



# DELIVERABLE D.T1.2.9

Territorial needs assessment for  
Verkehrsverbund Berlin-Brandenburg GmbH

Version 1.0  
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## 1. Overview of the selected region

### 1.1 Delimitation and basic geographical description of the pilot area

The pilot area includes the German federal states of Berlin and Brandenburg (NUTS 1) and the Polish voivodships of Lubuskie and Zachodniopomorskie (NUTS 2). Thus, the pilot area covers a relevant part of the cross-border governance structure of the Oder Partnership.

Fig. 1 - Oder Partnership geographical dimension

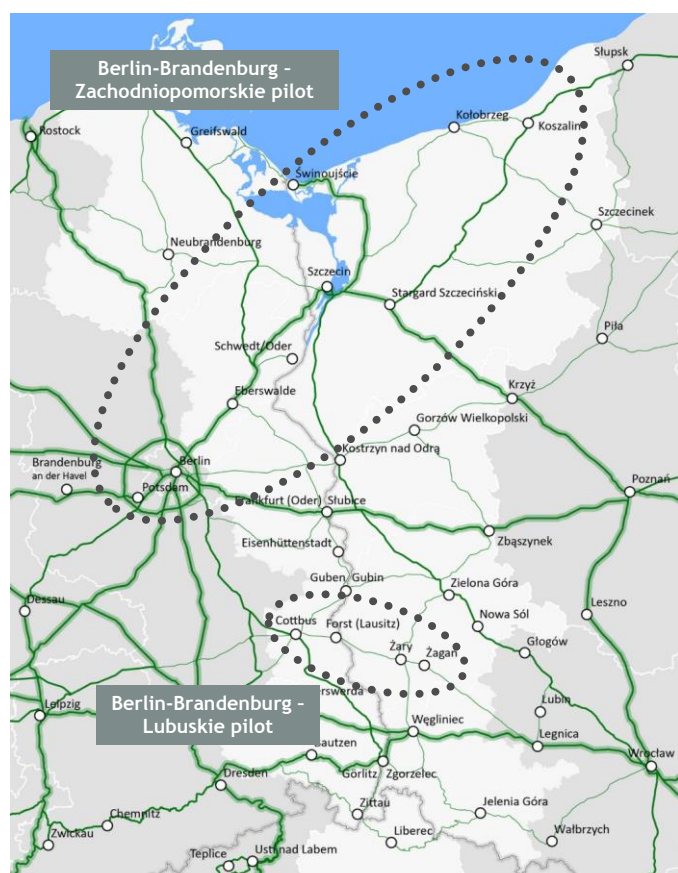


Within the pilot area, the following cross-border connections are subject of project activities:

- Berlin <-> Szczecin (<-> Świnoujście / Kołobrzeg / Gdańsk)
- (Berlin <->) Cottbus <-> Forst (Lausitz) <-> Żary <-> Żagań (<-> Legnica <-> Wrocław)



Fig. 2 - Pilot areas and railway network in the German-Polish border area



Source: AVerON - Analysis of the Oder-Neisse Transport Network (2015)

Additionally, the following cross-border connections are of particular relevance for the cooperation with partners from the Lubuskie voivodship, but not subject of project activities:

- Berlin <> Kostrzyn (<> Gorzów Wielkopolski)
- Berlin <> Frankfurt (Oder) <> Zielona Góra (<> Wrocław)

Main commuting origin and destination points (with focus to project activities) are the Berlin agglomeration and the cities of Szczecin, Cottbus and Zielona Góra.

Main touristic points and points of interest (with focus to project activities) are the cities of Berlin and Potsdam, the cities of Szczecin, Cottbus and Zielona Góra and the (Polish) coast of the Baltic Sea. Further touristic points (e.g. national parks, rivers and waterways, natural and artificial lake areas) are relevant for tourism and recreation, too, but without particular spatial focus.



## 1.2 Recent population and demographic trends

Table 1 - Recent population and demographic trends in the pilot area

Region	Population 31.12.2015	Area km <sup>2</sup>	Density per km <sup>2</sup>	Average population growth 2011-2015	Average migration balance 2011-2015	Age ratio * 2015	GDP/Capita 2015 € PPS	Average GDP/Capita growth 2011-2015 PPS
Berlin	3.520.031	892	3.948	1,43%	1,17%	1,43	34400	2,4%
Brandenburg	2.484.826	29.654	84	0,32%	0,60%	1,86	25600	3,3%
Zachodniopomorskie	1.710.482	22.892	75	-0,18%	-0,07%	1,07	16800	4,1%
Lubuskie	1.018.075	13.988	73	-0,12%	-0,10%	0,98	16500	4,0%
<b>Total</b>	<b>8.733.414</b>	<b>67.426</b>	<b>130</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

