Sežana, Portorož, Postojna and hinterland city of Ljubljana in Slovenia.

Moreover, a specific deal is to be paid to improvements needed in the maritime services connectivity, that currently are carried out at cross-border level only during summer season.

In this purpose, it is to recall that intermodal transport pivoting on maritime connections (see dotted lines in yellow and green colour in Figure 9 and Figure 10) is deemed of strategic relevance with reference to the enhancement of cross-border connectivity. This aspect is particularly important considering that (see Figure 9 and Figure 10) it provides the only alternative to solution based on road transport along the coastal area between Trieste and the Slovenia coast (given the substantial absence of a rail network along the cost).

Hence, the Regional Plan for Local Public Transport issued in 2013 was already highlighting the two connections shown in Figure 8.

Figure 8 – The international (blue) and ITA-SI CB line (red) as envisaged in the FVG regional PT plan. Source: Piano Regionale del Trasporto Pubblico Locale – PRTPL, 2013

These two connections have been addressed by various projects stemming from the EA SEA-WAY project, co-funded by the CBC IPA-Adriatic Programme 2007-2013, through which it implemented new maritime services between Trieste, Piran (Slovenia), Rovinj (Croatia) and Pula (Croatia). More recently, the extension to Mali Lošinj Island was introduced through the MOSES Project (Italy Croatia Programme) while the stop in Pula, instead, was cancelled. Moreover, INTER-CONNECT project (Adrion Programme) case study proposed further improvements of intermodal connections and accessibility pivoting on the existing maritime services connections through two sub-cases:

• SUB CASE A – focused on the existing cross-border maritime service and aiming to enhance its accessibility and (land-side) interconnection with public transport services as well as its usability;

• SUB CASE B – addressing the assessment of the potential and development of a new maritime service linking (Trieste-)Muggia-Koper.

Notably, the INTER-CONNECT sub case B is paving the way to the FORTIS pilot activity (D.3.2.2.2) dedicated to the feasibility of the new IT-SI maritime connection.

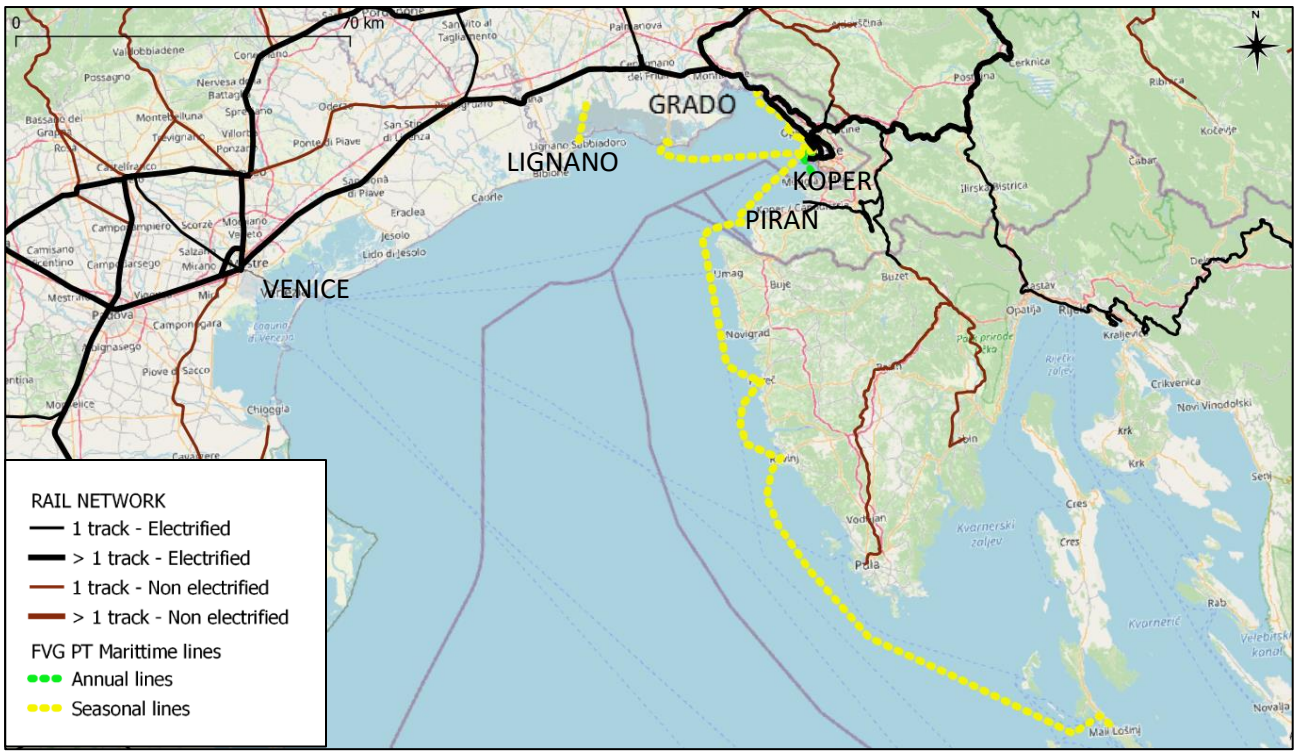

Figure 9 – Rail Network and FVG maritime PT lines (source INTERCONNECT Project)

