Cross-Border Transport and Mobility in the EU
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Framing Urban Mobility into a Cross-Border Dimension

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1 Introduction

This chapter aims to analyse and contextualise the topic of urban mobility in a cross-border dimension, starting from a survey of 25 municipalities in the Autonomous Region of Friuli-Venezia Giulia on the border with Slovenia. The research questions underlying this survey can be summarised as follows: What is happening at local level in border municipalities in terms of transport and mobility planning and management? What strategies, specific measures, urban transport policies based on the principles of sustainable mobility are implemented in these cross-border contexts? What are the main effects of the cross-border dimension on urban mobility/traffic, local public transport and commuting needs of local communities?

The case study presented here is part of a larger Cross-Border Cooperation (CBC) project on transport, funded by EU. In order to understand the overall context of the study, a review of the cross border transport framework and territorial cohesion policies in Europe is put forward before presenting the results.

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2 The Cross-Border Issue and the Physical Accessibility of the Internal Borders at European Level

The survey and in-depth study initiative launched by the European Commission (DG Regio) in July 2015 with the Cross Border Review (CBR initiative) on the obstacles still to overcome at cross-border level, which culminated with the Communication adopted by the EC itself on 20 September 2017 [EC 2017a)], is a useful tool to assess the actual situation of the EU internal borders between Member States (MS). It consists of a wide-ranging survey on the overall situation of European border territories and on the levels of mutual interaction. The CBR initiative reveals some key elements which are interesting for our research perspective. On the basis of the data emerged from the overall sample of respondents, a strong involvement and participation in the survey was achieved both by inhabitants and businesses based in border areas (84% of individuals) and by cross-border local authorities (municipalities, provinces, regions – 8 out of 10 within the public authorities category). The frequency of border crossings by individuals also reflects a high degree of continuous interaction between the opposite sides of the border. Finally, the CBR highlights the lack/inadequacy of 'physical accessibility' as one of the major obstacles not yet removed in order to ensure adequate mobility and cross-border interaction. This physical barrier, linked to mobility and transport gaps, has highlighted a mixed range of intervention levels: infrastructure obsolescence, lack of integration between public transport systems, lack and/or low frequency of transport connectivity (especially for railways), mismatch between national/regional/local rules and standards, and lastly too high travel costs and too long travel times for commuters. It must be noted that these types of difficulties did not affect just the main rail and road networks linking the major border cities, but also peripheral transport networks and minor border crossings. Frequently local public transport systems stop services and routes just before the border, producing real 'missing links'. Local transport system and urban mobility planning frequently appear to be the weakest link, creating daily problems both for residents and commuters, and increasing car dependency, especially in rural and peripheral areas. The inadequacy of cross-border transport systems has been classified as a 'multidimensional' challenge at European level, involving not just physical accessibility issues, but also legal and administrative harmonisation, legislative and political coordination, requiring a 'change of pace' for better cross border cooperation and territorial cohesion (EC DG Regio 2016b). The European Commission in 2017, on the basis of the CBR findings and analysis reports, defined pathways and a set of actions aimed at reducing "complexity, length/duration and costs" of physical cross-border interactions, promoting a stronger harmonization

of transport services across the borders. The undeniable obstacles and barriers emerging from MS legal and administrative mismatches, and hardened by procedures and habits left unaddressed for too long, should be addressed by involving neighboring border areas and by trying to improve the situation at local level, where negative effects and frequency of inefficiencies have a significant impact on daily life and livability of individuals and local communities. As example: minor rail connections on the EU's internal borders are either missing, or out of service, or else inadequate. The whole public transport network needs to be updated at technological and multimodal level, not just on a regional scale but also in direct links between border conurbations. In particular, the implementation of info-mobility and integrated ticketing services through harmonized format and shared transport data would prove very useful (EC 2017b). The EC, therefore, concluded this wide and in-depth state-of-the-art survey on the situation of border territories by establishing a set of 10 intervention actions to overcome (or at least mitigate) persisting obstacles and barriers, and planning the creation of Border Focal Points (BFP) in order to facilitate the process. Action 7 (one out of the 10 planned actions), aimed at "facilitating cross-border accessibility", emphasizes how public transport services ought to guarantee integration between border areas and sustainability of connections. On the basis of the excellent results achieved in the TEN-T, a border strategy should focus on two key priorities as well: 1) harmonization and coordination of technical and legislative standards; 2) achieving interoperability in the transport system. Consequently, the EC initiatives are structured on two main actions: 1) an EC study on missing rail links across the internal borders; 2) give a strong impulse to the Member States, regions and municipalities to provide integrated public transport services, with the support of BFP (EC 2017a). Before 2015-2017 CBR, the issue of cross-border territories and cross-border accessibility has been take into consideration for some specific features: if on the one hand, cross-border cooperation programmes since the launch of the first Interreg Community Initiative (1989-1993) have always considered it strategic to act on internal borders and transport (Medeiros 2018), on the other hand, as highlighted in the literature, the process of European integration since the 1990s has stimulated theoretical and empirical research to generally analyse the influence of states and national borders within the European Union, specifically to investigate cross-border accessibility in terms of infrastructure barriers, physical interaction patterns and transport costs (Van Houtum 2000). Moreover, in the mid-1990s, the first contradictions came to light: the strong impetus for the development of international long-distance railway lines on EU territory contrasted with the decline of transport infrastructures at regional cross-border level where, for reasons of environ-

mental sustainability, forms of collective transport should be promoted (De Boer 1996). Between 1992 and 1996, the European Union launched and defined a series of large-scale infrastructure projects known as TEN-T (Trans-European Transport Networks) as a priority vital for the internal market and economic and social cohesion. These projects covered the needs for cross-border connectivity (e.g. Øresund fixed link, Betuwe railway line, PBKAL project) (EC 2007) but their size and objectives do not necessarily represent an advantage at regional and local level. In fact, the potential economic, social and overall development benefits also depend on the level of connectivity/connections that the large networks establish with regional transport networks and on the assessment of their overall impact on the different territorial areas. On the economic level, there is a vast literature that has worked on the inversely proportional relationship that can be generated between the improvement of (large-scale) transport infrastructures and the homogeneous development of the regions crossed (Crescenzi, Rodríguez-Pose 2012), and at the same time an 'integrated approach' is being affirmed in the planning and evaluation of the effects of large TEN-T infrastructures.