\* Relation of inhabitants aged 65+ to inhabitants aged 0-14  
Sources: DESTATIS, Główny Urząd Statystyczny, Eurostat

Population density and population trends (decrease or increase):

- Berlin has the highest population density; Brandenburg, Zachodniopomorskie and Lubuskie have significantly lower population density
- Berlin has the highest population growth, the population of Brandenburg is growing since few years. Population growth in Brandenburg is focused on the Berlin agglomeration
- The population of Zachodniopomorskie and Lubuskie is shrinking since few years

Migration balance (positive or negative):

- Berlin and Brandenburg have positive migration balance, Zachodniopomorskie and Lubuskie have negative migration balance

Age structure:

- Zachodniopomorskie and Lubuskie have still significantly „younger” population than Berlin and Brandenburg
- Due to the age structure, without migration inflow the population of Brandenburg would be shrinking

GDP:

- Berlin has the highest GDP, followed by Brandenburg, Zachodniopomorskie and Lubuskie
- GDP growth rate of Zachodniopomorskie and Lubuskie is higher than GDP growth rate of Berlin and Brandenburg



### 1.3 Transport network and accessibility conditions

Subsequently the cross-border interurban and regional road and railway transport network of the Berlin-Brandenburg pilot areas is being described by maps and tables, indicating the position of road and railway sections in transnational networks, planned improvements and territorial needs.

Fig. 3 - Explanation of map signatures

	Road network	} Planned improvements and territorial needs
	Railway network	
	Waterways	
	Removal of bottlenecks in the road network	
	Road tunnel (planned)	
	Road bridge (planned)	
	Road bridge (need for further discussion)	
	Szczecin Metropolitan Railway (planned)	

In the cross-border interurban and regional road and railway transport network of the Berlin-Brandenburg-Zachodniopomorskie pilot the city of Szczecin is the main passenger intermodal point.

Main cross-border railway sections are Angermünde <> Szczecin and Pasewalk <> Szczecin.

Fig. 4 - Cross-border railway and road network of the Berlin-Brandenburg-Zachodniopomorskie pilot



Source: AVerON - Analysis of the Oder-Neisse Transport Network (2015)



Relevant improvements are planned in the railway and road network. The position of railways in intermodal competition is difficult due to heavy investments in the road network (motorways and expressways, including new bridges and tunnels).

Table 2 - Railway network - Planned improvements and territorial needs

Railway section	TEN-T	Planned improvements and territorial needs
Berlin <> Angermünde (<> Stralsund)		Upgrade 160 km/h
Angermünde <> Szczecin	Core network	Upgrade 160 km/h, electrification, construction of crossing stations, preparation of 2 <sup>nd</sup> track
Lübeck <> Szczecin	-	<i>Need for upgrade</i>
Szczecin <> Zielona Góra	Comprehensive network	Revitalisation 120 km/h
(Świnoujście <>) Szczecin <> Poznań	Core network (Baltic-Adriatic Corridor)	Upgrade 160 km/h
Szczecin <> Koszalin <> Gdańsk	Comprehensive network	<i>Need for upgrade</i>
Szczecin <> Kołobrzeg	-	-

Source: AVerON - Analysis of the Oder-Neisse Transport Network (2015)

Table 3 - Road network - Planned improvements and territorial needs

Road section	TEN-T	Planned improvements and territorial needs
Berlin <> Szczecin (A11/A6)	Core network	-
Lübeck <> Szczecin (B104)	-	<i>Need for upgrade</i>
Świnoujście <> Szczecin (<> Zielona Góra) (S3)	Core network (Baltic-Adriatic Corridor)	Construction of expressway, including road tunnel in Świnoujście
Szczecin <> Koszalin <> Gdańsk (S6)	Comprehensive network	Construction of expressway, including Szczecin bypass
Szczecin <> Bydgoszcz (S10)	Comprehensive network	Construction of expressway

Source: AVerON - Analysis of the Oder-Neisse Transport Network (2015)



In the cross-border interurban and regional road and railway transport network of the Berlin-Brandenburg-Lubuskie pilot the city of Cottbus and the city of Zielona Góra are the main passenger intermodal points.

Main cross-border railway sections are Forst (Lausitz) <-> Żary and Guben <-> Czerwieńsk.

Fig. 5 - Cross-border railway and road network of the Berlin-Brandenburg-Lubuskie pilot



Source: AVerON - Analysis of the Oder-Neisse Transport Network (2015)

Despite many territorial needs, only few improvements are planned in the railway and road network. Due to the general lack of expressways (except A15 / A18 motorway) the position of railways in intermodal competition might be quite good in future.