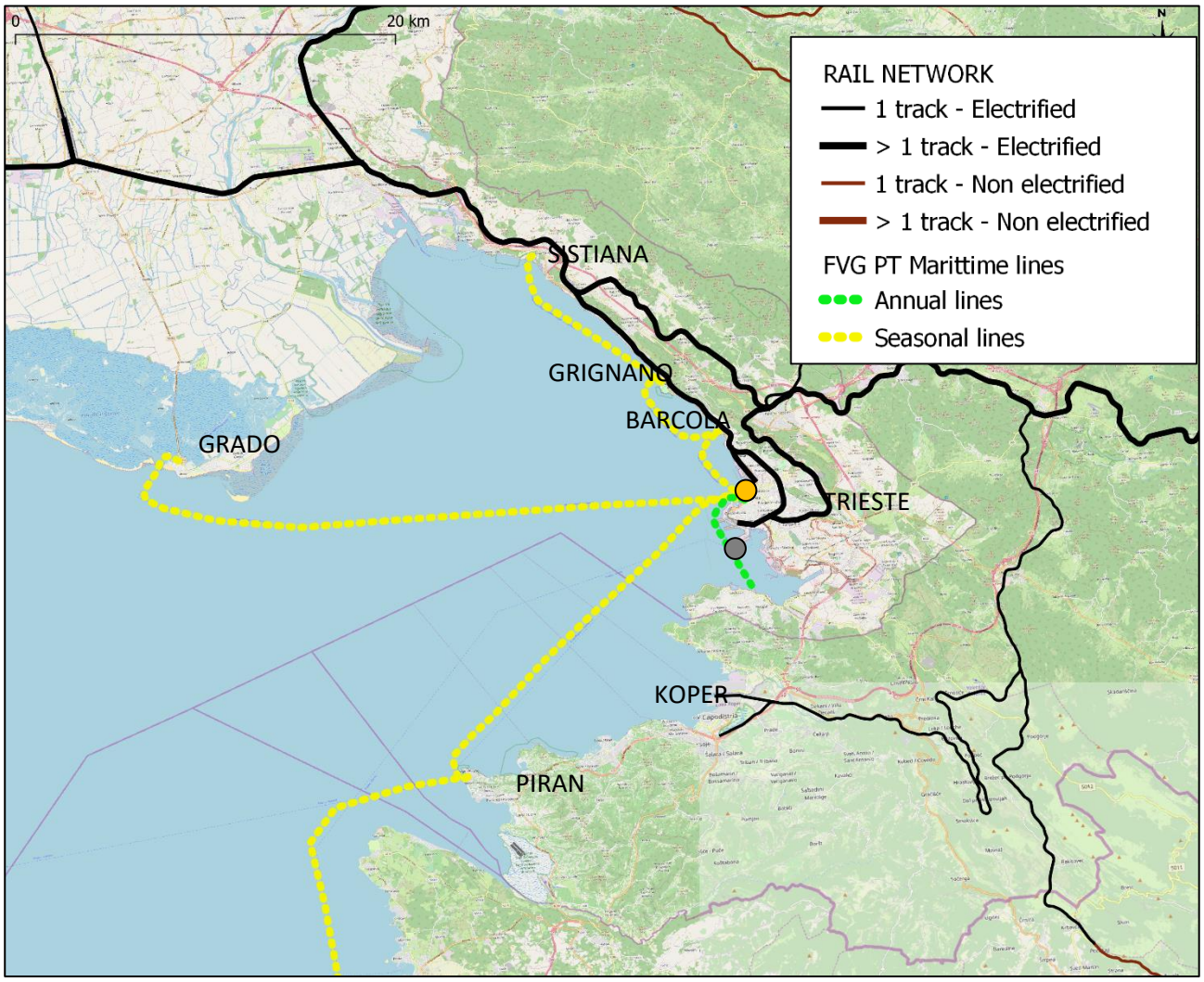

Figure 10 - Rail Network and maritime PT connection in the Trieste area and Slovenian Coast – zoomed view (source INTERCONNECT Project)

Nonetheless, existing gaps are not limited to missing physical links in the PT network. In fact, these issues are to be underlined with reference to all the (missing) aspects that should ensure a smooth integration between different modes of transport and service (e.g. coordinated timetables, fare integration, adequate interchange points and PT network development).

In particular, in order to facilitate users in carrying out seamless intermodal trips relevant gaps provide by the current absence of integrated ticketing and comprehensive information provision is to be underlined.

3.6 Cross border coordination and planning

A last (but not least) remark is related to a key aspect, to which are strongly related all the aforementioned points: a crucial obstacle to be overcome is represented by a lack of institutional cooperation, which should be aimed at coordinating service according to a synergic and comprehensive cross-border vision and planning among the decision makers and operators from both sides.

These issues are highly related with the lacking integration of PT service ascertained in the previous paragraph. Moreover, the relevance of this aspect is to be strongly underlined almost as a pre-requisite for a comprehensive improvement of all the other aspects. Hence, it is being placed as a key cornerstone of the strategic vision and action plan developed in the following chapters.

Furthermore, improved coordination and planning are also related to a relevant aspect hampering the development of a shared approach: lacking data integration and information sharing. In this purpose, that are to be considered according to two distinct viewpoints (to be further specified in the Action Plan): supporting the decision makers with adequate information backing their assessments and providing the users with adequate information and awareness about the existing PT services.

