FINAL REPORT BY THE EXPERT

Identification of obstacles for and possible solutions to improve the quality of cross-border public transport services in the Euregio via salina.

Advice case: **Cross-border public transport**
Advised entity: **Euregio via salina e.V.**
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Date: **19 July 2023**

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Executive summary

The Euregio via salina has strategically identified the need to improve its public transport (PT) system. Main reasons are the ever-increasing number of motorised vehicles and the poor and inadequate quality of existing cross-border services and the large number of tourists calling for high-quality public transport. The geographical situation of the Austrian exclaves of Kleinwalsertal and Jungholz, located within the Euregio, which are only accessible from the German side, also calls for specific solutions. At the same time, the topography does not allow for significant increases in the number of border crossings for public transport. By way of consequence, a mere quantitative increase in cross-border PT services seems not sufficient; instead, qualitative improvements of the overall PT system are desired.

Against this background, four action fields with a total of seven activities were identified for improving public transport. The four action fields are (1) Administration, (2) Planning, (3) Tickets and tariffs, and (4) Information, data, and digital services. While the first two fields primarily address actors responsible for public transport planning, organization, and provision, the last two are directly targeted at improved end user experiences.

The four action fields cover seven strategic activities deemed necessary for a sustainable improvement of the entire public transport system. These are the establishment of a (i) **German PT association** in the Allgäu region, of a (ii) **Cross-border mobility coordination centre** (MCC) and of a (iii) **Guest card clearing house** for mutual recognition of guest cards as PT tickets; the development of a (iv) **PT vision**, (v) **PT standards**, and of (vi) **Joint cross-border tariff structures**, and the introduction of joint (vii) **Information, data, and digital services**.

While Activity 1 is already initiated with strong top-down impetus by the Bavarian State Government, the other activities must be initiated by the actors in the border region as bottom-up initiatives. As Activity 1 only refers to the German part of the Euregio via salina, the establishment of the MCC is particularly important to ensure coordination and joint planning of the future public transport systems with the Austrian side. It can either be implemented in form of an EGTC, or it can be administratively affiliated to the Euregio via salina. An Interreg project could develop its necessary administrative and technical foundations. The other activities can be implemented as cross-border public services (CPS).

With respect to the time horizon, the establishment of the German PT association is expected to be completed by 2025. The MCC, the guest card clearing house and first actions under the information, data, and digital services should also start immediately. Developing the PT vision is also top priority as it may develop guidelines for the future PT system. Developing PT standards and join tariff structures are medium-term tasks, as they require the administrative actions to be in place.

Based upon its mandate (Euregio strategy), the Euregio via salina could organize, moderate and supervise the entire implementation process for all activities. As highlighted in its strategy, improving the public transport system is not considered an end in itself, but is intended to achieve much broader goals:

- Creating a viable economy with easy access to knowledge, information, and partners,
- Strengthening sustainable tourism by facilitating and simplifying the use of public transport,
- Integrated territorial development and safeguarding quality of life,
- Reducing border barriers and increasing cross-border flows of people, and
- Facilitating cross-border education and generally making the region more attractive.

There is a reasonable hope that the implementation of the identified four fields of action and seven activities contribute to the achievement of these broader goals.

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List of Abbreviations

BiBo	BeIn-BeOut
CBPT	Cross-border public transport service
CI	Corporate Identity
CiBo	CheckIn-BeOut
CiCo	CheckIn-CheckOut
COR	(European) Committee of the Regions
CPS	Cross-border public service(s)
EGTC	European Grouping(s) of Territorial Cooperation
GTFS	General Transit Feed Specification (digital exchange format for static and dynamic timetable information)
MCC	(cross-border) Mobility Coordination Centre
Mona	Mobilitätsgesellschaft für den Nahverkehr im Allgäu
MORO	Modellvorhaben der Raumordnung (Federal German Spatial Research Programme)
NUTS	Nomenclature des unités territoriales statistiques
PT	Public Transport
SGI	Service-of-general-interest
TVB	Tourismusverband (Tourism association)
VVT	Verkehrsverbund Tirol
VVV	Verkehrsverbund Vorarlberg

0. Introduction

During the elaboration of the Euregio strategy, several obstacles and problems for the further development of cross-border public transport in the Euregio via salina were mentioned in workshops and expert discussions. At the same time, the improvement of public transport was identified as one of the primary objectives of the Euregio.

This was the impetus for a B-Solutions application submitted by the Euregio via salina to AEBR beginning of 2023 with the aim of obtaining a systematised overview of these obstacles and possible solutions, which in turn are considered as the basis for future steps including a possible Interreg application. This report presents the results of an analysis of obstacles and potential solutions for cross-border public transport in this Austrian-German border area.

Main input for the identification and collection of the challenges, obstacles and possible solutions was a workshop with public transport experts organised together with the Euregio via salina, which was held on 15 May 2023 at the Euregio office in Kempten (Allgäu), Germany. Possible solutions and action fields have then been further discussed with the same stakeholder group at a second digital workshop held on 5 July 2023. The lists of participants of these workshops are presented in the Annex. Further information has been compiled through a series of virtual meetings with representatives from the Euregio via salina and through desk research, by reviewing related documents (inter alias, the Euregio´s application to B-Solutions, Euregio´s strategy[1]) and internet resources. Also, results of recent studies on cross-border public transport services commissioned by DG REGIO of the European Commission and by ESPON EGTC, and the policy recommendations developed therein, were utilized.

After this introduction, Chapter 1 provides information on the general context of this initiative, by describing the current framework conditions within the Euregio via salina (1.1), introducing the Euregio via salina as cross-border organisation (1.2) with their strategy (1.3), assessing the demand for public transport and permeability of the Austrian-German border in the Euregio (1.4) and typical cases of cross-border transport services (1.5). Chapter 1 concludes with a summary of the current situation (1.6).

Chapter 2 presents the identified challenges and obstacles for cross-border public transport in the Euregio (2.1), structures them (2.2) and identifies their root causes (2.3).

Existing cross-border bus and train services are described in Chapter 3.1, so as recent and ongoing transport-related activities of stakeholders in the cross-border area (3.2). Experiences gained and results obtained in these activities should be taken up and integrated in possible solutions to the obstacles, which are presented in Chapter 4. Solutions are grouped into different action fields (4.1), the identified detailed activities are described (4.2) and implementation options presented (4.3). Eventually, possible ways of implementation are outlined in Chapter 4.4. This chapter also includes here and there further specific guidance, definitions, and good practice examples for implementing measures, based on findings from previous studies.

The report ends with a summary of the findings and draws conclusions (Chapter 5).

After the literature list (Chapter 6), the Annex (Chapter 7) provides materials for further reading, including a list of relevant actors in the field of public transport in the Euregio via salina (7.1), lists of workshop participants (7.2), screenshots of the challenges and solutions identified at the workshops (7.3), an overview about existing services for cross-border tariff integration and ticketing in Europe (7.4), as well as further hints towards the CPS and CBPT inventories (7.5).

[1] Kuhn and Salchner, 2021

1. General context

1.1 Framework conditions in the Euregio via salina

The Euregio via salina is a cross-border region between Vorarlberg, Allgäu and Reutte, covering the westernmost part of the Austrian-Bavarian border. It extends from Lake Constance in the west (City of Lindau, Germany) to the Zugspitz massif near Ehrwald in the east (Figure 1). The entire border runs along mountain ranges of the Alps with, due to the topography, only a few border crossings.

Administratively, the Bavarian part of the Euregio via saline belongs to the district of Swabia, while the Austrian parts are located in the provinces of Vorarlberg and Tyrol.

Another peculiarity in the Euregio caused by the topographical situation is that the two Austrian exclaves Kleinwalsertal and Jungholz are only accessible by road from the German side. A direct road or railroad connection to the rest of the Austrian territory does not exist.

The German part of the Euregio via salina includes the foothills of the Alps as far north as Memmingen and Mindelheim, and the Allgäu Alps. The Austrian part lies entirely in the northwestern Eastern Alps and includes the Lechtaler Alps, the Tannheimer Tal, the Austrian Zugspitz massif in the east, as well as the Kleinwalsertal and Große Walsertal up to the Bregenzer Wald in the west. In the south, the Euregio extends to the Swiss border (Canton of Graubünden).

Figure 1. Map of Euregio via salina

Source: Modified after FAU Erlangen-Nürnberg; Data source: © Eurostat-GISCO

The Euregio is a popular vacation region on both sides of the border all year round, both for day-trippers and tourists, offering many attractions. In the Allgäu alone, for example, more than 13 million overnight stays and almost 4 million guest arrivals were recorded in 2018.[2] In addition to natural (mountains and valleys, Lake Constance, Zugspitze as the highest mountain in Germany) and historical (e.g. royal castles in Füssen) attractions, the border region offers numerous activities, from alpine sports to mountain biking, hiking, climbing and museum visits. In some places, one can already speak of mass tourism, which of course also visits cross-border destinations in the respective neighbouring country.

There are two major north-south transport axes crossing the Euregio. One is the A7-B179-B189 (Fernpass) route connecting the city of Ulm in the North with the Inn valley in the south and further on via the Brenner route with Italy. While on the German side this route is completely made up by the motorway A7, on Austrian side it is a national road. The B179 is considered one of the most congested roads in Austria.[3] The second route at the western edge of the Euregio is the A96-A14 route connecting Lindau (Bodensee) with Bregenz and further on to Liechtenstein and Switzerland. This route is a motorway connection. There are also two main traffic axes in the west-east direction. In Germany this is the Lindau-Munich axis, in Austria the Arlberg express road (S16) connecting Vorarlberg with the Inn valley. Both axes have a long-distance road connection as well as a long-distance railway connection including IC/EC services.

Road accessibility in the Euregio via salina is, altogether, quite different, with areas tightly connected to trunk road networks (A7, A96, B32) opposed to other parts with travel times of more than one hour to reach next motorway exit. On the German side, road accessibility to the neighbouring Bavarian regions and regions in Baden-Württemberg is considered very good, while on the Austrian side the Euregio via salina is less well integrated to the remaining country, mainly caused by topographic conditions.

The high volume of tourists and day-trip traffic as well as the car-centric mobility of the local population in the border region regularly leads to traffic jams as capacity limits of the road network are exceeded.

The existing railway connections can only partially compensate for this. The Bavarian Allgäu Railway and the Württemberg Allgäu Railway connect the region well to Lindau/Zurich and Munich with various IC/ICE connections, but within the Euregio there are only a few regional railways (Immenstadt-Oberstdorf, Biessenhofen-Marktoberdorf with continuation to Füssen and Ulm-Kempten) and only one cross-border railway connection (Außerfernbahn Kempten-Pfronten-Steinach-Reutte in Tyrol-Garmisch-Partenkirchen). Except for the Außerfernbahn, the regional railway lines are not electrified, and all are quite slow due to unsecured level crossings. Overall, several changes in public transport are necessary for longer distances.

1.2 Euregio via salina as institution

The Euregio via salina as an institution is responsible for cross-border regional development.[4] It is constituted as a registered association under German law and has members from the German and Austrian sides. It is led by a 5-member presidium. The day-to-day cooperation is based administratively on a statute and substantively on the Euregional strategy, which defines the goals and measures for an integrated development in the Austrian-German border region.

[2] Wikipedia, 2023a

[3] To improve the situation at the Fernpass route, the Government of Tyrol has recently adopted the so-called 'Fernpass-Strategie' (Landesregierung Tirol, 2016).

[4] www.euregio-via-salina.de

Interreg funds are primarily used to implement the strategy, but the office also sees itself as an interface for facilitating networking activities among all regional actors.

The following Interreg-Programs are relevant for the Euregio via salina:

- Interreg VI-A Bayern-Österreich[5]
- Interreg VI-A Alpenrhein-Bodensee-Hochrhein[6]
- Interreg B Programm[7]

Since 1997, the Euregio via salina has provided its members with general advice on funding opportunities for Interreg projects. The Euregio is managed by a presidium and permanent staff and its office is based in Kempten (Allgäu).

1.3 The Euregio strategy and Interreg VI-A Bavaria-Austria

The work of the Euregio via salina as organisation is based on and oriented towards the Euregio strategy[8] and the thematic areas of the Interreg VI-A programme. Both complement each other, as Figure 2 shows.

Sustainable mobility and the strengthening of public transport is one of the three building blocks of the Euregio strategy. The strategy emphasises that mobility should be viewed holistically and understood under the guiding principle of the "Mobility Trend Map" (Figure 3). In the area of mobility, the strategy identifies the following three thematic action fields:

- Thematic action field 2.1: Better guide and reduce individual car traffic
- Thematic action field 2.2: Strengthening public transport
- Thematic action field 2.3: Development and implementation of sustainable and innovative mobility concepts

Improving public transport is therefore important for both local residents and tourists/visitors. The latter increasingly travel to the Euregio by public transport and would then also like to be able to move easily within the border region by public transport. Guest mobility without a car also relieves the traffic situation for the benefit of day visitors and the local population.

However, improving public transport does not only stand on its own, but – according to the strategy – shall also have a serving function to achieve other objectives of the Euregio strategy, such as

- viable economy (easy access to knowledge, information and partners),
- sustainable tourism (facilitating the use of public transport by tourists),
- integrated territorial development and safeguarding quality of life,
- reduction of border barriers, and
- facilitating cross-border education and generally making the region more attractive.

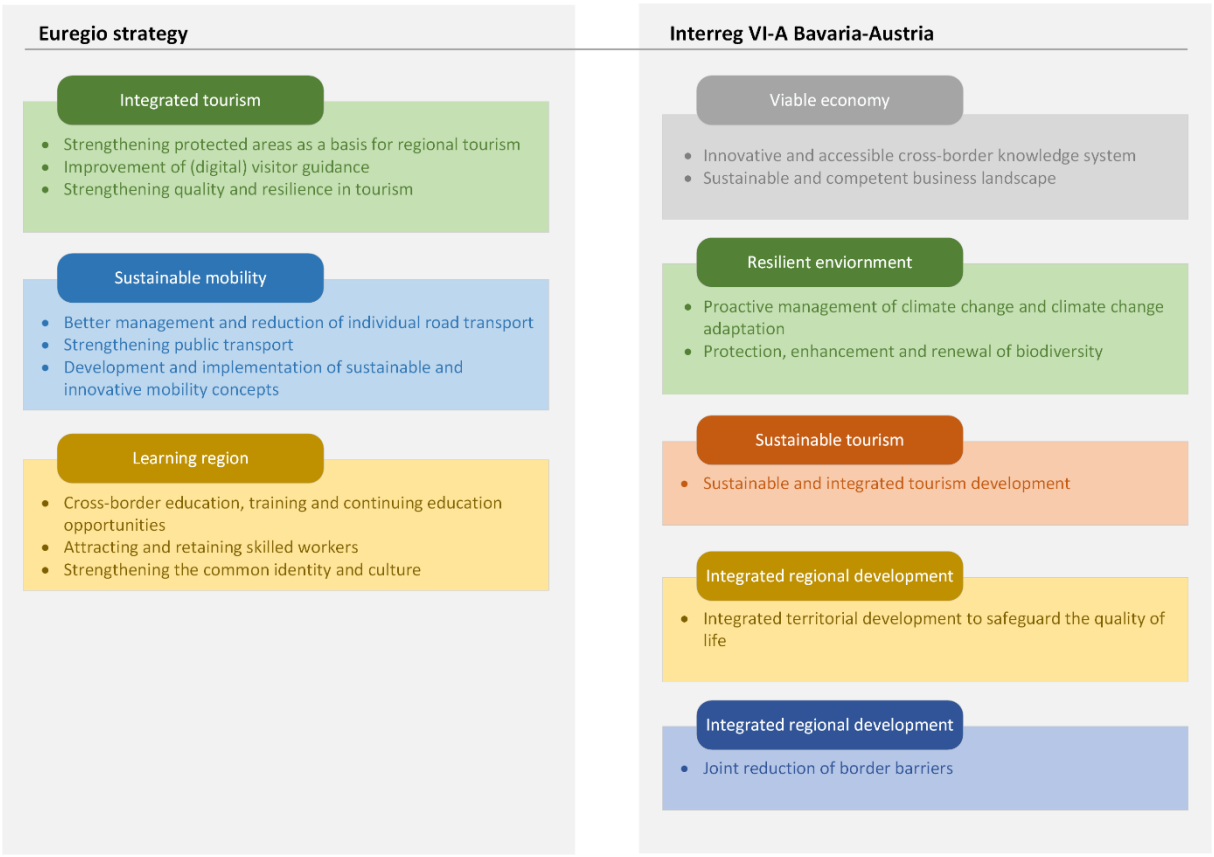
[5] www.interreg-bayaut.net/

[6] https://interreg.org/

[7] www.interreg.de

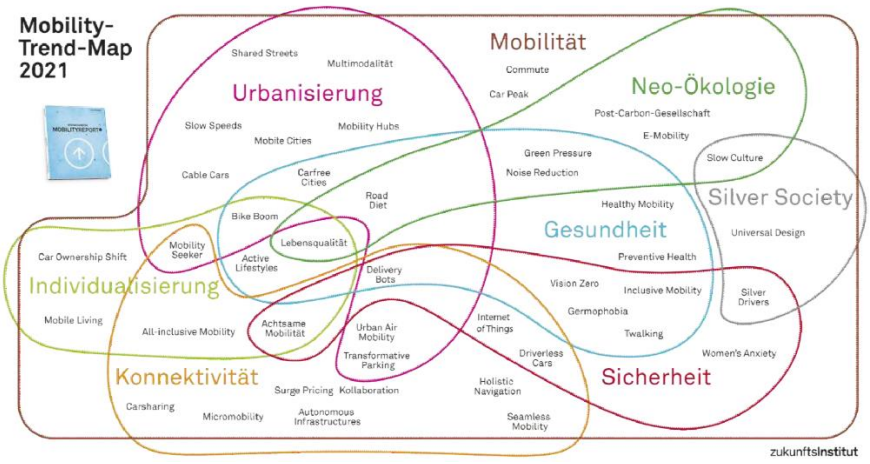
[8] Adopted and published in 2021

Figure 2. Euregio strategy vs. Interreg VI-A programme.



Source: Euregio via salina, 2021

Figure 3. Mobility trend map.