Table 4 - Railway network - Planned improvements and territorial needs

Railway section	TEN-T	Planned improvements and territorial needs
(Berlin <->) Lübbenau <-> Cottbus	Comprehensive network	<i>Need for construction of 2<sup>nd</sup> track</i>
Cottbus <-> Görlitz		<i>Need for electrification</i>
(Cottbus <->) Forst (Lausitz) <-> Żary <-> Żagań <-> Legnica	-	<i>Need for revitalisation</i>
(Cottbus <->) Guben <-> Zielona Góra	-	<i>Need for revitalisation</i>
Szczecin <-> Zielona Góra <-> Wrocław	Comprehensive network	Revitalisation 120 km/h

Source: AVerON - Analysis of the Oder-Neisse Transport Network (2015)



Table 5 - Road network - Planned improvements and territorial needs

Road section	TEN-T	Planned improvements and territorial needs
Cottbus <> Legnica (A15 / A18)	Comprehensive network	Reconstruction of 2 <sup>nd</sup> lane
Zielona Góra <> Legnica (S3)	Core network (Baltic-Adriatic Corridor)	Construction of expressway
(Łęknica <>) Żary <> Żagań <> Głogów (DK12)	-	<i>Need for upgrade</i>

Source: AVerON - Analysis of the Oder-Neisse Transport Network (2015)

The level of motorisation is high in Brandenburg, Zachodniopomorskie and Lubuskie. In Berlin, the level of motorisation is comparably low. This is a chance in particular for direct connections from and to Berlin.

Table 6 - Level of motorisation in the pilot area

Region	Number of cars / 1.000 inhabitants
Berlin	335
Brandenburg	551
Zachodniopomorskie	511
Lubuskie	568

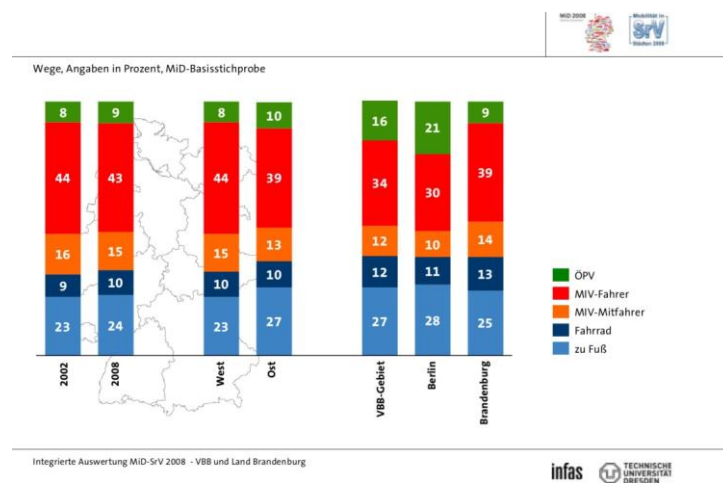
Sources: DESTATIS, Główny Urząd Statystyczny

The average speed in the railway network depends on the quality of infrastructure, which is being monitored by VBB for the region of Berlin-Brandenburg in annual reports through the analysis of the development of speed limits. General indicators on the average speed in the railway and road network in Berlin and Brandenburg are not available.



The modal split in Berlin and Brandenburg reflects the differences regarding the spatial structure, the availability of public transport and the level of motorisation. The most recent investigation of the modal split covering both federal states took place in 2008:

Fig. 6 - Modal split in Berlin and Brandenburg (2008)



ÖPV = public transport / MIV-Fahrer & Mitfahrer = motorised individual transport / Fahrrad = bicycle / zu Fuß = pedestrian  
 Source: infas / TU Dresden (2010): Mobilität in Brandenburg und Berlin. Integrierte Auswertung MiD und SrV 2008

An update of the related panel study "Mobility in Germany" (MiD) took place in 2017. Results will be available in 2018. According to an interim investigation of mobility behaviour which has been done for Berlin in 2013 it might be expected that the share of cycling and of public transport will increase, whereas the share of motorised individual transport will decrease.

Data on commuting distances is not available for Berlin and Brandenburg. However, analyses show that the number of commuters between Berlin and Brandenburg is steadily increasing, and improvements in the infrastructure network (e.g. construction of high-speed railway lines) lead to increasing numbers of long-distance commuters.





## 1.4 Organisation of transport sector and key stakeholders

Responsibilities in the field of railway transport differ between Germany and Poland:

- In Germany, federal states are responsible for the organisation of local and regional railway transport, including interregional trains. Long-distance trains are operated on commercial basis.
- In Poland, voivodships are responsible for local railway transport. Interregional trains (TLK, Intercity) are operated by PKP Intercity with the framework of a PSC. Only few long-distance trains - i.e. EIC (Express Intercity) and EIP (Express Intercity Premium) connections between major Polish cities and Warsaw - are operated on commercial basis.