3.7 SWOT ANALYSIS

The overall picture of CB multimodal transport system can be summarised through a "SWOT analysis". In fact, as from a consolidated methodological approach, an important synopsis is provided by highlighting the **s**trengths, the **w**eaknesses, the **o**pportunities and the **t**hreats with reference to the status of the analysed CB public transport system. The resulting table provides also a useful tool in evaluations and interactions with stakeholders.

Strengths	Weaknesses
• The area is equipped in terms of relevant infrastructures (road, rail, ports) esp. along the main E-W corridor (Venezia-Trieste-Ljubljana) that can be used for transport services. • Cross-border public transport services have been identified by the FVG PRTPL as important priorities to be implemented as regards to bus, rail and maritime public transport thanks to the possibilities of carrying out CB public transport services. • Cross-border innovative transport solutions have been developed thanks to some specific EU projects implemented by the Region (MICOTRA, INTER-CONNECT, CONNECT2CE …).	• Limited Accessibility, considering the low population density, represents a problem to be faced when talking about a wide area of the CB area (with particular reference to rural and mountainous areas). • General lack of coordination and integration of services at CB level. • Existing gaps in road PT connectivity and absence of full-fledged cross-border PT services (apart from commercial ones linking the main centres). • Full-fledged CB Rail services limited to pilot services between Trieste and Ljubljana with two daily services and poor performances and operational

• Existence of ongoing initiatives enhancing the two railway lines crossing the border (e.g. on Gorizia-Nova Gorica link) as well as successful pilot on integrated bus-train ticketing along the connection Trieste-Villa Opicina-Ljubljana. • Already testified commitment by local and regional stakeholders.	limitations of the CB railway lines in terms of maximum allowed speed. • Absence of a maritime CB service, apart from seasonal ones.
Opportunities	**Threats**
• Possibility for FVG Region to activate CB services within the already tendered regular PT services. • The presence of different ongoing initiatives aimed to the development of a sustainable multimodal transport at CB level. • Opportunity that could arise form exploiting advanced ICT tools as well as innovative paradigms in designing PT service, also including flexible Demand Responsive ones. • Synergies to be exploited between the development of sustainable transport and tourism (e.g. Transalpina/Jesenice-Bohinj- Trieste railway).	• Economic sustainability to be ensured. • Competitiveness and appeal of car-based solutions. • Limitations given by the legislative framework on international passenger transport services in general as well as specific regulations for maritime ones. • Interoperability to be ensured when deploying services at CB level (esp. with reference to rail services and ticketing).

Table 3 – SWOT analysis

4 IDENTIFYING KEY GOALS

At a general level, key goals are identified as to provide a common ground and general vision for the subsequent analyses.

When looking at the multiple facets implied by the development of sustainable multimodal transport system pivoting on an enhanced PT, it is evident that some of key aspects are main drivers that should shape the upcoming evolution of the entire system. In particular, the following ones are to be pointed out as fundamental.

A well-integrated CB area

- Improving sustainable mutual accessibility thus supporting cross-border integration and alleviating isolation of peripheral areas

A CB area well-connected/framed to the EU and the external

- the CB aims to play its role as crossroad of transnational corridors linking to the external EU and not EU countries

A Green CB area

- A less polluted and decarbonised CB is ensuring a better life quality to its residents and visitors while pursuing common objectives (shared at global level)

An attractive CB area

- exploiting and preserving its tourist attractions through jointly promoting sustainable tourism and mobility

A caring CB area

- innovative mobility solutions are jointly addressing social aspect related to the quality of life of residents with particualr reference to weak or impaired categories (e.g. elderly)

An innovative CB area

- making the CB a living lab and an "innovation ecosystem" through concretely developing smart solution represents a transversal priority and common approach for the sphere of mobility needs and beyond

Figure 11 – Key goals of FORTIS vision for the IT-SI cross-border area

The above reported goals are both complying with the specific needs of the IT-SI cross-border area as well as the general objectives stated at EU level.

In fact, they are in line not only with the specific strategic documents related to transport but more in general with the whole EU integration process. In fact, supporting the integration and mobility especially at cross-border level is backing the development of a Single Market and concretely raising the perception of a shared EU citizenship.

More in general, ensuring coherence with existing planning documents coordination as well as with existing governance framework and already ongoing development patterns represent key guideline. In this purpose, it is to recall that the existing governance layers are to be duly taken into account. Bringing together all the needed stakeholders is a fundamental step for appropriately implement the integrated governance approach, allowing to successfully pursue these ambitious goals. In this purpose the following list different layers of the governance are to be considered:

- EU;
- Macroregional: EUSALP, EUSAIR and EUSDR (3 out of 4 in the overall EU);
- National;
- NUTS2 - Regional: administrative entities only on the Italian side;
- NUTS3 - Provinces, Metropolitan City and “Enti di Decentramento Regionale” recently introduced in FVG: administrative entities only on the Italian side;
- Local (municipalities and their unions).