Source: zukunftsinstitut, in: Kuhn and Salchner, 2021

1.4 Demand and border permeability

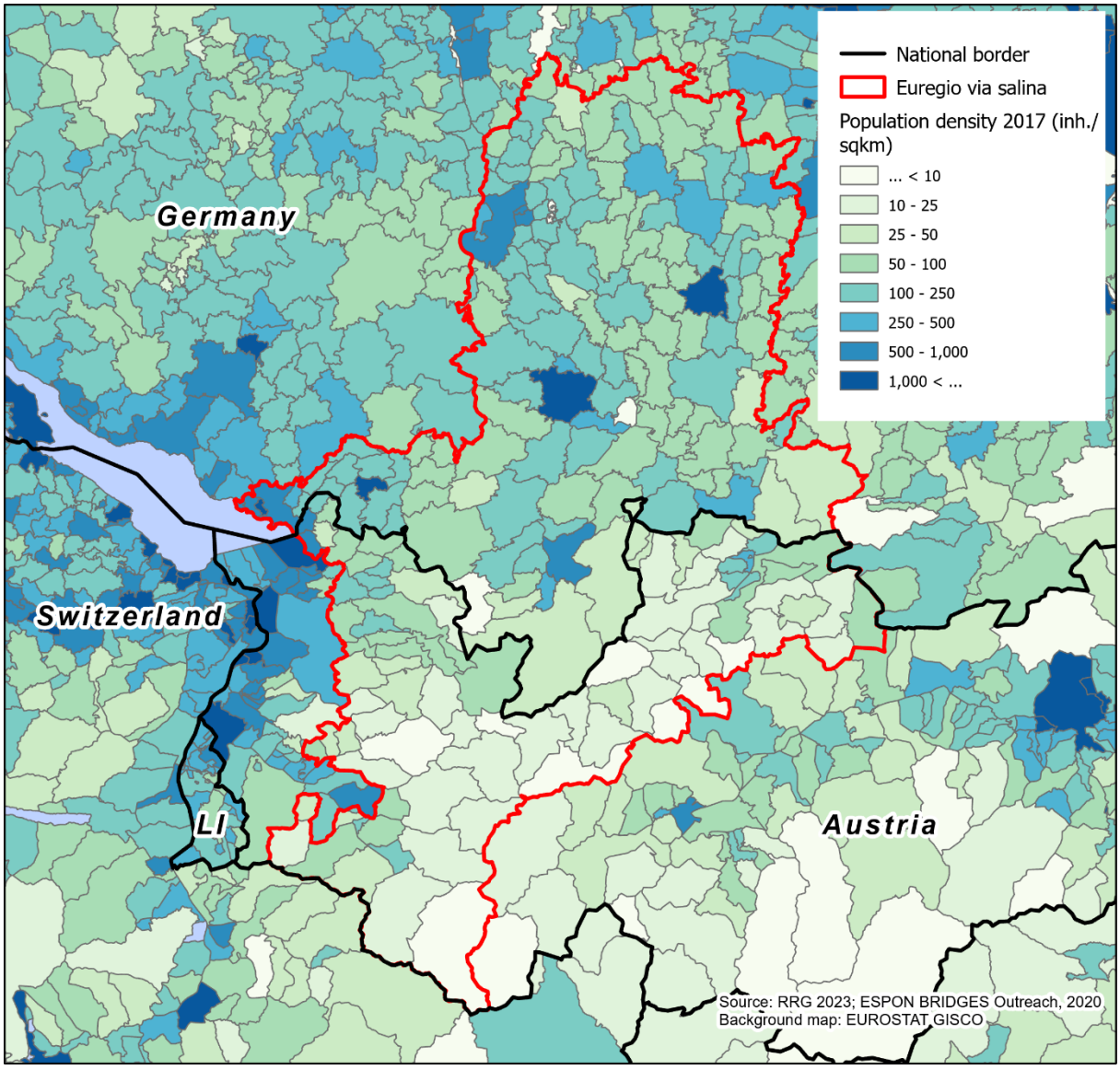
The Austrian-German border in the Euregio via salina is separating areas with comparatively high population densities in Germany (more than 100 inhabitants per m^2) from areas with low densities in Austria with not more than 50 inhabitants per m^2 (Figure 4). This hints to a higher

demand for public transport on the German side. While the Fernpass national road in Austria is one of the most-congested roads in the country, residents in Außerfern usually travel to nearby Germany to do their shopping and errands, while a trip to Innsbruck would require much longer travel times and is thus considered less attractive.

Nevertheless, with some exceptions, the demand for cross-border trips is generally lower than between national destinations of the same size, as there are, for example, fewer workplace commuters and school transport in the cross-border context.

In the case of the Euregio via salina, however, day trippers and tourists play a major role as a potential target group for PT services, more so than in many other (border) regions. In the immediate border area, these are somewhat more evenly distributed on both sides of the border, so that a more even demand can be assumed for visiting attractions. The large number of tourists significantly supports financing of public transport in the border region.

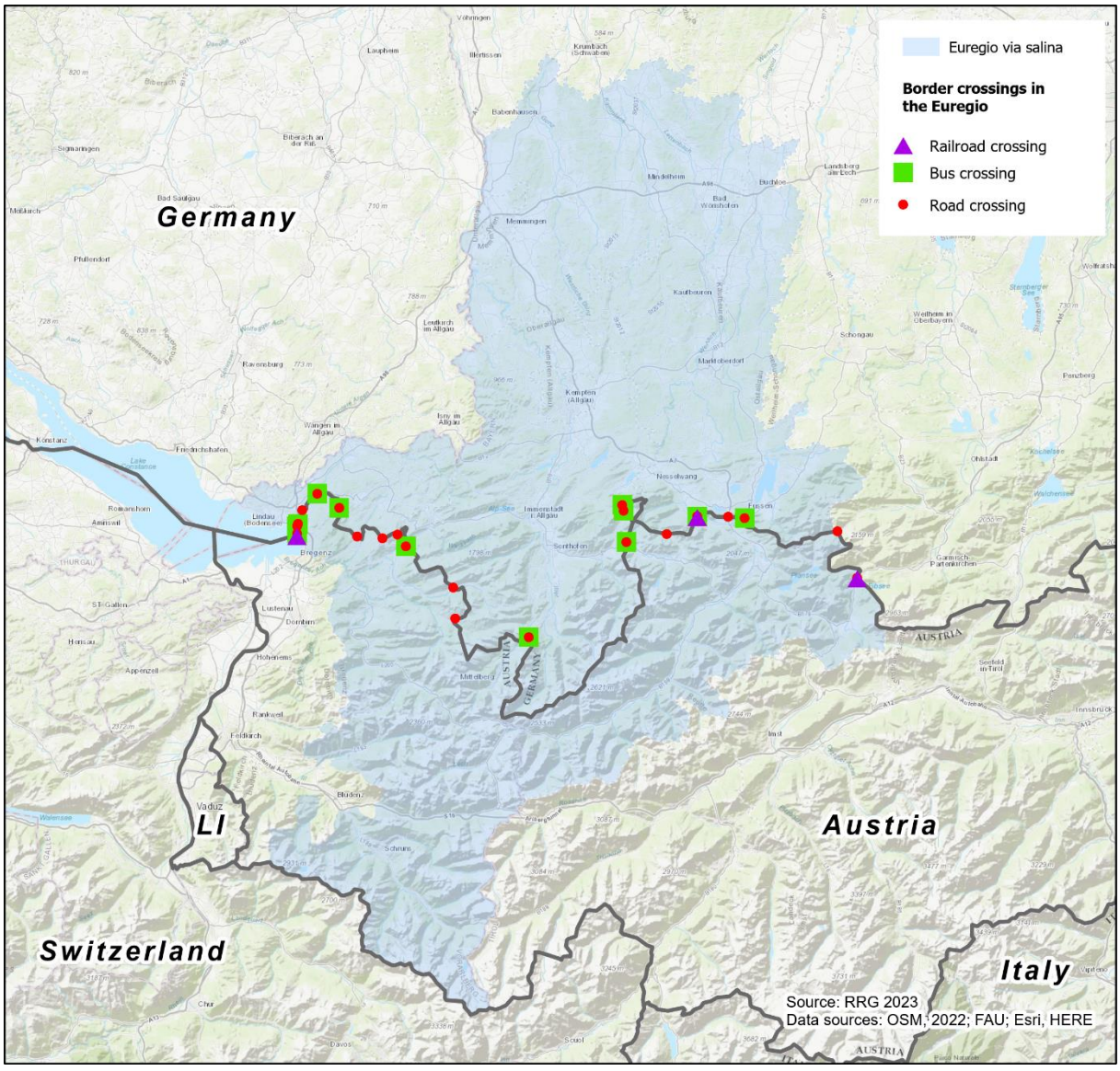
Figure 4. Population density 2017.



Source: own elaboration

Cross-border flows are hindered by the small number of border crossings. Due to the mountainous location, there are only 22 road border crossings, of which some are used by bus services, and only three in the rail network (Lindau/Bregenz in the west, Pfronten/Vils and Griesen/Ehrwald in the east) (Figure 5). Longer border sections in the centre of the Euregio cannot be passed at all due to the topographic conditions with Alpine Mountain ranges.

Figure 5. Road and rail border crossings in the Euregio.



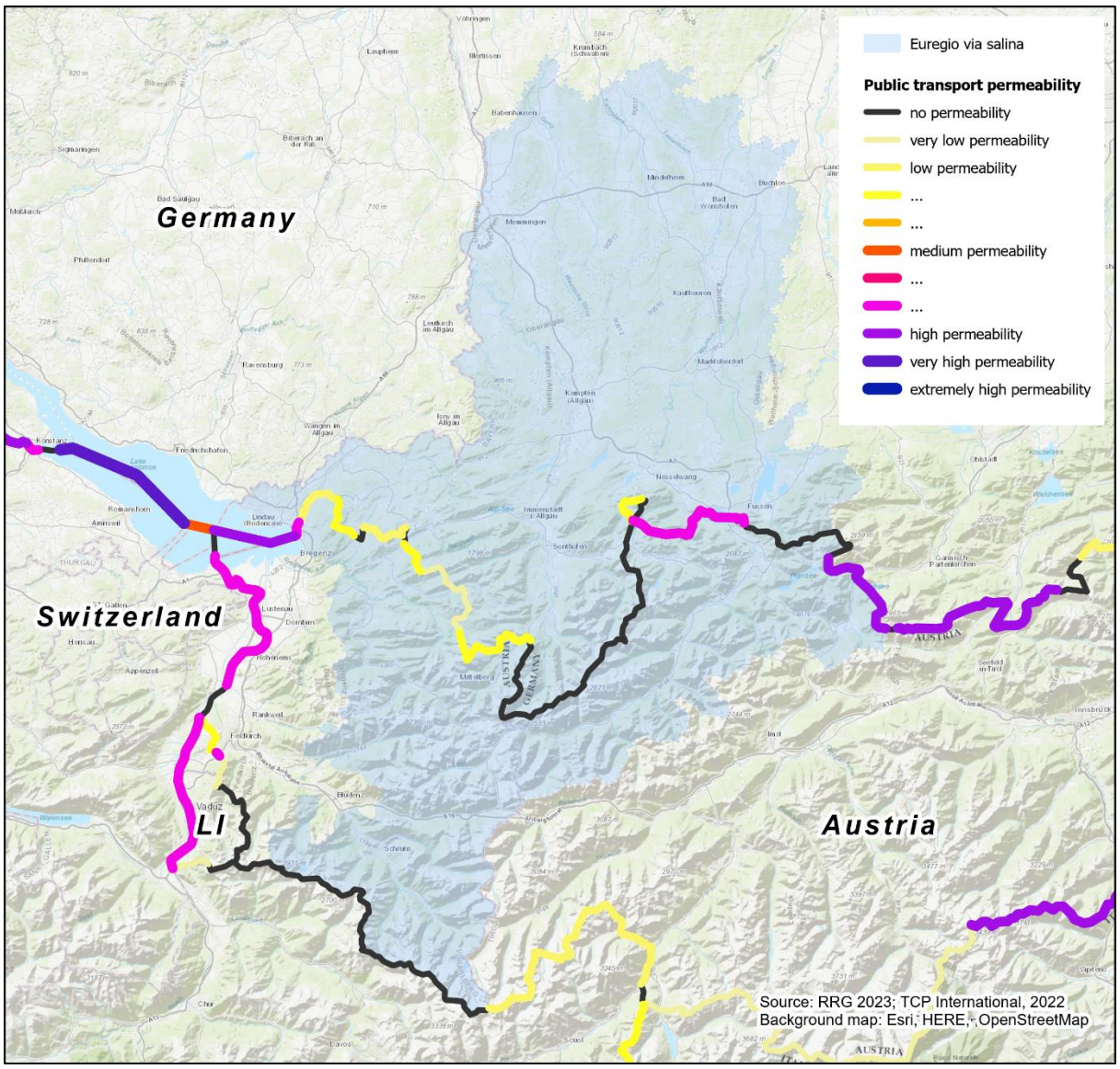
Source: own elaboration

By way of consequence, the current permeability (Box 4) of the border for public transport is low to very low in large parts of the Euregio (Figure 6), and even non-existent in areas east of Oberstdorf[9]. Exceptions from this are the Lake Constance area (high number of bus and train services between Bregenz (AT) and Lindau (DE), plus high number of ferries and shipping services crossing the Lake), the border section between Reutte (AT) and Füssen (DE) and the

[9] Calculations conducted in the DG REGIO CBPT study (Zillmer et al., 2022a).

section between Lermoos (AT) and Garmisch-Partenkirchen (DE). Due to the terrain, there are only limited possibilities to establish further direct connections by public transport between places on both sides of the border to improve permeability.

Figure 6. Public transport permeability in the Euregio via salina.



Source: own elaboration

Box 1. Public transport permeability of European borders.

Public transport permeability of European borders – methodological remarks

The indicator "public transport permeability" is defined as the number of public transport services (bus, train, tram and ferry) in relation to population size and population development (i.e. demand for PT). The indicator was developed in the DG REGIO CBPT study and was calculated for every segment of all national borders in Europe, based on the following formular:

$$PTP = \frac{TSi}{TDi} \quad \text{with} \quad \text{TSi} = \frac{B+R+T+F}{4} \quad \text{and} \quad TDi = \frac{\text{D+C}}{2}$$

with

B = Number of cross-border bus services crossing the specific border segment
R = Number of cross-border rail services
T = Number cross-border tram services
F = Number of cross-border ferry services
D = Population at both size of the border segment
C = Population change 2011-2017 along the border segment

Since the dimensions of all variables of the numerator and denominator largely differ, all variables were standardised (0-100), where 100 is the highest (or best) and zero the lowest (or worst).

For further information see Zillmer et al., 2022a

1.5 Typical cases of cross-border transport services

When talking about cross-border public transport services, many people think of individual bus or train connections linking cities across a national border. In fact, most public transport services are precisely such services. However, there are also other services that should be associated with the term "cross-border public transport services". Inter alias, these include

- specialized services for pupils, cross-border workers or tourists,
- cross-border on-demand services,
- joint fare and tariff systems and tickets,
- joint information platforms for timetable information, ticket information and sales and service hotlines,
- joint mobility apps, payment services and other digital services,
- joint traffic management centres,
- joint procurement of vehicles, hardware and software and spare parts, and
- joint associations or companies for the planning. maintenance and provision of public transport.

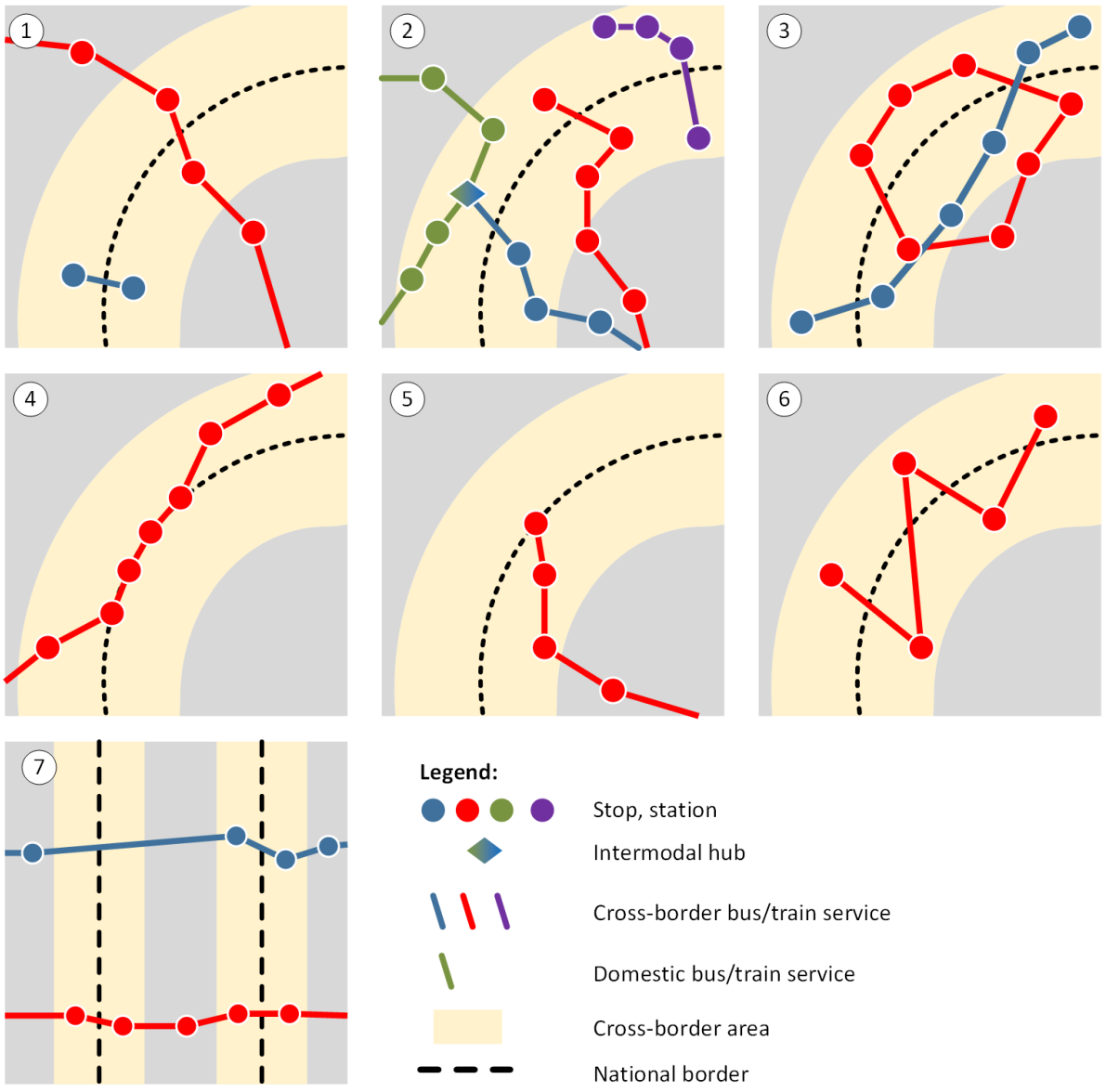
All these services already exist along the borders in Europe. Without doubt, however, most public transport services are individual bus, train, tram, and ferry connections. An analysis of the CBPT inventory reveals a wide range of typical geographical arrangements of these services (Figure 7), which can be summarized as follows:

1. The most typical cases for bus, train and tram services have several stops on both sides of the border (red line in Chart 1 of Figure 7). For ferries, there is normally only one stop on each side of the border (blue line in Chart 1 of Figure 7).
2. Some services widely found across Europe are services with several stops on one side of the border, but only one on the other side (red and blue lines in Chart 2). An example is tourist bus services between Waldkirchen (DE) and Nové Údolí (CZ).
3. In case of twin cities, we sometimes find circular bus lines with the same origin and terminus (red service in Chart 3). A prominent example of this is in Haparanda and Tornio on the Finnish-Swedish border. Another example of the origin and terminus being in the same

country are regional bus or train services that pass a border two times (blue service in Chart 3). Examples are in Ireland/Northern Ireland with bus services connecting Dublin with Londonderry and on towards Annagry and Moville.

4. Another interesting case is on the Dutch-German border where a section of a bus service runs directly on the national border, with the left kerbside belonging to one country and the other kerbside to the other country (Chart 4). Examples are in Dinxperlo (NL)/Suderwick (DE) and in Kerkrade (NL)/Herzogenrath (DE).
5. There are several cases where the terminus of a bus or train service is directly at the border crossing (Chart 5). A prominent example is the terminus in Halluin in the Greater Lille area.

Figure 7. Typical spatial configurations of cross-border public transport lines (schematic illustration).



Source: Modified after DG REGIO CBPT Study, Final Report, page 27

6. A specific situation especially found for passenger tourist ferries is where a service crosses the national border multiple times, i.e. with alternating stops in both countries (‘ping-pong situation’, Chart 6). Such cases are found on Lake Constance and Lake Geneva.
7. Finally, long-distance bus and train services usually cross two or more national borders. CBPT criteria can be met in all border regions (red service in Chart 7), or only at one border crossing of the several these services cross (blue service in Chart 7).

Due to topographical conditions, the cases shown in Charts 4, 6 and 7 cannot be implemented in the Euregio. The special situation of Kleinwalsertal is represented by purple line in Chart 2, Jungholz by the blue line in Chart 3.