Accordingly, for the Berlin-Brandenburg-Zachodniopomorskie pilot, the following stakeholders will be addressed:

Table 7 - Key stakeholders - Berlin-Brandenburg-Zachodniopomorskie pilot

Institution	Role and responsibility	Remarks
Ministry of Infrastructure and Spatial Development Brandenburg <i>Associated partner</i>	Organiser of regional railway transport in Brandenburg	VBB organises the regional railway transport on behalf of the federal states of Berlin and Brandenburg Railway operator: DB Regio AG
Senate Department for the Environment, Transport and Climate Protection Berlin <i>Associated partner</i>	Organiser of regional railway transport (and S-Bahn) in Berlin	Duration of contracts: <ul style="list-style-type: none"> <li>• Berlin-Angermünde: 2014/2015 - 2025/2026 (12 years)</li> <li>• Angermünde-Szczecin: unless tendering procedure will be realised</li> </ul>
Marshal's Office of the Zachodniopomorskie Voivodship	Organiser of local railway transport (and regional bus transport) in Zachodniopomorskie Owner of EU-financed modern railcars	Railway operator: Przewozy Regionalne Duration of contract: 2016/2017 - 2019/2020 (4 years, until 2015/2016 annual contracts)
DB Netz AG	Infrastructure operator, preparation of track upgrade Angermünde <> Border DE/PL	Track upgrade takes place upon order of national transport ministries
PKP PLK	Infrastructure operator, preparation of track upgrade Border DE/PL <> Szczecin	
DB Fernverkehr	Operator of long-distance trains Berlin-Poznań-Gdańsk	Potential operator of long-distance trains Berlin-Szczecin-Świnoujście / Gdańsk
PKP Intercity	Operator of interregional trains (TLK, Intercity) Szczecin-Świnoujście and Szczecin-Gdańsk	Potential operator of long-distance trains Berlin-Szczecin-Świnoujście / Gdańsk Interregional trains (TLK, Intercity) are contracted by the Ministry for Infrastructure and Construction





For the Berlin-Brandenburg-Lubuskie pilot, the following stakeholders will be addressed:

Table 8 - Key stakeholders - Berlin-Brandenburg-Lubuskie pilot

Institution	Role and responsibility	Remarks
Ministry of Infrastructure and Spatial Development Brandenburg <i>Associated partner</i>	Organiser of regional railway transport in Brandenburg	VBB organises the regional railway transport on behalf of the federal states of Berlin and Brandenburg Railway operator: ODEG Duration of contracts: <ul style="list-style-type: none"> <li>Berlin-Cottbus: 2012/2013 - 2021/2022 (10 years)</li> <li>Cottbus-Forst (Lausitz): 2008/2009 - 2017/2018 (10 years) &amp; 2018/2019 - 2029/2030 (12 years)</li> </ul>
Marshal's Office of the Lubuskie Voivodship <i>Associated partner</i>	Organiser of local railway transport (and regional bus transport) in Lubuskie Owner of EU-financed modern railcars	Railway operator: Przewozy Regionalne Duration of contract: 2016/2017 (annual contract)
DB Netz AG	Infrastructure operator	-
PKP PLK	Infrastructure operator	-
Landkreis Spree-Neiße	Organiser of regional bus transport in the Spree-Neiße District	-
Energieregion Lausitz-Spreewald GmbH	Business support organisation	Members: City of Cottbus, Oberspreewald-Lausitz District, Elbe-Elster District, Dahme-Spreewald District, Spree-Neiße District



## 2. Territorial needs assessment

### 2.1 Connectivity

#### 2.1.1 Harmonisation of timetables

##### 2.1.1.1 Harmonisation of timetables within Berlin-Brandenburg

Within Berlin-Brandenburg, the VBB organizes the tendering and planning process of regional railway transport on behalf of the federal states of Berlin and Brandenburg. Services are tendered in competitive tendering processes to private operators (which can have a public owner like DB Regio AG but operate like private companies). Currently the VBB has carried out the planning process for the regional railway timetables until the year 2030. This is the basis for the next tenders and for the development of railway infrastructure.

Every year in January / February the timetables are drawn for the next timetable period beginning around 10 December. The operators register them at the network operator until April. Once registered, VBB sends the timetables to the local operators and authorities and supports them in the timetable planning process of local bus and tram services.

##### 2.1.1.2 Harmonisation of timetables for cross-border services

As outlined in chapter 1.4, the organisation of public transport differs between Germany and Poland. In Germany, long-distance services on rail and road operate on a commercial basis without subsidies, whereas in Poland only few long-distance services operating from Warsaw to major Polish cities operate without subsidies. Here, interregional TLK and Intercity services receive public grants.