5 MAPPING STRATEGIES

In order to concretely address the goals mentioned in the previous paragraph, a set of specific **Strategies** is proposed here. They correspond to the second level of the hierarchically structured framework already described in the Introduction (encompassing Goals, Strategies and Actions). Moreover**,** they have been identified as to be grouped according to the main "Challenges" identified in D3.1.2.1, namely:

- *Coordination in Administration and organisation;*
- *Transport operations at CB level;*
- *Information technology supporting CB integration and interoperability.*

More in detail, the following strategies have been shortlisted as to provide an adequate coverage of different aspects to be addressed.

Coordination in Administration and organisation

S1 – Promoting an integrated governance framework

S2 - Supporting the decision process with data and technical analyses

Transport operations at CB level

S3 – Improving the supply of integrated PT services at cross-border level (short distance)

S4 – Fostering the development of new CB rail services (and related multimodal connections)

S5 – Fostering the development of new CB maritime services (and related multimodal connections)

Information technology supporting CB integration and interoperability

S6 – Facilitating the users in performing the sustainable trips

S7 – Communicating and raising awareness on sustainable mobility and tourism opportunities

6 DEFINING ACTIONS

Going more in detail and moving towards the actual removal of specific CB gaps and issues, specific actions are presented as to provide concrete interventions to be implemented. The list of 21 proposed action consists of measures to be implemented especially (but not exclusively) in the medium-short term (also in relation to the project lifetime, as in the case of the FORTIS pilot action) and without costly infrastructural interventions.

Each action is addressing a specific aspect of one of the above-mentioned strategies. Furthermore, it is associated with an indicative timeline interval expressed according to an ordinary scale, whose values are associated with the following meanings:

- 1- 2: short term
- 3-4: medium term
- 5-6: long -term

It is to underline that the usage of an interval for expressing these indicative time horizons is meant to represent the fact that various implementations of a single action are supposed to be implemented not all at the same time (e.g. different service to be activated starting from early solutions provided by FORTIS pilots and, on the other hand, additional services that could eventually be set-up further on, also on the basis of the experience provided by the first implementations).

Strategy	Action ID	Proposed improvement measures	Timeline
Challenge 1 - Administration and organisation			
S1 – Promoting an integrated governance framework	1	(Fostering) inter-institutional dialogue on legislative issues hampering or limiting CB transport at EU level (with particular reference to cabotage regulations)	1-4
	2	Fostering inter-institutional dialogue on CB public transport zone between Italy and Slovenia (defining responsibilities for the planning, management and operation of CB public transport within those zones and relation to the local transport);	1-4
	3	Establishment of a CB coordination body to be responsible for coordinated planning of PT services in the CB Area (harmonization of timetables and formulation of uniform rules of CB transport services planning, operation and use)	3-4
S2 - Supporting the decision process with data and technical analyses	1	Setting-up integrated information systems and data sharing and integration at CB level with reference to the international lines as well as the whole mobility of the CB area (possibly adopting the Open Data approach)	2-3
	2	Collecting mobility statistics and demand data through traditional (survey on the fields including traffic counts and questionnaires) as well as innovative surveys (e.g. Big Data from cell phones)	2-3
	3	Developing what-if scenarios and evaluations supporting the joint decision-making process and integrated planning at CB level	2-3
Challenge 2 - Transport operations			

Strategy	Action ID	Proposed improvement measures	Timeline
S3 – Improving the supply of integrated PT services at cross-border level (short distance)	1	Elaboration of well-targeted feasibility study on specific proposals for new/improved services based on quantitative data and fostering a co-design approach actively involving (local) stakeholders	1-5
	2	Extending and interconnecting existing PT services at borders ("re-sewing")	1-3
	3	Developing new and innovative services (also including Demand Responsive Transport), for connecting nodes and hinterland	1-4
	4	Developing new and innovative services (also including Demand Responsive Transport) in extra-urban and peripheral contexts	2-5
	5	Construction and functional arrangement of CB intermodal transfer points	2-4
	6	Integrating PT with sharing and other soft mobility	1-4
S4 – Fostering the development of new CB rail services	1	Fostering and inter-connecting to rail services along the Venice-Trieste-Ljubljana lines	1-6
	2	Fostering and inter-connecting to rail services along the Gorizia-Nova Gorica-Transalpina /Bohinj railway	2-6
S5 – Fostering the development of new CB maritime services	1	New or improved yearly maritime services and related interconnections	2-4
	2	New or improved seasonal maritime services and related interconnections	1-4
Challenge 3 - Information technology supporting CB integration and interoperability			
S6 – Facilitating the users in performing the sustainable trips	1	Provide comprehensive and integrated info-mobility portals	2-4
	2	Introduction of a single CB ticket	3-5
	3	ICT tools for seamless integrated ticketing purchase	1-3
S7 – Communicating and raising awareness on sustainable mobility and tourism opportunities	1	Integrated communication effectively campaign providing mobility and tourism information	2-4
	2	Raising awareness and involve stakeholders in the co-design of innovative multimodal transport solutions	2-4

Table 4 – List of all the FORTIS Strategies and corresponding Actions

6.1 ASSESSING CRITICALITIES AND OBSTACLES

In this paragraph, a preliminary assessment of main issues and obstacles of different nature (technical, financial, legislative etc.) to the development of identified actions is carried out.

This focus is made with particular reference to the strategies S3-S6, while the S1 and S2 (belonging to the Challenge 1) provide a kind of pre-conditions, setting up the correct framework and providing a sound basis for a comprehensive and well-conceived development of all the following strategies (and, consequently, of the whole CB PT connectivity).