An important aspect for a good integration of international cross-border lines into domestic lines is the availability and location of intermodal hubs, where people can easily change from domestic to international services and vice versa (see Chart 2). A lack of such hubs results in isolated (and therefore unattractive) cross-border services disconnected from other services.

As indicated, a functioning and high-quality cross-border public transport system does not only include such bus and train connections, but also suitable and attractive harmonised tariff structures, cross-border tickets, well-coordinated timetables and (digital) information services and apps, and even joint planning. An analysis of the problems in cross-border public transport should therefore also take these aspects into account.

1.6 Summary of the initial situation

Mobility is one of the central topics for the future of the Euregio via salina. Currently, the use of private cars is very high - neither everyday errands nor tourist excursions can be easily accomplished without a car. Where there are cross-border public transport services, their offer is often unattractive in terms of prices, frequency, travel times and interchanges with domestic services, so that it is little used. At the same time, the ever-increasing number of motorised vehicles is putting more and more pressure on the quality of life and thus also on the attractiveness of the region for tourism. Improving the public transport system is therefore a central building block of the Euregio strategy, not only to improve mobility as such, but also to achieve other goals.

The topography poses some challenges, as the number of border crossings for public transport is limited and cannot be increased easily due to high mountain ranges. Still, the public transport permeability of the border can be increased by various measures, as shown later.

The Austrian exclaves of Kleinwalsertal and Jungholz, which are only accessible from the German side, are an administrative peculiarity of this cross-border region. Their (better) integration into the (German) public transport system is essential.

Many tourists already travel to the border region by public transport and would therefore also appreciate a well-developed regional cross-border public transport system for easy climate-friendly mobility within the region. Overall, the touristic public transport potential is very high. This is also true for the local demand, even though it is slightly unbalanced with higher demand on German side due to the higher population figures and population densities.

2. Obstacles to improving public transport

2.1 Obstacles mentioned by regional stakeholders

The workshops, discussions and document reviews have revealed the following obstacles and challenges for further developing and improving public transport systems in the cross-border area:

- **Ticketing, tariffs, and fares**: Today, different tariff and ticketing systems are in place, a unified cross-border tariff is not available. Furthermore, existing guest and tourist cards which also act as a PT ticket are currently not accepted on the other side of the border. The introduction of the 'Deutschland-Ticket' let to uncertainty in its validity and usability in cross-border context generally, and specifically for the situation of the Kleinwalsertal and Jungholz.[10] To increase attractiveness of cross-border public transport, there is need for uniform, easy-to-understand and affordable fares and ticketing systems.
- **Actors and responsibilities**: Different partner structures are found both side of the border with a large and quite diverse number of small and medium-sized actors on the German side vs. large associations on the Austrian side (transport associations of Vorarlberg and Tyrol). The Allgäu on the German side of the Euregio is one of the areas in Bavaria that, to date, is not part of a transport association[11]. Also, a lack of a specific coordination group responsible to coordinate and plan cross-border public transport was mentioned. Finally, according to stakeholders, too many approvals are necessary to introduce new PT services.[12]
- **Regulatory**: Different regulations are in place on Austrian and German side for the marking of bus stops.
- **Public transport planning and actual services**: Hardly any cross-border planning and coordination of public transport services is in place, both for planning and delivering individual lines as well as for the overall system. So far too much focus was put on national PT planning. This led to urgent needs for a better and comprehensive timetable integration (for example, to reach shorter travel times and increase frequencies) and to a lack of common PT standards with respect to the frequency, service windows, and connecting times. The

[10] According to Zillmer et al. (2022b; Chapter 3.1.4), along EU borders, cooperation on tariff issues is differently developed and often even non-existent. In this respect, the Euregio is no exception. Problems in tariff structures may be due to incompatibility of neighbouring domestic tariff systems, partial tariff systems along borders, or other adverse factors hindering cooperation. A lack of integrated tariffs may cause further problems or inconveniences such as

- no cross-border tickets for certain connections, requiring passengers to purchase separate domestic tickets leading to higher prices for the journey,
- no fare reductions or exemptions that usually exist in domestic public transport for certain groups (e.g. children, pupils or students, families or groups, the elderly or disabled persons),
- very different fare levels on both sides of a border, particularly affecting cross-border commuters on a day-to-day basis for reaching their place of work in the neighbouring border region,
- a highly complex and untransparent offer of tickets or fares for cross-border trips, especially for day-trippers and tourists, and
- limited distribution channels for cross-border tickets, different ticket formats and purchasing or validation methods (e.g. conventional ticket distributors or e-ticketing).

Overall, these points lead to the fact that (cross-border) public transport is seen as less attractive and complicated by potential users.

[11] Wikipedia, 2023b; for a map illustrating German PT associations see https://upload.wikimedia.org/wikipedia/commons/f/f3/Karte_der_Verkehrsverb%C3%BCnde_und_Tarifverb%C3%BCnde_in_Deutschland.png

[12] See Chapter 3.1.4 in Zillmer et al. (2022), where this problem is described in detail. According to this study, asymmetric partner structures may cause a variety of dysfunctionalities or difficulties, for instance, regarding timetable harmonization, inadequate passenger information systems, lengthy administrative procedures for line concessions or permits to operate trains across borders, all of which can be found in the Euregio.

development of attractive multimodal hubs to connect different mobility services and in particular to better link domestic and cross-border public transport services is also seen as urgently needed. Overall, the poor cross-border coordination also demonstrates a lack of common "commitment".[13]

- **Information, data, and digital services**: Lack of a common timetable information system and timetables of PT providers from other side of border are not fully included in domestic timetables. Quality problems with GTFS feeds exist, which is why Google probably does not use them in its services. Lack of resources and will to integrate cross-border timetables (static and dynamic information) and PT information from actors beyond the border.[14] Presumption that cross-border PT lines are "cut off" behind the border by DELFI when generating a Germany-wide GTFS data set.[15] Furthermore, a lack of up-to-date baseline data (such as population and demographic data, demand, O-D flows, passenger data etc.) was also criticised, as well as the lack of common digital services such as common cross-border information platforms, mobility apps, or the same software/systems for ticket control.
- **Technology**: A lack of cross-border coordination between stakeholders when procuring new hardware and technologies was mentioned, leading for example to different systems in place for ticket purchase and ticket control which partly are not interoperable and cause problems in cross-border context.
- **Staffing and personnel**: Difficulties in finding and retaining skilled workers, particular on German side with the large number and variety of actors in the field. As a side effect, the comparatively small actors may not be considered as attractive employers by potential candidates. Also, there is danger that the various companies compete for scarce resources, which should be avoided. Furthermore, the limited human resources are seen as a real obstacle to the future expansion of public transport services.
- **Financing**: The small-scale multi-actor structures on the German side do not have sufficient resources to respond promptly to larger calls for funding. This can lead to a loss of funding if applications cannot be submitted at all or not to the desired extent.
- **Spatial structures and demand**: A special feature of the Euregio via salina are the Austrian exclaves of Kleinwalsertal and Jungholz, which can only be reached by road from the German side. This means that public transport services can also only be provided from the Germany. However, there is a lack of sufficient coordination of planning. As a tourist destination, public transport planning in the Euregio via salina is sometimes very much focused on tourism, for some stakeholders too much to the neglect of other target groups such as workplace commuters or school transport. Due to the spatial structures (population density, tourist destinations), the cross-border demand structures are also very different, with greater demand from Germany to Austria than from Austria to Germany. Due to the topographical conditions, there are only a few border crossings, so that the expansion of public transport connections is limited.

Different renumeration structure for PT operators, with Tyrol using gross contracts and Bavaria net contracts, was also discussed by the workshop participants but not considered to be a

[13] A further outcome of missing cross-border PT planning is often reflected in no or restrictive granting of public subsidies for cross-border local bus services, the closure of cross-border rail connections and a dismantling of existing track and station infrastructures, or a general reluctance to develop cross-border bus and rail services (Zillmer et al., 2022b).

[14] Written information via email from the VVT dated May 16, 2023.

[15] Similar problems were reported by PT experts in a workshop on 8 May 2023 conducted in the MORO-project “Module für ÖV-Analysen” commissioned by the German Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR, 2023).

major problem anymore, as recently the Bavarian side is also switching step-by-step to gross contracts.

Still, the identified obstacles and challenges are of diverse nature and address different border barriers that make cross-border cooperation in the field of public transport and the delivery of PT services more difficult. Each challenge then causes impacts ('border effects') on the service delivery (immediate impact) and, subsequently, on the cross-border region as a whole (wider impacts). Table 1 summarises the challenges and outlines their immediate (service delivery) and wider (on cross-border region) impacts.

Table 1. Overview of challenges and impacts.

Challenge / Obstacle	Impact on service delivery	Impact on cross-border region	Level of impact
Ticketing, tariffs, and fares: Lack of cross-border ticketing, tariffs, and fares; lack of recognition of guest cards; uncertainty about Deutschland-Ticket in cross-border context	Special tickets needed for cross-border journeys, which increases complexity and makes tariff systems difficult to understand. Risk that the Deutschland-Ticket will create new "borders" in public transport. All this leads to the detriment of the attractiveness of PT.	The potential of public transport cannot be fully exploited, especially for tourists arriving by public transport in the Euregio via salina, reducing their mobility at the destination. In addition, residents of Kleinwalsertal and Jungholz are disadvantaged and have to bear additional costs for public transport journeys to Germany.	High
Actors and responsibilities: Heterogenous structure and large number of actors in PT sector in DE with different responsibilities	Increased complexity of planning processes on the German side; unclear and partly duplicated responsibilities; German actors do not speak with one voice and are not on equal footing with the large transport associations on the Austrian side. Difficulties in concluding cross-border agreements when there are many actors to be involved on the German side.	Rather difficult and long processes for cross-border PT planning with sub-optimal results; reluctance to tackle cross-border projects; partial lack of clarity as to who is responsible for what. Overall lack of common understanding of the problems and lack of commitment to foster PT in cross-border area. Specific needs of Kleinwalsertal and Jungholz only partially addressed.	High
Regulatory: Different regulations in AT and DE for locating and marking bus stops	When planning cross-border lines, regulatory differences must be taken into account, which may lead to slightly higher planning effort.	No specific impacts except that passengers have to be aware of different types of signposts.	Low
PT planning and actual services: Poor coordination in cross-border PT	Cross-border bus and rail lines only poorly integrated with domestic PT services, benefits of intermodal hubs cannot fully be exploited; usage of different standards (frequencies, service windows, connecting times) both sides of the border.	The full potentials of public transport cannot be exploited. Difficulties in changing from domestic to cross-border services (and vice versa) reduces connectivity and thus mobility in the cross-border region. Passengers have to adapt to different frequencies, connecting times and quality standards, which are in contrast to a 'limitless' quality experience. Overall, these problems lead to a lower attractiveness of PT in the region.	High
Information, data, and digital services: quality problems with GTFS-feeds, lack of	Quality problems with the GTFS-Feeds results in a non-appearance of timetable information in Google services.	Cross-border public transport services are not visible, therefore potential passengers cannot find and use them. Several information systems and apps have	Very high

common timetable information, lack of baseline data and joint digital services	Missing information on cross-border lines in domestic information portals and mobility apps give the impression to potential PT users that no cross-border PT services exist in the region. This, together with a lack of a joint cross-border mobility app forces PT users to use different information portals and apps. Lack of (exchanged) baseline data leads to difficulties in PT planning.	to be used to get a complete overview, which is very cumbersome and unattractive. The border region therefore does not speak with one voice and is not perceived as a coherent seamless region in terms of public transport.	
Technology: Poor coordination in procurement of hardware and software	Different hardware and software systems and solutions in place for ticket sales and ticket control with the risk that procured systems are incompatible with each other. Untapped potentials for joint procurement, the sharing of development costs and the generation of economies-of-scale. A high variety of different systems lead to higher maintenance costs with untapped potentials for joint maintenance. Bus and train personnel must therefore be equipped with several systems for cross-border journeys and must be able to operate all of them, which consequently needs to higher training costs.	The direct impact on the region as such is rather low. Passengers have to deal with different systems, e.g. for buying and carrying tickets (printed tickets, digital tickets etc.), which makes using public transport less attractive. The shareholders of the PT companies have to take into account higher procurement and maintenance costs compared to solutions with cross-border joint procurement or with close coordination of the same. There is risk that an uncoordinated introduction of new technologies such as CheckIn-CheckOut or BeIn-BeOut systems will lead to an aggravation of the problems outlined.	Medium
Staffing and personnel: Struggle for scarce resources	Due to the difficulties in finding and retaining skilled workers, PT operators must intensify efforts and must develop attractive contract conditions and working atmosphere to remain or become an attractive employer. Greater efforts needed by PT companies for in-house training to keep and further qualify the staff. Increased competition between the different PT operators.	The comparatively small public transport operators on the German side may be seen as less attractive employers, compared to larger companies. The limited human resources are seen as a real thread to the future expansion of PT services in the cross-border region.	Medium
Financing: Difficulties in applying for funds.	Small-scale multi-actor structures on German side do not have sufficient resources (manpower, skills, budget) to respond promptly to larger calls for funding. This leads to a high workload for existing staff and may lead	A general lack of resources hinders the expansion and improvement of the public transport system as a whole. This may however be particularly true for planning cross-border services, as they usually require additional resources (staff-wise and knowledge-wise) for its implementation due to generally higher	High

	to a loss of funds if applications cannot be submitted at all or not to the desired extent. Different financing capacities of Austrian and German actors.	complexity and additional coordination needs. As a consequence, there are little improvements on cross-border PT services.	
Spatial structures and demand: Lack of consideration of geographical specificities, focus on tourism, unbalanced demand	The specific geographical situation of the Kleinwalsertal and Jungholz has so far not fully be accounted for in the provision and planning of PT lines. In any case, it requires specific attention. Being a well-known tourism area, PT services focus (too much) on satisfying the needs of tourists, on the expense of specific needs of daily cross-border commuters or pupils. Due to the spatial structures, there is quite unbalanced demand for cross-border traffic with rather high demand on German side but lower demand on Austrian side.	Kleinwalsertal and Jungholz remain unconnected to the PT network in the region, and thus remain peripheral. Potentials for cross-border PT is not fully exploited, also because needs of further target groups such as work commuters or pupils are not sufficiently addressed. The lack of baseline data leads to difficulties in addressing PT demand properly and thus hinders coordinated cross-border PT planning.	Medium

Even though the challenges are of diverse nature, their main border effects are remarkably similar:

- **Immediate impacts**: The challenges lead to increased efforts (and thus costs) for coordinating and providing cross-border public transport services. There are further potentials for exploiting economies of scale and for saving costs.
- **Wider impacts**: The barriers lead to unnecessary complexity and complicated handling of public transport for cross-border connections, prevent good integration of cross-border with domestic services and hinder a comprehensive and integrative PT planning which takes into account the geographical specificities of the border region.

The majority of the challenges is, measured against their immediate and wider impacts, considered of very high (one challenge; information/data/digital services) or high (four challenges) importance, the latter one covering ticketing/tariff/fares, actors/responsibilities, PT planning/actual services, and financing. Three challenges are considered of medium relevance (technology, staffing/personnel, and spatial structures/demand), and finally one as of low relevance (regulatory).

2.2 Structuring the obstacles

At first glance, the problems and challenges identified cover a broad field, which is why it is appropriate to first structure them to identify fields of action and measures to address them. The DG REGIO CBPT study has classified obstacles by type and area of appearance (Table 2). An obstacle can be assigned to exactly one type and one area, or to a combination of two or more of these factors, while the latter is more common.

Table 2. Types and areas of obstacles.

Types	Areas
Legal and regulative obstacles	Obstacles during planning and implementation (planning)
Administrative obstacles	Obstacles during service provision (provision)
Financial obstacles	Obstacles causing poor quality of the service (quality)
Technical obstacles	
Spatial structures and demand	

Structuring the identified obstacles by type and area helps to identify root causes and helps to design measure packages. Table 3 classifies the identified obstacles according to these two criteria.

Table 3. Classification of identified obstacles according to type and area.

Obstacle	Type	Area
Ticketing, tariffs, and fares	Administrative, financial, technical	Planning, provision
Actors and responsibilities	Administrative, spatial structures	Planning
Regulatory	Regulatory	Planning
PT planning and actual services	Administrative, technical, spatial structures	Planning, quality
Information, data, and digital services	Technical, administrative, spatial structures	Planning, provision, quality
Technology	Administrative, technical	Planning, provision
Staffing and personnel	Administrative, financial	Planning, provision, quality
Financing	Administrative, financial	Planning
Spatial structures and demand	Spatial structures	Planning, provision, quality

It appears that most of the obstacles are of administrative nature (7 out of 9), some of technical (4) and financial nature (3). Only one obstacle represents a legal or regulative obstacle (marking of bus stations). With respect to the area, all identified obstacles appear in or impact the planning stage, five appear also in the service provision, and four negatively influence the quality of the service.

This shows that there are no legal or regulatory problems to solve to improve public transport in the Euregio via salina, but primarily concrete administrative obstacles. However, this also means that many obstacles can be addressed through improved interaction between the actors on the ground.

2.3 Root causes of the obstacles

The obstacles can essentially be attributed to four *root causes* or *drivers*:

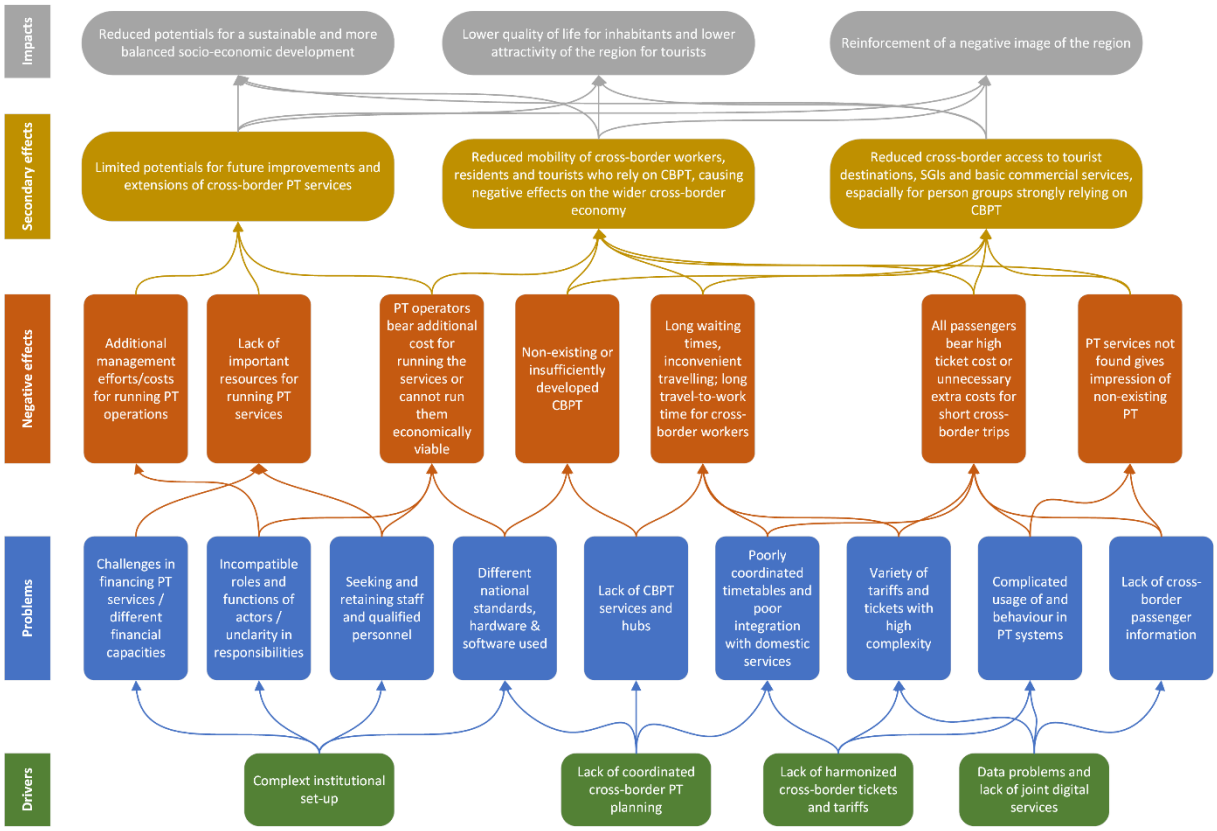
1. **Administration:** A complex and asymmetric institutional, administrative and policy-making context with a large number of actors on the German side and two big players on the Austrian side. In Germany, this institutional set-up then causes follow-up problems when

it comes to financial questions, staffing and personnel resources. The set up also hinders a better coordination of cross-border PT activities, due to the large number of actors that need to be involved, but also because the German partners are not on equal footing with their Austrian counterparts.