In both countries, regional railways receive public funding, but the organization is quite different. In Germany, the “Länder” or “Verkehrsverbünde” carry out the planning and the operation is tendered in competitive tendering processes to the operators. In Poland the operators are either public operators owned by the regions who are directly awarded to carry out services or the services are tendered usually to Przewozy Regionalne / Polregio, the former national and now region-owned operator of regional railways.

Whereas in Germany contracts run for around 10 years and tendering processes start 3-5 years before the award of contract, in Poland contracts usually run only for very short periods (1-2 years, in exceptional cases 4 years) and are awarded in short term. The PSC for interregional TLK and Intercity services has been directly awarded to PKP Intercity for 10 years.

Another difference between both countries is that in Germany railway services are based on the “Taktfahrplan” so there are services running regularly every 30 or 60 minutes during the whole day. On the contrary in Poland services on most lines run irregularly according to demand with denser services in morning and afternoon and larger gaps before noon and in the evening, and in general with less services over the day.

This difference in the organization is crucial to understand the difficulties in the harmonization of timetables. In Germany the timetables are defined for long periods and have defined times when nodes in the network have to be reached. Therefore there is hardly any flexibility for changing timetables in order to reach connecting trains in Poland. In Poland the timetables change very often (up to 4-6 times per year) and interchange connections which have been agreed often are cancelled again due to construction works or other changes within the Polish railway network.

Nevertheless VBB is in continuous dialogue with the neighbouring Polish regions to harmonize timetables. This is done during the normal national planning process once a year in winter before the operators register their timetables at the rail network operator. The long-term strategic questions concerning the development



of cross-border services are discussed within the “Transport Round Table” of the Oder-Partnership once (up to twice) a year.

### 2.1.2 Detailed description of the cross-border services

The railway network of Berlin and Brandenburg is very much orientated on the capital Berlin. Railway lines radiate like a star from Berlin to other large Germany cities and to regional centres in Brandenburg. Also the commuter flows are very much oriented on Berlin and neighbouring Potsdam. Unfortunately there are no modal split researches available for regional commuters but estimations made by VBB show that around 25-30 % of regional commuters (commuters crossing the border between Berlin and Brandenburg) use public transport. One big exception is commuting between Berlin und Potsdam where we estimate a modal share of 60 % on public transport due to the very dense public transport networks in both cities.

Also the cross-border services are very much oriented towards Berlin. From four railway border crossings three are directly served from Berlin, and one has short interchange connections to Berlin.

Most passengers within Berlin and Brandenburg are commuters, but also students and schoolchildren have an important share in ridership. On cross-border services naturally there are no schoolchildren so working commuters and e.g. on Fridays and Sundays university students (and weekly commuters) are the major passenger groups. Weekend services are dominated by touristic and shopping usage.

Unfortunately, there is not much data available on cross-border commuting. VBB counts the number of passengers on all regional railway lines with automatic counting systems. So there is a clear picture of ridership on the trains but it is not possible to estimate the modal share since for road traffic there is no detailed data available.

The number of passengers on the cross-border services varies very much due to the different service levels on the lines:

Table 9 - Number of passengers on cross-border services

Line	Number of trains per day	Number of passengers per day at the border point
Berlin <> Szczecin	17	700
Berlin <> Kostrzyn	37	900
(Berlin <>) Frankfurt (Oder) <> Zielona Góra	4	< 100
Cottbus <> Żary <> Żagań	4	< 100

Source: VBB

**Commentato [DK1]:** The figure has to be confirmed; new data available within next week (~22 November)

**Commentato [DK2]:** dito

VBB does not publish the costs of operation. Due to the fact that the cross-border lines run in peripheral parts of the service area and due to the fact that thanks to the special cross-border tickets (see 2.3 for details) the revenues are rather low the ratio between revenues and costs is estimated around 10-20 % only (compared to 50 % in average in Berlin-Brandenburg). This low profitability is a strong barrier for improvements in cross-border services. Nevertheless, the federal states of Berlin and Brandenburg committed themselves strongly to improve cross-border services to Poland for political reasons.

A threat for cross-border services is the fact that Berlin and Brandenburg bear the full costs of operation of the trains on the lines to Kostrzyn and Szczecin within Poland as it is not possible to carry out joint tenders for the international services with our Polish partners. For political reasons this is not questioned now but this solution might turn out not to be sustainable under different political conditions.