As from the following tables, three aspects relevant for assessing possible criticalities and timeline have been outlined:

- Set-up complexity - encompassing all the potential criticalities to be addressed in order to the set-up, for instance, of a specific kind of PT service (including both technical aspect and procedural ones related to the legislative framework and constraints);
- Relevance of financial aspects – providing an indicative evaluation of financial aspects to be addressed, in order to keep the measure operating, also with reference to the longer term following the first testing and start-up;
- Timeline.

These aspects have been rated according to a three-level scale also represented by a colour code made of three different shades of blue (the darkest colour representing the higher potential relevance of the issues or the longer time horizon to be taken into account). In this purpose, for the sake of homogeneity, also the indicative timelines have been expressed according to three level (making reference to the average value resulting from the time-intervals previously presented).

Moreover, it is to clarify that no comparison is meant to be made between the importance of different aspects (e.g. we are not comparing the importance per se of set-up complexity versus the relevance of financial aspects).

Along with the proposed rating within the following text additional remarks and comments are made. In doing this, a specific reference is also made to the actual pilots being developed within FORTIS.

S3 – Improving the supply of integrated PT services at cross-border level (short distance)				
Action ID	**Proposed improvement measures**	**Set-up complexity**	**Relevance of financial aspects**	**Timeline**
1	Elaboration of well-targeted feasibility study on specific proposals for new/improved services based on quantitative data and fostering a co-design approach actively involving (local) stakeholders			
2	Extending and interconnecting existing PT services at borders (“re-sewing”)			
3	Developing new and innovative services (also including Demand Responsive Transport), for connecting nodes and hinterland			
4	Developing new and innovative services (also including Demand Responsive Transport) in extra-urban and peripheral contexts			
5	Construction and functional arrangement of CB intermodal transfer points			
6	Integrating PT with sharing and other soft mobility			

Table 5 – Assessment of the S3 Actions

The actions making up the strategy S3 are providing different solutions for effectively tackling specific connectivity gaps through enhanced PT bus services. They are tackling different aspects in order to provide a comprehensive set of well-tailored and efficient solutions to specific needs. In this purpose, it is also to highlight a great deal to be paid to innovative approaches, making use of advanced ICT tools and implementing flexible approaches (such as Demand Responsive Transport services). Therefore, the technological solutions addressed by the S6 actions (commented in the following) are highly synergic and a key factor for a successful implementation of S3 ones.

As clarified, relevant legislative issues and coordination efforts are requested especially when dealing with the cross-border dimension. Hence, a systemic approach (to be pursued according to S1 strategy) based on cross-border institutional dialogue aiming at unlocking general (legislative as well as procedural) obstacles to

the development of integrated PT transport at CB level is a key driver for a successful implementation of the S3 actions.

Moreover, an integrated planning activity based on data (esp. those about the mobility demand and needs) and supported by technical analyses on different what-if scenarios (see Strategy S2) would allow optimising resources when developing an improved cross-border PT system. Along with such overall vision a well-tailored design should be developed when addressing the pre-feasibility of a specific service. This aspect should also call in the involvement of local stakeholders (possibly in a highly interactive co-design approach, especially in case of innovative solutions to be introduced) in order to effectively facilitate addressing the concrete needs of local communities and, once more, optimise resources.

Hence, a specific action (namely Action 1) of the present strategy has been devoted to also trying to emphasise that, apart from technical analysis, it should be open to an adaptative approach and encompass a certain deal of testing activities to be carried out with the participatory contribution of stakeholders.

Among the aspects to be thoroughly analysed the expected target users and mobility needs to be addressed, recalling the already mentioned differences between preferences and needs, for instance, of commuters, visitors and tourists.

Moreover, it is to consider that, while activating from the technical point of view is not calling for preliminary costly or complex infrastructural interventions, long-term economic sustainability is to be achieved. Hence, a key understanding about the attainable level of users, through a clear understanding on demand is essential also from the point of view of the transport operators. In this purpose, the need ensuring a core group of users can be matched with the goal of promoting sustainable tourism (e.g. low-demand context but endowed with remarkable touristic attractiveness) with social needs for providing a safe, accessible and sustainable transport (esp. elderly to be accompanied to caring facilities or students). Hence, while reaching a certain threshold of demand, already mentioned goals such as “A caring CB area” and “an attractive CB area” can be synergically pursued as well.

According to the main needs and contexts to be addressed three different typologies of interventions (i.e. actions) implying new or improved bus services have been devised:

- Action 2 - Extending and interconnecting existing PT services at borders (“re-sewing”)
- Action 3 - Developing new and innovative services (also including Demand Responsive Transport), for connecting nodes and hinterland
- Action 4 - Developing new and innovative services (also including Demand Responsive Transport) in extra-urban and peripheral contexts.

Obviously, the first one represents the easiest, less costly typology. Besides, it could be achievable also from the legislative point of view through an extension within the scope foreseen by the regulation and contract applicable to FVG services. Obviously, the development of brand-new services across the border imply a higher deal of complexity and obstacles to be overcome. In particular, peripheral contexts envisaged by A3 could prove difficult to be addressed. Hence, it is even more important choosing the best fitting option (e.g. for what concerns the vehicle or the level of flexibility of the service, ranging from traditional to demand responsive ones).