Assessing the actual impacts (direct and indirect) on the cross-border dimension and the contribution to the strategic objectives of the European transport policies, means also taking into account the most peripheral areas, the effects on the environment and the synergies developed in the interconnection among different transport systems and for the interoperability of cross-border services. Moreover, this approach integrates an assessment of the social costs and benefits associated with transport: accessibility, employment, quality of life (van Exel et al. 2002).

However, although the attention on regional connections and cross-border accessibility in the EU territories is growing, the most important policy strategies of the European Commission – the White Paper of 2001 and the following one of 2011 – do not acknowledge these issues as a real priority, they are only mentioned in some secondary part and in a fragmentary way. The political agenda does not yet show a specific sensibility to look more closely into the situation of internal border areas, their physical permeability, especially through a multilevel planning perspective. The adjacent urban areas on both sides of the border, the heterogeneity of the regional territories and the related social, environmental and economic needs of local communities should not be placed in a subordinate position with respect to long distance and strategic connections. The final objective is to reduce disparities and increase accessibility between central areas and peripheral and rural areas and at the same time strengthen territorial and social cohesion of the European Union, through a 'mobility for all'. Indeed, as Vulević and Knežević note:

> The fact is that accessibility measures in border regions in all European countries seem to be much lower than in the interior. This can be explained by two factors: the density of cities in border regions is usually lower than in the interior of a country, and the accessibility in border regions is lower due to the lower density of transport infrastructure in these locations. Another important fact is the low accessibility to the peripheries of Europe, especially in the eastern regions. (2017, 168)

It will be the European Macro-Regional strategies, launched between 2009 and 2016 and supported by the funds of 4 specific transnational Interreg programs, to develop, among their priorities of intervention, targeted policies on cross-border connections and cross-border accessibility by promoting a multi-level and multi-stakeholders governance approach together with regional and local administrations of the concerned territories. The European Macro-Regions represent a kind of institutionalization/formalization of the concept of 'soft space' (Schmitt, Metzger 2015), through which the need for spatial planning overcomes the constraint and rigidity of administrative boundaries operating in a logic of cross-border and transnational cooperation through innovative forms of governance (Walsh 2015).

In this new territorial space, issues that until now have been considered secondary finally seem to be emerging: the interrupted connections between adjacent urban areas, though separated by a national border, the interoperability of transport systems, the needs of cross-border commuters, the benefits of removing obsolete administrative and legal barriers in order to strengthen the welfare and quality of life of entire peripheral local communities crossed by internal borders. These issues, if not addressed and resolved, are completely counterproductive to the European territorial cohesion approach.

In order to increase the impact of European Macro-Regional strategies, the European Grouping of Territorial Cooperation (EGCT) instrument was already created in 2006 (European Parliament and Council 2006), once again a formalised cooperation model on a legal basis, in order to allow territorial authorities from different member states to implement projects and collaborations on priorities of common interest at cross-border, transnational and interregional level (Spinaci, Vara-Arribas 2009). The combination of macro-regional strategies and ECGT territorial initiatives strengthens and institutionalises cross-border cooperation. However, ECGTs remain 'flexible tools' suitable to operate with the necessary autonomy on fundamental issues such as cross-border transport networks (Caesar 2017) with respect to which administrative obstacles, inadequate infrastructure and different operational systems strongly penalise border areas and their communities. What we witness in these 'pre-Cross Border Review' years is therefore not only a simple evolution of policies, initiatives and tools

on a regional and local scale, but above all the manifestation of a need: internal European cross-border areas, often peripheral and rural, and their border permeability, call for direct involvement and representation in view of overcoming barriers and territorial integration. Indeed, the use of bottom-up practices, drawing on the knowledge and experience of local border actors, and the specific cultural, social and economic contexts of cross-border territories through 'participatory governance' can really act as 'micro-laboratories' in the European integration process (Ulrich 2016). After 2017 – also in the light of the CBR and the related EC communication – the issue of cross-border transport, mobility and accessibility gets better defined and acquires autonomous relevance both in the literature and at various levels in European policy. New study perspectives related to the models and specificities of EU cross-border commuting also open up. By analysing commuting in specific areas, for example, the function and potential of border areas and the related cross-border integration processes are assessed from different perspectives and reconsidered (Möller et al. 2018). Looking at the same topic in other European border regions, the situation of cross-border public transport is highlighted. It is interesting, for example, that where low urban density causes low demand for public transport and inadequate infrastructural interventions correspond to the lack of major population centres with consequent dependence on private transportation – characteristics that are common to many border areas – a bottom-up reaction is developed at the level of cross-border local policies, optimising available resources with multimodal integration of services, travel fares and ticketing, and infomobility through local-cross-border cooperation agreements. (Cavallaro, Dianin 2019). In 2019, Medeiros puts the issue of cross-border transport in relation to the mobility of European citizens in between internal borders at the centre of a study that well clarifies the level and the territorial dimension of reference, and underlies how accessibility is still an unresolved barrier. To this end, the study draws up a Cross-border Transport Permeability Index, which makes it possible to assess the issue on a European scale, taking as a territorial point of reference the buffer zone of 25 km on either side of the borders, conventionally defined as the 'border area' by the European Commission. Unfortunately, in addition to the general inadequacy of cross-border connections in all border areas, what Medeiros highlights is the lack of a specific and shared strategy for the whole of Europe, given also a growing transport demand from citizens, with all its implications in terms of social development and environmental sustainability. This is made worse by a lack of a specific level of planning and even more so of studies and data on local and regional cases in border areas (Medeiros 2019). Despite the processes of integration and territorial cohesion put in place by the EU, border areas have suffered from a double process of 'peripheralisation', both national and supranational. And both