## 2.2 Infomobility systems

### 2.2.1 Infomobility system in Berlin-Brandenburg

The overall infomobility system in Berlin-Brandenburg area is the VBB travel planner “VBB-Fahrinfo”. The VBB-Fahrinfo is a travel-planning tool provided by Hacon, based on the Hacon product Hafas. The VBB provides the travel planner service as part of its general tasks. Therefore it is financed by the VBB shareholders, i.e. the federal states of Berlin and Brandenburg and the districts and district-free cities (authorities on NUTS 3-Level) in Brandenburg.

The VBB-Fahrinfo is a multimodal information system covering all modes of public transport (except long-distance coach services) in Berlin and Brandenburg and direct services beyond the service area. Within the projects DELFI and EU-Spirit, it is foreseen to link the German and European information systems to a national and international travel information system. Other modes of transport (car sharing, bike sharing, taxi) will be added to the system soon. VBB-Fahrinfo provides door-to-door information for the entire region combined with real-time information of public transport services and alternative routing in case of delays and missed connections in the transport chain.

The VBB-Fahrinfo today is only available as an online system. User surfaces are available for traditional computers as well as for smartphones. VBB-Fahrinfo-App is available for Android und IOS smartphones.

In the next future we want to give push-information to the users in case of delays so they can use other routes than originally foreseen to reach the destinations as soon as possible.

The data flows are organised through the “VBB-Sternpunkt”. VBB has data connections to all public transport operators in Berlin and Brandenburg. Through these connections data is integrated into the VBB-Fahrinfo system, and also information between operators can be exchanged. These data connections are according to the standards of the Association of German Transport Companies (VDV, Verband Deutscher Verkehrsunternehmen).

The timetable data is also available for third parties. Other passenger information systems as google, moovit... can use the data to feed their information systems.

### 2.2.2 Cross-border travel information

Within VBB's service area the VBB-Fahrinfo provides an operator-independent state-of-art service for passenger information covering all modes of public transport. For connections to Poland, unfortunately this is not the case. In Poland there is a national travel planner for the railway system and additionally privately operated travel planning systems for cities and for regional connections which only cover selected operators and which do not offer a comprehensive service. Additionally these systems only provide the foreseen timetables without including real time information.

There have been several approaches of VBB towards the neighbouring Polish voivodships to provide a passenger information system based on the technical platform of VBB-Fahrinfo. Whereas such an approach carried out in the framework of the INTERREG IVC Project CAPRICE led to the implementation of a travel planning system in the area of Warsaw, so far VBB was not able to convince the cross-border regions to provide passenger information systems for their networks. Therefore passenger information on cross-border lines is limited to the German section and e.g. the displays in the trains only show connecting bus and train services in German stations, and not in Poland.

Unfortunately, VBB discovers a certain lack of awareness to the need of comprehensive passenger information in Poland among Polish transport authorities. VBB regrets this as we see a big potential for public transport if information is provided more easily and passengers are guided through the public transport system.



### 2.2.3 Ticketing system connected to travel planner

In the VBB service area there is a traditional ticketing system based on paper tickets for short-term tickets and a mixed system of paper and electronic tickets for long-term tickets, issued by the public transport operators. This system is not linked to the travel information system. The majority of tickets is issued in this traditional way.

Additionally we provide an electronic ticket for smartphones, which is linked to the travel information system. The system is provided by “Handyticket Deutschland”, a company specialised on smartphone-ticketing in Germany. The user can route a connection via VBB-Fahrinfo and then can buy the ticket for the journey. Tickets currently are available as single tickets and daily tickets in the whole service area. Monthly tickets will be added soon.

Customers can buy tickets for the whole service area from every operator within VBB. The operators sell tickets, and afterwards they share the revenues within the VBB revenue sharing system. For the revenue sharing system the VBB organises big surveys every three years where passengers are asked to show their tickets and data is collected to feed the revenue sharing system. VBB uses the parameters “passenger-kilometres” and “number of passengers” for sharing the revenues.

## 2.3 Integrated ticketing and tariff schemes

### 2.3.1 Integrated ticketing within the VBB service area

VBB provides a ticketing system for the entire region of Berlin and Brandenburg. All regional operators in Berlin-Brandenburg sell exclusively tickets according to the VBB system for rides within Berlin-Brandenburg. Only the (few) open access long-distance operators on rail and road sell own tickets, which are not part of the VBB ticketing system.

VBB-wide around 50 % of the costs of operation are covered by the sale of tickets, the other 50 % are covered by public grants. As already mentioned in the previous chapter, the operators sell tickets to the passengers and share revenues based on surveys.

The ticketing system within Berlin and the larger cities in Berlin-Brandenburg is area-based. For journeys within Berlin, only two types of tickets are sold: Berlin AB for the entire city and short distance tickets for 3-6 stations (3 stations on the railway and underground network, and 6 stations on the bus and tram network). For journeys between Berlin and the closer suburbs, there is an area-based system covering Berlin and a circle of 15 km around Berlin (Berlin ABC). For longer journeys and for journeys within Brandenburg the tariff is based on the distance travelled.