Concerning timing, the first set of CB services could be set-up in a short time horizon (indicatively within 1 year), especially in case of Action 1. In this purpose, two pilots being developed within FORTIS are representing two examples on the fast-track of S3 actions implementations.

- Extension and harmonization of PT services in the CB area Muggia-Koper (D.3.2.2.1 - responsible partner 02-RFVG) is showcasing A2;
- Pilot action enhancing the PT bus connectivity between Koper and Trieste through a direct connection (D.3.2.2.5 - responsible partner 03-MOK) belongs to A3.

Obviously, while the pilots are focusing on the Trieste-Koper, further replication could be extended towards other directions and portions of the bordering areas (e.g. Gorizia-Nova Gorica and Natisone Valley - Kobarid areas)

Along with the activation of bus service, other sharing and soft mobility (e.g. cycling) options should be promoted especially at interchange point, thus integrating PT with sharing and other soft mobility (Action 6). In fact, by allowing a full chain of intermodal trips to be smoothly carried out (e.g. for tourist carrying out car-free holidays) the different segments of the chain are mutually reinforced also in terms of (potential) numbers of attainable users. Obviously, this implies certain (though generally limited) costs and procedures to be carried out for setting-up the needed facilities.

Moreover, similar consideration applies to the construction and functional arrangement of CB intermodal transfer points (Action 5). This action is a fundamental counterpart of the development of new-improved CB service addressing the critical nodal point allowing the intermodal trips to be carried out. In this purpose a specific deal should be also paid to additional aspects such as safety of locations and paths for reaching the node as well as the (multilingual) information provision (i.e. thus also linking to S7 actions).

S4 – fostering the development of new CB rail services				
Action ID	**Proposed improvement measures**	**Set-up complexity**	**Relevance of financial aspects**	**Timeline**
1	Fostering and inter-connecting to rail services along the Venice-Trieste-Ljubljana lines			
2	Fostering and inter-connecting to rail services along the Gorizia-Nova Gorica-Transalpina /Bohinj railway			

Table 6 – Assessment of the S4 Actions

The actions making up the strategy S4 are providing measures solutions for improving the connectivity through the two rail lines running across the IT-SI borders. These aspects though not directly addressed by the FORTIS project are highly connected and synergic with the overall vision concerning improved multimodal PT accessibility and connectivity.

In fact, according to a multimodal vision bus service providing last mile connectivity and rail service connecting hubs are complementing and mutually supporting each other. A particular example is also provided by the fact that the FORTIS pilot addressing integrated IT-SI ticketing is related to bus/train intermodality along the Trieste-Villa Opicina-Ljubljana connection.

Furthermore, in spite of the relatively low number of existing CB services, a positive trend due to recent initiatives and improvements is to be underlined (also in the light of the positive outcome of similar experiences on the IT-AT connection through the MiCoTra service). Hence, it is to register both relevant margin for improvement and a growing commitment by the relevant stakeholders.

More in detail, two distinct actions taking into account the different situation and specific opportunities of the two lines as described in the previous chapter.

Obviously in this case, aspects related to the economic viability and financing represent a key issue to be addressed. Furthermore, possibility related to long-distance connectivity are also related to possible enhancement implying infrastructure interventions in the line (whose level of performance with reference to allowed speed has already been described in a previous chapter).

S5 – fostering the development of new CB maritime services				
Action ID	**Proposed improvement measures**	**Set-up complexity**	**Relevance of financial aspects**	**Timeline**
1	New or improved yearly maritime services and related interconnections			
2	New or improved seasonal maritime services and related interconnections			

Table 7 – Assessment of the S5 Actions

The actions making up the strategy S4 are providing measures solutions for improving the connectivity through the maritime connections linking IT-SI coastal areas.

With particular reference to the Trieste-Muggia-Koper area, given the absence of a cross-border railway connection, they would represent an opportunity to provide alternative solutions to those based exclusively on the road network. Moreover, they could play a relevant role in filling a connectivity gap along the coastal area, thus contributing to satisfy relevant mobility and accessibility needs for the resident as well as seizing remarkable opportunities concerning sustainable tourism. In this purpose it is to register a remarkable and shared commitment by local stakeholders already testified by a Memorandum recently signed of within the INTER-CONNECT project (Interreg Adrion Programme).

Critical aspects are obviously related to organisational aspects and facilities to be provided, especially with reference to the constraints to be applied to international maritime services (which also implies setting up adequate areas as to carry out checks, thus impacting on the layout and space availability in the embarkation/

disembarkation points). Nonetheless, at least partly, the already existing seasonal services linking different destination in the Slovenian and Croatian coast could provide a sound basis.

Furthermore, smooth inter-connection with other modes of transport (see S3 and S4) as well as the fundamental supportive role of smooth information provision and ticketing (see, in particular, S6) for the users are key elements to be duly addressed (also in this case, it is to make reference to the experience gained and the measure envisaged in the INTER-CONNECT memorandum).

Obviously, another relevant potential criticality to be addressed is represented by the need for ensuring adequate financial sustainability by providing funding as well as reaching an acceptable level of users.