2. **Planning:** An insufficient integrated and coordinated planning of cross-border transport services leads not only to a poor integration of the cross-border services with domestic services, but also to applying different quality standards and to a poor consideration of the geographical specificities in the planning and provision of PT lines. Also, due to the lack of cross-border coordination, synergies in the development of new solutions and in the hardware and software procurement cannot be generated. A fragmented demand potential due to the geographical specificities adds additional difficulties to a joint planning process.
3. **Tickets and tariffs:** A lack of integrated and harmonized cross-border tickets and tariff systems and different hardware devices and software solutions applied makes cross-border public transport both for end user and for PT operators unattractive and complicates workflows.
4. **Information, data, and digital services:** Quality problems in published timetable data (both static and dynamic information) and a lack of joint digital services such as joint mobility apps or centralized information portals makes public transport unattractive and may sometimes even lead to the impression that cross-border PT services do not exist at all in the Euregio via salina. A lack of baseline data furthermore hampers a proper cross-border planning of PT services.

Figure 8 positions the drivers (root causes) in a broader context and shows which problems they create, which negative primary and secondary effects may result from them and which final impacts they may pose for the further regional and economic development of the Euregio via salina.

Figure 8. Euregio via saline: From drivers to impacts in the PT sector.



Source: own elaboration

3. Existing public transport services and ongoing activities

Several cross-border public transport services already operate in the Euregio via salina, and a few more along the entire Austrian-German border (Chapter 3.1). On the one hand, these existing services can be used as a source of inspiration, good examples and for approaching potential contacts. On the other hand, if they are located in the Euregio via salina, they should be closely integrated into all future activities aiming to improve the public transport system.

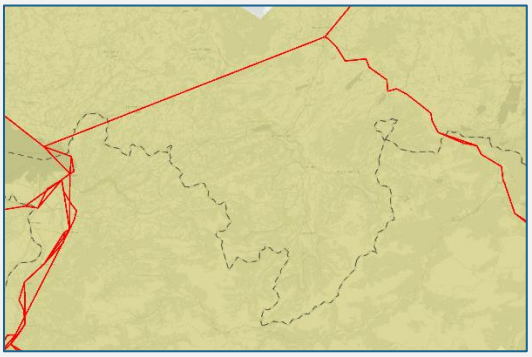
Furthermore, several activities have already been initiated in the recent past to improve public transport in the border region (Chapter 3.2). These should also be closely involved in the identification of further measures.

The existing PT services and activities show that the Euregio via salina does not have to start from scratch in the further development of its cross-border public transport systems, but that it can already build on diverse experiences.

3.1 Existing cross-border public transport services

According to the interactive CBPT Inventory[16] developed by DG REGIO, the following cross-border public transport services exist in the Euregio via salina (Table 4):

Table 4. Existing cross-border bus and train services in the Euregio via salina.

Bus services	Train services
Oberstdorf-Kornau-Mittelberg-Baad Oberstdorf-Hittisau Oberstaufen-Egg Oberstaufen-Weiler Sulzberg-Weiler Oberjoch-Unterjoch-Wertach Sonthofen-Wertach Bad Hindelang-Wertach Immenstadt-Jungholz Möggers-Lindau Lochau-Niederstaufen Pfronten-Reutte	IC München-Basel IC München-Zürich RE Kempten (Allgäu)-Reutte in Tirol RE Lindau-Feldkirch RE Lindau-Bludenz RE Lindau-Schrunz
	

[16] https://ec.europa.eu/regional_policy/assets/scripts/map/regio-gis-maps/cbpt/cbpt.html

3.2 Recent transport-related activities within the border region

Recently, the following concrete activities have been launched and partly already finished to improve public transport in the Euregio via salina:

- **Regional cross-border railways**: Increasing attractiveness and quality of the existing cross-border train services in the region. The importance of the cross-border regional railways (Außerfernbahn, Mittenwaldbahn / Werdenfelsbahn) as a sustainable mobility alternative to motorised private transport is still very low due to the long journey times and other operational problems. Based on a resolution of the Tyrolean Parliament, the attractiveness of these regional railways is now to be enhanced in a cross-border participation and development process, funded by Interreg Österreich-Bayern project.[17]
- **Interreg project "ÖPNV Grenzenlos**": Establishment of a task force and cooperation between four planning regions (Regionalentwicklung Begrenzerwald GmbH (AT), Gemeindeverband Personennahverkehr Unteres Rheintal (AT), Arbeitskreis Verkehr Landkreis Lindau (DE), Landkreis Oberallgäu und Landkreisamt Oberallgäu (DE)) and other relevant project partners to collaboratively develop a cross-border public transportation concept to improve service quality of public transport (timetable improvements and line concept, concessions and service financing).[18]
- **Interreg project "ÖPNV Grenzenlos II":** Continuation of the previous project starting in December 2023 with a duration of three years, aiming at improving quality of PT services and timetables along the bus lines Bregenz-Scheidegg/Weiler and Oberstaufen-Egg.
- **Mobility concept (2020-2022)**: Development of a cross-border mobility concept for the areas of Bad Hindelang – Tannheim – Pfronten with the objective to strengthen climate-friendly modes of transport and reduce usage of individual cars. The concept identified short, medium, and long-term measures that can be implemented by local, regional, and cross-border actors. The focus was on identifying concrete operating options for new PT services and their feasibility (operator models, costs and financing, implementation, etc).[19]
- **Missing link:** Closing missing link of bus lines around Lake Plansee in the Ammergau Alps on the Austrian side in Reutte district, Tyrol.
- **mona eTicketing App**: Recently published mobile app for purchasing, managing and paying for public transport tickets introduced by German mona company. It can also be used to book journeys to/from Kleinwalsertal and Jungholz. All tickets are displayed as eTickets in the app.[20] This cross-border e-ticket is considered as one of the good practice examples for improving public transport in the Euregio via salina.

These examples show that in the recent past, actors in the Euregio via salina have already been able to successfully improve and expand individual public transport services and have thus been able to gain a wide array of experience.

What is still missing, however, is a fundamentally strategic and holistic approach. The workshop developed some suggestions for this, as further elaborated in the following chapter.

[17] https://extranet.allgaeu.de/ab266-attraktivierung-der-regionalbahnen

[18] see Keep.eu (n.a.) or Interreg Alpenrhein-Bodensee-Hochrhein, 2020

[19] https://www.rm-tirol.at/regionen/ausserfern/projekte/einzel/project/mobilitaetskonzept-bad-hindelang-tannheimer-tal-pfronten/

[20] see mona, 2023

4. Possible solutions to the obstacles

The following sub-chapters describe a set of solutions to tackle the obstacles, which were identified by the regional stakeholders and complemented by best practices and insights from the CBPT toolbox.

4.1 Fields of action

Based on the above analysis, four action fields (Figure 9) have been identified to further improve public transport structures and services in the border region.

The first field is the **administration field**, which is intended to develop and improve organisational structures, identify relevant stakeholders and clarify and, to the extent necessary, improve responsibilities, develop actions for staffing and personnel, and work on sustaining financing.

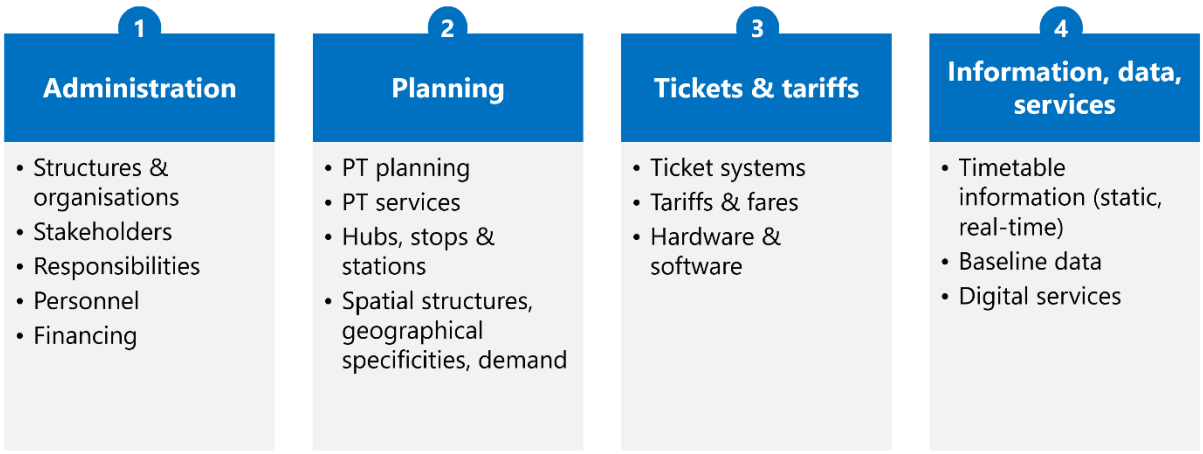
A second field of action is **planning**. This field is intended to improve cross-border coordination of PT planning and PT services, including developing joint standards in PT provision, the joint location and development of hubs, stops and stations by better considering existing and future spatial structures, demand and geographical specificities of the region.

While these two fields primarily address actors responsible for public transport planning, organization and provision, the following two fields are more directly targeted at end user experiences, i.e. PT passengers, although all four fields are closely related to each other.

The third field **tickets & tariffs** is intended to develop harmonized cross-border tariff and fare systems and, from the perspective of the end user, to simplify ticket systems. However, the field is also concerned with identifying and coordinating the further development and procurement of hardware and software solutions for ticket purchase and ticket control.

Information, data, and services is the fourth field, which is intended to address all problems related to the provision of static and real-time timetable information, with the collection and sharing of baseline data and the introduction of joint digital services.

Figure 9. Four fields of action.



All four action fields can be differentiated into further sub-areas, some of which overlap. The following Figures 10 to 13 present the sub-areas for each field and outline the objectives for each sub-area.

Figure 10. Action field 1: Strengthening administrative structures.

German PT association	• Streamlining stakeholder structure, strengthening of responsibilities, "be on equal footing with VVT / VVV", increase quality of PT, increase attractiveness as an employer, general strengthening of resources (personnel, tasks, finances), better negotiating basis vis-à-vis the Government of Bavaria, e.g. for improvements in rail services, uniform tariff system, better timetable coordination
Mobility coordination center (MCC)	• Coordination of cross-border public transport planning, "information pool", central point of contact, fixed contact persons with decision-making powers, joint commitment, assigned to Euregio via salina or as EGTC / CPS
Guest Card Clearing House	• Central office for the mutual recognition of guest cards and other tickets (e.g. within NUTS3), simplified procedure without mutual offsetting, implementation as EGTC / CPS

The establishment of a public transport association on the German side is currently under study on behalf of the Länder Government of Bavaria[21], as part of a wider initiative to establish such associations in all parts of Bavaria where such associations are missing today. An initial feasibility study has already been prepared. Results of the study are expected for 2024.

Figure 11. Action field 2: Improving cross-border planning.

Mobility coordination center (MCC)	• Coordination of cross-border public transport planning, "information pool", central point of contact, fixed contact persons with decision-making powers, joint commitment, assigned to Euregio via salina or as EGTC / CPS
PT Vision (what do we want?)	• Rethinking public transport: "ideal" public transport system from the user's point of view; further development of mobility concept / public transport strategy; new services (MaaS, hiking buses, on-demand services), transfer hubs; similar services for tourism, leisure, school and commuter transport; review of existing offers
PT standards	• Identification, introduction and implementation of common quality standards, e.g. with regard to operating times, timing, connections, hardware & devices, vehicle technologies, and others

[21] Bayerisches Staatsministerium für Wohnen, Bau und Verkehr, 2021.

Figure 12. Action field 3: Joint ticketing system and tariffs.

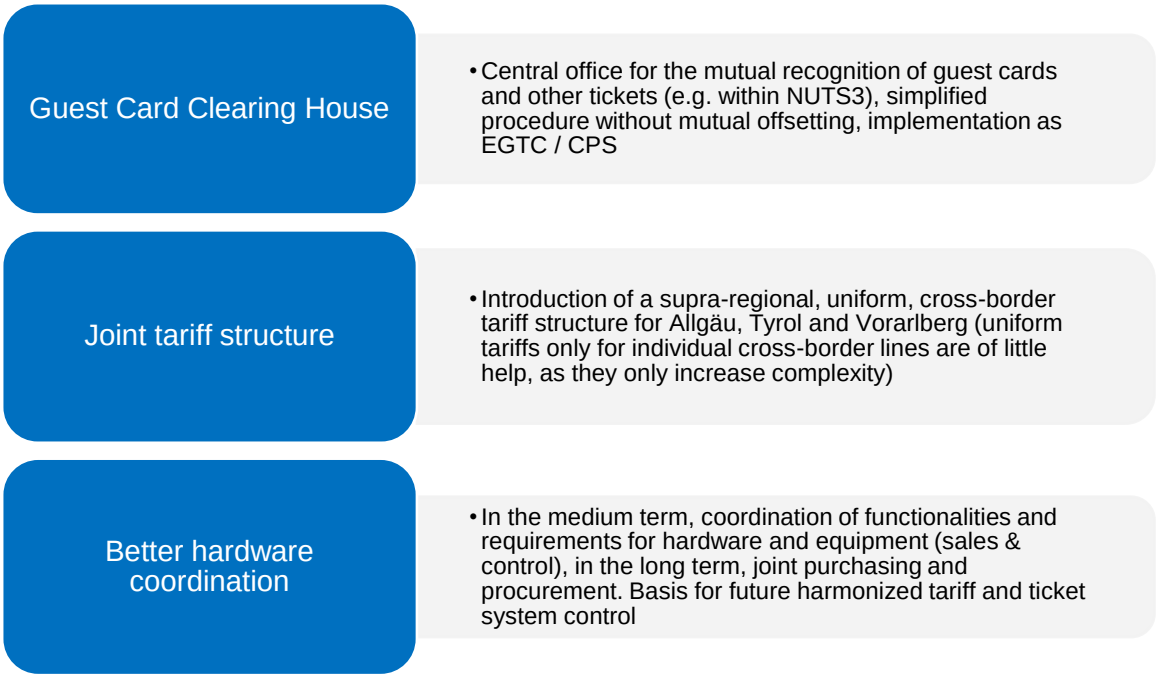
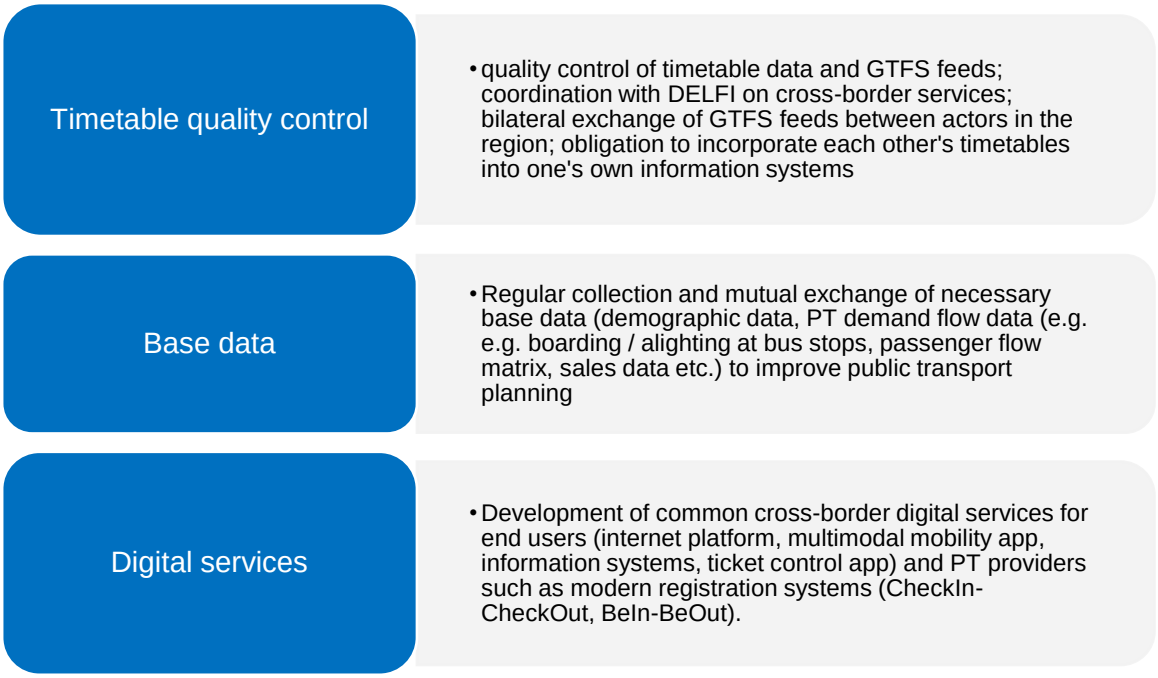


Figure 13. Action field 4: Better information, data, and digital services.



Not all actors from the region are equally affected by all fields of action and by all activities. The following table suggests key actors and stakeholders to be involved in the different activities. Further stakeholders may be invited as deemed necessary. A list of potentially relevant stakeholders is provided in Annex 7.1.

Table 5. Action fields, actors, and involved stakeholders.