For all areas, VBB provides single tickets, daily tickets, group tickets, weekly tickets, monthly tickets and annual tickets. All university-students must buy a compulsory half-year ticket when subscribing to the university. Tickets for schoolchildren are strongly subsidised, in some areas of Brandenburg even free if there is a need to use public transport between home and school.

With exception of the smartphone ticket (as mentioned in the previous chapter), the operators sell tickets at counters or shops, via ticketing machines or bus drivers. Only in very rural stations without a ticketing machine, the railway staff on the train sells tickets. In order to provide an incentive for ticket sales 5-10 % of each ticket sold can be kept by the issuing operator, and only the remaining 90-95 % are integrated into the revenue sharing system.

### 2.3.2 Cross-border integrated ticketing

Traditionally cross-border-railway services were based on the international tariff of railway operators. These tickets were very expensive, and therefore ticket prices for cross-border service were not



attractive for customers. Passengers either split national tickets to the border points or used other modes of transport as cars or open access coach services.

In order to provide competitive tickets for cross-border services VBB introduced a series of Berlin-Poland-Tickets. Currently VBB offers tickets for four destinations: Szczecin, Kostrzyn, Gorzów Wielkopolski and Zielona Góra. These tickets are valid for the trains between Germany and Poland and within the urban transport systems of Berlin and the Polish destination cities. So with one Berlin-Szczecin-Ticket passengers can use public transport within Berlin, the train from Berlin to Szczecin and the tram or bus in Szczecin.

The tickets are calculated according to the national ticket fares between Berlin and the border point and between the border point and the Polish city. Due to the big competition of coach and minibus operators, the Berlin-Szczecin-Ticket is sold at a lower price in order to increase the modal share of railway on that line.

The Berlin-Poland tickets are available at ticket machines and at the counters of the operators in the relevant cities in Germany and Poland. In Germany tickets are sold in Euro, and in Poland in Złoty (PLN) at a fixed exchange rate. Currently these tickets are paper tickets only.

The tickets are valid in the urban networks of the Polish cities but currently the (city-owned) urban operators in Poland do not receive a share of the revenues. This agreement was made by the relevant cities for pragmatic reasons, as international financial flows are very complicated to manage for Polish public operators.

### 2.3.3 Summary of status of integration

The integrated tariff and ticketing schemes within Berlin-Brandenburg as described above are highly developed and meet the demands of passengers. Thanks to the integration of all modes of regional and local public transport, it is as a model for integrated ticketing. Further development is needed in the field of electronic ticketing. Currently the VBB migrates the ticketing scheme to electronic tickets. Nevertheless further development would reduce the complexity of the revenue sharing system if electronic tickets could register the passengers' routes.

For the cross-border tickets, VBB covers the most important destinations for regional railways between Germany and Poland. Nevertheless the system should be extended to some more destinations in Poland and Germany e.g. on the Cottbus <-> Żary <-> Żagań (<-> Wrocław) connection. Additional improvements would be the possibility to buy tickets also in the urban bus and tram systems in Poland and to include the Polish cities in the tickets' revenue sharing system.





## 3. SWOT analysis

### 3.1 General remark

The SWOT analyses for passenger information and ticketing are divided into general information concerning the situation within Berlin-Brandenburg (at the beginning of each SWOT analysis) and the cross-border services (as indicated).

Focus is laid on all cross-border services with relevance for Berlin, Brandenburg, Zachodniopomorskie and Lubuskie, not only cross-border services being subject of regional pilots.

### 3.2 SWOT on cross-border connectivity

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Hourly direct services on the Berlin &lt;&gt; Kostrzyn line with high quality</li> <li>Direct services beyond Kostrzyn to Gorzów Wielkopolski (to be extended)</li> <li>Other direct services to Poland developed in the last years (e.g. Berlin &lt;&gt; Szczecin, Berlin &lt;&gt; Zielona Góra, to be extended)</li> <li>Improvements in timetable coordination over the last years</li> <li>“Transport Round Table” of the Oder Partnership as strong regional commitment for improvements</li> </ul>	<ul style="list-style-type: none"> <li>Lack of direct long-distance services between Berlin &lt;&gt; Szczecin and Berlin &lt;&gt; Wrocław</li> <li>Often bad infrastructure quality on the cross-border railway lines</li> <li>Lack of awareness for cross-border regional services on national level in Germany and Poland (national ministries of transport)</li> <li>Problems with interoperability of trains between Germany and Poland</li> <li>Insufficient number of services to Szczecin, Zielona Góra and Żary &lt;&gt; Żagań (&lt;&gt; Wrocław)</li> <li>Interchange connections with change of trains in Angermünde on the Berlin &lt;&gt; Szczecin line</li> <li>Often poor quality of rolling stock</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>More direct services to Gorzów Wielkopolski possible thanks to the availability of additional interoperable railcars</li> <li>More direct services to Szczecin possible after electrification of the railway line</li> </ul>	<ul style="list-style-type: none"> <li>Instable financial and legal situation in Poland</li> <li>Different planning horizons in Germany and Poland</li> <li>Lack of commitment of national levels to international railway transport</li> </ul>