Member States and the Union have privileged central areas and nodes in terms of investments, infrastructures and policies to the detriment of more peripheral and remote areas (Christodoulou, Christidis 2020). Cross-border peripheral areas, as seen above, often find themselves equipped with obsolete public transport systems which, above all, are inadequate to reconcile the demand for cross-border work commuting coming from the most isolated communities far from the main connection nodes with the all the needs of a post-industrial economy. This inevitably leads to a fundamental problem of social exclusion in the wider context of exclusion from the use of public transport services. It also triggers consequent complications of environmental sustainability (dependence on private transport), and above all – at least for the time being – generates potential solutions exclusively 'from below', namely from the very communities/local administrations mostly penalised by the inadequacies of the system (e.g. institutionalised car-pooling) (Baran, Augustyn 2021). Even at the level of individual Member States, and even where the spatial planning system considers public transport as a fundamental means of access to essential services for all citizens (school, health, social services), studies show an ongoing persistent gap in access to public transport between central regions and peripheral and rural regions, generating consequent inequalities especially for the weakest social groups: limitations in educational and employment opportunities, need for private transport, difficulties in accessing welfare services. This inevitably leads to social exclusion (Binder, Matern 2020). Moreover, the potential regressive effects caused by Eurosceptic and 're-bordering' trends (Brexit, migration flows, identity drives, economic asymmetries between opposite sides of the border, etc.) must not be at all overlooked – also when defining policies and strategies for cross-border mobility and connections (Durand et al. 2020).

The impact of the global COVID-19 pandemic crisis on internal borders must also be taken into account. What has been defined as the 'covidfencing' effect, given the reduced capacity or in some cases lack of cross-border public transport in a normal situation, during the pandemic caused negative effects on the need for work commuting or access to the nearest health/social services for border communities (useful example: all cross-border public transport between Italy and Slovenia was suspended). The issue of physical accessibility and the integration/enhancement of public transport networks at borders therefore remains an open problem, despite the action of cross-border cooperation programmes, and the exceptional nature of the Covid situation has demonstrated the lack of specific European spatial planning on internal border areas (Medeiros et al. 2021a). In the European Commission's most recent Strategy on Sustainable and Smart Mobility (December 2020) there is a greater focus and a central role for cross-border areas, and more generally a paradigm shift much more centred

on the European pillar of social rights. The free movement of people and goods across internal borders is defined as "a fundamental freedom of the European Union", and mobility and transport are the key 'enabling' factor for citizens. Reducing the disparities between regions and improving connections is of strategic importance in the light of the pandemic. The ecological and digital transition processes underway in transport and mobility systems (this time) should not leave anyone behind starting with remote, rural and peripheral areas, where it is crucial to ensure accessibility for all (EC 2020). It is now sufficiently clear that the lack/inadequacy of a cross-border public transport system corresponds to a crucial barrier for the entire territorial system, and that structuring the transport system around public services means laying a cornerstone for increasing the overall quality of life of residents in border areas: job opportunities and environmental sustainability improve exponentially. Finally, given the current regime of regulatory and administrative competencies, the crucial issue of enhancing public transport inevitably passes through the local administrations, which should be given greater authority and legitimacy starting from the European level (Medeiros et al. 2021b).

3 Territory and Transport on the Italian-Slovenian Border: Background and Evolution of Cross-Border Cooperation Dynamics

If we now try to focus on the Italian-Slovenian border, which is the subject of our case study, the evolution of specific policies and the academic feedback dedicated to the subject denote a situation in which physical accessibility and cross-border transport always played a particularly important role for the communities and populations living in the border areas.

The main actors of the first forms of cross-border territorial cooperation are mainly the sub-national regions: the Autonomous Region FVG and Slovenia for the Yugoslav Federation, which operate on a transnational basis both bilaterally and multi-laterally (involving above all: Croatia, the Austrian Lander of Styria and Carinthia and other adjacent Italian regions such as Veneto and Trentino-Alto Adige) (Delli Zotti 1982). More specifically, at a multi-lateral level, attention should be paid to the structure and work of the Alps-Adriatic Working Community (1978), which set up a Transport Commission, which in turn was organised into three working groups: (i) road transport; (ii) rail transport; (iii) interregional air transport. Alpe-Adria already in 1981 brought a series of territorial requests on major transport infrastructures to Brussels (Delli Zotti 1983). The instrument of Joint Commissions/Working Groups emerges as a constant in the cooperation processes between cross-border regions on the Italian-Slovenian

border, as well as the topic of mobility/transportation and spatial planning. This instrument has evolved in terms of participation forms and working methods, transforming itself from the main collaboration tool and laboratory for the definition of shared policies, into a structural element of the synergic system that over the years has gradually incorporated the European cross-border cooperation programmes and the EGTC, through a multi-level governance of all the subjects involved. Thanks to the cooperation programmes, an innovative form of citizenship has emerged that has laid the foundations for a real cross-border community starting from the local level. The whole Italian-Slovenian cross-border territory, even if with different levels of inhomogeneity, has been a permanent laboratory of cross-border mobility at all level. However, it is an area with uneven characteristics: positive factors are the main infrastructural networks and nodes together with the trends of dynamism and economic development demonstrated by Slovenia. On the other hand, it is the local system of cross-border municipalities that suffers from the greatest barriers and criticalities, also in social, environmental and cultural terms, although it shows a growing vocation towards cooperation, which is also the result of the numerous positive experiences collected during the European programming periods been running year after year. The series of integrated transport actions implemented by ADRIA-A (2010-2015) were based on an overall strategy for the area. These have laid the foundations for a structured reorganisation of accessibility and mobility system: light rail transport, LPT network, freight intermodality. Important transversal actions aimed at strengthening the local level, such as the incubation of the first Italian-Slovenian EGTC, the GECT-GO, were also part of this strategy (Gabrielcig, Turk 2015). Considering the 'misalignment' between Italy and Slovenia in terms of levels of government and structure of the territorial bodies that we have seen above (Slovenia does not have a regional level of government, while the FVG region is constitutionally autonomous), it is precisely through the municipalities that a 'homogeneous' cross-border territorial area could be institutionalised, also acting as a key instrument of connection between the actual needs of the resident populations and the higher government bodies and transport agencies, also through the strategic contribution of the EGTCs.