Concerning timing, the first CB services could be set-up in a short time horizon, especially in case of Action 1, as potential follow-up of the following pilot being developed within FORTIS:

- Feasibility study on CB maritime PT connections in the IT-SI area (D.3.2.2.2 - responsible partner 03-MOK).

A further opportunity could be represented by the possibility of extending the addressed geographical scope. In fact, the remarkable basins of tourist flows represented by the centres of Lignano and Grado on the seaside are likely to represent a high level of potential demand for seasonal services. In this purpose, it is to underline a relevant synergy with a pilot activity being carried out within the MIMOSA project (Italy-Croatia CB Programme) and addressing cross-border connectivity through maritime services linking up to Grado.

However, along with seasonal flows of tourists, a relevant aspect, characterised by its own needs and specificities (e.g. a higher deal to be paid to travel time in comparison to the car alternative) is provided by the possibility of setting-up yearly services benefitting residents and systematic mobility. In this purpose it should be extending the only line currently being carried out all the year round, which is linking Trieste and Muggia. Hence, a specific Action has been dedicated to this aspect which, obviously, could also represent a further and more committing step according to a progressive development starting from tests carried out during limited moths or days of the week (which, instead, are inherently more adapt to meet the needs of occasional users).

S6 – facilitating the users in performing the sustainable trips				
Action ID	**Proposed improvement measures**	**Set-up complexity**	**Relevance of financial aspects**	**Timeline**
1	Provide comprehensive and integrated info-mobility portals			
2	Introduction of a single CB ticket			
3	ICT tools for seamless integrated ticketing purchase			

Table 8 – Assessment of the S6 Actions

The actions making up the strategy S6 are providing important supportive and ancillary measures that, as already anticipated, are highly contributing to the previous strategies encompassing the activation of PT service belonging to different modes of transport.

In this purpose, they are meant to get the users in condition to easily being informed ((Action 1) about the available intermodal transport alternatives and performing the acquisition of the related tickets (Action 2 and 3).

With particular reference to Action 3, it is to mention the already ongoing initiative represented by a FORTIS pilot activity based on a previous successful experience made within the CONNECT2CE project (Interreg Central Europe Programme).

All these actions request a high deal coordination and agreement among all the bodies involved in the organisation and management of the PT service. Therefore, realistically their set-up could take a certain amount of time even though their mere technical realisation could be neither too costly nor excessively time consuming. In this purpose, a partial exception is to be mentioned with respect to the fact that the ticketing is including the aspects of related means of validation to be agreed upon and set-up.

A fundamental point is also related to the fact that this would imply having (and sharing) a vast amount of updates for the operational functioning of the tools. In particular, the first action is meant to made easily available through user-friendly web interfaces. In this purpose, a certain distinction is to be underline with respect to the data sharing for supporting the stakeholder dialogue and integrated planning to be associated with S2. In fact, within the Action 1 of S1 a higher deal is to be made to frequent and timely update of the data to be provided to the users (as to avoid delivering outdated or uncomplete information), possibly including also real-time information.

S7 – Communicating and raising awareness on sustainable mobility and tourism opportunities				
Action ID	**Proposed improvement measures**	**Set-up complexity**	**Relevance of financial aspects**	**Timeline**
1	Integrated communication effectively campaign providing mobility and tourism information			
2	Raising awareness and involve stakeholders in the co-design of innovative multimodal transport solutions			

Table 9 – Assessment of the S7 Actions

The actions making up the strategy S8 are providing relevant supportive measures that, as already anticipated, are backing and highly contributing to the previous strategies encompassing the activation of PT service belonging to different modes of transport.

In particular, they are the operational and organisational counterpart of other supportive actions represented by the (mainly) ICT-based S6 actions.

The relevance of the Action 1 is to be emphasised in relation to the need to adequately communicate about innovative service, especially when dealing with occasional users (e.g. tourists and visitors from the other side of the border). This is the action where the advocated synergy between sustainable mobility and tourism has to be actively tackled.

Action 2, instead, is addressing the actual engagement of local stakeholders and citizens to be involved in the co-design process of the new/improved services. This aspect (which is particularly in line with innovative approaches in mobility planning as also testified by the SUMP methodology) is not be neglected and actively pursued as a key success factor of other Strategies and Actions.

Obviously, these actions are calling for adequate commitment and coordination to be carried out (with no main costs and obstacles). Therefore, their timeline can be set with reference to the short-term but with the idea of a continuous process accompanying the deployment of the other actions.

7 RECCOMENDATIONS

Apart from specific aspects pertinent to particular measures, the Action Plan is to be put in a wider framework addressing the whole CB area development through initiatives (e.g. Planning and management activities, Interreg projects etc.). The resulting dynamic overall development process is calling for the recommendations for building a comprehensive and shared vision reported in the following paragraph.

7.1 BUILDING A COMPREHENSIVE AND SHARED VISION

In order to provide a sound basis for an enhanced governance and planning at CB level, implementing a comprehensive and shared vision, the following aspects have to be underlined:

- THE NEED FOR SHARED DATA, INFORMATION AND ANALYSES SUPPORTING THE DECISION PROCESS

  Data availability is typical lacking and fragmented, especially at cross-border level. In this purpose, within S2 a relevant deal and commitment is to be paid to a systematised approach. In fact, it is allowing to obtain a well-structured information and knowledge about the multimodal transport and the complex interactions between its different components (demand and supply side) and modes. In particular, S2 actions are meant to underline the importance of data and technical (what-if) assessment in supporting the decisional process and paving the way to a well-grounded shared vision.