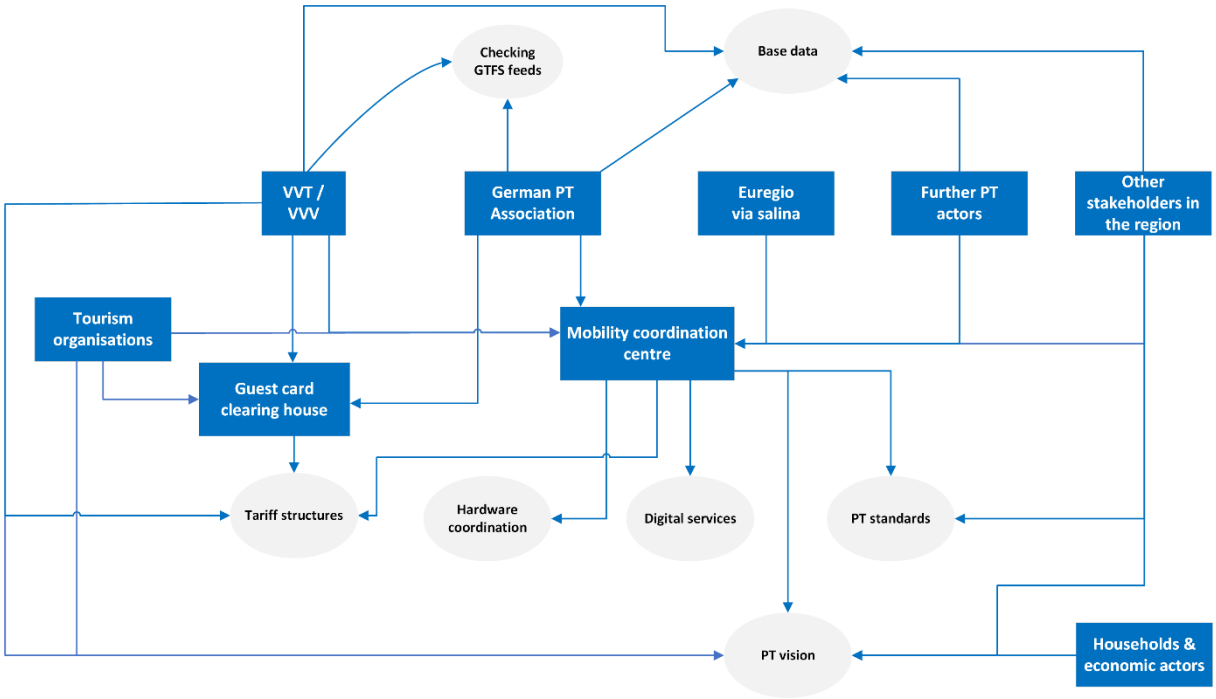
Action field / sub-area	Key actor	Other involved stakeholders
Action field 1		
German PT association	Government of Bavaria, Allgäu GmbH	Counties of Oberallgäu and Ostallgäu, cities of Kaufbeuren and Kempten, other PT actors and stakeholders.
Mobility coordination centre (MCC)	Euregio via salina	Future German PT association, VVT, VVV, other PT stakeholders
Guest card clearing house	Tourism associations	Future German PT association, VVT, VVV, other PT stakeholders
Action field 2		
Mobility coordination centre (MCC)	Euregio via salina	Future German PT association, VVT, VVV, other PT stakeholders
PT Vision	Euregio via salina	Future German PT association, VVT, VVV, all PT actors and stakeholders in the region, other stakeholders, households, tourists, cross-border workers, pupils
PT standards	MCC or Euregio via salina	VVT, VVV, German PT actors
Action field 3		
Guest card clearing house	Tourism associations	Future German PT association, VVT, VVV, other PT stakeholders
Joint cross-border tariff structure	MCC	Guest card clearing house, Euregio via salina, all PT actors in the region, other stakeholders, households, tourists, cross-border workers, pupils
Better hardware coordination	MCC	All PT actors in the region
Action field 4		
Timetable quality control	MCC	All PT actors in the region
Base data	MCC	All PT actors in the region, Allgäu GmbH, Euregio via salina, counties
Digital services	MCC	All PT actors in the region

The activities should not be considered in isolation (even if they are implemented separately), but they are interrelated, as Figure 14 suggests. Representatives from different stakeholders and actors, including those from the future German PT Association, VVT, VVV and from Euregio via saline, make up the future mobility coordination centre. This centre then is responsible for initiating, implementing, and coordinating various activities such as developing the PT vision, PT standards, digital services, and hardware coordination, as well as developing joint tariff structures.

The future German PT Association and VVT / VVV are also in charge of checking and improving GTFS feeds and timetable data and to collect and exchange base data, and, jointly together with tourist organisations, to run the guest card clearing house.

In addition to PT actors, households, economic actors and other stakeholders and tourist organisations should also be involved in the development of PT standards and, especially, in developing the PT vision.

Figure 14. Interrelation of action fields and sub-areas.



Source: own elaboration

4.2 Description of the activities

It is proposed to combine the sub-areas 'better hardware coordination', 'timetable quality control',' base data' and 'digital services' into one activity, as they are closely related, which results in a total of seven activities. These are summarized in Table 6.

Table 6 also suggests the order (1 to 7) in which the activities should be addressed. The current situation of the activities, their relevance as well as their implementation possibilities are taken into account to define the order.

First, administrative measures should be addressed, as they are the basis for all other activities. The establishment of the German public transport association (1) is considered a crucial activity, also in the cross-border context. It is hoped that this association not only improves planning, operation, and provision of domestic PT services on German side, but that the association will also have positive impacts for the cross-border PT structures alike. A feasibility study for its implementation has already been conducted, and the initiative is heavily pushed by the Bavarian government. The transport association is also to have a division dealing with issues related to the improvement of cross-border transport. Therefore, it can be assumed that the implementation of this activity could take place soon. It is planned to establish the transport association by 2025.

The implementation of a cross-border mobility coordination centre (MCC) (2) is a second important cornerstone. The task of this centre is to address all problems and concerns of cross-border public transport at an early stage, to develop solutions and concepts for improving public transport solutions and to initiate or monitor their implementation. In the MCC, actors from Germany and Austria work closely together on an equal footing. Ideally, they already have experience in cross-border cooperation and have knowledge of the relevant regulations. The centre also engages in a constant exchange with good practice solutions in other border re-

gions and explores their transferability and adaptability to the Euregio via salina. Once established, the mobility coordination centre should assume responsibility for other activities such as 'Information, data, digital services', 'PT standards', 'PT vision' and the 'Joint tariff structure'. The MCC could be either affiliated to the Euregio via saline or could be assigned to a newly established EGTC. First steps towards this centre have recently already been initiated by organizing regular round tables with actors from both sides of the border to identify and discuss PT matters.

The lack of joint cross-border tickets and harmonized tariff systems is one of the urgent concerns for improving the PT system in the cross-border region. Since experience shows that the development of a join cross-border tariff structure 7 is a complex and often lengthy process, especially since the necessary administrative prerequisites must first be created, the establishment of a so-called guest card clearing house 3 is suggested as an immediate and interim measure. The aim of this clearing house is to mutual accept guest cards and other tickets in a simplified, unbureaucratic procedure. When a joint tariff system is introduced later, this clearing house may become obsolete. Organizationally, responsibility for the clearing house could be assigned to an existing tourism organization, or, if an EGTC is going to be founded to implement the mobility coordination centre (2), this EGTC could also take over the (temporary) task of the clearing house.

Improving the quality of information, data, and digital services 4 has been identified as one of the key elements for improving PT service quality and user experiences in the cross-border region. Measures under this activity can basically be tackled immediately by existing PT actors by exchanging information and data on an ad-hoc, informal basis, informing about problems found and discussing possible solutions. In the medium term, however, this task should be transferred to the MCC 2 as the future central body for cross-border public transport, once the centre has started its work. This activity has two main objectives: First, improving the quality of the information and data provided and their retrieval through easy-to-use and joint apps for the end users. Second, improving the data base and digital tools for PT planning and PT operations, i.e. addressing the PT operators. Regarding digital services, the development of joint information portals and a joint cross-border mobility app (including timetable information, trip planning, ticketing, and payment) for end users should gain highest priority. For PT operators, appropriate joint backend systems for data processing, PT planning, ticket sales and ticket control might be developed. Digital solutions to be agreed may also comprise modern PT systems such as CheckIn-CheckOut or BeIn-BeOut solutions (and combinations thereof) (Box 2).

Apart from information and related digital services, another crucial cornerstone to harmonize and thus to improve PT structures in the Euregio via salina is to develop and agree about common PT standards 5 in terms of service times, clocking, hardware and devices, vehicle technologies, stops marking, and coordination of hardware and devices. This not only simplifies PT usage and improves user experiences for PT users, but also contributes to a reduction of procurement and maintenance costs for PT operators. Later, common standards may also support, or are even a prerequisite for the establishment of joint procurements. Like the guest card clearing house (3), first steps for the development of PT standards may already be initiated by the existing PT actors in the region. Later, this task may be transferred to the cross-border mobility coordination centre 2 once it has been established.

In parallel to developing PT standards, a new and comprehensive vision for the future public transport system 6 should be developed answering the following questions: What kind of public transport do we want to have in our region in the future? What does it look like? What are our wishes and what do we want to achieve? And how? This vision, strategy or even concept should be developed from scratch, initially without considering existing structures and

services, to generate new ideas for an ideal public transport system. The vision should not only elaborate improvements for traditional public transport, but ideally also include new, innovative public transport solutions such as MaaS, ride hailing or on-demand solutions.[22] Conceptually, the vision should contribute to a re-orientation of public transport to become more holistic, i.e. by improving leisure transport and services in off-peak times and at weekends, and to better combine tourist services with those for other target groups (example: introduction of so-called 'mountain buses').[23]

Methodologically, the vision could be developed through a series of workshops involving a wide range of stakeholders, the local public and business community, but also taking into account the concerns of tourism. The overall process could be initiated and organized by the MCC 2, or by an Interreg project (led by Euregio via salina).

Developing the PT standards and the PT vision could either be done one after the other, or in parallel. In any case, results of one should be included in the findings of the other.

A medium to long-term activity is the development of a joint tariff structure 7 and tickets for the cross-border public transport which is a key to increase attractiveness and usage of cross-border PT by reducing system complexity. The future mobility coordination centre 2 should be responsible for this development.

[22] Like Moia (www.moia.io), EcoBus (ride pooling solution, https://ecobus-online.de), Ioki (https://ioki.com), Flexa (www.l.de/verkehrsbetriebe/kundenservice/services/flexa), Door2Door shuttle solutions (https://door2door.io/de), sprinti (www.regiobus.de/linien/sprinti) and others. Flexa, Door2Door and sprinti are specifically designed to improve PT in rural areas or for areas between main PT axes. A common feature of all these services is that they are based on mobile phone applications. In the Hannover Region, for example, sprinti is fully integrated into the general tariff structure of the association (Geschwinder, 2020).

[23] Notwithstanding the fact that strong PT services for tourists help to re-financing the overall PT, the aim is to (1) better plan for satisfying the entire demand and to contribute to a (2) reduction of car usage.

Table 6. Implementation proposals for seven activities (summary).

Action	1 German PT association	2 Mobility coordination center (MCC)	3 Guest card clearing house	4 Information, data, digital services	5 PT standards	6 PT vision	7 Joint tariff structure
Action field	Administration	Administration Planning	Tickets & tariffs Administration	Information, data, services Tickets & tariffs	Planning	Planning	Tickets & tariffs
Actors involved	Government of Bavaria, Allgäu GmbH; counties Oberallgäu and Ostallgäu, cities Kaufbeuren and Kempten, other PT actors and stakeholders	Euregio via salina, future German PT association (1), VVT, VVV, other PT stakeholders	Future German PT association (1), VVT, VVV, tourism associations	initially: VVT / VVV plus German PT actors medium-term: Future MCC (2)	Initially: VVT / VVV plus German public transport stakeholders Later: MCC (2)	Future MCC (2), Euregio via salina, all PT actors in the region, other stakeholders, households, tourists, cross-border workers, pupils	Future MCC (2), guest card clearing house, Euregio via salina, all PT actors in the region, other stakeholders, households, tourists, cross-border workers, pupils
Direct objectives	Uniform fares and tickets, coordination of timetables and public transport planning, improvement of information	Coordinating cross-border public transport planning; creation of an "information pool"; one-stop shop; permanent contact persons with decision-making powers; working towards standardisation of PT services	Unbureaucratic mutual acceptance of guest cards and other tickets in public transport (e.g. within NUTS3); Develop simplified procedure without need for mutual reimbursements (administrative solution) and technical solution (for controlling).	Improvement of the data basis and data quality; Development of joint information channels, mobility apps, information systems and digital services.	Development of common PT standards in terms of service times, clocking, hardware and devices, vehicle technologies; stops marking, coordination of hardware and devices	Development of a new integrated multimodal cross-border public transport vision, strategy and concept ("what do we want?")	Introduction of a supra-regional, cross-border tariff structure for the Allgäu, Tyrol and Vorarlberg; strengthening public transport and its use (increase in passenger numbers)
Indirect objectives	Streamlining the actor structure, strengthening re-	Strengthening the Euregio via salina, further integration of the border region,	Strengthening the cross-border networks.	Improve the user experience through reliable and com-	Reduction of procurement and maintenance costs, preliminary stage	Strengthening of cross-border cooperation, creation of	Simplification of public transport use, improvement of the user experience,

	sponsibilities, improving resources, increase attractiveness as an employer be on equal footing with VVT / VVV	implementation of Interreg goals ("flows", "connectivity"), creation of a common "commitment" to improve PT services	Measure to be implemented relatively quickly and by mutual agreement, as long as there is no uniform cross-border tariff (preliminary stage)	plete timetable information; improve the information base for public transport planning; better PT planning and PT services better tailored to user needs	for joint procurement. Improvement of user experience, general quality improvement of public transport	a common understanding of problems, trust-building, common commitment.	better integration of the border region; increase cross-border flows
Status	Feasibility study, establishment underway	Idea, first steps already initiated by organizing regular informal meetings at Euregio via salina	Idea	Idea	Idea	Idea	Idea
Start	In the year 2025	Immediately	Immediately	Immediately	Medium-term	Short-medium term	Medium-term
Duration	Permanent task	Permanent task	Time-limited Interim solution (to be replaced by results from activity 7	Permanent task	Permanent task	One-off initiative	Permanent task (after adoption of a harmonised structure, permanent review and further development)
Implementation	Establishment of an association and transfer of tasks to it	Coordination office may be affiliated to the Euregio via salina, or an EGTC could be established (possibly prepared by Interreg project)	Establishment of an EGTC (could be prepared by Interreg project); Affiliation to an existing (tourism) organization	Initially: informal direct exchange between VVT / VVV and German public transport actors. Later: ongoing coordination through MCC	Either (later) as a task of the MCC or (earlier) as part of an Interreg project. (could also be part of the activity "PT vision")	Series of workshops and events; Initiated either by the Mobility coordination centre or by an Interreg project.	Project by the MCC

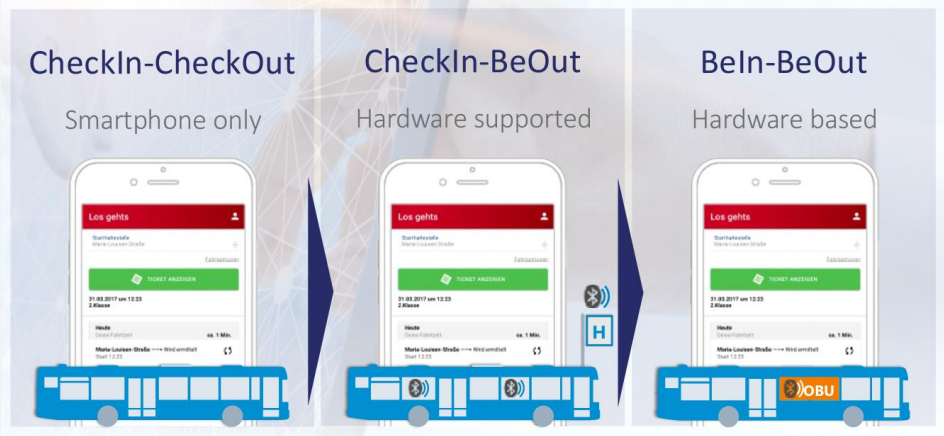
Box 2. Modern check-in systems in public transport.

Modern check-in systems in public transport

As part of so-called Smart Ticketing and Smart Mobility solutions, modern CheckIn-CheckOut or BeIn-BeOut systems in public transport attempt to reduce the entry barriers for passengers to use public transport. With these systems, it is not necessary to purchase a ticket before starting a journey; instead, users can simply get on and go. The fare is then calculated at the end of the journey on the basis of a best-price calculation, taking into account of the personal situation of the rider (i.e. existing subscriptions, age, distance travelled). Various technical solutions are available for this purpose (abbreviated CiCo, CiBo and BiBo), which differ in the use of mobile phones and hardware (Figure 15).

In the case of purely mobile phone-based solutions, the user must actively announce the start of the trip in the app with a swipe gesture when entering a vehicle, and the same then applies when exiting. This process can be supported by hardware installed in the bus or at the stops, which can automatically recognise the boarding and alighting of a passenger. In all cases, payment is not made directly before, during or after a journey, but all the passenger's journeys are collected over a period (usually a month) and then invoiced together.

Figure 15. Comparison of CiCo, CiBo and BiBo systems.



Source: Metamorphio, 2020

Many public transport operators are already carrying out pilot studies on this (for example, see Blome and Linnenbrink, 2020), and some Interreg projects have already implemented them (Fischer, 2020; Rückert, 2022).

Further benefits of digital ticketing solutions are

- automatic determination of boarding and alighting,
- real-time passenger counting,
- determination of capacity utilisation in vehicles,
- integration into bus systems (e.g. stop request at bus stops),
- release of the bus driver from ticket sales and controls, and
- additional benefits for operational planning (routes, vehicle, and personnel deployment).

The Euregio via salina is not alone in its challenges. Many other cross-border regions in Europe have faced and overcome similar problems in the recent past. Table 7 gives indications of which border region has carried out similar activities. Further information about these best practices can be obtained from final reports of the DG REGO CPS and CBPT studies, or by contacting the relevant border regions. Furthermore, the DG REGIO CBPT study has developed a toolbox[24] with various tools that provide additional information, instructions, and examples how to tackle obstacles[25]. Column 3 of Table 7 references suitable tools that could be utilized by the actors in the Euregio via salina when implementing the activities.

[24] The full documentation of the toolbox is provided in Zillmer et al., 2022b.

[25] Each tool also features additional best practice examples, which go beyond those listed in Table 7.

Table 7. Best practices and useful toolboxes.

Activity	Best practices in other border regions	Tools (CBPT toolbox)
German PT association	• Elbe-Labe Ticket (CZ-DE) (Box 3) • Geneva: Establishment of a joint PT Association (CH-FR) • Twin city bus Haparanda-Tornio (FI-SE) • TramTrain Saarbrücken-Sarreguemines (DE-FR) • Bus line Szombathely-Oberwart (AT-HU)	*'Pragmatic bridging' of shared problems:* • Setting up one-sided transport association to facilitate cooperation across the border
Cross-border mobility coordination office	• Geneva: Establishment of a joint PT Association (CH-FR) • Tram Strassburg-Kehl (DE-FR) • Bus line 983 Frankfurt-Słubice • TramTrain Saarbrücken-Sarreguemines (DE-FR) • Bus line Szombathely-Oberwart (AT-HU) • Train service Maribor-Bleiburg (AT-SK) • Regional train Innsbruck-Brenner/Brennero (AT-IT) • Train service Berlin-Kostrzyn (DE-PL) • Bus line Zittau-Bogatynia (DE-PL) • Bus line Johanngeorgenstadt-Karlovy Vary (CZ-DE) • Twin city bus Haparanda-Tornio (FI-SE) • Bus 350 Maastricht-Aachen (DE-NL) • Train services Copenhagen-Malmö (DK-SE) • Bus services Turnhout-Baarle-Nassau via Baarle-Hertog (BE-NL)	*'Pragmatic bridging' of shared problems:* • Cooperation between transport associations across the border *Joint structures for managing CPS / CBPTs:* • Establishing of new joint organisations for different tasks • European Grouping of Territorial Cooperation (EGTC) • Key contact person/organisation as multiplier and one-stop shop *Collaboration between key actors:* • Networks and permanent working groups or roundtables with relevant players • Other cross-border structures for stable cooperation
Guest card clearing house	• Mozart Express Reit im Winkel-Salzburg (AT-DE)	./.
PT Vision	• Ilztalbahn in the Bavarian Forest (CZ-DE) • Tram Strassburg-Kehl (DE-FR) • Regional train Innsbruck-Brenner/Brennero (AT-IT) • Twin city bus Haparanda-Tornio (FI-SE) • Bus line Szombathely-Oberwart (AT-HU) • Geneva: Establishment of a joint PT Association (CH-FR)	*Establishing new PT services or consolidating of existing ones:* • Coordination and integration of domestic timetables *Joint planning activities:* • Elaboration of a joint strategy for developing and planning PT services • Better coordination of domestic infrastructure planning
PT standards	• Tram Strassburg-Kehl (DE-FR)	*Harmonization of technical standards:* • Physical infrastructure • Rolling stock and their equipment
Joint cross-border tariff structure	• Elbe-Labe Ticket (CZ-DE) (Box 3) • Tram Strassburg-Kehl (DE-FR) • Bus 350 Maastricht-Aachen (DE-NL) • Mozart Express Reit im Winkel-Salzburg (AT-DE)	*Stronger integration or coordination of domestic tariff systems:* • Consideration of differences in fare levels and national ticketing systems

	• Bus line 983 Frankfurt-Słubice • Train services Copenhagen-Malmö (DK-SE) *see Table 13 for further examples*	• Cross-border tariff systems, unilateral extension of domestic tariff systems and cross-border tickets
Information, data, digital services	• Bus line Szombathely-Oberwart (AT-HU) • Twin city bus Haparanda-Tornio (FI-SE) • Geneva: Establishment of a joint PT Association (CH-FR) • Oradea-Debrecen (HU-RO) • Train services Copenhagen-Malmö (DK-SE)	*Demand-related measures for stimulating a greater use of CBPT:* • Integrated offers • Target-group oriented ticketing *Joint knowledge base:* • Database with experiences from other regions • Monitoring of recent and ongoing developments • Identifying funding opportunities

Further best practice examples for the introduction of cross-border tickets and harmonized tariff systems are provided in Table 13 in the Annex.