4 General Framework and Methodology of the Case Study

The idea of framing urban mobility planning within a cross-border dimension stems from the series of ideas emerged from the theoretical frame of reference of the previous paragraphs, through the literature and policy review within the last twenty years. The specific case study of this chapter is based on a small survey focused on transport

and cross-border mobility flows within the urban areas of the 25 municipalities located on the Italian border with Slovenia **[tab. 1, fig. 1]**.

Table 1 Italian Municipalities (FVG Autonoumus Region) at Slovenian border

No.	Italian Municipalities at Slovenian border – FVG Autonomous Region – (County)	Inhabitants (ISTAT 31-12-2019)	Surface (km²)	Neighbouring Slovenian municipalities
1	Chiusaforte (UD)	621	100.20	Občina Bovec
2	Cormons (GO)	7,297	35.09	Brda
3	Doberdo' Del Lago – Doberdob (GO)	1,351	27.05	Miren-Kostanjevica – Komen
4	Dolegna Del Collio (GO)	329	12.88	Brda
5	Drenchia (UD)	102	12.01	Kobarid – Kanal ob Soči – Tolmin
6	Duino-Aurisina – Devin Nabrezina (TS)	8,363	45.31	Komen – Sežana
7	Faedis (UD)	2,829	46.78	Kobarid
8	Gorizia (GO)	34,034	41.26	Brda – Šempeter-Vrtojba – Mestna občina Nova Gorica
9	Grimacco (UD)	313	16.11	Kobarid – Kanal ob Soči
10	Lusevera (UD)	607	53.05	Kobarid
11	Monrupino – Repentabor (TS)	863	12.61	Sežana
12	Muggia (TS)	12,980	13.85	Mestna občina Koper – Ankaran
13	Prepotto (UD)	740	33.24	Kanal ob Soči – Brda
14	Pulfero (UD)	876	48.68	Kobarid
15	Resia (UD)	944	119.31	Občina Bovec – Kobarid
16	San Dorligo della Valle – Dolina (TS)	5,694	24.22	Sežana – Hrpelje-Kozina – Mestna občina Koper
17	San Floriano del Collio -Števerjan (GO)	755	10.63	Brda
18	Savogna (UD)	361	22.17	Kobarid
19	Savogna d'Isonzo -Sovodnje ob Soči (GO)	1,701	16.98	Mestna občina Nova Gorica – Miren-Kostanjevica
20	Sgonico -Zgonik (TS)	2,017	31.40	Sežana
21	Stregna (UD)	327	19.69	Kanal ob Soči
22	Taipana (UD)	565	65.44	Kobarid
23	Tarvisio (UD)	4,133	208.36	Občina Kranjska Gora – Občina Bovec
24	Torreano (UD)	2,085	34.99	Kobarid
25	Trieste (TS)	202,564	85.11	Sežana – Hrpelje-Kozina

Source (Inhabitants – Surface): ISTAT 31-12-2019

This small additional survey is part of a wider survey on the state of the art of transport planning and sustainable urban mobility addressed to the 259 municipal administrations located in the Italian

side of the Interreg CB V-A Italy-Slovenia programme area (all 215 municipalities of the Autonomous Region of Friuli Venezia Giulia and 44 municipalities of the Metropolitan City of Venice). The methodological approach is based on a short questionnaire of 5 main questions – with a ramification of some sub-questions – structured according to the mixed logic of multiple-choice and open-field questions. The main topics related to transport and cross-border mobility flows, focused in the 5 questions, were the following:

Question 1 "…whether/which forms of cooperation on transport, mobility and crossing traffic management topics developed with directly neighboring Slovenian municipalities…";

Question 2 "…whether/in which European cooperation projects on mobility and transport issues, the 25 Italian municipalities have been involved with directly neighboring Slovenian municipalities…".

Question 3 "…main transport operators (public and/or private) connecting each Italian municipality with the Slovenian side…".

Question 4 "…main components/levels* of cross-border traffic flows from/to Slovenia involving/crossing the urban area of the 25 Italian municipalities…"
(*components: Freight/Passengers – Bus/Train/Truck – Commuting/Tourism)
(*traffic levels: in terms of available data and individual perception)

Question 5 "…could be considered useful and profitable to implement technical and/or institutional cooperation models on cross-border urban mobility planning with directly neighboring Slovenian municipalities + (comments/suggestions)…".

The questionnaires related to the additional focused survey were available both in MS-Word and on-line version and sent both by ordinary e-mail and to the institutional certified e-mail (CEM) of the several City Administrations. In addition, during the period in which the questionnaire was open, a series of telephone calls were made in order to facilitate the filling work (the same methods were used for the main questionnaire addressed to the 259 municipalities of the programme area). This widespread process allowed not only to increase the number of respondents vis a vis the forecasts, but also to establish channels of discussion/dialogue with the city administrations. The additional focused survey was delivered on 12-11-2020 and it was available for compiling by the city administration until 07-12-2020. The specific target of respondents was settled within the structure of the city administrations, during the questionnaire design. A detailed database of contacts related to mayors, deputy mayors and urban mobility managers/technicians/officers it was created in order to optimise

the quality level of responses. It's interesting to point out the following feature emerged during the survey set up: the lack of homogeneity in the organizational chart of the Italian local administrations requires a range of mobility competences coming from several offices/departments and spread over different aspects of competence (traffic management and public transport services, urban mobility planning, environmental issues, infrastructures). Often, only in case of larger and/or capital municipalities we observed the full set of competences concentrated in ad hoc structures (e.g. sustainable mobility department). This organizational process it has been fostered, among other things, by the introduction of the principles/objectives of environmental and social sustainability on the urban mobility concept. The first results on this case study were presented on 4 December 2020 in the framework of the international webinar of the CROSSMOBY project on *Transport and Cross-border Mobility in the European Union. Issues and State of the Art*. The participation level and the discussion results of the webinar gave a fundamental boost to the realization of this collective book.

5 Results of the Survey and Notes for Discussion

The additional survey focused on cross-border mobility in terms of respondents received a good response rate. The questionnaire was completed by 16 out of the 25 border municipalities (64%). Moreover, the 16 responding municipalities represent 97.02% of the population living on the Italian side of the border with Slovenia and 71.08% of the whole surface of the area **[tab. 2]**. Three out of the four Administrative Provinces of Friuli-Venezia Giulia are represented in the total of 25 municipalities; only the Administrative Province of Pordenone does not have any municipalities that geographically 'face' Slovenia **[tab. 3]**.