### 3.3 SWOT on the passenger information system

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>High level of integration, operator-independent system</li> <li>Real-time information and real-time routing, integration of demand services</li> <li>Open data policy</li> </ul> <p>Cross-border:</p> <ul style="list-style-type: none"> <li>Direct railway services to Poland are fully integrated when operated by German operators</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul> <p>Cross-border:</p> <ul style="list-style-type: none"> <li>No information services for Poland available (apart from direct railway services)</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>Integration of other modes</li> <li>National and international integration of information systems</li> </ul> <p>Cross-border:</p> <ul style="list-style-type: none"> <li>Possibility to integrate Polish information data if wanted</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul> <p>Cross-border:</p> <ul style="list-style-type: none"> <li>Loss of passengers due to inadequate information systems</li> </ul>

### 3.4 SWOT on integrated ticketing

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Very high level of integration, easy to handle for customers</li> <li>Fair revenue sharing system, which is broadly accepted</li> </ul> <p>Cross-border:</p> <ul style="list-style-type: none"> <li>Integrated tickets partly established</li> </ul>	<ul style="list-style-type: none"> <li>Manual revenue sharing system</li> <li>Electronic ticketing not much developed</li> </ul> <p>Cross-border:</p> <ul style="list-style-type: none"> <li>Weak marketing for the cross-border-tickets; potential users might not know them</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>Integration of other modes (car and bike pooling, taxi, parking, ...)</li> </ul> <p>Cross-border:</p> <ul style="list-style-type: none"> <li>Integration of additional tickets for more cities</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul> <p>Cross-border:</p> <ul style="list-style-type: none"> <li>Lack of financial integration of Polish cities</li> </ul>



## 4. Overall conclusion

In terms of public transport services, passenger information and ticketing the conditions for passengers in the Berlin-Brandenburg area are good and reflect the state of the art of public transport in Europe. On the contrary, the situation in cross-border services between Germany and Poland is not satisfying yet. Big efforts have to be made in order to shift the quality level of cross-border services to standards that passengers usually expect within domestic services.

The German partners are aware of the problems of cross-border railway services, passenger information and ticketing and make big efforts in finding solutions. In some fields, there seems to be a lack of problem awareness on the Polish side. On the contrary, the Polish side concentrates on the improvement of the railway infrastructure, which is a weak point in Germany.

According to the cross-border lines between Germany and Poland, there is need of action in the following fields:

### **Berlin <> Szczecin**

- Electrification of the railway line (foreseen for the next 6-7 years)
- Development and purchase of new interoperable electric railcars (study ongoing)
- Increase of frequency of direct express services Berlin <> Szczecin (every two hours)
- Development of direct services and ticket offers Berlin <> Baltic Sea / Gdańsk

### **Berlin <> Kostrzyn <> Gorzów Wielkopolski**

- Upgrade of the railway line to cut travel times (ongoing)
- Implementation of more interoperable diesel railcars (ongoing)
- Increase of direct services Berlin <> Gorzów Wielkopolski

### **Berlin <> Frankfurt (Oder) <> Zielona Góra / Poznań**

- Development of a sustainable concept for regional services
- Development and purchase of new interoperable electric railcars (study ongoing)
- Increase of services and better integration of services Frankfurt (Oder) <> Poznań and Zielona Góra <> Wrocław
- Development of integrated ticket offers Berlin <> Poznań and Berlin <> Zielona Góra <> Wrocław

### **Cottbus <> Forst (Lausitz) <> Żary <> Żagań (<> Wrocław)**

- Agreement with Lubuskie und Dolnośląskie for direct services Cottbus <> Wrocław
- Purchase of interoperable diesel railcars
- Development of integrated ticket offers (Berlin <>) Cottbus <> Żary <> Żagań (<> Wrocław)
- Upgrade of the railway line in order to reduce travel times

### **Overall needs of action**

- Improvements of the cross-border passenger information
- Harmonisation of planning horizons and tendering procedures between Germany and Poland
- Increase of commitment of the national levels towards cross-border railway services