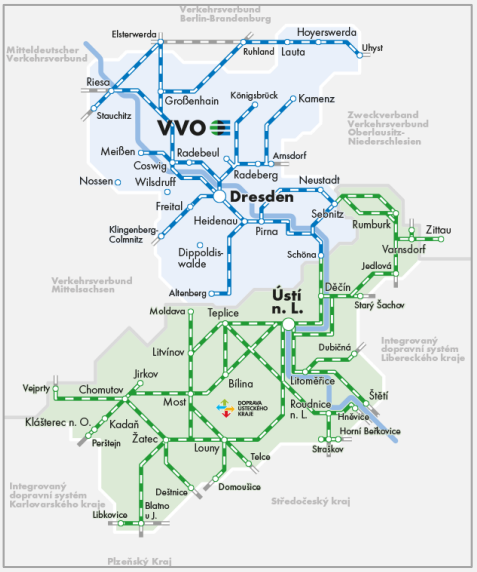
Since the initial situation at the Czech-German border at the Elbe/Labe river appears to have some similarities with the Euregio via salina case, the solutions introduced with the Elbe-Labe-Ticket at the Czech-German border are presented in more detail in Box 3.

Box 3. Elbe-Labe-Ticket as good practice example for introducing cross-border tickets.

Good practice example: Elbe-Labe-Ticket (CZ-DE)

Some years ago, the Elbe-Labe border region was in a similar situation to the Euregio via salina. There, too, was a very uneven structure of actors with a large and strong PT association on the German side (German Upper Elbe Transport Association ('Verkehrsverbund Oberelbe', VVO)) and a multitude of small and heterogeneous actors on the Czech side. Joint cross-border tariffs and tickets were not available. Also, the Elbe-Labe border region enjoys many day trippers (leisure activities) and tourists, similar to the Euregio via salina.

Figure 16. Two PT associations in the Elbe-Labe border region.



Source: VVO, 2023

The Elbe-Labe border region recognized increasing demand for cross-border passenger flows in the fields of shopping and leisure trips, and tourism. Therefore, all parties involved quickly agreed on the goal of simplifying the use of cross-border public transport and by that increasing its attractiveness. To realize this vision, some administrative requirements had to be met:

1. Establishment of a public transport association on Czech side ('Doprava Ústeckého kraje', DÚK), involving all required actors in the field of public transport (PT planning and PT operation).
2. Signing an agreement between VVO and DÚK for the introduction of joint tariffs and tickets.
3. Defining and agreeing on a joint tariff structure and ticket system.
4. Identifying means of and actually organizing ticket sales and identifying points of sale.

The special challenge in the development of the tariff structure was the different purchasing power standards on both sides of the border. Eventually, the following solution was found:

- The ticket price on the Czech side is lower than the price for the same ticket on the German side. This is implemented as follows: Users buy a ticket on either side of the border according to the domestic rules, and then an extra fee is added for the extended use across the border. The extra fee is the same in both countries, but domestic prices differ to account for the different income levels.
- To compensate for that, the territorial validity of the tickets purchased on the Czech side is slightly smaller than those purchased on the German side.

The distribution of the revenues from ticket sales between the German and Czech partners is based on actual sales.

After the introduction of the cross-border ticket in 2007, ticket sales in cross-border traffic increased significantly. This resulted in new opportunities and demand for the introduction of further cross-border tickets, such as an inexpensive family day pass. With the cross-border ticket, users can use domestic and cross-border PT services.

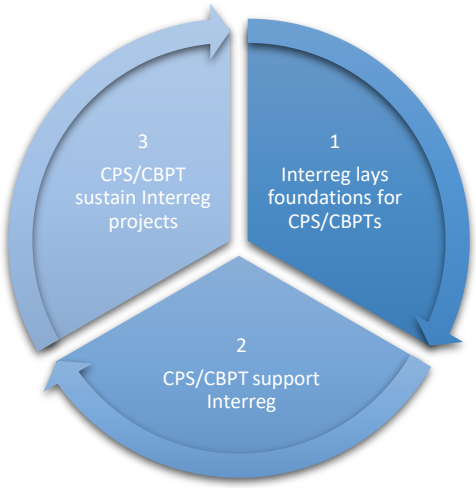
For further information see VVO (2023) or Zillmer et al, (2018).

4.3 Implementation options

The activities identified in the previous chapter might be implemented by Interreg projects, by founding new or assigning tasks to existing organisations, by developing new cross-border public transport services (CPS/CBPTs)[26] or by other means.

Cross-border public transport services and Interreg projects are, however, not identical but have a multi-layered relationship as illustrated in Figure 17. Often Interreg projects are initiated specifically to lay the foundations for such a service (1). Examples of these in the transport sector are typically the construction of hard infrastructures such as railway lines, intermodal transport hubs or backend hardware systems as prerequisites for the introduction of train or bus services. Often, however, the relationship is the other way round, namely that CPS/CBPTs provide support services for an Interreg project (2). Examples are monitoring systems for the continuous collection of basic data for transport (population, pupils, tourists) and for transport demand (passengers, starting points and destinations). Finally, CPS/CBPTs are also a means to sustain Interreg projects (3), i.e. they are a successor to the time-limited Interreg projects. Examples of this are the establishment of a mobility coordination centre through an Interreg project, and the subsequent transfer of this unit into a continuous cross-border autonomous service. In the Euregio via saline, this approach is pursued, for example, in the Interreg project "ÖPNV Grenzenlos", which aims to develop permanent cross-border bus services.

Figure 17. Relation between Interreg projects and cross-border public (transport) services.



Source: own elaboration

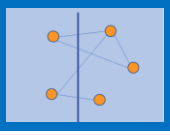
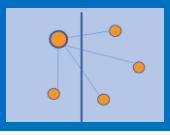
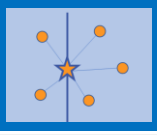
Another way to implement the fields of action is to establish a new organisation with its own legal personality or to transfer the tasks to an existing organisation. If partners from two or more EU Member States are to be involved in the establishment of a new organisation, an EGTC can be set up (Box 5).[27]

[26] A definition of CPS and CBPTs is provided in Box 4 based on Zillmer et al. (2018) and Zillmer et al. (2022c).

[27] A list of existing EGTCs and further information materials can be retrieved from https://cor.europa.eu/en/our-work/Pages/egtc.aspx

Based on the analysis of existing CPS/CBPTs along Europe´s borders, the ESPON CPS project has identified three common models for this type of implementation (Table 8).[28] Transferring responsibilities to Euregio via salina, for instance, would correspond with the centralised model, while establishing an EGTC for certain tasks would correspond to the integrated model approach.

Table 8. Three common implementation models.

Model	Networking model 	Centralised model 	Integrated model 
Delivery	**Cooperative task delivery** through a division of labour between different public administrations (local, regional, national) or service providing organisations on both sides of a border	**Unilateral task delivery** through an existing public administration (local, regional, national) or service providing organisation on one side of the border, acting for the benefit of both sides.	**Delegated task delivery & joint management** of the service, by using an already existing cross-border structure / body with own legal personality, seconded or own staff and an own budget.
Management	**Shared management** of the service through a newly created informal network or formalised network structure involving the relevant organisations from both sides of the border (with or without a joint coordination unit).	**One-sided management** of the service through the concerned public authority or service provider, either by not involving actors from the other side in domestic management or by involving such actors.	**Integrated task delivery & integrated management of the service**, by transferring responsibilities for decision making and operational service management to a newly established cross-border structure / body with own public-law based legal personality, directly employed personnel and an own budget.

Source: Zillmer and Holstein, 2019

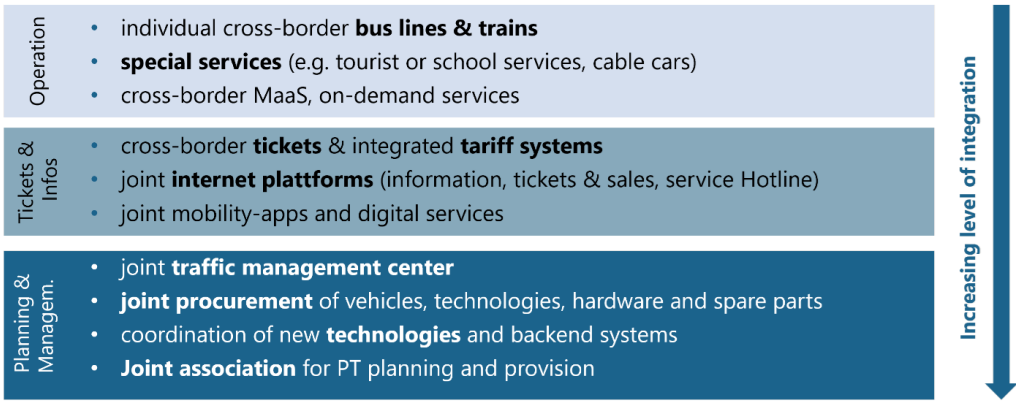
Practice examples show that the degree of integration for the planning and provision of cross-border public transport varies significantly. Examples range from low level of integration just by providing individual cross-border services up to full-fledge integrated associations responsible for carrying out all aspects of cross-border transport including planning, service provision, tariff integration and ticketing, monitoring, and joint procurement. In between, all forms of co-operation and integration are conceivable (Figure 18).

The lowest level of integration covers the provision of individual bus or train services. Providing joint information and ticketing systems usually requires a higher level of cross-border integration. Eventually, joint traffic management centres or associations require the highest level of integration.

However, there is no formula for determining the optimal degree of integration; rather, it depends on the objectives to be achieved, the border effects to overcome, the composition of the actors and the wishes and visions of the actors in a border region.

[28] Zillmer and Holstein, 2019

Figure 18. From individual services to joint organizations.



Source: own elaboration

Box 4. Comparison of CPS and CBPTs.

What are CPS and CBPTs?

The terms cross-border public services (CPS) and cross-border public transport services (CBPTs) sound similar, but do not quite mean the same thing. In two studies for DG REGIO of the European Commission, the following definitions were developed:

Cross-border public service (CPS):
- A CPS covers a specific area and must have already materialised in the cross-border area.
- A CPS addresses a joint problem or development opportunity in the cross-border area.
- A CPS shall have a target group on both sides of the border (even if it is targeted in quite different ways).
- Within the target group, there is no access restriction for using the CPS.
- CPS usually include actors from both sides of the border, as well as border bodies such as EGTCs, that are involved in its initiation, establishment, financing and/or provision.
- A CPS is publicly organised and may be directly provided by a public body or by a private / non-profit organisation via a concession, delegation, or other contractual arrangements.
- A CPS is publicly (co-) financed.
- A CPS can be provided in any policy field/field of intervention. One CPS may cover one, two or more policy fields.
- A CPS is a service which means that the mere existence of (hard) infrastructures (for instance, cross-border bridge, road, or pipeline) do not suffice for a CPS.
- A CPS offers a long-term service provision, i.e. there should be no limited timeframe as with 'one-off projects'.

Cross-border public transport services (CBPTs):
- This is a regular, scheduled transport service (bus, train, tram, or ferry service) with at least one stop in two contiguous border regions in two different countries, where border region is defined as an area within 25 km from the national border.
- A service that crosses a border but does not stop on both sides within the border region, or a service that starts in the border area but does not cross the national border is not considered a CBPT.
- It must be accessible by the general public.
- The service may be operated by public or private service providers but need to be open for the general public as end users.

While CBPTs solely represent transport services, CPS represent services in any policy area, including transport. Also, CBPT focus on actual bus, train, tram and ferry lines, and do not comprise other transport services such as cross-border ticketing systems, fares and tariffs, or PT planning agencies, which in turn would be considered a CPS. Another important difference is the notion of 'public' applied in both definitions. While in case of a CPS, public means that the service is publicly organised and (co-) financed, in case of a CBPT, public refers to the end user of the service, i.e. the passengers.

Box 5. European Groupings of Territorial Cooperation.

Excursus: European Groupings of Territorial Cooperation (EGTCs)

An EGTC is a transnational cooperation between countries and local authorities with legal personality. It must have members from at least two EU Member States (or from one member state and one or more non-EU countries), whereby members represent

- Member States or authorities as national level
- Regional or local authorities
- Public undertakings or bodies governed by public law
- Undertakings entrusted with operations of services of general economic interest
- National, regional or local authorities, or bodies or undertakings from third countries (subject to specific conditions)
- Associations consisting of bodies belonging to one or more of these categories

Its legal personality is governed by a convention concluded unanimously by its members. At minimum, EGTCs must have two organs:

- An assembly, made up of representatives of its members
- A director, who represents the EGTC and acts on its behalf.

The convention can provide for additional organs and must specify the extent of the territory under which it may execute its tasks. Inter alias, the assembly adopts the annual budget. Members are financially liable for any debts, in proportion to their budget contributions.

Each EGTC must be registered to the EGTC register, managed by the Committee of the Regions.

EGTCs were set up as an instrument to facilitate cross-border, transnational and interregional cooperation between Member States or their regional and local authorities. EGTCs can be established to implement joint projects, share expertise, coordinate spatial planning, or to develop, plan, manage and provide various types of cross-border public services. EGTCs usually focus on a specific purpose, activity or service.

If a new organisation is to be established for a specific purpose, an EGTC is a conceivable construct, especially if partners from different countries are to be involved.

Legal basis

Regulation (EC) No 1082/2006 of the European Parliament and of the Council of 5 July 2006 on a European grouping of territorial cooperation (EGTC).

Regulation (EU) No 1302/2013 of the European Parliament and of the Council of 17 December 2013 amending Regulation (EC) No 1082/2006 on a European grouping of territorial cooperation (EGTC) as regards the clarification, simplification and improvement of the establishment and functioning of such groupings.

4.4 Possible ways of implementation

4.4.1 General recommendations

Having outlined implementation options theoretically in the previous chapter, following are concrete suggestions for implementing the identified activities in the Euregio via salina (Table 9).

Establishment the German PT association until 2025 (Activity 1) will be implemented through state action with support of the Government of Bavaria. This process can be supported by Euregio via salina by outlining the benefits such an association would bring also for improving cross-border public transport. Also, the Euregio should advocate to assess potentials and opportunities for the inclusion of the Austrian exclaves of Kleinwalsertal and Jungholz into this association.

Activity 2 (MCC - mobility coordination centre) might be affiliated to the Euregio via salina or to an EGTC that will be newly established. If assigned to the Euregio, this centre could be established within the Euregio as a new organisational unit in order to clearly delineate its tasks from the other tasks of the Euregio via salina. The advantage here is that the staff of the Euregio already have a wide range of experience in cross-border cooperation and already have the necessary networks, contacts and knowledge. Also, the implementation of the centre would

be more straightforward and would require less formalities. On the other hand, the establishment of an EGTC has the advantage that, in contrast to the Euregio, the EGTC can devote itself entirely to cross-border mobility and that the stakeholders can delegate competent PT experts. It is also probably easier to delegate other activities to an EGTC, such as activities 5, 6 and 7. An EGTC would also presumably have greater assertiveness vis-à-vis external PT actors, state governments, etc.. It is the wish of the stakeholders to start Activity 2 as soon as possible, regardless of when Activity 1 is completed.

Anyway, activities 5 (PT standards), 6 (Joint cross-border tariff structure) and 7 (information, data, digital services) should then be assigned to the MCC. As long as there is no cross-border public transport association, this mobility coordination centre is responsible for cross-border coordination of all aspects of PT planning. Activities 5 and 7 however could already start immediately with informal activities.

Activity 3 (guest card clearing house) is a special case as it is ideally a limited task that will be obsolete with the agreement of a cross-border tariff structure and ticketing system. It can therefore ideally be transferred to an existing tourist organisation that deals with guest cards anyway. Alternatively, a newly founded EGTC could dedicate itself to this task.

Table 9. Suggestions for implementation.

Activity	Suggestion for Implementation
1 German PT association	Implemented through state action with support of Länder government of Bavaria
2 Mobility coordination centre	Affiliated to Euregio via salina, or new EGTC
3 Guest card clearing house	Affiliated to existing tourist organisation, or new EGTC
4 PT Vision	Implemented/supervised by Euregio via salina through Interreg project or by a new EGTC
5 PT standards	The future mobility coordination centre should be responsible for this. Affiliated to Euregio via salina or to a new EGTC, depending on where the mobility coordination centre is assigned to.
6 Joint cross-border tariff structure	
7 Information, data, digital services	

Activity 4 (PT Vision) is considered important to develop a concept for the future public transport in the cross-border region. It is, however, a one-off initiative, which could either be implemented or supervised by the Euregio via salina (by themselves or through Interreg project) or could be assigned to a new EGTC. The first solution would probably allow for a timelier implementation.

Before implementing the above activities, the following questions should be answered:

- **What?** What do we want to implement?
- **Who?** Who cares (about what)?
- **Confirmation?** How and when will we get the political go-ahead?
- **Financing?** How do we finance the implementation?

Against the background of its mandate laid down in the Euregio strategy, it would make sense for the Euregio via salina to develop a roadmap for the implementation of the identified activities, to moderate the overall process, to develop answers to the questions raised, to bring together the actors and stakeholders for each activity, and to develop concrete implementation proposals (such as initiating an Interreg project).

4.4.2 Establishing an EGTC

An Interreg project can be applied for to prepare the establishment of the mobility coordination centre, whether it is assigned to the Euregio via saline or to a new EGTC. If the latter is to be established, an Interreg project is all the more suitable for laying its administrative, formal, technical and content-related foundations.

To establish an EGTC, the Interreg project could identify and develop solutions with respect to (not limited to):

- **Tasks, objectives, and responsibilities**: Identification of tasks and objectives related to the planning, provision, operation and maintenance of PT services that should be assigned to the EGTC. Decision, whether activities 3, 5, 6, and 7 should be assigned to the EGTC.
- **EGTC members**: Identification of local authorities and actors in the field of public transport that should and are willing to participate. Actors necessary for the fulfilment of the tasks assigned to the EGTC should be invited and participate.
- **Convention and statutes**: Development of the statutes, including description of objectives, tasks and responsibilities and financing of the EGTC, including its territorial dimension, and implementation of the general convention.
- **Indicators**: Identify and describe general objectives of the EGTC including key success factors, monitoring indicators and targets.
- **Organs**: Identification and description of the organs that make up the EGTC, including assembly and director.
- **Staffing**: Identification of quantities and qualities of the required staff, including preparing job descriptions and caring about job advertisement. Seek for employees and for the potential director of the EGTC and development of organigram and assigning responsibilities.
- **Procedures**: Develop internal (i.e. within the EGTC) and external (i.e. towards PT actors and stakeholders) working procedures, work flows and concretely assign responsibilities.
- **Office**: Decision about head office. Seeking for and preparing suitable office location. Procurement of required furniture, hardware, and software equipment.
- **CI**: Develop CI materials for the EGTC (i.e. fonts, logo, flyer and leaflets, business cards, website, letterhead, and more).
- **Official founding**: Implement all required formal steps for the official establishment of the EGTC, informing the public and all relevant stakeholders. Design and initiate promotion and marketing campaign.
- **Registering**: Registering the new EGTC at the Committee of the Regions.[29]
- **Contracts**: Develop and conclude contracts with other PT actors in the region with respect to the transfer of tasks and responsibilities in cross-border public transport planning to the EGTC, including procedures for good cooperation and coordination with PT associations and PT actors.