Table 2 Responding municipalities, population and total surface area compared to the whole Italian side of the border with Slovenia

Responding municipalities – Tot. inhabitants – Tot. surface	Figures compared to the (total)	Percentage – %
tot. responding municipalities	**16** (25)	64%
tot. pop. of responding municipalties (inhabitants no.)	**283,723** (292,451)	97.02%
tot. pop. of the respondent municipalities (km^2)	**807,8** (1,136.42)	71.08%

Data Source: ISTAT 31-12-2019

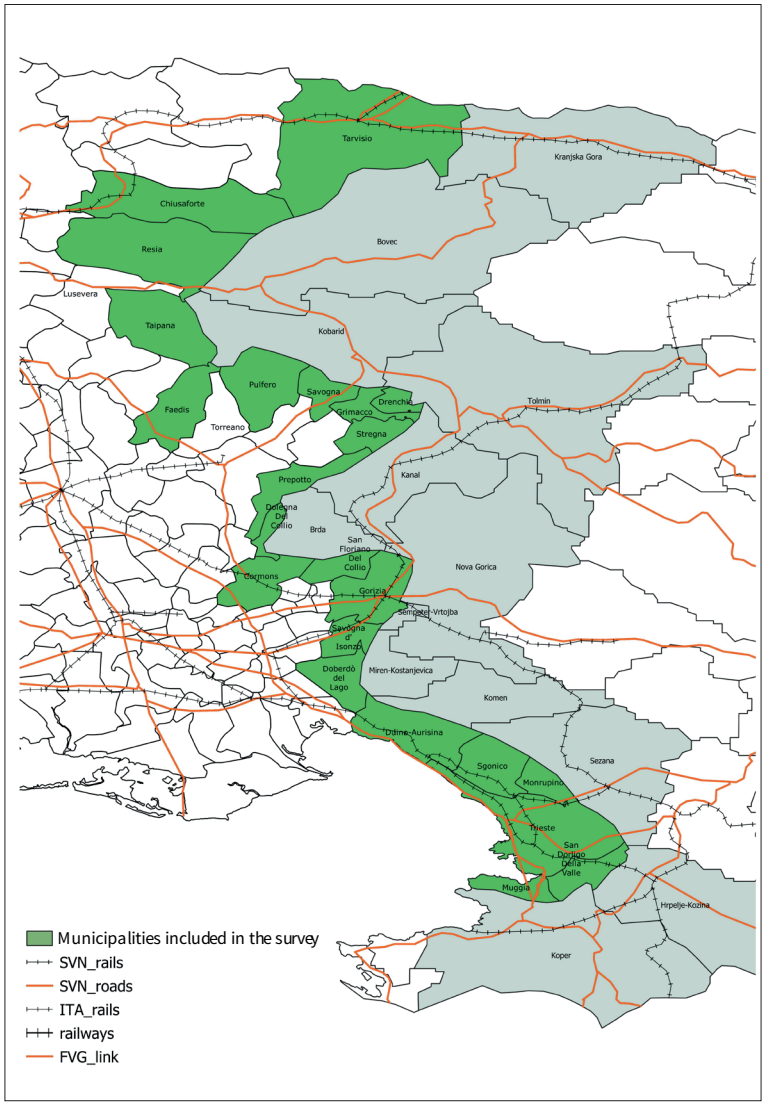

Figure 1 Italian-Slovenian cross-border territory and communication routes with evidence of border municipalities. Graphic design by Marco Fasan

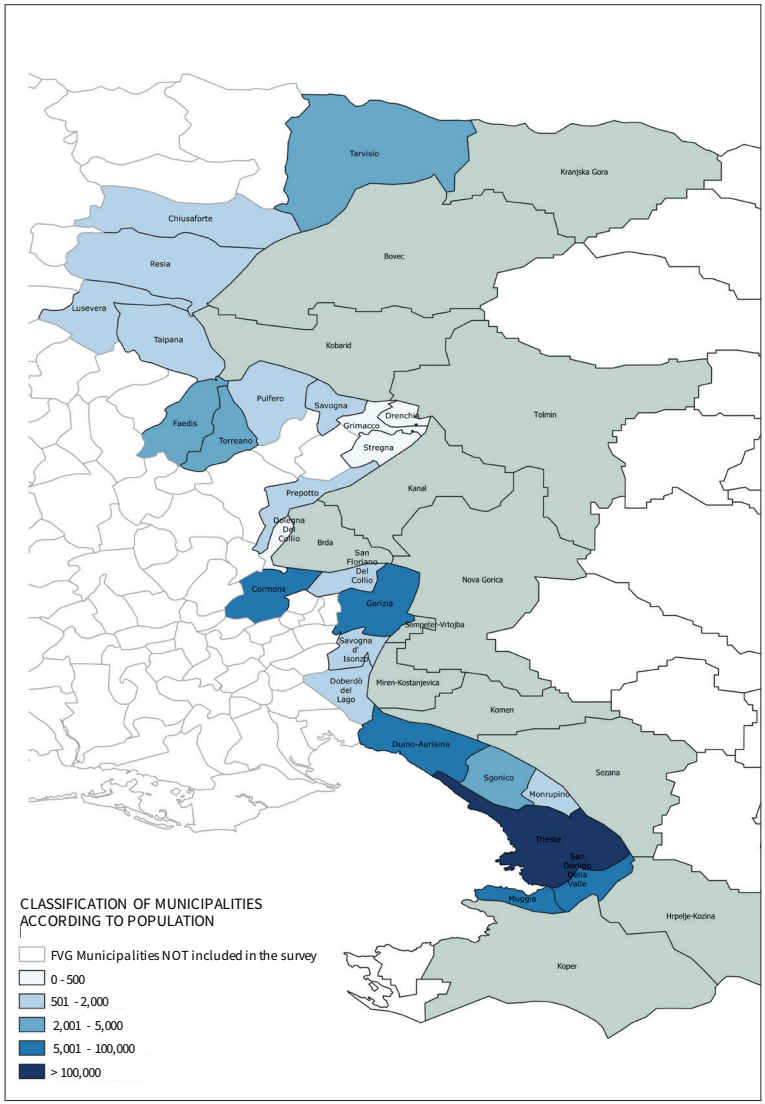

Figure 2 Inhabitants concentration within the 25 Italian municipalities on the border with Slovenia. Graphic design by Marco Fasan

Table 3 Responding Municipalities per Administrative Provinces out of total sample

Administrative Provinces of the Autonoumus Region FVG	**Respondents per Admin. Province compared to the (total)**	**percentage – %**
Trieste	**5** (6)	83%
Udine	**6** (13)	46.15%
Gorizia	**5** (6)	83%
Pordenone	n.a.	n.a.