Figure 12 – Steps from shared data to a shared vision

- RECCOMENDATIONS FOR SUPPORTING STAKEHOLDERS DIALOGUE

  The envisaged integrated governance (S1) represents the appropriate approach for pursuing the complex framework to be tackled. In this purpose, it should encompass both addressing the high decisional bodies (at national, regional and also EU level) as well as, in the meanwhile, local communities.

  As said above, the stakeholders involvement (through Strategy 2) should be adequately backed by data and technical evaluations. On the other hand, quantitative and technical analyses should be integrated with a direct feedback of local stakeholders, bringing real experience and first-hand perception of the actual needs to be met. Hence, especially when addressing the realisation of specific services, they should be early and directly involved according to a co-design approach.

7.2 SYNERGIES WITH OTHER INITIATIVES

In order to effectively address the challenges in CB development team-working and coherence between existing planning initiatives must be ensured though a dynamic process.

In this purpose, different past and ongoing initiatives to be capitalised and coordinated provide a relevant basis for jointly addressing the described challenges.

PROGETTO	PROGRAMMA	DURATA	WEBSITE
CONNECT2CE	Interreg CENTRAL EUROPE	06/2017 - 05/2020	https://www.interreg-central.eu/Content.Node/CONNECT2CE.html
INTER-CONNECT	Interreg ADRION	01/2018 - 12/2020	https://interconnect.adrioninterreg.eu/
CROSSMOBY	Interreg V-A Italy-Slovenia	09/2018 –12/2021	https://www.ita-slo.eu/it/crossmoby
ICARUS	Interreg V-A Italy-Croatia	01/2019 -06/2021	https://www.italy-croatia.eu/web/icarus
CIVITAS PORTIS	Horizon 2020	09/2016 -08/2020	https://civitas.eu/portis/
PERIPHERAL ACCESS	Interreg CENTRAL EUROPE	06/2017-06/2020	https://www.interreg-central.eu/Content.Node/Peripheral-Access.html
CYCLEWALK	Interreg EUROPE	01/2017- 12/2021	https://www.interregeurope.eu/cyclewalk/
MOBITOUR	Interreg V-A Italy-Slovenia	10/2017-06/2020	www.ita-slo.eu/en/mobitour
SUTRA	Interreg V-A Italy-Croatia	01/2019 -06/2021	www.italy-croatia.eu/web/sutra

Table 10 – EU projects synergic with FORTIS

8 CONCLUSIONS

Within the present deliverable an Action Plan for streamlining public transport connections in the Italy-Slovenia CB area has been presented.

The Action Plan has been developed on the basis of the achievements of previous steps within the FORTIS project: a thorough analysis of Territorial Needs Assessment as well as the feedbacks collected through a dedicated Round-Table discussion, which has involved relevant stakeholders belonging to different typologies and territorial areas.

On such basis, it has been possible to identify main legal, institutional, technical, economic barriers hindering the further strategic development of cross-border sustainable mobility in CB ITA-SLO area as well as to highlight potentials in terms of innovative solutions for streamlining PT connections in CB areas and related hinterland according to a SWOT and gap analysis methodology.

They have been conveyed into an action plan developed according to a strategic vision and hierarchically structured according to following levels:

1. Goals, describing general objectives and needs to be pursued;
2. Strategies, providing a list of intervention areas to be addressed;
3. Actions, specifying measures to be taken for implementing the strategies.

In order to concretely address the identified goals, the following set of specific **Strategies** has been outlined.

S1 – Promoting an integrated governance framework

S2 - Supporting the decision process with data and technical analyses

S3 – Improving the supply of integrated PT services at cross-border level (short distance)

S4 – Fostering the development of new CB rail services (and related multimodal connections)

S5 – Fostering the development of new CB maritime services (and related multimodal connections)

S6 – Facilitating the users in performing the sustainable trips

S7 – Communicating and raising awareness on sustainable mobility and tourism opportunities

Going more in detail and moving towards the actual removal of specific CB gaps and issues, a list of 21 proposed action to be implemented especially in the medium-short term and without costly infrastructural interventions, have been proposed. This framework is also encompassing the pilot activities being developed within FORTIS and addressing CB mobility. In fact, they provide concrete examples of actions to be taken and, once accomplished, relevant lessons learned. Consequently, by showcasing proposed measures belonging to a comprehensive action plan, they are also paving the way to their replicability in different context sharing similar needs.

Obviously, the proposed Action Plan should represent a starting point and further steps and assessment are to be made in order to implement all the different proposed action. Nonetheless, the envisaged framework and ascertained commitment of the stakeholders are providing a remarkable opportunity to address the enhancement of the PT providing sustainable accessibility to the areas across the IT-SI border. In order to appropriately tackle and achieve this ambitious and multifaceted objective, it is once more to emphasise the importance of a comprehensive and well-coordinated approach based on a shared vision. Such an ambitious objective is calling for high commitment and efforts in promoting integrated governance and dialogue between stakeholders (S1), whose decisional process is to be backed and supported by thorough technical analyses and shared information (S2).