If the mobility coordination centre is to be assigned to the Euregio via salina, some of the above points need also to be solved such as identification of the partners, agreement about tasks and responsibilities, staffing and procedures, even though probably at a somewhat lower formal level.

[29] To register, follow the instructions provided at https://cor.europa.eu/en/our-work/pages/egtc.aspx#1 (COR, 2023).

4.4.3 Developing cross-border public services

The mobility coordination centre, once established, could then develop and implement joint cross-border tariff structures (Activity 6), information platforms and digital services (Activity 7) as cross-border public services, by utilising information from the practical guide developed in the ESPON CPS project (Zillmer and Holstein, 2019) and from the toolbox developed in DG REGIO CBPT project (Zillmer et al., 2022b; see Table 7 for overview of useful tools).

The main building blocks for establishing a CPS are illustrated in Figure 19. The windmill illustrates that the five main blocks (foundation, tasks, management, infrastructures, and legal frameworks) are equally important and must receive equal attention. Important aspects to tackle are:

- **Foundation**: Develop a common understanding among all partners, share objectives and border realities, and reach a common commitment.
- **Tasks**: Identify, define, describe and decide about tasks and responsibilities.
- **Management**: Define and agree about the modus operandi, management and organisation structures and the required degree of formalisation.[30]
- **Infrastructures**: Define about the necessary technical infrastructures and normative frameworks and identify required maintenance procedures.
- **Legal frameworks**: Assess relevant and adjust to the extent necessary the legal and regulatory frameworks (EU, national or regional provisions).

The order in which these five blocks are dealt with is basically irrelevant; it is only necessary to ensure that they are taken into account to the necessary extent. Depending on the intended service, a block may be more or less important.

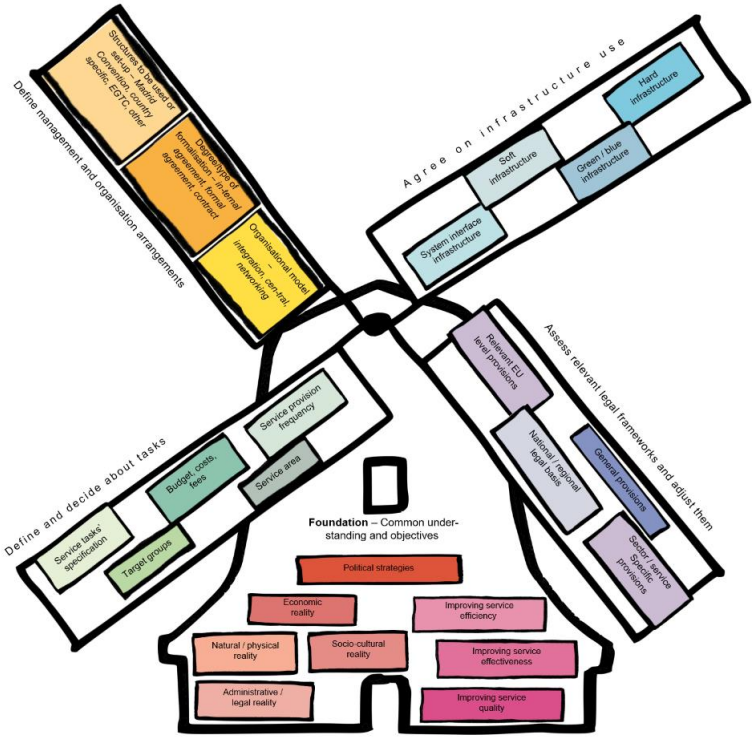
An analysis of the CPS Inventory has revealed several general lessons for the development of a CPS (Zillmer et al., 2022c):

- Allow for **flexibility** in the implementation, delivery and management models (avoid too strict structures), to be able to react flexibly on new development and to changes in demand.
- Identify options that best match your needs (**tailored solutions**) (there is no right or wrong solution). In case of Euregio via saline, the cases of Kleinwalsertal and Jungholz, as well as the Guest Card Clearing House could be considered as unique cases that deserve tailored solutions.
- Internalise that CPS are **evolvable and dynamic,** and they are not 'ready' at any time. The addressed objectives and implemented solutions should be reviewed regularly and, if necessary, adapted to changed realities.
- Start with '**low hanging fruits'**, then grow and extend as needed (don't try to develop the most comprehensive CPS right away). The example of the cross-border ticket in the Elbe/Labe region has shown, that they started with just one (simple) ticket, and after a while they added further ticket types.
- If a first CPS operated successfully, options and ideas for **follow-up CPS** or for improving the service appear soon. Often, an initial CPS serves as an icebreaker, creates trust between the actors and shows that better solutions can be found together. Success encourages the development of further services.
- CPS should be developed and managed by **regional actors** from within the border region.

[30] Some services require a very high level of formalisation, others do without formal agreements at all.

- Most successful CPS are **bottom-up approaches**, because regional actors know the problems in the border regions best and only they often find best tailored solutions.
- You are not alone; it is very likely that other border regions faced **similar problems** and already developed solutions.
- **Best practices** exist; do not hesitate to learn from them but adapt them as needed for your specific situation.
- Don´t start developing a CPS with the discussion of legal issues, as it often leads to frustration when supposedly simple solutions become complex problems under legal aspects.
- Rather, political **will** and joint **commitment** are crucial.
- Just start to develop a CPS (**just do it**) and don't wait for the problem to go away on its own or for someone else to take care of it.
- Appreciate support by regional or national governments, but don´t wait for it. Often the argument that one had to wait for support from the government level is used as a knock-down argument to prevent a CPS.
- Consider geographical specificities not as obstacles, but as a chance to develop **specialized and unique services** that may then serve as best practice examples for others.
- **Turn challenges into potentials** and make problems become part of the solution. For instance, different wage levels may be actively utilized when recruiting staff for a CPS; or a CPS may be designed in a way to best account for the needs of different target groups.

Figure 19. Main building blocks for developing CPS.



Source: Zillmer and Holstein, 2019

Based on the findings presented, Box 6 summarises important points for the introduction of a harmonised cross-border ticketing system in the Euregio via salina as a new CPS.

Box 6. Hints for developing joint cross-border ticket systems.

Example for developing a CPS: Implementing joint cross-border ticket

Several issues must be addressed when developing a joint and harmonized cross-border ticket system.

- **Actors**: Identify all actors and stakeholders that need to be involved, such as
  - Future German PT association
  - VVT / VVV
  - Other PT operators
  - others
- **Implementation model**: Agree upon the implementation model (network, centralized, or integrated model, see Table 8). *If the CPS is to be developed by an EGTC, the integrated model should be the first choice.*
- **Target groups**: Identify and agree upon the envisaged (main, secondary) target groups (such as general public, cross-border workers, tourists, pupils). With reference to the objectives of the Euregio strategy, cross-border workplace commuters, school and business traffic should be considered as a target group in addition to tourists.
- **Ticket sales**: Agree upon the options for ticket sales, such as
  - central approach (ticket only available from one partner)
  - distributed approach (each partner sells tickets via his regular channels)
  - integrated approach (PT ticket included in monthly / annual or in specific tickets such as guest cards)
  - special distribution channels (like websites)
  - modern IT systems (see Box 2)
  - any combination of the above

  Taking into account the existing structures in the border region, a combination of a distributed and integrated approach (guest cards) and modern IT systems would be desirable.
- **Ticket prices**: Consider the following points when defining prices:
  - Same price in both countries?
  - How to deal with different income levels and purchasing powers?
  - How to deal with different cost structures?
  - Should there be special fares for certain target groups (kids, students, elderly, tourists, …)

  Basically, income levels and purchasing powers do not differ so much in the border region, so same ticket prices in both countries would be desirable. Special fares for certain target groups should, however, be considered.
- **Ticket conditions**: Consider and define special conditions such as
  - Ticket types (one or multi trip tickets, monthly / annual tickets, etc.)
  - Combined tickets (like tourist guest cards, family or student tickets)
  - Temporal and spatial validity of the tickets
  - Digital or physical tickets or both
  - Means for ticket control

  Examples from other border regions show that in most cases initially only one or two ticket types are offered, which may be expanded step-by-step once first experiences are gathered on usage and demand developments.
- **Costs and revenues**: Agree upon fair sharing of both.

Different solutions are possible for all points above, usually – as a whole – resulting in tailor-made solutions for each border region. Especially in border regions, it is important to emphasise that the partners on both sides of the border may have different ideas on all these points based on their respective conditions, and that it cannot be assumed (less so, at least, than in the domestic context) that all partners share the same views from the beginning. Therefore, it is important to develop a common problem understanding at the beginning and to agree about common goals before clarifying detailed questions.

It is also important to allow flexibility for future enhancements and extensions of the service. Eventually, all partners involved must be satisfied with the solutions found.

5. Findings and conclusions

For several reasons described in Chapter 1, the Euregio via salina has strategically identified the need to improve the public transport system in the border region. Main reasons for that are the ever-increasing number of motorised vehicles and the poor and inadequate quality of existing PT services. At the same time, there are potentials and needs for high-quality PT services thanks to the large number of tourists, making some parts of the Euregio touristic hot spots. The geographical situation of the Austrian exclaves of Kleinwalsertal and Jungholz, which are only accessible from the German side, also calls for specific PT solutions. At the same time, the topography does not allow for significant increases in the number of border crossings for public transport. By way of consequence, a mere quantitative increase in cross-border PT services is not sufficient; instead, a significant qualitative improvement for the overall PT system shall be achieved.

Against this background, four fields of action with a total of seven activities were identified in an expert workshop to improve public transport in the border region (Chapter 2). The four fields of action are:

1. Administration
2. Planning
3. Tickets and tariffs
4. Information, data, and digital services

While the first two fields primarily address actors responsible for public transport planning, organization, and provision, the last two fields are more directly targeted at improved end user experiences. Substantive legal and regulatory problems were not addressed, apart from the issue of bus stop signs; however, the latter was considered comparatively unimportant, which is why no measures are proposed in this regard in this report.

The four action fields then cover the following seven activities (Chapter 4):

1. German PT association
2. Mobility coordination centre
3. Guest card clearing house
4. PT vision
5. PT standards
6. Joint cross-border tariff structures
7. Information, data, and digital services

While Activity 1 (establishment of a German PT association in the Allgäu region) is already initiated with a strong top-down impetus by the Bavarian State Government and a feasibility study has already been commissioned, the other activities must be initiated by the actors in the border region as bottom-up initiatives. As Activity 1 only refers to the German part of the Euregio via salina, the establishment of a cross-border coordination centre for mobility (Activity 2) is particularly important to ensure intensive consultation and coordination and joint planning of the future public transport systems with the Austrian side. In the past, this did not happen to a sufficient extent and only related to individual projects, but not from a permanent strategic point of view.

These are the two important administrative measures to strengthen public transport in the border region. The remaining activities then refer to individual qualitative aspects.

The mobility coordination centre can either be implemented in form of an EGTC, or it can be administratively affiliated to the Euregio via salina. The other activities, especially 6 and 7, can be implemented as CPS / CBPT. For both the EGTC and the CPS / CBPT, further implementation instructions and practical examples have been given in this report. For their implementation, an existing toolbox and a practical guide can be used as well as many examples from

other border regions. The cited final reports of the DG Regio CPS and CBPT projects contain detailed descriptions including contact information.

Interestingly, the activities identified, and solutions proposed by the experts do not deal with concrete proposals for the introduction of new or the improvement of existing public transport connections (some projects have already been initiated in this respect in the recent past, as presented in Chapter 3.2), but the proposals rather deal with fundamental strategic aspects that are considered necessary by the stakeholders for a sustainable improvement of the entire public transport system.

With the identified activities, good preconditions are given for substantially improving the public transport system in the border region. It is important to implement the administrative measures first and in a timely manner, and then tackle the substantive issues. It is hoped that the implementation of the administrative measures lead, successively, to a sustainable quality improvement of the overall PT system. Nevertheless, good practice experiences gained through the recently implemented concrete projects (Chapter 3) should be given sufficient consideration. Therefore, the actors responsible for the respective projects should be intensively involved in all further steps.

For the implementation of the most important measure from the perspective of cross-border public transport, the establishment of the mobility coordination centre, an Interreg project is suitable, which may develop the necessary foundations, regardless of whether the MCC is integrated into the Euregio or whether an EGTC is founded for this purpose.

With respect to the time horizon, the establishment of the German PT association (1) is expected to be completed by 2025. The MCC (2), the guest card clearing house (3) and first actions under the information, data, and digital services (4) should also start immediately. Developing the PT vision (6) is also top priority as the vision may develop guidelines for the future PT system, however, some preparatory steps are necessary for its successful implementation. Developing PT standards (5) and join tariff structures (7) are medium-term tasks, despite their overall importance. Almost all of these seven activities are permanent tasks, except for the PT vision which is a one-off initiative and the guest card clearing house, which is a time-limited interim solution which may become obsolete once a joint cross-border tariff and ticket system is in place.

Based upon its mandate (Euregio strategy), the Euregio via salina could organize, moderate and supervise the entire implementation process outlined above.

As highlighted in the strategy of the Euregio via salina, improving the public transport system is not an end in itself, but is also intended to achieve much broader goals:

- Creating a viable economy with easy access to knowledge, information, and partners,
- Strengthening sustainable tourism by facilitating and simplifying the use of public transport by tourists,
- Integrated territorial development and safeguarding quality of life,
- Reducing border barriers and increasing cross-border flows of people, and
- Facilitating cross-border education and generally making the region more attractive.

There is a reasonable hope that the implementation of the identified four fields of action and seven activities can contribute to the achievement of these broader goals.

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7. Annex

7.1 Relevant actors in the field of public transport in the Euregio via salina

Table 10 provides a list of actors and stakeholders which are currently concerned with the planning and provision of public transport in the Euregio via salina. These actors are, in one way or the other, to be involved when implementing the identified actions for the future development of the public transport in the cross-border area. A proposal under which activity the actors are to be involved is given in the last column.

Table 10. List of actors in the field of public transport.

#	Organisation	Country	Remarks	Activities
1	Adam Pfahler GmbH & Co. KG	DE	Private bus service operator	4, 5, 7
2	Anton Specht Autounternehmung und Reisebüro GmbH	AT	Private bus service operator	4, 5, 7
3	Allgäu GmbH	DE	Official umbrella organisation for tourism and business development in the Allgäu region	1, 2, 3, 4, 7
4	Arbeitskreis Verkehr Landkreis Lindau	DE	Transport working group of county Lindau	2, 4, 5, 6
5	Bayerische Eisenbahngesellschaft (BEG)	DE	Public transport authority for local rail passenger transport (SPNV) in Bavaria. The BEG plans, finances and controls the SPNV throughout Bavaria.	1, 2, 4, 5, 6, 7
6	Berchtolds Autoreisen & Reisebüro GmbH & Co. KG	DE	Private bus service operator	4, 5, 7
7	Bergland Tirol Reisebüro Oberreiter Gesellschaft	AT	Private bus service operator	4, 5, 7
8	Brutscher-Reisen GmbH	DE	Private bus service operator	4, 5, 7
9	DB Regio	DE	Subsidiary of German Federal Railway company operating regional train and bus services	1, 2, 4, 5, 6, 7
10	Euregio via salina	AT / DE	Cross-border association	2, 4, 6, 7
11	Freistaat Bayern	DE	Government of Bavaria	1
12	Füssen Tourismus & Marketing	DE	Tourism and marketing association of the City of Füssen	2, 3, 4, 7
13	Gemeinde Pfronten	DE	City of Pfronten	2, 3, 4, 7
14	Gemeindeverband Personennahverkehr Unteres Rheintal	AT	Bus service provider for Lower Rhine Valley	4, 5, 7
15	Gemeindewerke Oberstdorf	DE	Bus service provider	4, 5, 7
16	Gromer GmbH Omnibusbetrieb	DE	Private bus service operator	4, 5, 7
17	Haslach Bus GmbH	DE	Private bus service operator	4, 5, 7
18	Josef Jörg GmbH	DE	Private bus service operator	4, 5, 7
19	Kemptener Verkehrsbetriebe- und Beteiligungs GmbH & Co. KG (KVB)	DE	Bus service provider	4, 5, 7
20	Kommt mit Morent GmbH & Co. KG	DE	Private bus service operator	4, 5, 7

21	Morent-Reisen GmbH & Co., Omnibusbetriebs KG	DE	Private bus service operator	4, 5, 7
22	Landesregierung von Tirol	AT	Government of Tyrol	2, 4, 5, 6, 7
23	Landesregierung von Vorarlberg	AT	Government of Vorarlberg	2, 4, 5, 6, 7
24	LRA Lindau	DE	County of Lindau	2, 4, 6, 7
25	LRA Oberallgäu	DE	County of Upper Allgäu	2, 4, 6, 7
26	LRA Ostallgäu	DE	County of East Allgäu	2, 4, 6, 7
27	mona GmbH	DE	Private association of bus operators	1, 2, 3, 4, 5, 6, 7
28	Naturpark Ammergauer Alpen	AT	Nature park Ammergau Alps	2, 4, 6, 7
29	ÖBB	AT	Austrian Federal Railway company	1, 2, 4, 5, 6, 7
30	OMNIPART Verkehrsdienstleistungen GmbH & Co. KG	AT	Bus and digital service provider	1, 2, 3, 4, 5, 6, 7
31	Planungsverband Tannheimer Tal	AT	Planning association for Tannheimer Valley	2, 4, 6, 7
32	Regio Bregenzerwald	AT	Regional development association Bregrenzer Wald	2, 4, 6, 7
33	Regio Bus Bayern	DE	Bus service provider (subsidiary of German Federal Railway company operating regional bus services)	1, 2, 4, 5, 6, 7
34	Regionalbus Augsburg GmbH (RBA)	DE	Bus service provider	4, 5, 7
35	Regionalentwicklung Außerfern	AT	Regional development association Außerfern	2, 4, 6, 7
36	Regionalentwicklung Vorarlberg	AT	Regional development association for Vorarlberg	2, 4, 6, 7
37	Regionalverkehr Allgäu GmbH	DE	Bus service provider for Allgäu	4, 5, 7
38	Regionaler Planungsverband Allgäu	DE	Regional planning association for Allgäu	2, 4, 6, 7
39	Regionaler Planungsverband Lechtal	AT	Regional planning association for Lechtal valley	2, 4, 6, 7
40	Regionaler Planungsverband Reutte	AT	Regional planning association for Reutte	2, 4, 6, 7
41	Regionaler Planungsverband Zwischentoren	AT	Regional planning association for Zwischentoren area	2, 4, 6, 7
42	Reisebüro Schattmeier GmbH & Co. KG	DE	Private bus service operator	4, 5, 7
43	Schweighart GmbH & Co., Omnibus-Unternehmen KG	DE	Private bus service operator	4, 5, 7
44	Specht Transporte und Reisebüro GmbH	AT	Private bus service operator	4, 5, 7
45	Stadt Kaufbeuren	DE	City of Kaufbeuren	2, 4, 6, 7
46	Stadt Kempten	DE	City of Kempten	2, 4, 6, 7
47	TVB Allgäu Bayerisch-Schwaben	DE	Tourism association for the Allgäu and Bayerisch-Schwaben area	3, 4, 6, 7

48	TVB Naturparkregion Reutte	AT	Tourism association for nature park region Reutte	2, 3, 4, 6, 7
49	TVB Ostallgäu	DE	Tourism association for East Allgäu	2, 3, 4, 6, 7
50	TVB Tannheimer Tal	AT	Tourism association for Tannheimer Valley	2, 3, 4, 6, 7
51	TVB Tiroler Zugspitz Arena	AT	Tourism association for the Tyrol Zugspitz Area	2, 3, 4, 6, 7
52	Verkehrsgesellschaft Kirchweihtal GmbH	DE	Regional bus operator and digital service provider	4, 5, 7
53	Verkehrsverbund Tirol (VVT)	AT	Transport association for Tyrol	2, 3, 4, 5, 6, 7
54	Verkehrsverbund Vorarl-berg (VVV)	AT	Transport association for Vorarlberg	2, 3, 4, 5, 6, 7
55	Walserbus	AT	Bus service provider in Kleinwalsertal	4, 5, 7

7.2 List of participants of the workshops

Following are lists of participants for the two workshops of 15 May 2023 (Table 11) and of 5 July 2023 (Table 12). While the first workshop was conducted as a hybrid event, the second one was conducted as a digital event to allow for a maximum number of participants.