Data Source: 31-12-2019

Table 4 Responding Municipalities and (survey sample totals) per population size and surface size classes

(Municipalities) Population size classes	**Responding Municipalities per population size compared to the (total)**	**(Municipalities) Surface size classes**	**Responding Municipalities per surface size classes compared to the (total)**
0-500 inhabitants	**3** (5)	1-20 km^2	4 (8)
500-2,500 inhabitants	**6** (12)	20-40 km^2	**5** (7)
2,500-5,000 inhabitants	**1** (2)	40-60 km^2	**4** (5)
5,000-10,000 inhabitants	**3** (3)	60-80 km^2	**0** (1)
10,000-20,000 inhabitants	**1** (1)	80-100 km^2	**1** (1)
20,000,50,000 inhabitants	**1** (1)	100-150 km^2	**1** (2)
50,000-100,000 inhabitants	**0** (0)	150-200 km^2	**0** (0)
100,000 – 250,000 inhabitants	**1** (1)	200-250 km^2	**1** (1)
> 250,000 inhabitants	**0** (0)	> 250 km^2	**0** (0)

Data Source: ISTAT 31-12-2019

As tables 3 and 4 reveal, the Italian border area as a whole and in relation to the 25 municipalities of reference, constitutes a heterogeneous territory, where the majority of the sample (19 out of 25) is composed by small and very small municipalities with a resident population of less than 5,000 inhabitants and a surface size class of less than 60 km^2. However emerged some specific and antithetical cases, where the population concentration is high compared to the size class of the municipal surface (e.g. Trieste and Gorizia); or where, on the contrary, a large surface extension (between 100 and 200 km^2) corresponds to local communities with no more than 5,000 inhabitants or

even less than 1,000 (e.g. Tarvisio, Chiusaforte and Resia) **[tabs 1, 3]**. Also in terms of morphology and diversity of natural environments, the 232 km of the Italian-Slovenian border from north to south include at the opposite ends the mountain areas of Tarvisio (a paradigmatic cross-border area placed at the crossroads between Italy, Austria and Slovenia) and the Gulf of Trieste in the Upper Adriatic, passing through the Soča Valley and the Karst highland. Such characteristics represent an additional challenge to the creation of an organic system of cross-border connections and at the same time they justify even more the implementation of jointly mobility planning methodologies, fully integrated on a cross-border scale, just starting by the different urban contexts. As far as the specific contents and trends of the collected answers through the questionnaires are concerned: 8 out of 16 answers (50% of the respondents) reported previous collaborations with neighboring Slovene municipalities on the topic of mobility/transportation (not necessarily within the framework of European projects, but also linked to informal exchanges of information/experience, or aimed at the coordinated resolution of transport problems of common interest). Specific experiences of collaboration on European funding programmes are mentioned in 5 out of 16 cases (31.25%). Concerning the information requested on the main operators (public and private) are currently providing cross-border transport and related to the state of the different border crossings (practicability, state of the road infrastructure, etc.) located in the 25 municipal areas, we've been collected a series of information and data not so readily available through indirect sources (institutional web sites, administrative documentation, etc.). However, the request for detailed data and information on the transport providers and cross-border transport routes operating in each municipality caused more difficulties for respondents than the questions on the state of border crossings. 7 out of 16 answers (43.75%) provided fragmentary or completely missing data on the issue. Furthermore, in 3 specific cases it was declared the total lack of public/private transport services with direct or connecting lines for border crossing. On the other hand, we have summarised in the following 4 graphical elaborations **[figs 3-6]** the perception of the respondents on the incidence within the municipal area of the different components of the traffic flows crossing from/to Slovenia, specifically: 1) freight traffic flows by road; 2) commuter traffic flows by road (e.g. cars, interurban LPT, etc.); 3) tourist traffic flows by road (tourist buses, cars, etc.); 4) traffic flows by rail (passenger or goods trains), naturally limited to the municipalities where a railway junction/station is operating. We gave to the respondents the opportunity to describe their individual perception concerning the four components of traffic flows through as many predetermined descriptive categories: a) very high; b) high; c) low; d) absent. In the graph, the categories are represented with

different gradations of color (from darker to lighter color depending on the decrease in perceived relevance).

In order to receive more insights/comments by the respondents concerning this specific question, an open response field was created relating to the following requests: 1) to provide any specific and updated data on the different types of crossing flows, held by the individual administrations. Unfortunately the responses were consistently negative (a counterproof of the difficulties/problems addressed by municipal administrations for available data access) except for 2 answers, one of which was only partially answered (12.5%); 2) to describe specific criticalities caused by crossing traffic on the municipal road network. In this case the response rate and related information was higher than in the previous one. 4 responses out of 16 (25%) were collected with fairly detailed descriptions. The responses on the last question were certainly much more satisfactory: to the request on whether or not it would be useful to develop forms of technical/institutional cooperation (even outside the European funding framework) with neighboring municipalities across the border, 12 out of 16 responses gave a positive opinion (75%) and the remaining did not express any feedback. Moreover, 7 out of the 12 positive answers added also some ideas/suggestions on potential methods/forms of cooperation. Although the approach of this additional focused survey on cross border transport did not go particularly in-depth in terms of information required, the overall data collected leaves room for an extensive level of analysis and a further in-depth interpretation of the results achieved.

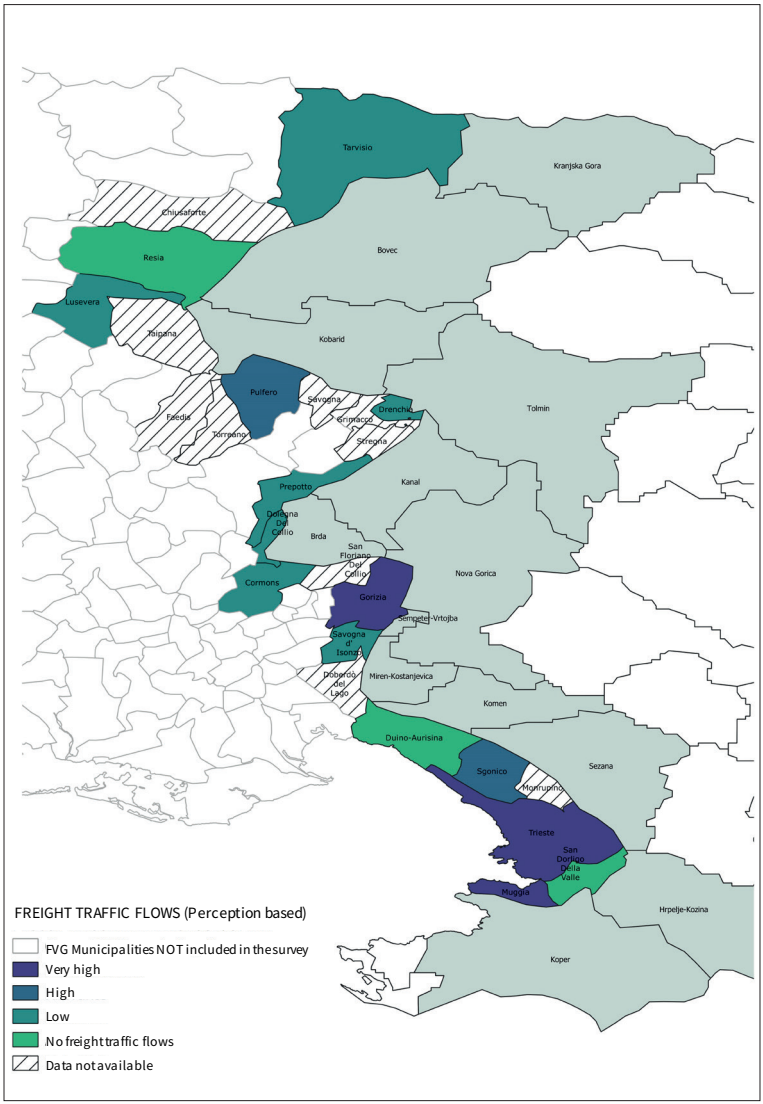

Figure 3 Freight traffic flows by road. Graphic design by Marco Fasan

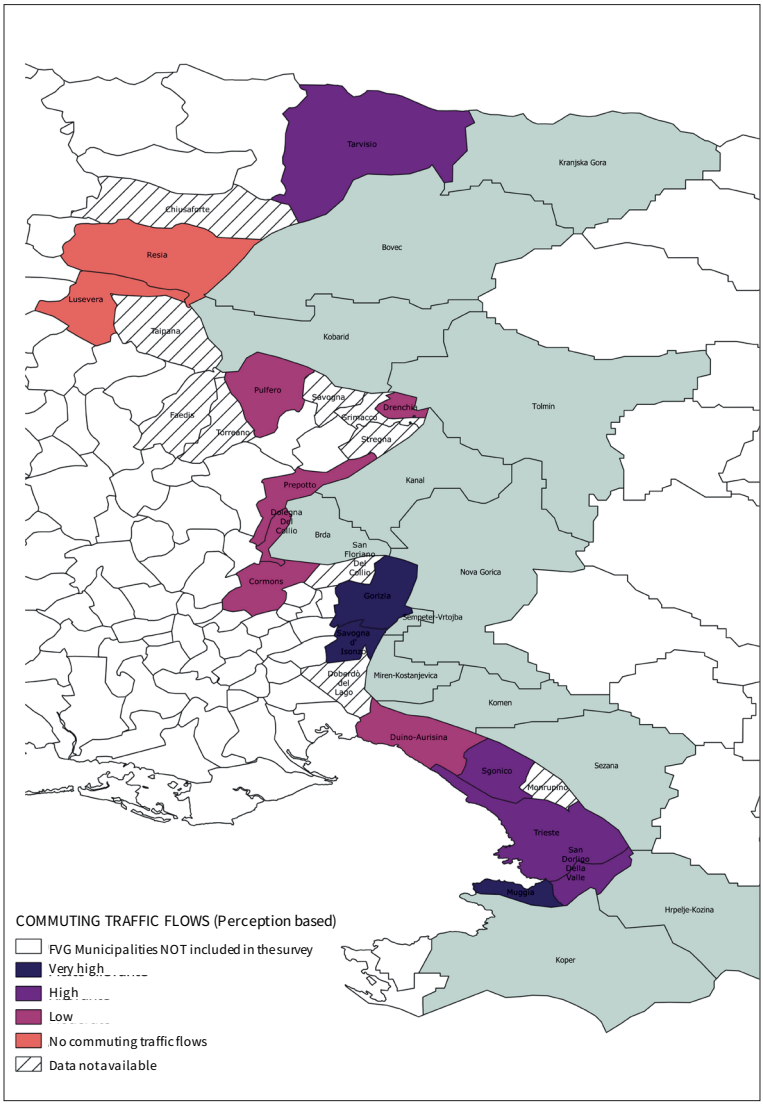

Figure 4 Commuting traffic flows by road. Graphic design by Marco Fasan

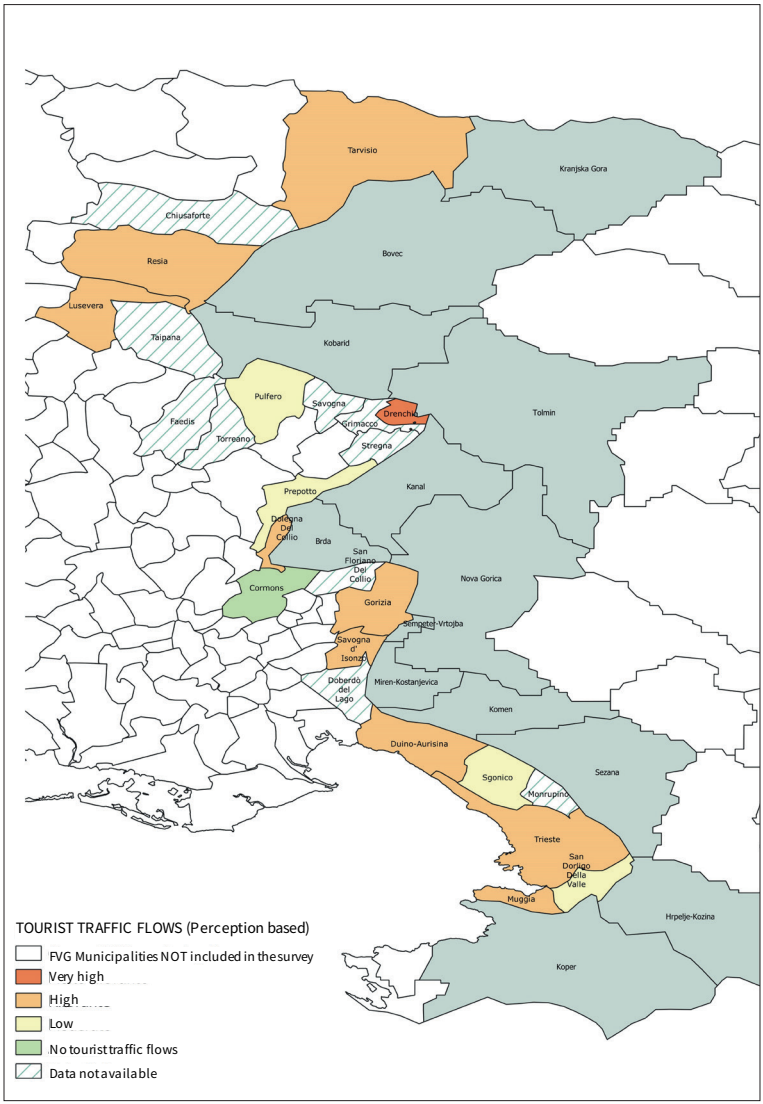

Figure 5 Touristic traffic flows by road. Graphic design by Marco Fasan

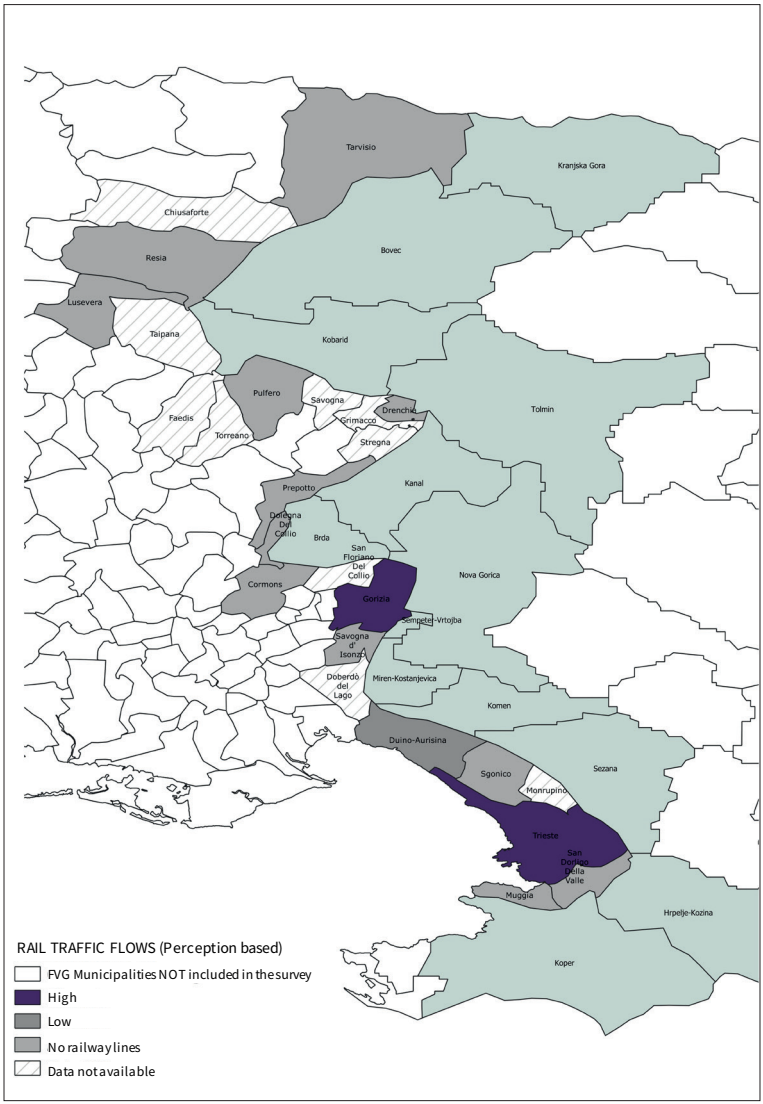

Figure 6 Traffic flows by rail (passengers and freight). Graphic design by Marco Fasan

6 Conclusion

The 25 municipalities forming the closest border area of the Italian territory at the boundary with the Republic of Slovenia provided an important contribution to this survey, revealing an high level of cooperation and participation in the overall study case (both for the main questionnaire and the specific additional survey). The review of the theoretical and policy framework also allowed to design and frame the case study on cross-border urban mobility, bearing in mind the manifold aspects and issues that the specific topic, and more generally cross-border cooperation, necessarily entails. The impact of key factors such as social inclusion, territorial cohesion, governance models and inter-institutional relations, on the creation of an integrated system of cross-border mobility probably no longer it justifies to rely exclusively on technical and specialized transport knowledge. Moreover, the ups and downs experienced so far by the so-called 'debordering' process of EU internal cross-border areas could also be caused by to the fact that the issue of barriers/obstacles to the accessibility and physical permeability of these important areas has never been radically addressed. The work and analysis conducted on the topic of urban mobility in cross-border municipalities hopes to add further insight concerning the role that local administrations and communities could play in this important process.

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