Table 11. List of workshop participants of 15 May 2023.

#	Surname	First name	Organisation	Participation
1	Drechsler	Sandro	LRA Oberallgäu	Present
2	Fraune	Petra	TVB Tiroler Zugspitz Arena	Online
3	Fredlmeier	Stefan	Füssen Tourismus & Marketing	Online
4	Greußing	Alois	Regio Bregenzerwald	Online
5	Gries	Sebastian	Tourismusverband Ostallgäu	Present
6	Gruber	Michael	Verkehrsverbund Tirol	Online
7	Hofer	Silvia	Regionalentwicklung Außerfern	Present
8	Keller	Michael	TVB Tannheimer Tal	Online
9	Kuhn	Marina	Euregio via salina	Present
10	Lenz	Christian	LRA Ostallgäu	Present
11	Petrini	Ronald	TVB Naturparkregion Reutte	Online
12	Pukall	Klaus	Naturpark Ammergauer Alpen	Online
13	Riemke	Franka	Allgäu GmbH	Present
14	Schädle	Martin	Planungsverband Tannheimer Tal	Online
15	Schubert	Jan	Gemeinde Pfronten	Present
16	Schumacher	Holger	Allgäu GmbH	Present
17	Schürmann	Carsten	Büro f. Raumforschung (RRG)	Present
18	Steuer	Simon	LRA Oberallgäu	Present
19	Welzig	Felix	LRA Oberallgäu	Present

Table 12. List of workshop participants of 5 July 2023.

#	Surname	First name	Organisation	Participation
1	Drechsler	Sandro	LRA Oberallgäu	Online
2	Fischer	Klaus	Euregio via salina	Online
3	Fredlmeier	Stefan	Füssen Tourismus & Marketing	Online
4	Greußing	Alois	Regio Bregenzerwald	Online
5	Gries	Sebastian	Tourismusverband Ostallgäu	Online
6	Hofer	Silvia	Regionalentwicklung Außerfern	Online
7	Kuhn	Marina	Euregio via salina	Online
8	Lenz	Christian	LRA Ostallgäu	Online
9	Riemke	Franka	Allgäu GmbH	Online
10	Schubert	Jan	Gemeinde Pfronten	Online
11	Schumacher	Holger	Allgäu GmbH	Online
12	Schürmann	Carsten	Büro f. Raumforschung (RRG)	Online
13	Steuer	Simon	LRA Oberallgäu	Online
14	Zeitler			Online

7.3 Challenges and possible solutions identified at the workshop

The following screenshots illustrate challenges (Figure 20) and possible solutions (Figure 21) identified at the first hybrid workshop on 15 May 2023.

Figure 20. Challenges identified at the first workshop.

Photo: C. Schürmann, 2023

Figure 21. Possible solutions discussed at the first workshop.

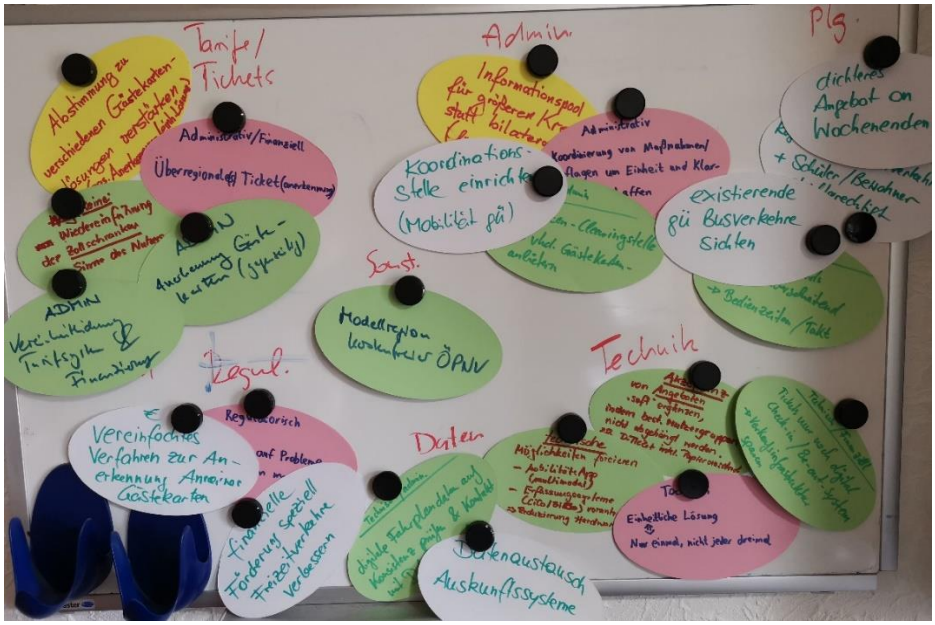


Photo: C. Schürmann, 2023

7.4 CPS/CBPT on cross-border tariff integration and ticketing

Cross-border tariff integration and ticketing is one of the main concerns of cross-border regions when seeking for options to increase attractiveness of their public transport systems, so it is in the Euregio via salina. Thus, numerous examples of CPS/CBPTs for cross-border tariff integration and ticketing already exist, as compiled in the DG REGIO CPS study[31]. These examples could be used as a raw model or inspiration for implementing similar services in the Euregio via salina.[32]

Table 13. Examples for cross-border tariff integration and ticketing.

#	Border	Key actors	Features of tariff cooperation / integration	Cross-border tickets
1	LU-FR LU-BE	LU: Luxembourg government, national railway company CFL	Unilateral integration, as the Luxembourg government decided in 2020 to integrate three stations in France and Belgium into the national free public transport regime.	No ticket is needed, since cross-border rail passenger transport by CFL between Luxembourg and the railway stations in Athus (BE), Audun-le-Tiche (FR) and Volmerange-les-Mines (FR) is free in second class. For first class travelling, however, a ticket has still to be purchased.
2	DE-FR	DE: Saarländischer Verkehrsverbund (saarVV)	Unilateral tariff integration, as several border-close destinations in France (Grand Est region) are also covered by the saarVV tariff area.	-
3	DE-FR	DE: Karlsruher Verkehrsverbund (KVV), Verkehrsverbund Rhein-Neckar (VRN), Zweckverband Schienenpersonennahverkehr Rheinland-Pfalz Süd (ZSPNV), Deutsche Bahn-DB Regio FR: National railway company (SNCF).	Tariff cooperation, introducing a supplementary day ticket for leisure trips and excursions with an extension of the area of use (2016).	German customers of KVV and VRN can now use the “TICKETPLUS Alsace” for trips to northern Alsace (Département Bas-Rhin), whereas French users can use all interconnected transport in the KVV and VRN networks on weekends and French public holidays with the "Pass Alsace-VRN/KVV".
4	DE-FR	DE: Tarifverbund Ortenau (TGO) FR: Eurométropole de Strasbourg	Tariff cooperation, introducing a cross-border ticket with a joint public transport tariff (1998).	“EUROPASS”: There are different versions of the binational ticket (day tickets, family day ticket, monthly subscription), which are valid in the TGO territory and in the Strasbourg Eurométropole on all means of local transport (buses, trams or local trains).

[31] Zillmer et al., 2022c

[32] In particular examples 7, 8, and 12 could be interesting, since partners from within the Euregio are involved.

5	CH-DE	DE: Waldshuter Tarifverbund (WTV), Landkreis Waldshut CH: Tarifverbund Aare-Welle (TVA), Kanton Aargau	Tariff cooperation, introducing a cross-border ticket with a joint public transport tariff.	"HochRhein Ticket": This is a joint offer for cross-border journeys between the WTV and TVA tariff areas, based on a joint tariff with specific rules published separately on both sides. The ticket with three zone variants (Mini, Midi, Maxi) is valid for the use of all means of public transport. It is therefore an efficient and flexible offer for domestic and cross-border commuters as well as for all other people from both sides of the HochRhein-Area.
6	CH-DE	DE: Verkehrsverbund Hegau-Bodensee (VHB), Landkreis Konstanz CH: Tarifverbund OSTWIND (OTV), Kantone Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Schaffhausen, Schwyz, St. Gallen, Thurgau	Tariff cooperation, introducing two offers for cross-border journeys with a joint public transport tariff covering specific VHB and OTV tariff zones.	(1) Mutual recognition of tickets in the VHB Constance city zone (OTV designation zone no. 555) and the OTV zone 256 (Kreuzlingen). (2) “VHB/OTV-Kombi-Tickets”: the different versions of the cross-border combi-ticket (single ticket, day ticket, monthly and annual season tickets) can be used in the VHB and OTV tariff areas, for which a joint tariff on all means of local public transport applies. This offer can be used if at least one OTV and one VHB zone are purchased for single tickets and one OTV and two VHB zones or the Constance city zone are purchased for season tickets (= monthly and season tickets).
7	AT-CH	AT: Verkehrsverbund Vorarlberg (VVV), Bundesland Vorarlberg CH: Tarifverbund OSTWIND (OTV), Kantone Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Schaffhausen, Schwyz, St. Gallen, Thurgau	Tariff cooperation, introducing a joint ticket offer for cross-border journeys valid for specific VVV and OTV tariff zones	“Kombitarif OTV-VVV”: the combined fare is an offer for special OTV zones and VVV Domino Zones that applies when at least 1 OTV and 1 VVV zone are used. The combined tickets are valid on scheduled public transport services within the designated perimeter. OTV tickets in combination with VVV tickets (and vice versa) also entitle the holder to cross-network journeys between OTV and VVV. For all other journeys, the fares of the respective networks or transport companies apply.
8	AT-LI	LI: Verkehrsbetrieb LIECHTENSTEINmobil (VLM or LIEmobil) AT: Verkehrsverbund Vorarlberg (VVV), Bundesland Vorarlberg	Tariff cooperation (bus, suburban railway), with a recognition of tickets and application of a combined public transport tariff for cross-border trips.	“VVV-LIEmobil-Kombitarif”: this combined tariff with its own provisions applies to cross-border journeys by bus or the Vorarlberg suburban railway (S-Bahn Vorarlberg). Tickets to the entire VVV area are available on LIEmobil buses, allowing people to travel across borders with just one ticket. For journeys in a LIEmobil bus within Vorarlberg, the VVV tariff is applied (VVV tariff regulations). LIEmobil season tickets and LIEmobil tickets for all zones are also valid on cross-border bus line 70 and on the Vorarlberg suburban train to Feldkirch station.
9	LI-CH	LI: Verkehrsbetrieb LIECHTENSTEINmobil (VLM or LIEmobil) CH: Tarifverbund OSTWIND (OTV), Kantone Appenzell	Tariff cooperation, making the state territory of Liechtenstein an integral part of the OTV zone tariff system (i.e. zones 301, 303, 305 and 307), but no	Tickets to the whole of Eastern Switzerland can be purchased on LIEmobil buses. Cross-border zone season tickets are also available at OTV sales points. The LIEmobil fare is valid on specific cross-border bus lines (no. 11, 12, 13 and 24) up to the final stops in Switzerland. For journeys from

		Ausserrhoden, Appenzell Innerrhoden, Glarus, Schaffhausen, Schwyz, St. Gallen, Thurgau	joint tickets for cross-border trips by bus (i.e. mutual recognition of LIEmobil and OTV tickets until the end point of cross-border bus lines).	Liechtenstein to Switzerland beyond the LIEmobil route network, the Ostwind fare is applied (Ostwind fare conditions). For journeys within the Ostwind network, the Ostwind tariff applies.
10	LI-CH	LI: Verkehrsbetrieb LIECHTENSTEINmobil (VLM or LIEmobil) CH: Schweizerischen Bundesbahnen (SBB)	Tariff cooperation (rail only), extended application of SBB rail tickets and recognition of tickets on buses in LI.	On direct rail services with the Swiss Federal Railways (SBB), people can buy tickets from anywhere to Liechtenstein. Most tickets on SBB direct services are also valid in Liechtenstein (e.g. Generalabonnement, HALBTAX, SEVEN25, Junior- / Kindermitfahrkarte etc.).
11	FR-CH	CH: “Unireso” transport association, including three Swiss public transport operators. CH/FR: “Léman Pass transport association”, including ten Swiss and French public transport companies as members plus eight public transport organising authorities from both sides of the border as partners	Full cross-border tariff integration for all journeys within the Greater Geneva cross-border metropolitan area	Since December 2019, a new two-tier system establishes tariff integration within the Canton of Geneva (through Unireso) and cross-border tariff integration within the entire Greater Geneva metropolitan area (through the Léman Pass). Léman Pass: individual tickets and subscriptions apply only to cross-border journeys with public transport in the defined perimeter. They allow travel with different modes of public transport operators (i.e. trains, trams, buses, Lake Geneva boats) that are members of the association. Each journey (origin-destination) is subject to a specific fare, which is calculated according to the departure station or urban areas selected and kilometres travelled.
12	AT-IT	AT: Verkehrsverbund Tirol (VVT)	Unilateral tariff integration, by including the border station Brenner / Brennero on Italian territory as a specific tariff zone into the VVT tariff area.	-
13	AT-IT	EGTC Euroregion Tyrol-South Tyrol-Trentino AT: Federal State of Tyrol IT: Autonomous Province of Bolzano-South Tyrol, Autonomous Province of Trentino	Cooperation on the introduction of two cross-border tickets (2020, 2021), with each applying the same price level in all three partner regions of the Euregio.	“Euregio2Plus”: with this cross-border day ticket, users can explore the entire Euregio Tyrol-South Tyrol-Trentino for one day. Up to five people (including a maximum of two adults and a maximum of three children under the age of 15) can travel together on local public transport (bus, train) in all three parts of the Euregio. The Euregio2Plus ticket is not a family ticket since users do not have to be related to each other in any way. The ticket has a single price in all three regions (EUR 39, in 2021). “Euregio Ticket Students”: the new annual pass was introduced on 1 October 2021 as a joint initiative in all three parts off the Euregio. Students can use public transport in the federal state of Tyrol and in the provinces of South Tyrol and Trentino flexibly with the

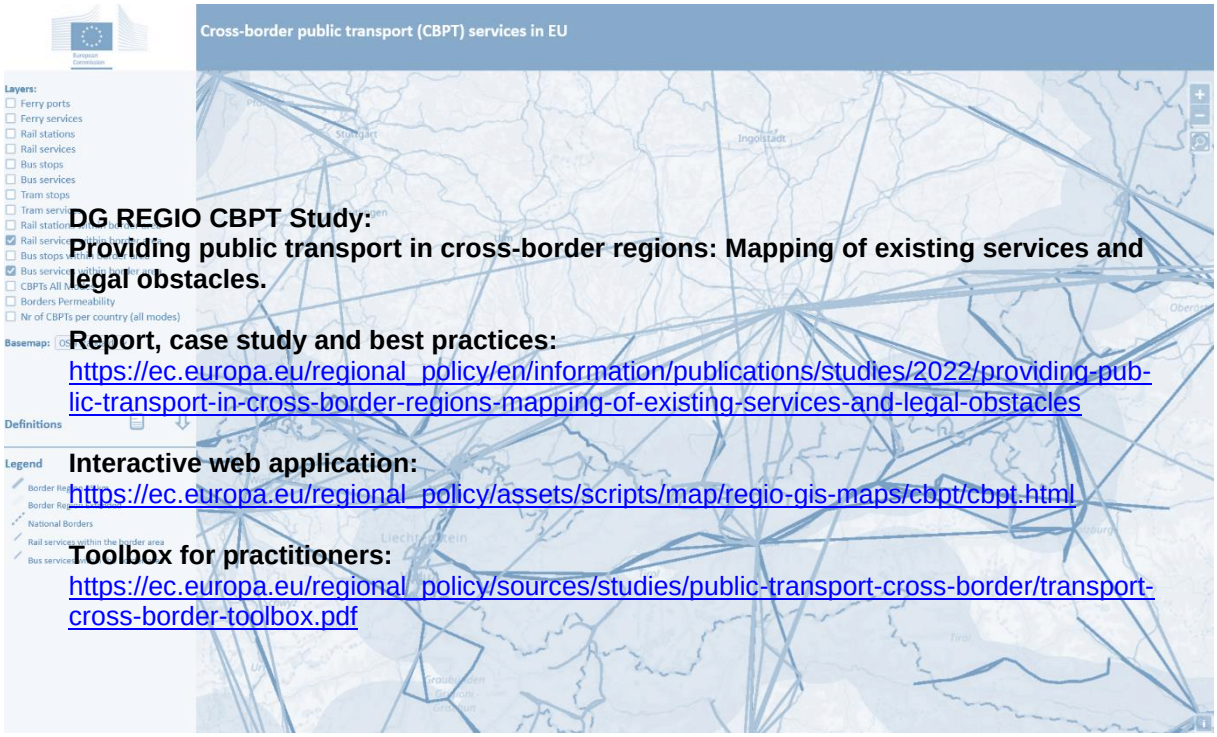
				new ticket. The ticket has a single annual fee in all three regions (EUR 430, in 2022).

Source: Zillmer et al., 2022c

7.5 Good practice solutions: Support through CPS and CBPT Inventories

The studies on CPS and CBPT commissioned by DG REGIO of the European Commission have not only collected extensive data on cross-border public transport services in Europe, each of which is accessible to the general public via interactive web applications but have also produced a wide collection of good practice examples within detailed case studies that can be used as inspiration and examples for others.

Information on both studies can be retrieved via the following URLs:



DG REGIO CBPT Study:
Providing public transport in cross-border regions: Mapping of existing services and legal obstacles.

Report, case study and best practices:
https://ec.europa.eu/regional_policy/en/information/publications/studies/2022/providing-public-transport-in-cross-border-regions-mapping-of-existing-services-and-legal-obstacles

Interactive web application:
https://ec.europa.eu/regional_policy/assets/scripts/map/regio-gis-maps/cbpt/cbpt.html

Toolbox for practitioners:
https://ec.europa.eu/regional_policy/sources/studies/public-transport-cross-border/transport-cross-border-toolbox.pdf

DG REGIO CBS Study:
Cross-border public services: CPS inventory analysis and policy recommendations.

Report, case study and best practices:
https://ec.europa.eu/regional_policy/information-sources/publications/studies/2022/cross-border-public-services-cps-inventory-analysis-and-policy-recommendations_en

Interactive web application:
https://cps.terrestris.de